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EXECUTIVE SUMMARY: Three main types of management models for parks and protected areas exist within Canada: the National Park Model, the Parastatal Model, and the Public and For-Profit Combination Model. Each of Canada’s two largest and most visited provincial park systems uses one of these three management models. British Columbia (BC) uses contractors for all visitor services (Public and For-Profit Combination Model) and Ontario (ON) largely uses park staff (Parastatal Model). There is debate on which of these approaches is preferable. This research compared these two management models by asking park staff members their opinions on how their agency satisfied 10 standard principles of governance (public participation, consensus orientation, accountability, transparency, responsiveness, effectiveness, efficiency, equity, rule of law, and strategic vision). The survey yielded 132 responses, 63 (47.7%) from ON Parks staff and 69 (52.3%) from BC Parks staff. Our analysis revealed 11 principles instead of the 10 originally considered. The results reveal that ON Parks staff have positive views on the governance of the ON Parks model for all 11 factors, while BC Parks staff have positive views of the BC model for 10 of the 11. ON Parks staff were significantly more positive than BC staff toward seven of the 11 criteria. BC Parks staff felt negatively toward the criterion of equity-finance. Given that the major justification for the use of private contractors in the delivery of park services in BC Parks is to augment financial equity, it is notable that park staff seemed especially concerned about the financial equity of this activity. This is among the first studies to examine the attitudes of park staff members toward the management models in which they work. We conclude that the differences found are due to two factors: the management models used and the relations between the park staff and their government. The research revealed that from the point of view of accepted principles of governance as perceived by park agency staff in Ontario and British Columbia, the Parastatal Model for park tourism management was viewed more positively than the Public and For-Profit Combination Model.
There are many approaches possible for the provision of tourism services in parks. Eagles (2008, 2009) compared various options for land ownership, funding, and tourism delivery leading to 60 potential management approaches. However, only eight were found to be commonly used: (a) National Park, (b) Parastatal, (c) Nonprofit Organization, (d) Public and For-Profit Combination, (e) Public and Nonprofit combination, (f) Aboriginal and Government, (g) Ecolodge, and (h) the Traditional Community. This variation in the approaches to the provision of tourism services, ranging from private companies to government agencies, has stimulated discussion among scholars, policy makers, and citizens on the advantages and disadvantages of each approach (Crompton & Lamb, 1986; Eagles, 2008; Kerstetter et al., 2010; More, 2005; Schwartz, 2005). Major issues in the debate include issues such as the financial efficiency, responsiveness, the ability to implement programs, who benefits and who pays, and ecological conservation effectiveness. A key consideration concerns the management body used to deliver tourism services. Should it be a private company or a government agency? In the research, we concentrate on two models, which have two key similarities: a government owns the land and much of the funding comes from visitor fees and charges. However, there is one critical difference concerning the organizations delivering the visitor services. One has government staff members providing most of the visitor services, epitomized by Ontario (ON) provincial parks, within the Parastatal Model. In this model, the government agency has the power to function as a tourism company with revenue retention, end of year carryover of funds, and flexible pricing policy. Another has private companies providing tourism services with government staff only in an overall supervisory role, the Public and For-Profit Combination Model, used in British Columbia (BC) provincial parks. In this private sector approach, the private contractor collects and retains all the fees, while the government sets the prices and monitors the company’s activities.

Utilization of the principles of governance can assist in providing insight into comparing these approaches. For the purposes of this research, governance can be broadly defined as

the interactions among structures, processes and traditions that determine how power and responsibility are exercised, how decisions are taken, and how citizens or other stakeholders have their say. It is about power, relationships and accountability: who has influence, who decides, and how decision-makers are held accountable. (Graham, Amos, & Plumptre, 2003, p. 2–3)

While governance has been widely discussed in various public and nonpublic sectors such as health care, education, business, and economics, it is an emerging concept in environmental,
recreation, and tourism fields (Dearden, Bennett, & Johnston, 2005; Graham et al., 2003; Hanna, Clark, & Slocombe, 2008; Shipley & Kovacs, 2005; Weiss, 2000).

Parks and protected areas currently comprise 11.5% of the earth’s terrestrial surface and 0.5% of water-based surfaces (Lockwood, Worboys, & Kothari, 2006). In conjunction with the protection of these land and sea masses, these protected areas also provide and serve as major destinations for recreation and tourism services and products (Dearden & Rollins, 2002). Historically, parks and protected areas within Canada were created due to significant natural features that served as an attractant for developing tourism-based industries (Buteau-Duitschaever, 2009; Dearden & Rollins, 2002). From the creation of the first national park in Canada (Banff National Park in 1885) to the present day, protected areas have been created through structured processes where each level of government adopted various management systems for the creation and management of parks (Buteau-Duitschaever, 2009; Eagles, 2008; Foster, 1978). This led to considerable diversity in the management models used across the country.

Canada has often been on the forefront of management innovation. The establishment of the Parks Branch in the Ministry of Interior in 1911 was the first national park management body in the world (Foster, 1978). ON Parks followed much later with the creation of the Parks Branch within the Department of Lands and Forests in 1954 (Gray et al., 2009). BC Parks established a Parks Branch within the Department of Recreation and Conservation in 1957, creating Canada’s third major park management agency (BC Parks, 2010).

There are many important stakeholders in park management, such as visitors, local citizens, members of environmental groups, and participants in recreation groups. Possibly the most centrally involved group is the park agency staff. The employees of a park agency have the authority and responsibility to carry out government policy, to undertake long-range planning, and to provide site management. They are probably the single most important factor in ensuring successful management of tourism activities, services, and impacts in parks and protected areas (Eagles, McCool, & Haynes, 2002). However, park agency staff members work within a governance framework and a management model created by upper-level government policy makers, including Ministers and Cabinet. Thus, park staff are confined to set procedures, financial obligations, and regulations beyond their control. In turn, these act as tools for the proper management of the park system or may hinder the ability of park staff in providing adequate tourism products and services. However, there is little documentation on park agency staff members’ opinions on the governance principles within which they work, limiting the understanding of which governance approach is best suited for the provision of tourism services within parks.

The purpose of this research was to compare park agency staff members’ opinions on governance of two different management approaches (the Parastatal Model and the Public and For-Profit Combination Model) that occur within Canada’s two most prominent provincial park agencies, through soliciting staff opinions on the application of standard governance criteria within those agencies.

**Literature Review**

**Good Governance**

Good governance is a normative principle of administrative law, which requires government to perform its functions in a manner that is participatory, transparent, accountable, effective, equitable, and promotes the rule of law (Chowdhury & Skarstedt, 2005). The United Nations Development Programme (UNDP; 1997) encourages the use of 10 standard criteria for the development of good governance within public and private institutions. These are public participation, consensus orientation, accountability, transparency, responsiveness, effectiveness, efficiency, equity, rule of law, and strategic vision. Graham et al. (2003) restructured these 10 criteria into five principles of sound governance for parks and protected areas (Table 1). According to Graham et al., these
10 principles form an interrelated group in which the core characteristics are mutually reinforcing. Therefore, good governance can be argued to be present when all 10 UNDP criteria are effectively implemented through the use of a management model. The issue, as stated by Graham et al., is determining how well the principles are implemented within the management practices of parks and protected areas, reinforcing the need for current research in this area.

Table 1

Principles of Sound Governance

<table>
<thead>
<tr>
<th>Principles of Sound Governance (Graham et al., 2003)</th>
<th>The United Nations Development Program Criteria for Good Governance (UNDP, 1997)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legitimacy and Voice</td>
<td>Public participation: all people should have a voice in decision making, either directly or through legitimate intermediate institutions that represent their interests. Consensus orientation: the ability to mediate differing interests to reach a broad consensus on what is in the best interest of the group.</td>
</tr>
<tr>
<td>Direction</td>
<td>Strategic vision: looking constructively towards the future, with consideration of the historical, cultural, and social complexities of each situation.</td>
</tr>
<tr>
<td>Performance</td>
<td>Responsiveness: when institutions and processes try to serve all stakeholders using a proactive manner regarding complaints and criticism. Effectiveness: the capacity to realize organizational objectives. Efficiency: making the best use of resources or the capability of acting or producing effectively with a minimum amount or quantity of waste, expense or unnecessary effort.</td>
</tr>
<tr>
<td>Accountability</td>
<td>Accountability: officials answer to stakeholders on the disposal of their owners and duties; act on criticisms or requirements made of them; and accept responsibility for failure, incompetence, or deceit. Transparency: sharing of information and acting in an open manner.</td>
</tr>
<tr>
<td>Fairness</td>
<td>Equity: just treatment; requiring that similar cases be treated in similar ways. Rule of Law: legal frameworks being fair and enforced impartially.</td>
</tr>
</tbody>
</table>
Hannah (2006) used Graham et al.’s (2003) principles to evaluate private protected areas in Canada and found overall good governance, with direction and legitimacy as the highest ranked principles and performance as the weakest principle. Hannah’s research supported the usefulness of Graham et al.’s principles to evaluate governance of protected areas, but important principles were not evaluated such as effectiveness, efficiency, and transparency, among others.

While the 10 UNDP principles intuitively fit together, some research findings have demonstrated that each of the principles is a distinct concept and should not be grouped under the five principles suggested by Graham et al. (2003) (Buteau-Duitschaever, 2009; Eagles, 2009; Eagles, Havitz, McCutcheon, Buteau-Duitschaever, & Glover, 2010; McCutcheon, 2009). Using the 10 UNDP governance criteria, Eagles (2009) evaluated the eight most commonly used management models used for recreation and tourism in parks and protected areas, from the many models proposed by Eagles (2008) and revised by Eagles (2009). Eagles (2009) revealed important differences among the models in their application, with the models having higher levels of involvement by nonprofit organizations ranked higher in terms of the ideals of good governance than those using for-profit companies.

**Emergence of Management Models in Ontario and British Columbia**

Of the eight management options presented by Eagles (2009), this paper focuses on two management approaches adopted by the two largest provincial park systems within Canada: the Parastatal Model used by ON Parks and the Public and For-Profit Combination Model used by BC Parks. These models were chosen because they are very commonly used and there is much debate on their relative merits. For example, the ON Parks approach is seen as one that provides higher levels of income from tourism directly to the park agency, while the BC Parks approach is seen as providing higher levels of financial efficiency by having the private sector operate all park visitor and tourism services.

The Parastatal Model includes government ownership of resources, the majority of funding from user fees, and a government-owned agency or government-owned corporation as the manager. A parastatal is an independent corporate body which functions within government; it has the ability to make its own policy; it maintains its own internal financial operations; it has control over internal reporting and decision making; and it has a board of directors providing oversight and ensuring accountability (Eagles, 2008, 2009).

The Public and For-Profit Combination Model has government ownership of the resources, funding through both societal taxes and user fees, and management by both a government agency and a private, for-profit corporation (Eagles, 2008, 2009). This model is a common approach used today in North America. Taxes provide for the natural and cultural resource management while user fees principally support tourism and visitor services. In actuality, the sources of income have funded both resource and tourism management (Eagles, 2008, 2009). Therefore, these two models differ primarily in the management body (for profit vs. parastatal) and the financial arrangements (income going to private sector vs. income going to park agency).

Until the early 1980s, both ON Parks and BC Parks functioned under the national park management model (FORUM Consulting Group Ltd [FORUM], 2008; Killan, 1993) with government owning and managing the resources and the majority of park management funding coming from societal taxes (Eagles, 2008). However, economic problems in the mid-1970s resulted in budgetary restraints within federal and provincial governments in Canada. In order to cope with growing economic restraints, both ON Parks and BC Parks adopted market mechanisms, namely outsourcing the production of certain public services to the commercial sector (Killan, 1993).

**British Columbia Parks.** In British Columbia, a culture of privatization led BC Parks to outsource the operations and management of all front-country parks to private operators by 1989 (FORUM, 2008). In the early 1980s, the BC government began to transfer front-country visitor services in provincial parks to for-profit companies (Cavers, 2004). By 1989, private contractors, known as Park Facility Operators (PFO), managed
all front-country visitor services (FORUM, 2008) while BC Parks employees concentrated on planning, ecological and resource management, and monitoring of private contractors. Currently, BC Parks sets all park fees, which are collected by PFO. This fee income sustains the operation of the parks. If the fee revenues for the PFO are less than the agreed-upon operating costs, then BC Parks compensates for the deficit, through deficiency payments (FORUM, 2008). Most parks run at a deficit each year. In the rare case where fee revenue exceeds the negotiated contract price at a park, the PFO sends a portion of the profit to BC Parks (FORUM, 2008). Deficiency payments enable PFO to operate a financially viable business while allowing BC Parks to offer visitor services at a very low cost to citizens (McCutcheon, 2009). Due to the absence of an explicit guideline regarding a reasonable level of profit for a PFO, many acrimonious negotiations occur between BC Parks and the PFO (FORUM, 2009). Although the Public and For-Profit Combination Model is typically designed to reduce dependence on government funding, for the fiscal year of 2007/2008, government figures report that approximately 80% of the funding for BC Parks came from societal taxes while only 20% was provided through user fees (BC Parks, 2008; McCutcheon, 2009). The internal financial operations of the PFO are not publicly available and therefore are not considered in this calculation. If this fee-based income from about 19.6 million visits per year that now goes to the private sector was added to government appropriations, it is probable that the majority of the finance used to manage BC Parks would come from various tourism fees and charges (Buteau-Duitschaever, 2009; McCutcheon, 2009).

Ontario Parks. In the 1980s, ON Parks also experimented with for-profit management of entire parks, similar to what occurred in BC Parks, but then withdrew from the activity due to public concern. During the early 1990s, the Province of Ontario suffered another, although smaller, economic recession. The government reduced funding derived from societal taxes, leading to cutbacks in sectors such as natural resource management and ultimately, ON provincial parks (Halpenny, 2007; Ministry of Natural Resources, 1996; Moos, 2002). The decrease in government funding along with an increase in park visitor numbers led to a strategic management review of the parks program in 1993. This review recommended the establishment of a unified parks organization emphasizing the need for a stronger entrepreneurial focus and greater financial flexibility by allowing the park agency to function like a business (Moos, 2002; Parks Ontario Transition Advisory Team, 1995). From the 1993 strategic management review, Parks Ontario was created in 1996 (Moos, 2002). In this new business model, parks began functioning under a parastatal framework. Government employees of the park provide most of the services to the public, while private contractors and licensees provide select specialized services, such as canoe rentals and store operation. ON Parks also works closely with friends groups, which are nonprofit organizations that deliver certain visitor services such as education and interpretation (Ministry of Natural Resources, 1996).

The business model has a goal of obtaining cost recovery funding from tourism fees and charges. ON Parks has the ability to retain all income derived from user fees, grants, and donations (Ministry of Natural Resources, 1996). With these changes, the cost recovery derived from tourism fees and charges moved from 30% to 80% of the total parks budget, with the Ontario Provincial Government providing the remaining 20% of operating funds (Environmental Commissioner of Ontario, 2008). This heavy reliance on visitor-derived revenue demands high levels of financial efficiency within ON Parks. Given the heavy reliance on visitor-generated income for budgetary purposes, ON Parks has one of the highest park user fees of all provincial park systems in Canada.

The British Columbia and Ontario Park Systems

BC Parks has the largest system of provincially protected areas in Canada with 972 parks and conservation reserves covering 13.05 million hectares of land and reports over 19.6 million visits in 2008 (BC Parks, 2009). This visitation level is the second highest for all park agencies in Canada, second only to the national parks. This high visitor count is misleading because BC Parks’ records of visitor use statistics include both visitors and
entrants (McCutcheon, 2009). A visitor is a person in the park for the purposes mandated for the area, such as outdoor recreation, while an entrant could be a visitor or simply a person driving through on a highway that traverses the park. For parks that contain major highways, the entrant figure is usually much larger than the visitor figure (Hornback & Eagles, 1999).

ON Parks has the second largest system of provincial protected areas in Canada with 9.4 million hectares of protected land distributed in 621 parks and conservation reserves (Environmental Commissioner of Ontario, 2008). ON Parks reported a total of just over 9.5 million visitor days in 2008 (Ontario Parks, 2008a), indicating a high level of use within their park system and making it the third most visited park system in Canada (Table 2). ON Parks uses a published formula to calculate their visitor statistics and there is good confidence in the accuracy of the reported data.

In 2006, the date of the latest available national census, British Columbia had a population of 4.1 million and Ontario had 12.2 million. Using the visitation data shown in Table 2, these data reveal a ratio of 4.8 visits per person in BC Parks and .77 visitor days per person in ON. The much larger ratio in BC Parks is almost certainly due to the inclusion of the drive through entrant data in the overall park use statistics for that province.

### Table 2

**BC Parks and Ontario Parks Statistics for 2008**

<table>
<thead>
<tr>
<th>Categories</th>
<th>BC Parks</th>
<th>ON Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hectares a</td>
<td>13,050,000</td>
<td>9,400,000</td>
</tr>
<tr>
<td>% province b</td>
<td>14.26</td>
<td>7.31</td>
</tr>
<tr>
<td># parks b</td>
<td>972</td>
<td>621</td>
</tr>
<tr>
<td># parks with visitor services b</td>
<td>206</td>
<td>111</td>
</tr>
<tr>
<td># campsites b</td>
<td>11,000</td>
<td>19,349</td>
</tr>
<tr>
<td># visitor days c</td>
<td>9,537,636</td>
<td></td>
</tr>
<tr>
<td># visits d</td>
<td>19,642,854</td>
<td></td>
</tr>
</tbody>
</table>

*The BC Parks statistics represent the overall size of the protected areas system in the whole of the province of which includes provincial parks and protected areas as well as national parks and national park reserves (BC Parks, 2009); ON Parks statistics represent the overall size of the protected area system in the whole province of which includes provincial parks and nature reserves (Environmental Commissioner of Ontario, 2008).*  

*BC Parks, 2009; Environmental Commission of Ontario, 2008*  

*Ontario Parks, 2008*  

*BC Parks, 2009*
In terms of user fees, ON Parks has higher rates than BC Parks (Table 3). As the ON Parks management model relies heavily on user fees, higher prices are expected. Since the BC Parks management model focuses on providing the lowest possible cost to the users, lower fees are expected (McCutcheon, 2009). Table 3 shows four common types of fees charged in parks, providing the reader with a visual understanding of fee differences between the two park systems. Aside from day use fees, all of ON Parks user fees are at least double those of BC Parks. Lower user fees help explain the reliance by BC Parks on government funding.

Table 3
BC Parks and ON Parks User Fees for 2008

<table>
<thead>
<tr>
<th>Services</th>
<th>BC Parks a</th>
<th>ON Parks b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front-country camping fees</td>
<td>$10-25/night</td>
<td>$25–40/night</td>
</tr>
<tr>
<td>Backcountry camping fees</td>
<td>$5/night</td>
<td>$9.50–20/night</td>
</tr>
<tr>
<td>Day Use fees</td>
<td>$3/child; $5/adult in 2 parks; all other parks are free</td>
<td>$2.00</td>
</tr>
<tr>
<td>Parking</td>
<td>$1/hour or $3/day or $25/annual pass</td>
<td>$10–18/day</td>
</tr>
</tbody>
</table>

a BC Parks, 2009
b Ontario Parks, 2008

Method

Survey Instrument
The research instrument was developed to measure respondent attitudes toward the governance of the park management models. The 10 governance criteria, as identified by the UNDP, served as framework for the survey. Through an extensive literature review, over 200 potential statements were identified. Through discussion and a pretest by 37 park management students, a final list of 81 statements was utilized to measure the 10 governance criteria (Table 4).

The 10 statement lists each contained groupings of five to nine declarative statements. Table 5 provides one example of the statements for five of the governance criteria. Responses were measured with a 5-point Likert scale: strongly agree (1); agree (2); neutral (3); disagree (4); and strongly disagree (5). Also added were the options of “Do not know” and “Not Applicable” for participants that did not know the answer to a question or that the questions did not relate to them. Participants completed the survey from the viewpoint of their most familiar park. The survey asked the respondent to “complete the survey that corresponds to the provincial park with which you have been most involved in the previous 12 months.” To choose this park, they were presented with a drop-down list of park names. They were then asked to choose from a list of contexts with which they were most familiar, including park services such as campgrounds, interpretive programs, visitor centers, and
so forth and park management areas such as park administration, park management plans, and so forth. Once these were chosen early in the survey, the options then populated each of the declarative statements accordingly, as shown in Table 5. For example, in Table 5 the statement park x was replaced by the name of the chosen park and the statement service category was replaced by the chosen service category, such as the campground, visitor center, and so forth. This approach reminded the respondent throughout the survey of the park and service category they had chosen earlier. Data were collected online with a goal of reaching the population of 220 full-time ON Parks staff members and 150 full-time staff members in BC Parks.

Table 4

 Origins of the Governance Survey Statements

<table>
<thead>
<tr>
<th>Criteria for Good Governance</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Participation</td>
<td>Charmley &amp; Engelbert (2005); Rowe, Marsh, &amp; Frewer (2004); and Wang (2001)</td>
</tr>
<tr>
<td>Consensus Orientation</td>
<td>DeHoog, Lowery, &amp; Lyons (1990); Hornsby, Smith, &amp; Gupta (1994); and Jones (1986)</td>
</tr>
<tr>
<td>Accountability</td>
<td>Kluvers (2003); Schacter (2003); and Wang (2002)</td>
</tr>
<tr>
<td>Transparency</td>
<td>Bellver &amp; Kaufman (2005); Drew &amp; Nyerges (2004); and Bladescu, de Las Casas, &amp; Lloyd (2004)</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Crompton &amp; Lamb (1986); Petrick (2002); and Vigoda (2000)</td>
</tr>
<tr>
<td>Efficiency</td>
<td>MacKay &amp; Crompton (1990); Howat, Absher, Crilley, &amp; Milne (2003); and Shneider, Parkington, &amp; Buxton (1980)</td>
</tr>
<tr>
<td>Equity</td>
<td>Joshi (1989); Kacmar &amp; Ferris (1991); and Brewer &amp; Selden (2000)</td>
</tr>
<tr>
<td>Rule of Law</td>
<td>Fraerich (1993); Rowe, Marsh, &amp; Frewer (2004); and Stolton, Hockings, Dudley, MacKinnon, &amp; Whitten (2003)</td>
</tr>
<tr>
<td>Strategic Vision</td>
<td>Graham et al. (2003); and IUCN (2008)</td>
</tr>
</tbody>
</table>

Survey Distribution

The survey was administered in BC Parks for a three-month period from July 1 to October 1, 2008. Survey recruitment in ON Parks took place from March 11 to May 11, 2009. Similar to BC Parks, ON Parks staff members were first recruited for the survey, followed by other constituent groups. Data obtained from the completed surveys were analyzed in SPSS version 17. All responses were confidential. The Office of Research Ethics at the University of Waterloo approved all methods.

Sample Description

In total, researchers obtained 132 completed surveys from staff members, 63 (47.7%) from ON Parks staff and 69 (52.3%) from BC Parks staff. Both the ON and BC populations were slightly skewed, with more males (ON n = 32, 58.2%; BC n = 37, 54.4%) than females (ON n = 23, 41.8%; BC n = 31, 45.6%). Park contexts selected by ON and BC
Parks staff populations were almost equally divided between the park services category (ON n = 33, 57.9%; BC n = 34, 49.3%) and the park management category (ON n = 24, 42.1%; BC n = 32, 46.4%), while a few BC Parks staff selected a context within the Other Category (n = 3, 4.3%).

Table 5
Examples of Governance Statements

<table>
<thead>
<tr>
<th>Governance Criterion</th>
<th>Example of Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>Park [Service Category] seriously responds to public criticism.</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Park [X] services are of excellent quality.</td>
</tr>
<tr>
<td>Equity</td>
<td>At park [Service Category] users receive fair and equal treatment.</td>
</tr>
<tr>
<td>Efficiency</td>
<td>[Service Category] provides value for the user fees they charge.</td>
</tr>
<tr>
<td>Public Participation</td>
<td>Those who wanted to contribute to the public participation process at [Park x] had that opportunity.</td>
</tr>
<tr>
<td>Consensus Orientation</td>
<td>The decision-making process allows for adequate group interaction.</td>
</tr>
<tr>
<td>Transparency</td>
<td>The contracting policies are transparent.</td>
</tr>
<tr>
<td>Accountability</td>
<td>At [Park], I am kept informed about major expenditures.</td>
</tr>
<tr>
<td>Strategic Vision</td>
<td>[Park]’s planning and management fulfills strategic vision outlined in the box at the top of this page (a definition of strategic vision was provided).</td>
</tr>
</tbody>
</table>

For a complete list of statements, see Buteau-Duitschaever, 2010.

Statistical Analysis

As noted, our intent was to measure governance using extant, but heretofore not simultaneously employed measures of governance. Exploratory procedures were deemed appropriate as our original intent was not to develop a standardized governance scale by winnowing down a large item pool into a parsimonious set suitable for use in any number of management settings. Our process emphasized content validity, face validity, and internal consistency for all items within each of the 10 governance sections of the research instrument (Babbie, 1995; Snedecor, 1946). The literature review provided the
basis for content validity of the instrument. Principal components analysis with varimax rotation reduced the complexity inherent in interpreting 75 individual items and determined the face validity and internal consistency of items within the 10 governance sections. Reliability analysis using Cronbach’s alpha was conducted to determine if the grouping of statements, as indicated by the principal components analysis, was a reliable indicator. This analysis was important, as unreliable instruments cannot, by definition, be valid. Based on the reliability analysis, several items within five of the 10 governance sections of the survey (Efficiency, Effectiveness, Consensus Orientation, Public Participation, and Strategic Vision) were not included in the factors since these items either formed a single item factor or presented unacceptably low factor loadings. This lack of congruency may be attributed to the negative wording of the items in question (Gliem & Gliem, 2003; McIver & Carmines, 1981; Nunnally & Bernstein, 1994; Spector, 1992). Although the principal components analysis grouped all items within one factor for the governance section Effectiveness, researchers rejected two items due to their low factor loadings. Consistent with Stevens’ (1985) suggestion, we set the minimum factor loading cut-off at .5 based on our sample size. The reliability analysis confirmed the rejection of these two items.

Following the components analysis, items within both the Equity and Efficiency sections were separated into two separate and distinct subgroups. The first of two factors for Equity was comprised of seven items measuring participants’ perception of both ON and BC Parks: (a) treating all users with fair and equal treatment; (b) attending to the needs of all in a fair basis; (c) having fair procedures for establishing priorities; (d) using fair procedures to resolve conflict; (e) ensuring all users are permitted to use services; (f) ensuring the tendering process is open to all; and (g) providing the same quality of service to all. This component was termed Equity-Fairness. The second factor for Equity was comprised of two items designed to measure if participants perceived the park to be providing adequate services because user fees cover the costs; and if participants perceive the park to be providing adequate services because tax revenues cover the costs. This factor was named Equity-Finance. The first factor for Efficiency was comprised of three items designed to measure if the park (a) provides value for the taxes paid, (b) provides value for user fees charged, and (c) is efficient. This factor was named Efficiency-Financial Value. The second factor for Efficiency was comprised of two items designed to measure if the park (a) has enough employees to handle their responsibilities, and (b) has too many employees. This factor was named Efficiency-Employees. The remaining eight governance sections retained their original names since all items (with the exception of those rejected as discussed above) within each of the eight sections grouped into one factor indicating high levels of congruency in their measurement design. This approach resulted in eight factors remaining unchanged, and two factors each being split, resulting in 12 factors.

Subsequent analyses utilized the aforementioned factors. The principal components analysis revealed that the 12 factors explained over 66% of the variance (Table 6). The reliability analysis confirmed the grouping of the items for 11 of the 12 governance factors identified in the principal components analysis (Table 6). Due to a low alpha score (.51), the second factor (Efficiency-Employees) as defined by the principal components analysis for Efficiency was not further incorporated into any analyses conducted. Convention suggests that internal consistency levels of less than .70 are suspect (Nunnally, 1978) and though some would argue that alpha levels as low as .60 are sufficient for exploratory survey research, the alpha score of .51 falls well short of this standard.

**Governance Factor Scoring**

All items within each of the governance factors created were measured using a 5-point Likert scale ranging from 1 (strongly agree with the statement) to 5 (strongly disagree with the statement). A score of 3 indicates a neutral perception of the statement. A score of 3 to 5 indicates negative perceptions of governance, while a score from 1 to 3 indicates positive perceptions of governance. The wording of various items allowed agreement with the statement to represent good governance and disagreement with the statement to represent weak governance.
Results

ON Parks staff had positive perceptions (scores between 1 and 3) for all 11 governance factors: Responsiveness (m = 1.90); Equity-Fairness (m = 1.90); Effectiveness (m = 1.95); Strategic Vision (m = 1.99); Accountability (m = 2.01); Efficiency-Financial Value (m = 2.01); Rule of Law (m = 2.09); Public Participation (m = 2.19); Transparency (m = 2.33); Consensus Orientation (m = 2.51); and Equity-Finance (m = 2.79). The highest standard deviation for ON Parks staff was for Equity-Finance (SD = .98), while the lowest standard deviation for ON Parks staff was for Effectiveness (SD = .58) (Table 7).

BC Parks staff had positive perceptions (scores between 1 and 3) for 10 of 11 governance factors: Accountability (m = 2.29); Transparency (m = 2.30); Responsiveness (m = 2.27); Efficiency-Financial Value (m = 2.29); Equity-Fairness (m = 2.28); Public Participation (m = 2.33); Strategic Vision (m = 2.36); Rule of Law (m = 2.47); Consensus Orientation (m = 2.64); and Effectiveness (m = 2.56). BC Parks staff had negative perceptions (between 3 and 5) for the governance factor Equity-Finance (m = 3.48). For BC Parks staff, the highest level of disagreement was for two governance factors: Equity-Finance (SD = .98) and Strategic Vision (SD = .98). The lowest standard deviation for BC Parks staff was with the governance factor Transparency (SD = 0.70) (Table 7).
Table 7
*T-test Comparing BC to ON Parks Staff on 11 Governance Factors*  

<table>
<thead>
<tr>
<th>Governance Factors</th>
<th>Staff</th>
<th>n</th>
<th>M</th>
<th>S.D.</th>
<th>N/A</th>
<th>Do not know</th>
<th>T</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>ON</td>
<td>63</td>
<td>1.90</td>
<td>0.65</td>
<td>0</td>
<td>0</td>
<td>3.10</td>
<td>130</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>69</td>
<td>2.27</td>
<td>0.71</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness</td>
<td>ON</td>
<td>63</td>
<td>1.95</td>
<td>0.58</td>
<td>0</td>
<td>0</td>
<td>4.75</td>
<td>130</td>
<td>&lt; .001</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>69</td>
<td>2.56</td>
<td>0.84</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity-Fairness</td>
<td>ON</td>
<td>58</td>
<td>1.90</td>
<td>0.59</td>
<td>2</td>
<td>0</td>
<td>3.17</td>
<td>124</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>68</td>
<td>2.28</td>
<td>0.72</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity-Finance</td>
<td>ON</td>
<td>52</td>
<td>2.79</td>
<td>0.98</td>
<td>6</td>
<td>2</td>
<td>3.81</td>
<td>115</td>
<td>&lt; .001</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>65</td>
<td>3.48</td>
<td>0.98</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency-Financial Value</td>
<td>ON</td>
<td>59</td>
<td>2.01</td>
<td>0.65</td>
<td>0</td>
<td>0</td>
<td>1.97</td>
<td>125</td>
<td>.051</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>68</td>
<td>2.29</td>
<td>0.91</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Participation</td>
<td>ON</td>
<td>53</td>
<td>2.19</td>
<td>0.61</td>
<td>1</td>
<td>4</td>
<td>1.13</td>
<td>113</td>
<td>.260</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>62</td>
<td>2.33</td>
<td>0.72</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consensus Orientation</td>
<td>ON</td>
<td>48</td>
<td>2.51</td>
<td>0.75</td>
<td>2</td>
<td>7</td>
<td>0.88</td>
<td>106</td>
<td>.380</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>60</td>
<td>2.64</td>
<td>0.76</td>
<td>2</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transparency</td>
<td>ON</td>
<td>55</td>
<td>2.33</td>
<td>0.59</td>
<td>2</td>
<td>0</td>
<td>0.22</td>
<td>121</td>
<td>.825</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>68</td>
<td>2.30</td>
<td>0.70</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule of Law</td>
<td>ON</td>
<td>57</td>
<td>2.09</td>
<td>0.65</td>
<td>0</td>
<td>0</td>
<td>2.93</td>
<td>124</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>69</td>
<td>2.47</td>
<td>0.78</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountability</td>
<td>ON</td>
<td>57</td>
<td>2.01</td>
<td>0.76</td>
<td>0</td>
<td>0</td>
<td>2.09</td>
<td>124</td>
<td>.038</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>69</td>
<td>2.29</td>
<td>0.76</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic Vision</td>
<td>ON</td>
<td>57</td>
<td>1.99</td>
<td>0.71</td>
<td>0</td>
<td>0</td>
<td>2.38</td>
<td>124</td>
<td>.019</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>69</td>
<td>2.36</td>
<td>0.98</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Bonferoni correction resulted in an adjusted $\alpha = .0045$

b Based on 5-point scales where a score from 1 to 3 indicates positive perceptions of governance and a score of 3 to 5 indicates negative perceptions of governance.
As previously mentioned, the research instrument allowed participants to select “Not Applicable” or “Do not know” when answering items within each of the 10 governance sections. Both ON and BC Parks staff seldom indicated that items within each of the 11 governance factors were not applicable to them, demonstrating high levels of content validity for the research model used in this study (Table 7). Equity-Finance (ON), Public Participation and Consensus Orientation (both provinces) represent possible exceptions with up to seven responses in those categories.

In order to determine if the observed differences between staff within ON and BC Parks were different from each other (p < .05), an independent sample t-test was conducted. The independent sample t-test revealed that groups were statistically different on seven of 11 governance factors (p < .0045 based on the Bonferoni correction). For all seven governance criteria, the ON Parks staff provided more positive scores.

Discussion and Implications

This analysis revealed that the ON Parks staff felt positively toward all 11 governance criteria as they relate to the ON management model. The BC Parks staff felt positive toward 10 of the 11 governance criteria as they relate to the BC Parks management model. The BC Parks staff provided a mildly negative score for Equity-Finance (3.48). Given that the major justification for the use of private contractors in the delivery of park services in BC Parks is to augment financial equity, it is notable that park staff who work in the system score this criterion in the negative range. As low fees are often seen as a lower barrier to low income visitors, it is odd that Equity-Finance has a low ranking since low use fees charged to the visiting public are often seen as assisting with equity (More, 2005). Since BC provincial parks have relatively low user fees, the negative perception should not be due to high fees keeping people from attending the parks. The data in this study do not provide information on the causes of this low scoring, but McCutcheon (2009) observed that the vast majority of contractors working within BC Parks received a government subsidy each year. Since the government regulates prices in the parks to a very low level, the contractors are not able to cover all their costs through user fees. This leads to the annual subsidies derived from societal taxes. The low staff scoring for equity-finance may be related to this taxpayer subsidy for private-sector operations within BC Parks. We conclude that equity in park management involves much more than low fees. It also involves the ability of visitors to access services of a desirable level of quality. Possibly a taxpayer subsidy to private operators does not produce a positive view of equity among park agency staff.

For seven of the 11 criteria, ON Parks staff were significantly more positive in their scoring than their counterparts in BC Parks. For the remaining four criteria, the differences were not statistically different, but ON Parks provides scores that are visually more positive for four of the five governance factors. This suggests that overall the ON Parks Parastatal Management Model is perceived as positive compared to BC Parks staff perceptions of their Public and For-Profit Combination Model, with all visitor services provided by profit-making corporations. Although the data collected do not provide a direct causal explanation for the reasons for the differences between the two park systems, it is possible to speculate.

The ON Parks Parastatal Model emerged in the mid-1990s during a period of government cutbacks. Over several years of discussion, consultants, park agency staff, and nongovernmental organization (NGO) policy leaders developed the new model whereby an increased percentage of park agency funding would come from visitor fees and charges. The older model was the National Park Model, where the vast majority of funding came from government. This new approach was successful in providing sustainable funding immune to the government cutbacks that occurred through government during the term of the right wing government of the mid- to late-1990s (Environmental Commissioner of Ontario, 2008). It also provides higher levels of services targeted to visitor demands (Halpenny, 2007). The financial and political successes of the model may be reasons for the staff members’ positive scoring. Conversely, the BC Parks model was developed in house by the provincial government during the early 1980s. This model’s relatively low
use fees, fewer numbers of government staff in the parks, and lower service levels have been criticized by NGOs (McCutcheon, 2009).

We conclude that the consultative approach to the creation of the ON Parks management model in addition to its strong success in funding a well-liked and financially viable park system gave it an advantage over the BC Parks model, which is a top-down approach that has not been subject to open review by a broad suite of stakeholders over decades of use. Eagles (2009) found that the Parastatal and Public and For-Profit Combination Models had identical governance scores. This research suggests that park staff view the Parastatal Model more positively than the Public and For-Profit Combination Model.

Conflict resolution processes between government, industry (predominantly the forestry sector), not-for-profit organizations, aboriginal communities, and the general provincial populace (Hanna, Negrave, Kutas, & Jojkic, 2007) shaped development of protected areas throughout the 1980s and 1990s within BC Parks. Hanna et al. (2007) provide four case studies of protected area creation within the province of British Columbia and provide a causal explanation of the political and economic factors that influenced their creation. They propose that protected area development within the province during this period, unlike in Ontario, was reactive rather than proactive by which government responded to the extreme pressures placed by NGOs, aboriginal communities, and industry through the modification and adoption of new public land use planning methods such as the Protected Area Strategy. These changes in land use planning strategy, adopted under various governments as a political response to outside pressures, may have restricted the powers of BC Parks staff and may be linked to the lower scoring of their management model. It is also possible that the disconnect between the head office staff and the park visitors, the difficult contractual relationships between the contractors and the park agency staff, and the constant requirement for government subsidy lead the staff members to provide relatively lower governance scores. Therefore, we conclude that placing a private, profit-making entity between the park agency staff and the park visitors causes a political and managerial disconnect that became apparent in this study. This finding should have relevance for any park system that uses the privatization approach.

Based on our experience during data collection, the BC Parks staff were very interested in our study but the government was not, as revealed when late in the study the Minister of Environment ordered BC Parks agency staff members to stop participating in the research study and to cut all ties with the research team. We wonder if the more negative perceptions of BC Parks staff are also linked to the top-down approach of the provincial government, which essentially ties the hands of BC Parks staff and forces them to manage the park system with very little flexibility, budget, or revenue. The ON Parks staff were also very interested in this study and no negative reactions were obtained from the government. We wonder if the ON Parks staff were more positive toward the ON Parks management model due to their higher levels of perception of control of park management activities and a more positive staff–government relationship.

Although our original intent was not to develop a standardized governance scale, the exploratory components analyses and internal consistency scores suggest that the present instrument was reliable and valid. As such, there is tentative evidence that it could be applied in other park governance contexts. That said, an important future research priority is the development of a parsimonious standardized governance scale using conventional state-of-the-art procedures (e.g., DeVellis, 2003).

**Conclusion**

To the authors’ knowledge, this is the first study of its type, whereby park staff members are able to voice their opinions of the governance of the management models in which they work. The research shows that staff members in both agencies are generally positive toward the governance of their agency’s park management. However, the ON Parks staff members are much more positive than are their colleagues in BC Parks. We conclude that this difference is due to two factors: the management models used and the park agency staff–government relations.
More (2005) states, “Privatization proponents suggest that competition promotes efficiency, innovation, and responsiveness to changing public preference” (p. 15). Our findings do not support this position. This study found that the BC Parks staff identify a problem with the governance criteria of Equity-Finance within the BC Parks management model. Since financial efficiency is the major reason for the application of the private sector delivery of tourism services in BC Parks, this finding reveals that the park staff have concerns with the issue of park finances. Allied with the overall finding that efficiency is the third lowest ranked governance criteria by the combination of five stakeholder groups (Eagles et al., 2010) suggests that the Public and For-Profit Combination Model in BC Parks is not providing the financial efficiencies that it is designed to deliver. In addition, this study found that the park staff in ON Parks feel that the park management has more positive scores for responsiveness than do the park staff in BC Parks.

The findings of this study suggest that a policy review in BC Parks is necessary. In addition, better relations between the British Columbia cabinet and the public servants within park administration are desired. If the findings of this study were replicated elsewhere, the case for the privatization of park tourism to the private, profit-making sector would be weakened.

The high levels of cooperation from the park staff in the two case study agencies reveal their strong interest in this type of research. Too often, the park staff members are not systematically surveyed on important management issues. Given the findings of this investigation of the views of park staff, it would be useful to do further work with the staff in other management groups that manage parks and other conservation lands, such as national park agencies, NGOs, and aboriginal groups. It would also be useful to look at other jurisdictions in other counties with similar management models to evaluate whether the findings are broadly similar.

This study reveals that for overall good governance, emphasis must be placed on all the governance criteria. If too much emphasis is placed on any one criterion, and this is often financial efficiency in park agencies (Crompton and Lamb, 1986), then the appropriate application of the other criteria suffers, leading to a lower score for good governance. In the current time of severe financial pressure in most park agencies, this is an important finding for park management.

References


Benefits of Open Space: Managers and Local Residents’ Perspectives

Gyan P. Nyaupane

EXECUTIVE SUMMARY: This study examined perceptions of benefits of parks and open space between park professionals and local residents and analyzed factors that influence local residents’ perceived benefits. A Web-based survey collected data from 106 managers and a statewide telephone survey collected data from 1,238 randomly sampled households in Arizona. Results indicated that managers rated all benefit dimensions examined (personal, social, environmental, and economic) as more important than did local residents. Interest in outdoor recreation activities, importance of open space when buying a house, proximity to open space, maintenance and access to parks and open space, length of residence, gender, and income influenced perceived benefits of parks and open space. Among these variables, interest in outdoor recreation activities and importance of open space when buying a house positively influenced all four types of perceived benefits. Distance to parks and open space influenced only perceived personal and social benefits. However, environmental and economic benefits were perceived regardless of distance to parks and open space. Well-maintained parks and open space contributed to perceived personal, social, and economic benefits, but not environmental benefits. The access to parks and open space contributed to perceived social and environmental benefits. Length of residence in a community was positively related to perceived importance of personal, social, and economic benefits. Women perceived personal, environmental, and economic benefits as more important than did men. Resident income was positively related to perceived social and environmental benefits. These findings can be useful for parks and open space professionals to provide opportunities for local residents so that they can perceive maximum beneficial outcomes from parks and open space. This study recommended creating parks and space close to homes, maintaining parks and open space, and providing access to public lands. Parks and public land management agencies should also educate citizens about the amenities and opportunities available to increase the public interest in outdoor recreation.
While there is a dichotomy between the natural and built environment, the distinction between the two has become less apparent as the value and definition of natural environment evolves. Many terms are used to explain the natural environment, such as natural areas, natural conditions, wilderness areas, and protected areas (Cole et al., 2008). Natural areas are defined as “areas which have not been significantly altered by human kind” (Newsome, Moore, & Dowling, 2002, p. 3). Natural conditions are defined as “the condition of resources that would occur in the absence of human dominance over the landscape” (National Park Service, 2006, p. 37). Wilderness area is defined as an area “protected and managed so as to preserve its natural conditions” (International Union of Conservation of Nature [IUCN], 2011). Protected areas are considered as “areas dedicated and managed to achieve the long-term conservation of nature” (IUCN, 2011). However, there is lack of agreement on what constitutes “significant” alteration of nature and “absence of human dominance.” Some argue that humans are part of the nature and natural refers to everything, including agricultural, technological, industrial, and economic, other than the supernatural (Rolston, 2001). Therefore, open space has been commonly understood to include both natural and built environments that have some natural elements. Researchers argue that open space is an inclusive term encompassing public, semipublic, and private urban and wilderness areas as well as developed and undeveloped parks (Backlund, Steward, McDonald, & Miller, 2004; Chiesura, 2004; Maruani & Amit-Cohen, 2007; Teal, Huang, & Rodiek, 1998).

Questions remain regarding how to allocate, plan, and manage the remaining open space in a changing context. Parks and open space provide various benefits to local residents (Driver, Brown, & Peterson, 1991; Driver, 2008a). However, per capita availability of parks and open space areas is decreasing (Cordell & Betz, 2000; Cordell, Betz, & Zarnoch, in press). Cordell et al. reported how the availability of recreation resources would decrease given projected changes in population from 2008 to 2060. Specifically, they project 1.4 acres of federal and state parks land per capita in 2060, which is one third less than that available in 2008 (2.1 acres). Similarly, per capita availability of water resources (streams, rivers, ponds, lakes, and ocean) are projected to decrease from more than one-half acre per capita in 2008 to less than .4 acres in 2060 and both nonfederal open range and pasture and mountains are projected to decline to about two thirds.

Human desire for parks and open space, on the other hand, has been increasing for several reasons including environmental and ecological attributes and scenic vistas and venues for active and passive recreation (Crompton, 2000). In addition, local residents’ perceived benefits of parks and open space are changing with the changing demographic composition. In particular, aging and diverse populations are growing in the United States. Population projections indicate that the percentage of citizens aged 65 and over will increase from 12.4% in 2000 to 20.7% in 2050 (U.S. Census Bureau, 2008). Similarly,
ethnicity and race in the United States, among other countries, will shift. In the United States, the Hispanic and Asian population will increase from 12.6% in 2000 to 24.4% in 2050 and from 3.8% in 2000 to 8.0% in 2050, respectively (U.S. Census Bureau, 2008).

As the population composition changes, it is likely that the uses, values, and priorities of parks and open space change. Planners and managers often make decisions based on assumptions of how local residents benefit from the existence, maintenance, and improvement of parks and open space. In this changing demographic context, managers need a better understanding of how local residents perceive benefits of parks and open space. How settings, demographics, interest, attitude, and access influence the perceived benefits is also important to understand (Anderson, Nickerson, Stein, & Lee, 2000). Further, with the 2008 financial crisis and corresponding budget cuts to public land management agencies, parks and open space managers face various challenges to manage their parks with fewer resources to meet the needs of changing demographics. Therefore, there is a need for more persuasive arguments to justify adequate funding for parks and open space.

An Outcomes Focused Management (OFM) approach has emerged to frame various concepts and practices about parks and open space (Driver, 2008a). OFM (previously known as Benefits-Based Management) is founded on the principle that the purpose of land management is to provide opportunities that benefit the public (Anderson et al., 2000). Driver (2008b) outlined some major challenges to understand benefits and implement OFM. First, parks and open space professionals mostly rely on intuition and personal experience to guide planning and decision making (Driver, 2008b). Local residents and parks and open space professionals may perceive parks and open space benefits differently. As a result, it is crucial for managers to examine residents’ perspective. Second, there is a lack of science-based knowledge about the benefits of parks and open space (Driver, 2008b). Studies to date focus on listing the benefits but do not address what factors influence the perceived benefits. Therefore, the objectives of this paper are to examine (a) perceptions of benefits of open space between managers and local residents and (b) the factors that influence perceived benefits of local residents.

**Literature Review**

**What is Open Space?**

Open space comes in many forms and is used for a variety of purposes. Some researchers define open space very loosely as any nonbuilt areas such as greenbelts, parks, pathways (trails), gardens, wetlands, farms, and small water impoundments within and outside of an urban area, and even on urban streets and squares (Betz, English, & Cordell, 1999; Maruani & Amit-Cohen, 2007; Teal et al., 1998; Thompson, 2002). Others define open space as strict natural areas, such as nature-based parks and recreation areas, wildlife habitats, and lakes and streams (Backlund et al., 2004).

Open space can be defined or categorized based on the interference levels with the natural environment and setting as well as ownership. Maruani and Amit-Cohen (2007) identified five types of open space, ranging from high-interference levels (urban open space) to low-interference levels with the natural environment (wilderness areas), based on setting and level of intervention in the natural ecosystem. The interference-based typology is related to the Recreation Opportunity Spectrum framework in which a range of settings (primitive to urban) is used as a guide to manage resources and provide opportunities for visitors (Clark & Stanley, 1979). From the ownership perspective, parks and open space can be categorized as public, semipublic, and private. Examples of public open space include national parks and forests, city parks, urban plazas, and greenways (although some usage restrictions may limit numbers, times, and types of use) (Kaplan & Austin, 2004). Semiprivate open space such as golf course communities are open only to residents, but they also provide ecological and aesthetic values to the public (Crompton, 2007). Some privately owned lands, such as agriculture and forest lands, also function as viewsheds and provide aesthetic and existence values. This paper broadly defines open space as undeveloped and developed private, semiprivate, and public lands.
Benefits of Open Space

Taking a broad view of the benefits of open space, researchers have proposed various types of benefits including personal, social, environmental, and economic (Driver, 2008a; Driver et al., 1991; Kaplan & Kaplan, 1989; Moore & Driver, 2005). Residents who have access to parks and open space (e.g., biking and walking trails) are often more physically active (Centers for Disease Control and Prevention, 2001; Rosenberger, Bergerson, & Kline, 2009); consequently, they enjoy better mental and physical health (Kaczynski & Henderson, 2007). Parks and open space also enhance the quality of life of residents and visitors. Parks and open space make neighborhoods more livable; offer recreation opportunities for at-risk youth, low-income children, and families; and create a sense of community (Sherer, 2003). Research also demonstrates that access to parks and open space has been linked to reductions in crime, particularly juvenile delinquency (Sherer, 2003). Excessive noise, including sound from road, rail, or air traffic; industry; construction; public works; and the local neighborhood are often the main causes of environmental distress among residents (Zhang & Kang, 2007).

Parks and open space, which function as soundscapes in urban areas, play a vital role in noise absorption, resulting in better acoustic comfort. Parks and open space provide environmental and ecosystem services such as filtration of pollutants from soil and water, buffering of air pollutants, moderation of climatic changes, conservation of soil and water, pollination of food crops and other plants, and preservation of genetic diversity (Lerner & Poole, 1999). Further, open space contributes to a broader environmental protection effort by educating people about the environment and creating awareness.

Finally, economically, recreation and tourism are promoted in association with parks and open space. Nature-based tourism activities, which take place in national parks, protected rivers, scenic lands, wildlife habitats, and recreational open space, account for 10% to 20% of the $5.8 trillion U.S. tourism industry (World Travel and Tourism Council, 2010). Parks and open space support a $1.25 trillion tourism industry in the United States (Office of Travel and Tourism Industries, 2010). The presence of open space also affects the value of adjacent lands, termed enhancement value (Fausold & Lilieholm, 1999, p. 309). Developers also realize that providing open space within residential developments is increasingly important (Lovell & Paulette, 2006; Ryan, 2006). Cities have also used their urban open space to revitalize inner cities by organizing public events such as concerts and public fairs that help bring people to the cities and increase retail sales (Francis, 1989; Lloyd & Auld, 2003). These benefits also have the “benefit chain of casualty” as one type of benefit can lead to other subsequent benefits (Driver & Bruns, 1999, p. 358).

Although there is a plethora of research on benefits of parks and open space, most studies have focused on identifying benefits and their importance. Studies indicate that the residents’ perceived importance of benefits vary by activity and setting (Pierskalla, Lee, Stein, Anderson, & Nickerson, 2004; Virden & Knopf, 1989; Yuan & McEwen, 1989), attitudes toward wildland preservation (Vaske & Donnelly, 1999), length of time spent in the community (Baker & Palmer, 2006), proximity (Anderson, Stanis, Schneider, & Leahy, 2008), and socioeconomic conditions (Ho et al., 2005; Parisi, Taquino, Grice, & Gill, 2004). Most of the previous studies, however, do not address how various factors influence perceived benefits. The sole exception is the study by Anderson et al. (2008), which found that proximate visitors as compared to distant visitors perceived benefits as more important.

Parks and open space managers make assumptions about how local residents benefit from the existence, maintenance, and improvement of parks and open space. However, the literature suggests some differences between managers and the public in terms of various aspects of parks and open space. McGonagle and Swallow (2005) examined the differences between managers and the public in terms of access to acquired coastal open space. The study found that the public preferred accessible open space to large tracts of protected open space that lacked public access. In a similar vein, the public identified that dedicated open space visible from the public rights of ways as more important than did planners (Ryan, 2006). On a related note, other studies reveal that managers perceived higher levels of
depreciative behaviors, such as litter, vandalism and noise, than did visitors (Westover, 1984; Ibitayo & Virden, 1996). However, there is a lack of research on how managers and the public differ in terms of various aspects of perceived benefits.

Method

Sample

Park managers and professionals. The sample for the Web-based survey included directors of parks and recreation or related departments in local, state, and federal agencies as well as managers of individual local, state, or federal areas. A list of 237 names and addresses of all resource management professionals was collected with the help of Arizona State Parks management staff. A Web-based survey system, Zoomerang.com, was used to collect the data because it is more cost-effective and efficient compared to mail surveys when e-mail addresses are available (Schleyer & Forrest, 2000). Similarly, the Web-based survey allows the researcher the options to not allow participants to skip the questions and submit incomplete surveys (Schleyer & Forrest, 2000). A short prenotification invitation e-mail was sent a week before launching the survey to introduce the study and forthcoming e-mail with an URL. The survey was operational for three months and three follow-up reminder e-mails were forwarded to each respondent to encourage participation. There were 22 incorrect addresses removed from the sample, resulting in a Web-based survey of 215 individuals. The 106 online surveys completed resulted in a final adjusted response rate of 49.3%.

Residents. For the local-resident survey, a random-digit dialing (RDD) sample was selected using Genesys. Such a process helps find unlisted telephone numbers. In this process, a computer was programmed to select and dial numbers at random. All numbers that could not obtain a final disposition, such as calls with no answers, answering machines, or hang ups, received a minimum of 10 attempts. For example, if no one answered, calls were repeated a minimum of 10 times to determine if it was a valid number. If a respondent was unavailable or was reached at an inconvenient time, a callback was scheduled. Respondents 18 years or older were randomly selected by asking whose birthday was the most recent in the household. Calls were made Monday through Thursday from 4 p.m. to 8 p.m., Saturday from 10 a.m. to 2 p.m., and Sunday from 12 p.m. to 4 p.m. The sample yielded a total of 1,238 completed interviews, resulting in a 33.5% response rate. To represent the Hispanic population, surveys were also conducted in Spanish if the respondents did not speak English.

Questionnaire

In both questionnaires, respondents were asked to rate their level of agreement on a 5-point Likert-type scale of benefits (e.g., parks and open space benefit my area because they promote mental health). The measures included two items for personal benefits, four items for social benefits, two items for environmental benefits, and three items for economic benefits. These benefit items were selected from previous literature (e.g., Driver et al., 1991; Moore & Driver, 2005). Local residents were also asked about their interest in natural resource-based recreation activities, how close the nearest park was from their residence, how well the parks were maintained, the amount of access they had to open space, the importance of open space when buying a house, and opportunities for open space for people with special needs using a 5-point Likert-type scale. The residents were instructed that park refers to any park, whether a neighborhood park or a national park. In addition, demographic data were collected from local residents, including gender, age, income, education, household size, ethnicity, employment, type of community in which they reside, number of children in the household, and years lived in Arizona.
Analysis

To test the measurement model for the four benefit dimensions, a confirmatory factor analysis (CFA) was conducted using AMOS 17.0. For the CFA, a pooled sample of 672 participants (local residents and managers) was selected using a randomized split method. The results indicated that the four dimensions of the benefits model ($\chi^2 = 147.1$, df = 38; GFI = .96, CFI = .96; RMSEA = .064) were within the acceptable range for the goodness-of-fit indicators and that the data fit the proposed four categories of benefits (Table 1). Further, reliability analysis tested the measurement consistency. Cronbach’s alpha scores were .74 for personal benefits, .81 for social benefits, .70 for environmental benefits, and .67 for economic benefits. A series of independent sample t-tests (with Bonferroni correction) tested the differences between managers and local residents. To examine how demographics, settings, interest, attitude, and access influence the perceived benefits, a series of regression analyses was conducted. Four separate regression analyses were conducted to estimate the influence of these variables on perceived personal, social, environmental, and economic benefits.

Results

Sample Characteristics

Of the total sample of managers, 41% were from federal agencies; 24% were from state agencies; and 35% were from local agencies. The majority of the managers (52.8%) had worked for their current agency for 16 years or more, indicating a considerable familiarity with their agencies’ role in protecting and managing parks and open space.

For the resident survey, the sample was predominantly white (93%) and non-Hispanic (79%), which is a slightly higher percentage than found in the total population of Arizona (White, 76% and non-Hispanic, 71%) (U.S. Census Bureau, 2008). Approximately 35% of the sample held a bachelor’s degree or higher. The population is well represented except for less-educated populations. With respect to residence, 16.9% of the residents reported that they live in rural areas. The income categories show that the population is well represented except at the lowest income levels. There were more female (62%) than male (38%) respondents in this survey. One reason could be that women are more likely to pick up the phone, be at home, and be willing to discuss social issues (Stein, Walker, Hazen, & Forde, 1997). The sample shows reasonable representation of those with disabilities (11.4%) compared to the total in Arizona (14.9%).

Differing Perceptions of Benefits

The first objective of this study was to compare perceptions of benefits of parks and open space between managers and local residents. Of the four benefit dimensions identified, most respondents agreed that open space affords personal benefits ($M = 4.28$) and social benefits ($M = 4.28$), followed by environmental benefits ($M = 3.88$) and economic benefits ($M = 3.60$). All of these dimensions received high or very high importance scores from both managers and local residents, suggesting that perceived benefits of parks and open space are high. However, the t-tests (Bonferroni corrected) revealed all four benefit–dimension scores were significantly higher for managers as compared to residents (Table 2).

Factors Predicting Perceived Benefits

The findings revealed that select demographic variables, interest, and space characteristics influenced local residents’ perceptions of open space (Tables 3–6). Seven variables influenced perceived personal benefits; eight variables influenced perceived social benefits; six variables influenced perceived environmental benefits; five variables influenced perceived economic benefits. Personal benefits of parks and open space were influenced by gender, years lived in Arizona, proximity, interest in outdoor recreation, maintenance of parks, concern with the opportunities and needs of special populations, and importance of open space when buying a house (Table 3). Specifically, years lived in the state negatively influenced ($\beta = -.093$, $p < .01$) the perceptions of personal benefits. The results showed
Table 1

Results of the Confirmatory Factor Analysis for the Benefit Domains

<table>
<thead>
<tr>
<th>Benefits Items</th>
<th>Factor Loading</th>
<th>R²</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promote a healthy lifestyle through physical activity</td>
<td>.84</td>
<td>.71</td>
<td>.74</td>
</tr>
<tr>
<td>Promote mental health</td>
<td>.77</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td><strong>Social Benefits</strong></td>
<td></td>
<td></td>
<td>.81</td>
</tr>
<tr>
<td>Provide constructive activities for youth</td>
<td>.66</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>Increase community pride</td>
<td>.72</td>
<td>.51</td>
<td></td>
</tr>
<tr>
<td>Make cities and regions better places to live</td>
<td>.76</td>
<td>.58</td>
<td></td>
</tr>
<tr>
<td>Provide opportunities for family interaction</td>
<td>.80</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental Benefits</strong></td>
<td></td>
<td></td>
<td>.70</td>
</tr>
<tr>
<td>Educate people about the environment</td>
<td>.73</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Protect natural and cultural resources</td>
<td>.71</td>
<td>.51</td>
<td></td>
</tr>
<tr>
<td><strong>Economic Benefits</strong></td>
<td></td>
<td></td>
<td>.67</td>
</tr>
<tr>
<td>Attract new businesses</td>
<td>.65</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td>Attract tourists to the region</td>
<td>.63</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Increase property value</td>
<td>.65</td>
<td>.43</td>
<td></td>
</tr>
</tbody>
</table>

Fit statistics: $\chi^2 = 147.1$ with 38 degree of freedom, GFI = .96; CFI = .96; RMSEA = .064.
Table 2

*Differences between the Public and Managers in Terms of Perceived Benefits of Open Space*

<table>
<thead>
<tr>
<th>Benefit Items</th>
<th>Public ($M$)</th>
<th>Managers ($M$)</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promote a healthy lifestyle through physical activity</td>
<td>4.43</td>
<td>4.52</td>
<td>1.07</td>
<td>.284</td>
</tr>
<tr>
<td>Promote mental health</td>
<td>4.43</td>
<td>4.62</td>
<td>3.82</td>
<td>.000*</td>
</tr>
<tr>
<td><strong>Social Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide constructive activities for youth</td>
<td>4.14</td>
<td>4.39</td>
<td>2.34</td>
<td>.020</td>
</tr>
<tr>
<td>Increase community pride</td>
<td>4.09</td>
<td>4.52</td>
<td>3.78</td>
<td>.000*</td>
</tr>
<tr>
<td>Make cities and regions better places to live</td>
<td>4.36</td>
<td>4.70</td>
<td>3.57</td>
<td>.000*</td>
</tr>
<tr>
<td>Provide opportunities for family interaction</td>
<td>4.11</td>
<td>4.50</td>
<td>2.19</td>
<td>.028</td>
</tr>
<tr>
<td><strong>Environmental Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educate people about the environment</td>
<td>3.66</td>
<td>4.30</td>
<td>5.27</td>
<td>.000*</td>
</tr>
<tr>
<td>Protect natural and cultural resources</td>
<td>4.02</td>
<td>4.58</td>
<td>5.19</td>
<td>.000*</td>
</tr>
<tr>
<td><strong>Economic Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attract new businesses</td>
<td>3.08</td>
<td>3.90</td>
<td>6.35</td>
<td>.000*</td>
</tr>
<tr>
<td>Attract tourists to the region</td>
<td>3.66</td>
<td>4.38</td>
<td>5.42</td>
<td>.000*</td>
</tr>
<tr>
<td>Increase property value</td>
<td>3.93</td>
<td>4.09</td>
<td>1.37</td>
<td>.174</td>
</tr>
</tbody>
</table>

*P significant after Bonferroni correction.
that there is a negative relationship between distance to a park and the perceptions of personal benefits ($\beta = -0.078$, $p < .05$), suggesting that people perceive more benefits if they live close to a park or open space. Women tend to perceive personal benefits from parks and open space as more important than do men. In regards to interest, there was a positive relationship ($\beta = .176$, $p < .001$), suggesting that those who are interested in outdoor recreation perceive personal benefits as more important. Well-maintained parks and open space in the community ($\beta = .157$, $p < .001$), concern with the opportunities and needs of special populations ($\beta = .091$, $p < .01$), and importance of open space when buying a house ($\beta = .153$, $p < .001$) positively influenced how personal benefits of open space were perceived. The results revealed that these variables accounted for 12.3% of the variance in the perceived personal benefits.

Table 3

Summary of Regression Analysis for Factors Predicting the Perceived Personal Benefits

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardized B</th>
<th>SE B</th>
<th>Standardized $\beta$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>.025</td>
<td>.020</td>
<td>.043</td>
<td>.216</td>
</tr>
<tr>
<td>Gender</td>
<td>.121</td>
<td>.059</td>
<td>.071</td>
<td>.040*</td>
</tr>
<tr>
<td>Years lived in Arizona</td>
<td>-.066</td>
<td>.024</td>
<td>-.093</td>
<td>.006**</td>
</tr>
<tr>
<td>How far is the nearest park from your home?</td>
<td>-.051</td>
<td>.022</td>
<td>-.078</td>
<td>.024*</td>
</tr>
<tr>
<td>How interested are you in outdoor recreation activities?</td>
<td>.158</td>
<td>.031</td>
<td>.176</td>
<td>.000***</td>
</tr>
<tr>
<td>The parks and recreation areas in my community are generally well maintained</td>
<td>.111</td>
<td>.025</td>
<td>.157</td>
<td>.000***</td>
</tr>
<tr>
<td>Access to the public outdoor recreation lands in my area is adequate</td>
<td>.000</td>
<td>.024</td>
<td>.000</td>
<td>.993</td>
</tr>
<tr>
<td>There is a lack of recreation opportunities in my area for people with special needs</td>
<td>.055</td>
<td>.021</td>
<td>.091</td>
<td>.008**</td>
</tr>
<tr>
<td>If I bought a house in my community, having open space would be a top priority</td>
<td>.110</td>
<td>.025</td>
<td>.153</td>
<td>.000***</td>
</tr>
</tbody>
</table>

* $P < 0.05$, **$P < 0.01$, ***$P < 0.001$  $R^2 = .123$, $F = 11.978***$

Dependent variable: Perception of personal benefits
Social benefits of parks and open space were influenced by income, years lived in Arizona, proximity, interest in outdoor recreation, maintenance of parks, access to parks and open space, concern with the opportunities and needs of special populations, and importance of open space when buying a house (Table 4). Like personal benefits, years lived in the state ($\beta = -.074, p < .05$) and distance to parks ($\beta = -.071, p < .05$) negatively influenced the perceptions of social benefits. However, some interesting differences were observed. Unlike personal benefits, income was a significant predictor of perceived social benefits. Higher income groups perceived social benefits from parks and open space as more important than did lower income groups ($\beta = .093, p < .01$). Access to public lands also positively contributed ($\beta = .084, p < .05$) to the perceptions of social benefits. The total variance explained by these variables listed in Table 4 was 11.6%.

Environmental benefits of parks and open space were influenced by income, gender, interest in outdoor recreation, access to parks and open space, concern with the opportunities and needs of special populations, and importance of open space when buying a house (Table 4).
of special populations, and importance of open space when buying a house (Table 5). Women and higher income groups perceived environmental benefits as more important than did men and lower income groups. Unlike personal and social benefits, proximity to a park and length of residence were not significant with perceived environmental benefits. These variables presented in Table 5 accounted for 9% of the variance in the perceived environmental benefits of parks and open space.

The results showed that perceived economic benefits of parks and open space were influenced by years lived in Arizona, interest in outdoor recreation, maintenance of parks, access to parks and open space, concern with the opportunities and needs of special populations, and importance of open space when buying a house (Table 6). Like other benefits, those who lived in the state longer perceived economic benefits as less important ($\beta = -.077$, $p < .05$). These predictor variables accounted for only 8.2% of the variance. More important, the analysis revealed that distance to parks and open space does not play any role in the perceived economic benefits.

Table 5

Summary of Regression Analysis for Factors Predicting the Perceived Environmental Benefits

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardized</th>
<th>SE B</th>
<th>Standardized $\beta$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>-.063</td>
<td>.024</td>
<td>-.092</td>
<td>.010*</td>
</tr>
<tr>
<td>Gender</td>
<td>.161</td>
<td>.071</td>
<td>.080</td>
<td>.023*</td>
</tr>
<tr>
<td>Years lived in Arizona</td>
<td>-.019</td>
<td>.029</td>
<td>-.022</td>
<td>.522</td>
</tr>
<tr>
<td>How far is the nearest park from your home?</td>
<td>-.030</td>
<td>.027</td>
<td>-.040</td>
<td>.264</td>
</tr>
<tr>
<td>How interested are you in outdoor recreation activities?</td>
<td>.137</td>
<td>.037</td>
<td>.129</td>
<td>.000***</td>
</tr>
<tr>
<td>The parks and recreation areas in my community are generally well maintained</td>
<td>.051</td>
<td>.030</td>
<td>.060</td>
<td>.098</td>
</tr>
<tr>
<td>Access to the public outdoor recreation lands in my area is adequate</td>
<td>.070</td>
<td>.029</td>
<td>.089</td>
<td>.015*</td>
</tr>
<tr>
<td>There is a lack of recreation opportunities in my area for people with special needs</td>
<td>.060</td>
<td>.025</td>
<td>.084</td>
<td>.016*</td>
</tr>
<tr>
<td>If I bought a house in my community, having open space would be a top priority</td>
<td>.122</td>
<td>.030</td>
<td>.144</td>
<td>.000***</td>
</tr>
</tbody>
</table>

P < 0.05, **P < 0.01, ***P < 0.001, $R^2 = .09, F = 8.45***

Dependent variable: Perceptions of environmental benefits
Discussion

Questionnaires to resource management professionals and residents in one U.S. state indicated that parks and open space are perceived as very important by both managers and local residents. Like past research, differences between managers and the public existed in that managers rated all four dimensions of benefits (personal, social, environmental, and economic) as more important than did local residents. Among residents, a variety of demographic variables, interest, and space characteristics influenced their perceptions of the various benefits of parks and open space.

Although there was no comparison study specific of local residents and managers’ perceived benefits of parks and open space, past research reported differences in preference (McGonagle & Swallow, 2005; Ryan, 2006) and users’ depreciative behavior (Ibitayo & Virden, 1996; Westover, 1984). This discrepancy between managers and local residents can be explained from the perspective that parks managers have more exposure to, familiarity with, and knowledge about the parks and related management issues (Ibitayo

Table 6

Summary of Regression Analysis for Factors Predicting the Perceived Economic Benefits

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized B</th>
<th>SE B</th>
<th>Standardized β</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>-.007</td>
<td>.024</td>
<td>-.011</td>
<td>.754</td>
</tr>
<tr>
<td>Gender</td>
<td>.123</td>
<td>.069</td>
<td>.063</td>
<td>.075</td>
</tr>
<tr>
<td>Years lived in Arizona</td>
<td>-.064</td>
<td>.029</td>
<td>-.077</td>
<td>.026*</td>
</tr>
<tr>
<td>How far is the nearest park from your home?</td>
<td>-.007</td>
<td>.026</td>
<td>-.009</td>
<td>.805</td>
</tr>
<tr>
<td>How interested are you in outdoor recreation activities?</td>
<td>.150</td>
<td>.036</td>
<td>.145</td>
<td>.000***</td>
</tr>
<tr>
<td>The parks and recreation areas in my community are generally well maintained</td>
<td>.067</td>
<td>.030</td>
<td>.082</td>
<td>.024*</td>
</tr>
<tr>
<td>Access to the public outdoor recreation lands in my area is adequate</td>
<td>.046</td>
<td>.028</td>
<td>.060</td>
<td>.101</td>
</tr>
<tr>
<td>There is a lack of recreation opportunities in my area for people with special needs</td>
<td>.030</td>
<td>.024</td>
<td>.043</td>
<td>.217</td>
</tr>
<tr>
<td>If I bought a house in my community, having open space would be a top priority</td>
<td>.127</td>
<td>.029</td>
<td>.154</td>
<td>.000***</td>
</tr>
</tbody>
</table>

P < 0.05, **P < 0.01, ***P < 0.001, R^2 = .082, F = 7.65***

Dependent variable: Perceptions of economic benefits
Virden, 1996; Nyaupane & Thapa, 2006); however, what benefits the public perceives cannot be justified from an expert perspective. This leads to the assumption that parks and open space professionals overemphasize or overestimate the importance of parks and open space to rationalize and protect their profession.

Among residents, results indicated a variety of factors influence perceptions including length of residence, proximity to open space, gender, income, interest in outdoor recreation activities, maintenance, access to parks and open space, and opportunities for populations with special needs (Table 7). The longer people live in the community, the less they perceive personal, social, and economic benefits. This could be because of exponential population growth and declining open space in Arizona. Residents who have lived longer may have witnessed this change, which might have negatively impacted their perceptions (Baker & Palmer, 2006). As suggested by Anderson et al. (2008), proximity to parks and open space strongly influenced how someone perceived personal and social benefits, but did not

<table>
<thead>
<tr>
<th>Variable</th>
<th>Personal</th>
<th>Social</th>
<th>Environmental</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>--</td>
<td>X</td>
<td>X</td>
<td>--</td>
</tr>
<tr>
<td>Gender</td>
<td>X</td>
<td>--</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Years lived in Arizona</td>
<td>X</td>
<td>X</td>
<td>--</td>
<td>X</td>
</tr>
<tr>
<td>How far is the nearest park from your home?</td>
<td>X</td>
<td>X</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>How interested are you in outdoor recreation activities?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>The parks and recreation areas in my community are generally well maintained</td>
<td>X</td>
<td>X</td>
<td>--</td>
<td>X</td>
</tr>
<tr>
<td>Access to the public outdoor recreation lands in my area is adequate</td>
<td>--</td>
<td>X</td>
<td>X</td>
<td>--</td>
</tr>
<tr>
<td>There is a lack of recreation opportunities in my area for people with special needs</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>--</td>
</tr>
<tr>
<td>If I bought a house in my community, having open space would be a top priority</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

X- Significant

Table 7
Factors Predicting the Perceived Personal, Social, Environmental, and Economic Benefits

& Virden, 1996; Nyaupane & Thapa, 2006); however, what benefits the public perceives cannot be justified from an expert perspective. This leads to the assumption that parks and open space professionals overemphasize or overestimate the importance of parks and open space to rationalize and protect their profession.

Among residents, results indicated a variety of factors influence perceptions including length of residence, proximity to open space, gender, income, interest in outdoor recreation activities, maintenance, access to parks and open space, and opportunities for populations with special needs (Table 7). The longer people live in the community, the less they perceive personal, social, and economic benefits. This could be because of exponential population growth and declining open space in Arizona. Residents who have lived longer may have witnessed this change, which might have negatively impacted their perceptions (Baker & Palmer, 2006). As suggested by Anderson et al. (2008), proximity to parks and open space strongly influenced how someone perceived personal and social benefits, but did not
play any role in the perceived environmental and economic benefits. Unlike Ho et al.’s (2005) study, significant differences were found between male and female in terms of perceived benefits. Women tend to perceive personal and environmental benefits from parks and open space as more important than do men; higher income groups perceive social and environmental benefits as more important than do lower income groups. Both interest in outdoor recreation activities and importance of open space when buying a house influenced the perceived benefits of parks and open space. Well-maintained parks and open space contributed to perceived personal, social, and economic benefits, but not environmental benefits. This suggests that those parks and open space, which are geared toward providing more personal and social benefits (mostly municipal parks), have to be well maintained to provide these benefits to the public. The access to parks and open space also contributed to perceived social and environmental benefits.

Limitations

Despite the above noted contributions to the growing body of open space benefits literature, the findings should be carefully interpreted as this study has some limitations. One potential limitation of this study is that the data were collected using a Web-based survey with managers and a telephone survey with local residents. Although the benefit questions were worded exactly the same in both surveys, there could be some differences in response when two different methods are used (Dillman et al., 2009). A second limitation of this study is that although the open space is not limited to only public lands, the study did not include private and urban open space managers or owners of golf courses, private farms and forests, and urban squares and plazas. Future study should consider including managers or owners from both private and urban space. Third, although some factors were more important than others in predicting the four different dimensions of perceived benefits, the variances explained by various factors in the perceived benefits were low. Future research could include other factors, such as lifestyle, health condition, and perception of quality of life.

Management Implications

This paper contributes to the open space and benefits literature, which helps managers to better understand the benefits of parks and open space to local residents. This study provides information to parks and open space planners and managers that there are some factors that can influence perceived benefits. Based on the findings of this study, in order to provide personal and social benefits, there should be parks and open space close to home. This provides further evidence to the National Recreation and Park Association’s (NRPA) stance for ensuring close-to-home access to parks and open space (Godbey & Mowen, 2010).

This study substantiates that urban parks and open space, which are close to home, mostly provide on-site benefits (personal and social), whereas large distant parks and open space mostly provide off-site benefits (environmental and economic). This is because of the differences in access, settings, and characteristics of these parks (Baur & Tynon, 2010; Stein & Lee, 1995). Urban parks and open space provide convenient recreation opportunities to city dwellers who have limited or no access to distant forests and parks managed by federal agencies (Baur & Tynon, 2010). Although a large urban population may not use wilderness areas and other federal lands, they still receive other off-site benefits from these parks and open space. This suggests that managers should not confine their planning and management to just the residents or resources within their managerial unit.

In addition to creating more parks and open space close to home, this study also recommends keeping well-maintained parks and open space as this variable affected the perceived importance of personal, social, and economic benefits. Maintenance of parks and open space is necessary to avoid or reduce undesired condition and to help users maintain their benefits (Driver, 2008a). Providing access to public lands contributes to the perceptions of social and environmental benefits. Therefore, there is a need to identify and
acquire key lands and their access points to allow the public to enjoy the benefits of public lands. Interest in outdoor recreation also influences the perceived benefits of parks and open space. This study, also supported by previous research (e.g., Lackey & Kaczynski, 2009), suggests that parks and open space agencies should educate citizens regarding the amenities and opportunities available to increase their interest in outdoor recreation. Managers tend to over emphasize the extent to which local residents perceive benefits of parks and open space. Therefore, before initiating specific planning and policy responses, open space planners and managers should analyze the specific benefits the citizens seek from parks and open space.

References


Dillman, D. A., Phelps, G., Tortora, R., Swift, K., Kohrell, J., Berck, J., & Messer, B. L. (2009). Response rate and measurement differences in mixed-mode surveys using mail, telephone, interactive voice response (IVR), and the Internet. *Social Science Research, 38*(1), 1–18.


Latino Park Access: Examining Environmental Equity in a “New Destination” County in the South

Cassandra Johnson-Gaither

EXECUTIVE SUMMARY: This paper examines Latino migration to a “new destination” county in the southeastern U.S., Hall County, Georgia, where environmental equity is considered in terms of Latino communities’ walking access to public and private parks in the county. Park access is considered an environmental equity or justice issue because some research shows less park acreage available to minority and immigrant communities, compared to communities where residents are mostly white and U.S. born. Given that much Latino settlement in the county has occurred in working class, majority white neighborhoods, I examine the amount of parkland acreage that, in 2000, was adjacent to neighborhoods with significant Latino, white, and African American populations. Findings show that formerly working class white communities contained considerably fewer park acres than more affluent, mostly white communities elsewhere in the county. Consequentially, Latinos moving into these areas had access to little park acreage relative to amounts available in the county. Results suggest that Latinos must live in more integrated, middle- and upper-income neighborhoods to access a greater amount of parkland acreage.

Information from this study can be used to help inform park planning at the municipal and county levels, with a particular focus on improving access for the county’s Latino populations. Latino settlement is confined largely to two central-city (Gainesville, Georgia) census tracts where the amount of land available for park conversion is extremely limited. White settlement, on the other hand, extends to the outlying suburbs with more potentially convertible land. Possible strategies to address the relative lack of parkland in higher density Latino communities include converting land from existing uses such as abandoned landfills, rail yards or lines to park acreage; or the establishment of land sharing initiatives whereby neighborhood residents use schoolyards or even cemeteries for recreation. The larger task, however, for city leaders and community organizers is to involve the affected citizenry in decisions about parkland conversion; as Harnik (2010) argues, the most effective strategies for increasing park acreage involve grassroots, political engagement. Indeed, procedural justice, or the participation of nonwhite, minority, and poor communities in decisions about the production and distribution of both environmental burdens and goods (park resources) is a central tenant of environmental equity.
Since 1990, Latinos have either migrated or immigrated to nontraditional areas of the southeastern U.S. (states other than Florida) in unprecedented numbers. Between 1990 and 2000, the Latino population of Georgia, North Carolina, and Tennessee increased 324%, 440%, and 284%, respectively (U.S. Census Bureau, 1990, 2000a, 2000b). The increases were less from 2000 to 2010 in each of these states (96.1%, 111.1%, and 132.4%, respectively), but Latino growth in these states exceeded that for whites by at least 9 to 1 and 3 to 1 for African Americans in this most recent period (U.S. Census Bureau, 2000a, 2011a).

Historically, large cities outside the southeast (Miami as an exception) have been the primary recipients of immigrant populations and this continues to be the case (Suro & Singer, 2002). However, smaller cities, towns, and rural areas in the Appalachian, Piedmont, and “Black Belt” South are receiving Latino populations (primarily from Mexico) in growing numbers as these groups spread outward from traditional destination sites (Kandel & Cromartie, 2004; Smith & Furuseth, 2006; Winders, 2005; Zúñiga & Hernández-León, 2001).

In the South, these trends have transformed longstanding, “black–white” communities into tripartite places grappling with cultural change (Yarbrough, 2007). For example, Winders (2005) questions how Latino migration to nontraditional destination cities in the South “has challenged the centrality of a black–white racial binary in southern urban politics and social relations” (p. 692) and urges that more serious academic and policy consideration be given to southern cities receiving large immigrant populations.

Presented in this paper is a case study of one such nontraditional Latino destination or relocation site in the South: Hall County, located in northeast Georgia (Figure 1). I compared walking access (one-quarter mile) to parks in Hall County for communities where at least 50% of the residents were Latino, black, or white; and where percentage below poverty and below aged 18 were greater than 25%. In doing so, I address the broader topic of environmental equity, specifically the equitable distribution of parklands across sociodemographic groupings. By interrogating the topic of equity in parkland distribution throughout Hall County, I engage with an emergent trajectory of environmental justice, which in the South, has usually involved disparities between lower income black and middle or upper income white communities (Bullard, 1990; Coyle, 1992; Checker, 2005). The growing Latino presence demands an examination of park access for some of the South’s newest arrivals.

**Latino Migration to the “Old South”**

Hernández-León & Zúñiga (2000) trace the beginnings of significant Latino migration/immigration to Georgia in the late 1980s, when young (primarily), Mexican migrant workers, lured by growing southern economies and less anti-immigrant sentiment and job competition, moved from the American southwest to the South. Documenting the phenomenal increase in the Latino population of “Carpet City,” a small northwest
Georgia textile manufacturing town, Hernández-León & Zúñiga (2000) write that federal immigration reform in the mid-1980s paved the way for Latin American immigrants to move more freely within the U.S. The South’s lucrative economy in the 1990s and need for low wage laborers in industries ranging from hotel services to poultry processing combined to produce one of the most significant migrant/immigrant flows in recent history.

Studies have examined Latino employment, health care, housing, education, and transportation access in parts of the South where they are relatively new arrivals (Atiles & Bohon 2002; Bohon, MacPherson, & Atiles, 2005; Harrison & Scarinci, 2007; Johnson-Webb & Johnson, 1996; Smith & Winders, 2008); but few investigations have examined Latino communities’ access to parkland in new destination areas (i.e., Elmendorf, Willits, Sasidharan, & Godbey, 2005 as an exception). However, immigrant and minority access to outdoor, natural places in the South is an important consideration for urban park managers to address because of the many human benefits associated with park access, such as physical, social, and psychological well-being (Hartig, Evans, Jamner, Davis, & Gärling, 2003; Kaplan & Talbot, 1988).

Moreover, this topic is relevant to city planning because urban parks may be the sole natural resource available to some immigrant communities. Residents in lower income, minority and immigrant communities are less likely to own private automobiles or to live in places with sufficient investments in public transportation. For instance, Bullard, Johnson, and Torres (2004) documented the lack of transportation in minority and immigrant communities in metropolitan Atlanta and the difficulties this presents for lower income, central-city residents seeking employment in outlying suburbs. It may be that lack of transportation also limits access to natural resource engagement for those with few transportation options. Indeed, Atiles and Bohon (2002) stress that lack of adequate transportation is one of the major constraints to integration of Georgia’s Latino populations.

Figure 1. Hall County, Georgia
Latino Settlement in Hall County, Georgia

In 2000, Latinos accounted for about 20% of Hall County’s population and 33% of Gainesville’s population (U.S. Census Bureau, 2000a). Gainesville is the county seat. As of 2010, the Latino population had increased to 26% of the county population. By 2010, Latinos had increased to 41% of Gainesville’s population; however, I base all analyses on Census 2000 population estimates because other than race and ethnicity, many of the sociodemographic and population data are not yet available at the scale used in this investigation (census tract).

In 2000, the Latino population in Gainesville and Hall County was predominantly of Mexican origin. Roughly 84% of Hall County Latinos claimed Mexican ancestry and 83% of Gainesville Latinos had Mexican ancestry (U.S. Census, 2000c). This immigrant population was also young. Forty percent of Latinos were aged 0 to 19 and 26% were males between the ages of 22 and 39 (U.S. Census Bureau, 2000d). The countywide mean household size was 2.89 as compared to 5.16 for Latino households (U.S. Census Bureau, 2000e).

Through the effective use of social capital and entrepreneurial activities, Latino employment networks have come to represent powerful agents in the continual recruitment of immigrants/migrants to the southeastern U.S. (Hernández-León & Zúñiga, 2002; Hou & Milan, 2003; Winders, 2005). While Latino migration was welcomed by industries needing entry-level employees, it also drew anti-immigration backlash from some residents and extremist groups. These sentiments are evident in increasing Ku Klux Klan activity and the formation of anti-immigration groups in north Georgia counties with high Latino populations. Latino day workers have been brutally beaten in nearby Cherokee County and anti-immigrant aggression was suspected in the apparent beating death of a Latino worker in the county (Moser, 2004). Some longtime residents voice concerns about the growing number of young Hispanics in Gainesville, who they believe, overburden the school system. Also prevalent among some is the perception that young Latino males contribute substantially to increases in gang activity and violence in the larger county (Moser, 2004).

Hall County Latino communities are located in census tracts that were formerly central city, mostly white working-class, or poor sections of the city. These communities and neighborhoods consist still of government subsidized or low rent properties. Census data indicate that “white flight” had been occurring for some time in central city neighborhoods, as many of the areas that were formally majority white had transitioned to include substantial Latino populations by 2000. For instance, in 1990, the earliest year for which comparable census track delineations are available, percentage Latino was only 9% for track 10, a track which had 44% and 30% Latinos by 2000 (the track was split into two tracks in 2000). Further, percentage Latino more than doubled in track 11 from 1990 to 2000, increasing from 31% to 69% (U.S. Census Bureau, 2000b). This residential and neighborhood transitioning is indicative of Duncan and Duncan’s (1957) “invasion-succession” model describing white exit from neighborhoods when African Americans gain entry (Denton & Massey, 1991 as cited in Hou and Milan, 2003).

Parkland Access as Environmental Equity

From its beginnings in the early 1980s, environmental justice has been concerned with two primary objectives: the fair or just siting of environmental hazards or disamenities throughout society (distributive justice) and the participation of minorities and low socioeconomic status groups in decisions about the production of environmental burdens or goods (procedural justice). Corrective justice includes corrective measures to redress disparities in park distribution and access across different neighborhoods (Liszka, 2010). Procedural justice must not be overlooked because this level of participation represents a more fundamental achievement, which includes marginal populations in not only decisions about how to distribute what has already been produced or decided upon (by someone else) but also decisions about what should be produced a priori.
Research dating back to the 1980s shows that in a number of instances, ethnic and racial minorities and lower income populations, on a national scale, are disproportionately exposed to environmental hazards such as toxic waste facilities, polluting industries, and environmental contaminants in the home (United Church of Christ Commission for Racial Justice, 1987, p. 14). More recently, Mohai and Saha’s (2007) national level reanalysis of the relationship between race and toxic sitings found an even stronger association among these variables than previously reported in the 1987 United Church of Christ study. Also, research specific to New Jersey employed spatial variation techniques to examine the relationship between toxic pollutants in that state and minority populations. Results generally showed positive associations for urban and suburban areas although this relationship did not hold for all urban areas (Mennis & Jordan, 2005). However, in California, Paster, Morello-Frosch, and Sadd (2005) found much larger pollution risks for Latinos and African Americans as compared to whites.

Environmental equity has expanded to highlight access or proximity of socially marginalized communities to environmental goods such as parks. Researchers argue that park access constitutes an environmental justice issue because of negative correlations between poor and/or minority neighborhoods and proximity to publicly funded parks and natural areas (Sister, Wilson, & Wolch, 2007; Sister, Wilson, & Wolch, 2008; Taylor, 2000; Taylor, Floyd, Whitt-Glover, & Brooks, 2007).

Examining this issue, Heynen, Perkins, and Roy (2006) found urban tree canopy in Milwaukee, Wisconsin, was located disproportionately more in white, upper income districts. In particular, Latino residency was negatively correlated with the amount of both public and residential tree canopy. A study of parkland acreage distribution in Los Angeles, California, revealed that majority white neighborhoods contained roughly 32 park acres per 1,000 residents, while predominantly Latino areas had only 0.6; Asian/Pacific Islander areas, 1.7; and African Americans, 0.3 (Wolch, Wilson, & Fehrenbach, 2005). Also, a nationwide examination of 409 communities showed higher income communities had more physical activity settings than lower income areas and those with higher percentages of black households had fewer parks and green spaces (Powell, Slater, & Chaloupka, 2004).

On the other hand, Talen (1997) found greater access to municipal parks in Macon, Georgia, for residents in predominantly nonwhite, lower income districts. More affluent, majority white areas farther from the central city had disproportionately less access to urban parks. The majority white census blocks in this study were located in the expanding suburban area of the city, which suggests more recent settlement. The relative lack of parks here may have to do with residential development outpacing park establishment.

More recently, Boone, Buckley, Grove, and Sister’s (2009) study of park distribution in Baltimore, Maryland, found that while a higher number of African Americans as compared to whites were within walking distance of city parks, parks in majority African American districts had higher park congestion. The authors offer the “potential park congestion” (PPC) technique as a way of assessing the degree to which parks are equitably distributed. Similar to the current study, the Baltimore example draws attention to white flight and the urban parks realized by a succeeding minority population.

Boone et al. (2009) argued that more comprehensive investigations of environmental equity must include “place-specific,” historical analyses that examine the underlying drivers or causes of inequities. These may include housing and employment discrimination, with the former excluding racial and ethnic minorities from majority white neighborhoods and job discrimination limiting gainful employment for minorities. While such an in-depth investigation is beyond the scope of the present research, attention to historical patterns of racial clustering in the city of Gainesville provides a broader context for understanding present day Latino settlement in the city and Latino community park access.

Important to this inquiry are both historical and contemporary racial segregation in Gainesville. African Americans residents of an in-town Gainesville neighborhood remark that the east/west corridor, Jesse Jewell Parkway, effectively divides the more affluent, largely white, north side of town from the lower income African American and Latino enclaves on the south side (personal communication, 2011). In 2000, roughly 54% of Hall
County’s African American population was concentrated in South Gainesville and Hall County census tracks 7, 8, and 12. Tracts 7 and 12 are just outside of Gainesville and tract 8 is located southeast of downtown (U.S. Census Bureau, 2000a; Weitz & Weitz, 2005). While Latinos are more evenly dispersed throughout the city, they also cluster in south side communities, again in areas that were predominantly white, working class. Disproportionately large Latino populations reside in downtown-proximate, south side census tracts 10.1, 11, and 12. Weitz and Weitz’s (2005) “Neighborhood Planning Framework” document developed for Gainesville in 2005 reports that 94.5% (4,905) of Gainesville residents who are at or below the poverty line reside in three south side neighborhoods, the majority black census track 8 and the heavily Latino tracks 10.1 and 11.

Latino communities are beset with many of the same problems prevalent in predominantly African American communities—higher crime rates, poor health and air quality, and limited environmental amenities (Hernandez & Arroyo, 2005; Kuo & Sullivan, 2001; Kuo, Sullivan, Coley, & Brunson, 1998; Stodolska & Santos, 2006; Taylor, Wiley, Kuo, & Sullivan, 1998; Taylor, Floyd, Whitt-Glover, & Brooks, 2007). One means of addressing health disparities for urban minorities is to promote physical fitness in urban parks (Floyd, Crespo, & Sallis, 2008; Floyd, Spengler, Maddock, Gobster, & Suau, 2008); although, Stanis, Schneider, Chavez, and Shinew (2009) found that Latinos reported a greater number of constraints to physical activity in parks as compared to whites. Alternatively, Lohr, Pearson-Mims, Tarnai, and Dillman (2004) found that Latinos were more likely than African Americans to agree that trees are important to life quality.

**Parkland Acreage and Latino Communities**

As indicated, there are examples of a relative lack of parks in minority communities across the country and also studies showing greater opportunities for park access in minority communities. My question is whether the long-established, white working-class communities into which Hall County Latinos have settled are areas that are within walking distance of city parks. I suggest that in the case of migrant/immigrant settlement in formerly majority white neighborhoods, new settlers may encounter established park structures. However, other considerations are the amount of acreage available to migrating groups. Typically, older, downtown proximate areas where immigrants settle are more densely populated; and while these areas may contain parks, these parks tend to be smaller in size than their suburban counterparts (Sister et al., 2007). Also, Low, Taplin, and Scheld (2005) found that when blacks moved to formerly majority-white communities in the 1970s, facility maintenance in public parks deteriorated due to multiple factors including declining park budgets and white flight to the suburbs. So, although minorities may encounter established green spaces when moving to formerly majority-white communities, service levels associated with park facilities may decline.

**How Much is Equitable?**

In 1983, the National Recreation and Park Association (NRPA) recommended between 6.25 to 10.5 acres of parkland per 1,000 persons (Mertes & Hall, 1996); but in the mid-1990s, NRPA stopped recommending a set number of acres per capita. Instead, NRPA advocated a “systems” approach to park provision, which considers that various cultures or people situated at different points along the life cycle have different park needs (Mertes & Hall, 1996). The systems approach differs from earlier methods of park planning in that it stresses the need for individual communities to determine their desired level of service. Along similar lines, Harnik (2010) stresses that factors such as population density, “existing structures, streets, uses, patterns, customs, expectations, and general history” (p. 15) should be taken into account when devising the optimal number of parks in a given city. Further, Harnik (2010) recommends calculating park acres based on population density for a given area. The present research follows this recommendation.
Purpose of the Study

The purpose of this study is to determine whether and to what extent Latinos and other selected social groups have equitable access to county parks. If proportional (to their numbers in the larger population) or greater than average percentages of Latinos or other sociodemographic groups live within walking distance of parks, this would suggest that parks are equitably distributed with respect to social groupings. More importantly, if parkland density per thousand residents in majority Latino areas is similar to that for other places in the country with similar population density, this would provide further support for the claim of equitably distributed park resources along ethnic lines in Hall County, Georgia.

Three research questions were examined in this study: (a) What is the mean number of Hall County residents within walking distance (a quarter mile) to park entrances; (b) what is the mean number of racial, ethnic, poor people, and persons below aged 18 within walking distance of a park; and (c) what is the density of specific racial, ethnic, poor people, and those under age 18 within walking distance of a park?

Method

There are 74 parks in Hall County. Of these, 29 are U.S. Army Corps of Engineers facilities located in the county’s higher income Lake Lanier district; 21 are city parks (including Gainesville, city of Clermont and Flowery Branch); 18 are administered by Hall County; two are privately owned; two are Georgia State Parks; and two are a combined Gainesville/Hall County park. Total parkland is 7,987.3 acres (Figure 1).

Data for parks contained in the county are from state and county files. State park location and size were obtained from the Georgia GIS Clearinghouse (http://gis.state.ga.us/). Data for other Hall County park boundaries are from the Hall County Planning Office (www.hallcounty.org/devserv/planning_zoning.asp). Demographic data are from U.S. Census 1990, 2000 Summary File 1 and 3, the U.S. Census Bureau’s July 2008 Population Estimates, and 2010 Redistricting data (Oak Ridge National Laboratory, 2008; U.S. Census Bureau, 1990, 2000a, 2011b).

Following Sister et al. (2008), Wolch et al. (2005), and Sister, Wolch, and Wilson (2010), the radius method of assessing park access for communities was used. A one-quarter mile buffer (Thiessen polygon) was drawn around a place of interest—in this case, entrance points for each park in Hall County. Generally, two or three park entrance points were identified based on visual inspection of parks using Google Earth. In other cases, with more open access, multiple entrance points were identified. In no case were boundaries simply drawn around an entire park with the assumption of free access from all sides. Seventy-four buffers were drawn.

The population within the one-quarter-mile buffer was estimated using population figures from the U.S. Census Bureau’s July 2008 Population Estimates (Oak Ridge National Laboratory, 2008). These estimates were apportioned using LandScan algorithms, which modify or “move” populations based on ancillary data such as land cover, roads, slope, and nighttime lights (Oak Ridge National Laboratory, 2008). The aim is to redistribute populations based on physical features of place rather than assume populations are evenly distributed across a given area. LandScan provides approximately 1 kilometer x 1 kilometer polygons containing reapportioned population numbers. Sociodemographic characteristics associated with LandScan populations were then calculated by multiplying the population proportion for a given group (e.g., Latinos) in a census tract that coincided with a LandScan polygon by the LandScan population. For example, if a LandScan buffer with 100 persons intersected a census tract where the proportion of Latinos was .20, then the Latino population for that section of the buffer was determined to be 20. The reader should note that census tract proportions are based on U.S. census 2000 figures; while the LandScan analysis used U.S. census population estimates from 2008.

Total population, number of Latinos, blacks, whites, those in poverty, and those under aged 18 contained in each buffer were calculated. When these respective populations are summed across the 74 buffers, the totals are not true counts but rather a count of the number of persons with access to at least one park. The number is not an absolute population count.
because a person could be captured in more than one buffer. For this reason, the tables do not present aggregate population counts for all the buffers as this would overestimate the distinct number of people with access to parks and acreage. Instead, mean population per buffer and mean percentages of a given group (e.g., mean Latino per buffer/mean population per buffer) are presented. To examine density, the number of park acres accruing to each group per 1,000 residents was also calculated.

As indicated, the present research estimates the optimal number of parkland acres for Hall County residents based on population density, as suggested by Harnik (2010, p. 18). Harnik (2010, p. 19) suggests that the amount of parkland acreage be based on the amount of park acreage in cities/counties with similar population density. Persons per acre in Hall County in 2000 was .55 (139,315/251,942.4—numerator is county population; denominator is county acreage), which places the county in Harnik’s (2010) “low density” (p. 18) category of cities and counties such as Albuquerque, New Mexico, and Charlotte/Mecklenburg, North Carolina. Harnik’s (2010) calculation of parkland acreage for low density cities and counties varies widely with a high of 1,794 acres for Anchorage, Alaska, to a low of 6.9 acres for Honolulu, Hawaii. I use the median parkland acreage for low-density cities/counties as a suggested amount for Hall County (23.60) (Harnik, 2010, p. 170).

Results

Parkland Access by Race and Ethnicity

Table 1 displays parkland acreage and population characteristics for Hall County and for residents within a quarter mile of Hall County parks. For the county, again, total park acreage is roughly 7,987; mean number of parkland acres per park is about 108. The average number of people within a buffer is about (35,795.26 persons with access to any park/74, number of county parks) 484, yielding a mean number of park acres per 1,000 population within each buffer of about 223 (107.94/.48372). The number of parkland acres per 1,000 population for the county is about 57. Both the acreage for the county and acreage for persons within the buffers are well above the NRPA’s standards of 6.25 to 10.5 per 1,000 residents. The average parkland acreage for the county is also above the recommended amount for a low-density place (23.60 acres).

Countywide, there were more whites compared to either Latinos or African Americans, living within a short walking distance of a park. About 55% of the population within a quarter mile of any park was accounted for by whites, about 32% by Latinos, and 11% by African Americans (Table 1). Further, about 1 out of 5 residents within a quarter mile boundary were below the poverty threshold; roughly 23% of the population within those boundaries included children and youth below aged 18 (Table 1). This figure is comparable to the percentage reported by Sister et al. (2008) for metropolitan Los Angeles (28%). Although the buffers contain a higher percentage of whites than either Latinos or blacks, the average proportion of whites with walking access to parks is lower than the white proportion in the county population, while the proportion of blacks and Latinos is overrepresented relative to their proportions in the larger population.

Parkland Acreage for Buffers with Varying Race/Ethnic Compositions

To address population density by race/ethnicity, I compared parkland per 1,000 persons for parks in buffers that contain a predominant racial or ethnic group. Each quarter-mile buffer was assigned to a majority racial or ethnic group. For instance, if the population in a given park buffer was greater than 50% Latino, then that buffer was labeled a “Latino” buffer. Sister et al. (2007, 2008) and Wolch et al.’s (2005) investigations in Los Angeles showed lower population density in predominantly white buffer zones. If Latinos have succeeded whites in formerly working class neighborhoods that had abundant parkland, few differences in access between these groups may be observed. But again, Latino access is also filtered by household densities specific to this group. Even though Latinos may settle in neighborhoods vacated by whites, the higher population densities of the former may effectively lower quality of park experience (Sister et al., 2010).
Table 1

Parkland Acreage and Population Characteristics within a Quarter Mile of Hall County, GA Parks

<table>
<thead>
<tr>
<th>Park Buffers and Acres</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total park buffers</td>
<td>74</td>
</tr>
<tr>
<td>Total park acres</td>
<td>7987.29</td>
</tr>
<tr>
<td>Mean park acres</td>
<td>107.94</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population and Park Indicators inside Buffer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean population</td>
<td>483.72</td>
</tr>
<tr>
<td>Mean park acres per 1,000 population</td>
<td>223.15</td>
</tr>
<tr>
<td>Parkland acres per 1,000 (county)</td>
<td>57.33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Race/ethnic Group inside Buffer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Latino population</td>
<td>153.66*</td>
</tr>
<tr>
<td>Mean White population</td>
<td>267.30</td>
</tr>
<tr>
<td>Mean African American population</td>
<td>51.31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent of Race/ethnic Group inside Buffer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean percent Latino</td>
<td>31.78</td>
</tr>
<tr>
<td>Mean percent White</td>
<td>55.25</td>
</tr>
<tr>
<td>Mean percent African American</td>
<td>10.61</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Poverty and Population below 18 inside Buffer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean population in poverty</td>
<td>103.33</td>
</tr>
<tr>
<td>Mean percent of population in poverty</td>
<td>21.36</td>
</tr>
<tr>
<td>Mean number of persons below 18</td>
<td>111.14</td>
</tr>
<tr>
<td>Mean percent of population below 18</td>
<td>22.97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Racial/ethnic Percent inside Buffer to Total Racial/ethnic for Hall County</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean percent Latino</td>
<td>1.59</td>
</tr>
<tr>
<td>Mean percent White</td>
<td>0.78</td>
</tr>
<tr>
<td>Mean percent African American</td>
<td>1.51</td>
</tr>
</tbody>
</table>

* total number of each group (Latinos, whites, and blacks) with walking access to any park divided by number of park buffers:
  Latinos: 11,370.84/74=153.66
  Whites: 19780.2/74=267.30
  Blacks: 3796.94/74=51.31
Of the 74 park buffers, two (2.7%) had populations that exceeded 50% Latino and one had an African American population in excess of 50% (Table 2). In contrast, 67 park buffers (91%) had white populations of more than 50%. An average of 1.35 park acres per 1,000 residents are in the predominantly Latino buffers and 1.15 in the majority black areas. The number of park acres in majority white buffers was about 345—a very large number compared to the dearth in the minority buffer zones. The average percentage below poverty was greater in majority Latino and black buffers, whereas the mean percentage under 18 was more constant across these neighborhoods.

**Table 2**

<table>
<thead>
<tr>
<th>Buffers with more than 50% of Race/ethnic Group</th>
<th>Latino</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of buffers</td>
<td>2</td>
<td>67</td>
<td>1</td>
</tr>
<tr>
<td>Total park acres</td>
<td>8.24</td>
<td>7,935.71</td>
<td>0.817</td>
</tr>
<tr>
<td>Mean park acres</td>
<td>4.12</td>
<td>118.44</td>
<td>0.817</td>
</tr>
<tr>
<td>Mean population</td>
<td>3,053</td>
<td>343</td>
<td>708</td>
</tr>
<tr>
<td>Mean parkland acres per 1,000</td>
<td>1.35</td>
<td>345.30</td>
<td>1.15</td>
</tr>
<tr>
<td>Mean population below poverty</td>
<td>1004</td>
<td>48</td>
<td>199</td>
</tr>
<tr>
<td>Mean percent below poverty</td>
<td>32.8</td>
<td>13.99</td>
<td>28.11</td>
</tr>
<tr>
<td>Mean population below 18</td>
<td>894</td>
<td>76</td>
<td>170.45</td>
</tr>
<tr>
<td>Mean percent below 18</td>
<td>29.28</td>
<td>22.16</td>
<td>24.07</td>
</tr>
</tbody>
</table>

Table 2

Parkland Acreage for Buffers with Varying Race/ethnic Compositions

Seven park buffers had populations where more than one quarter of the population was below poverty (Table 3). In these areas, total parkland acres were relatively low at about 15, while the average parkland acre per buffer was only about two. Further, average parkland per 1,000 population was one. Latinos averaged about 50% of the population, whites 31%, and blacks roughly 17%. Latinos were overrepresented in park buffers where 25% of the population was below poverty, relative to their presence in the total county population (20%); whites were underrepresented (71% in county); and blacks were overrepresented compared to their presence in the general population (7%).

Table 3 also indicates that there were 33 park buffers where at least one quarter of the population was less than 18 years of age. Here, average parkland acreage was about 87; mean park acreage per 1,000 persons was about 250. Percentage Latino (41.27%) and white (47.99%) were fairly even, but percentage black was only 9%.

**Year Parks Established**

To get a sense of whether this relative lack of park access in Latino-prevalent areas constitutes an environmental inequity from the perspective of race/ethnicity, I noted the year of park establishment for parks in buffers with at least a 40% Latino population. I chose 40% as the indicator of “Latino community” because this level of integration indicates a substantial Latino presence even though it is not the majority. If parks in Latino-prevalent (> 40%) neighborhoods were established when the areas were majority white and no significant decreases have been made in the number of parks or the amount of acreage since that time, I might conclude that the environmental disparity between contemporary, majority Latino and majority white areas relates to factors other than race/ethnicity.
The four parks in buffers with 40% or more Latinos are Engine 209 Park, Kenwood Park, Myrtle Street Park, and Poultry Park, all of which are relatively small and located in south Gainesville. Engine 209 Park and Poultry Park are each less than one acre. Kenwood has 2.3 acres and Myrtle Street Park has just under six acres. Engine 209 and Poultry Park are small thematic parks that pay homage to the railroad and the county’s poultry industry. Kenwood and Myrtle Street Parks are located on opposite sides of the street and feature more traditional amenities, with picnic tables, walking trails, playgrounds, and basketball courts.

Engine 209 Park opened in 1982, Kenwood in 1973, Myrtle in 1939, and Poultry in 1975 (Gainesville Parks and Recreation Department, personal communication, August 9, 2010). All were established well before Latinos arrived en masse in Gainesville and Hall County in the 1990s and 2000s. Engine 209 and Poultry Park are in census block group 1001.1 and Kenwood and Myrtle Park in 11002. The 2000 census shows that block group 1001.1 was 56.6% Latino, and 11002 was 83.6% Latino. In 1990, the earliest census year

Table 3

<table>
<thead>
<tr>
<th>Parkland Indicators by Poverty</th>
</tr>
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<tbody>
<tr>
<td>Number of buffers</td>
</tr>
<tr>
<td>Total parkland acres</td>
</tr>
<tr>
<td>Mean parkland acres</td>
</tr>
<tr>
<td>Mean population</td>
</tr>
<tr>
<td>Mean parkland acres per 1,000</td>
</tr>
<tr>
<td>Mean Latino population</td>
</tr>
<tr>
<td>Mean percent Latino</td>
</tr>
<tr>
<td>Mean white population</td>
</tr>
<tr>
<td>Mean percent white</td>
</tr>
<tr>
<td>Mean black population</td>
</tr>
<tr>
<td>Mean percent black</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Parkland Indicators by Youth under 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of buffers</td>
</tr>
<tr>
<td>Total parkland acres</td>
</tr>
<tr>
<td>Mean parkland acres</td>
</tr>
<tr>
<td>Mean population</td>
</tr>
<tr>
<td>Mean parkland acres per 1,000</td>
</tr>
<tr>
<td>Mean Latino population</td>
</tr>
<tr>
<td>Mean percent Latino</td>
</tr>
<tr>
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</tr>
<tr>
<td>Mean percent white</td>
</tr>
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</tr>
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for which comparable census block delineations are available, percentage Latino was only 14% for block group 1001.1 and 27.3% for 11002. Also, the median annual household income in 1990 for both the block groups was $10,670 and $10,256, respectively. Both figures were below the median county income for 1990 ($21,133), which suggest that the population in these neighborhoods was largely white and working class/low income prior to Latino influx.

Thus, while there is evidence of contemporary environmental inequity based on race/ethnicity (again because the neighborhoods in which Latinos settled were largely white and contained a similar number of parks and acreage as when the neighborhoods transitioned to majority Latino), I must also consider socioeconomic (income) disparities as a basis for both contemporary and historical inequity. On average, there are about 129 acres per 1,000 population in buffers with median household incomes below the 2000 countywide figure ($44,908), but 905 in areas with median income above the county average.

**Discussion**

Findings do not suggest that Latinos in predominantly Latino communities realize abundant urban parkland when moving to places vacated by whites, as the mean number of park acres and parkland per 1,000 population in these communities was far less than expected amounts for a low-density county. Parkland acreage was greater in majority white areas. In terms of equitable access for those in poverty, results indicated that on average, poor people have much less access to parkland than others elsewhere in the county. In those areas where more than 25% of the population is less than aged 18, there appear to be more than sufficient amounts of parkland available. Again, however, parkland availability varies given socioeconomic status of the neighborhood.

Findings suggest that Latinos must live in more integrated neighborhoods to have access to recommended levels of park acreage. This presents challenges, again, as Hall County’s Latino population is highly concentrated. The majority of Hall County Latinos and blacks concentrate in older, higher density, central city areas with little parkland. In contrast, the north end of the county adjacent to well-known Lake Sydney Lanier is a relatively newer (since the 1960s), mostly white, higher income area with extensive, undeveloped parcels that have been converted to parkland.

One notable exception to the relative lack of parkland near the city is the expansive Chicopee Woods (2,408 acres) natural area in South Gainesville, which is approximately four to five miles from lower income, mostly Latino communities (census tract 11). A state highway and railroad tracks, however, separate the predominantly Latino census tract from this extensive acreage. These thoroughfares may represent physical barriers to Latino visitation of Chicopee Woods. Chicopee Woods staff also commented informally in 2008 that area Latinos visit the preserve infrequently, which suggests factors other than physical proximity as engagement constraints (personal communication, 2008).

The uneven distribution of parkland in Hall County may be attributed to historical segregation based on race and income. As discussed, prior to Latino migration to the county, neighborhoods were demarcated along expected black–white racial lines although lower income whites also occupied majority-white, south side neighborhoods. Lower income white and black concentration in Gainesville’s industrial, south side made it highly unlikely that these populations would have access to expansive acres that could be converted to parkland acreage. For instance, Gainesville’s Newtown community was established in 1937 as an all black community. It is located adjacent to major rail lines. Over the years, this transportation corridor attracted a number of industries to the area. The tiny Newtown community is virtually encircled by industry, resulting in numerous charges of environmental racism (Roskie et al., 2008). Industrial acreage rather than parkland is a prominent feature of this historically black neighborhood and others nearby.

With the entrance of significant Latino populations into working class and lower income white communities, they too, encountered relatively little parkland acreage. When Latinos moved into Hall County, overt discriminatory housing policies had been eliminated; however, the limited income of many of these populations acted to
circumscribe their movement to areas with more parkland. The same is true for much of Hall County’s African American population. If, however, the emergence of lower density, rural communities to the south of the city is the result of lower and working class whites relocating from Gainesville, this mobility would give these populations more access to parkland than is available to blacks and Latinos in the city.

Because of the lack of uncommitted land uses in and around minority communities, an obvious option for public park managers in Gainesville and Hall County is redevelopment or conversion of existing uses into parkland or other green space uses. The city of Gainesville has approved a plan to redevelop roughly 300 acres of its Midtown area (once a vibrant commercial center) into a mixed-use area including street trees, walking trails, and parks (Gainesville and Hall County Comprehensive Plan, 2005). The aim is to invest sufficiently in the area to attract private investors who would actually redevelop property. One of the city’s first investments is to convert a CSX rail line into a greenway.

African American community organizers remarked to the author that the greenway extension does not extend to their historically black community (see Gainesville and Hall County Comprehensive Plan, 2005, p. 14). However, to achieve full integration of neighborhood and community goals with respect to parkland development, efforts such as the Midtown project should coalesce with neighborhood goals. Further work on this topic would investigate possible minority neighborhood linkages with Midtown.

Although city officials state that the city does not intend to redevelop land but rather make city districts attractive enough so that private developers will, municipal managers still might consider the current Red Fields to Green Fields effort spearheaded by the Georgia Institute of Technology in Atlanta (http://rftgf.org/joomla/). Local governments acquire financially distressed properties (in the “red”) and the land would be converted to locally determined public parks. Such efforts have already been evaluated for larger cities such as Cleveland, Denver, Miami, Philadelphia, and Wilmington. To purchase property, cities can take low-cost loans funded by the Federal Reserve, Treasury Department, and Federal Deposit Insurance Corporation.

Conclusion

This study represents an initial effort to understand environmental opportunities and barriers encountered by recent migrants/immigrants to the southeast. Parkland access and its contribution to life quality are not immediately identified as a factor influencing successful integration into place. Yet, public parks can provide immigrants a venue for establishing meaning and attachment to their new environment while remaining connected through nature to their culture of origin (Lanfer & Taylor, n.d.). I recommend additional studies using more targeted data collection procedures in the South’s larger cities, (e.g., Atlanta, Georgia, or Charlotte, North Carolina) to understand better how immigrant populations make use of municipal parks and the extent to which parks are equitably distributed across urban places in the South.

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**Endnotes**

1 The Southern Black Belt includes counties in Virginia down through the Carolinas and into Louisiana and east Texas with African American populations at least equal to the national average (Wimberley & Morris, 1997).

2 Black and African American are used interchangeably.

3 Type of park, whether neighborhood, community, regional, or state, is not distinguished.

4 Environmental equity and justice are used interchangeably.
Demographic Differences within Race/Ethnicity Group Constraints to Outdoor Recreation Participation

Tinelle D. Bustam  
Brijesh Thapa  
Natalia Buta

EXECUTIVE SUMMARY: The North American population is changing, reflecting a population dominated by globally diverse cultures. This demographic change is revealing implications for protected area managers in provision of visitor services. This has prompted natural resource agencies to study racial/ethnic groups and their respective recreation behaviors. While past research provides evidence for differences between diverse racial/ethnic groups in leisure constraints based on demographic variables, a dearth of research exists that examines differences within racial/ethnic groups. This paper provides insight on the intraracial/ethnic group differences in constraints to outdoor recreation based on demographic variables, specifically gender, age, education, income, and residence. Methods included a statewide survey of Florida residents, aged 18 or older. Stratified random sampling procedures and random digit dialing were utilized to obtain a total of 3,610 telephone surveys. Data were analyzed using SPSS 17.0. Specifically, constraints were analyzed using confirmatory factor analysis with reliability scaling and racial/ethnic group differences on demographic variables were analyzed using multivariate analysis of variance. Significant constraint differences existed within racial/ethnic groups. For instance, Caucasians revealed differences in perceived constraints along gender, age, education, income, and residence variables. Hispanics showed differences across age and income. African Americans portrayed differences across income, while Native Americans showed differences across gender, age, and income. Public land managers might use these findings to identify target markets and the corresponding constraint, and then provide solutions for mitigation. For example, for intrapersonal constraints, managers might consider offering technical skill training programs, diversifying recreation services, and partnering with community recreation departments. For interpersonal constraints, managers might offer services for community-sponsored clubs and diversify services. Last, for structural constraints, managers might partner with local outfitters and raise awareness of park convenience and locations with different levels of visitor use, programs, and services.
The North American population is growing and changing, reflecting a population no longer dominated by the traditional Anglo-American, but by globally diverse cultures. In particular, the American minority population comprises 100.7 million, consisting predominantly of Hispanics, African Americans, and Asians (Bernstein, 2007) and accounting for 34% of the American population (Minckler, 2008). This change in the American demographic is revealing implications for protected area managers in providing visitor services for outdoor recreation on public lands. Specifically, this diverse population demands diverse opportunities and services from protected area management. For instance, Caucasians have traditionally dominated participation in outdoor recreation, while African Americans have been found more likely to participate in team sports and fitness activities than nature-based activities such as camping and hiking (Dwyer, 1994; Floyd, Shinew, McGuire, & Noe, 1994; Johnson & Bowker, 1999). Additionally, African Americans are less likely than Caucasians to visit wildlands or choose dispersed sites for recreation (Dwyer, 1994; Dwyer & Hutchison, 1990; Johnson, Horan, & Pepper, 1997). Moreover, Hispanics are distinct from other groups in their inclination to visit outdoor recreation settings with family members (Hutchison, 1987). However, these identified tendencies are generalizations about a racial/ethnic group and may not hold true across the group. Thus, it is important to understand behaviors or constraints to behaviors not only between groups but also within.

These diverse demands require land managers to consider visitor needs, expectations, and motivations for visiting in order to address these demands as well as maintain or increase visitation. Subsequently, this has prompted natural resource agencies to study such groups and their respective recreation behaviors (Johnson, 1999). The majority of research has examined two prominent minority groups—African Americans and Hispanics—and their associated differences in outdoor recreation participation (Dwyer, 1994; Floyd et al., 1994; Shinew, Floyd, McGuire, & Noe, 1995) and constraints to leisure participation (Crespo, 2000; Gobster, 2002; Mowen, Payne, & Scott, 2005; Phillip, 2000; Shinew, Floyd, & Parry, 2004; Shores, Scott, & Floyd, 2007; Stodolska & Yi-Kook, 2005). In addition, these studies have examined the role of demographic variables in constraining leisure participation and suggest variables such as socioeconomic status (SES), life stage, age, and gender influence perceptions of constraints to participation (Brown, Brown, Miller, & Hansen, 2001; Godbey, 1985; Searle & Jackson, 1985; Shores et al., 2007). While past research provides evidence for differences between diverse racial/ethnic groups in leisure constraints based on demographic variables, a dearth of research exists examining differences within these diverse racial/ethnic groups. Examining within group difference is important as populations and racial/ethnic groups are not homogenous. For example, as Sampson and Wilson (1995) point out, African Americans are not a homogeneous group any more than Caucasians; to assign racial/ethnic groups a homogeneous character is akin to racial stereotyping. Recreation research also identifies this same homogeneous characterization of minority
groups as illustrated by Hutchison (1988, p. 22) who shares, “The ‘ethnicity’ versus ‘marginality’ debate current in the literature inadvertently lumps black households into a single group, and then explains black–white differences by theoretical statements which assume that ‘blacks’ represent a homogeneous population group.” He further describes how this approach oversimplifies and masks differences within the African American community: for example, demographic differences such as socioeconomic status. Thus, the relevance of examining these variables is evident. As evidenced in previously identified studies, a dearth of research exists examining constraint differences within diverse racial/ethnic groups (Crespo, 2000; Floyd et al., 1994; Gobster, 2002; Mowen et al., 2005; Phillip, 2000; Shores et al., 2007; Shinew et al., 2004), illustrating homogenous grouping in contemporary constraint-related research. This paper intends to provide insight on the intraracial/ethnic group differences in constraints to outdoor recreation participation based on demographic variables, specifically gender, age, education, income, and residence.

**Literature Review**

Research on the topic of leisure and recreation constraints has been evolving since the early 1980s. This depth of research has allowed for definitive operationalization of constraints, as factors limit participation in desired leisure activities and inhibit desired leisure experiences (Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991; Jackson, 2000). Furthermore, these factors have been defined as barriers, inhibitors, obstacles or restraints, perceived or real that influence an individual’s participation, frequency, intensity, duration, quality, preference, or freedom of choice in a leisure activity (Goodale & Witt, 1989).

**Recreation Constraints**

Past inquiry of constraints has included examination of activity specific constraints such as physically active leisure, nature-based tourism, and skiing (Backman & Crompton, 1990; Kuentzel & Heberlein, 2008; Pennington-Gray & Kerstetter, 2002) and groups of individuals such as adolescents, women, and retirees (Henderson & Bialeschki, 1991). Crawford, Jackson, and Godbey (1991) created a hierarchical model of constraints to leisure in order to classify identified constraints. This hierarchical model describes three types of constraints: intrapersonal, interpersonal, and structural. Intrapersonal constraints exist within the individual and include aspects such as stress and anxiety. Interpersonal constraints exist within social interactions and include constraints such as lack of partner. Structural constraints are those that relate to the environment such as finances, season, or availability. Implicit in this hierarchy is the proposition that intrapersonal constraints are the most important because they are nearest to the leisure participant and are thus encountered more frequently than other types of constraints; additionally, structural constraints are presumed to be least important because they are furthest in the hierarchy and only encountered after the other two categories have been surpassed (Crawford et al., 1991).

Applying the constraints model to outdoor recreation has revealed participation in such activities is negatively influenced by constraints (Walker & Virden, 2005; White, 2008). For example, research has found participation in outdoor recreation is constrained by a lack of information, crowding, lack of transportation and distance, family commitments, poor health, expense, and the lack of a partner (Mowen et al., 2005; Shores et al., 2007; Walker & Virden, 2005). Research has suggested these constraints become amplified for outdoor recreation participation of minority populations (Gobster, 2002; Johnson, Bowker, & Cordell, 2001; Shores et al., 2007) and asserts demographic variables are responsible for influencing leisure participation (Alexandris & Carroll, 1997; Godbey, 1985; Searle & Jackson, 1985).
Demographic Constraints to Racial/Ethnic Participation in Outdoor Recreation

Previous research specifically examining demographic-related constraints to leisure participation suggests variables such as SES, life stage, age, and gender influence perceived constraints of participation. Research examining the relationship between constraints and SES is supportive of this assertion (Alexandris & Carroll, 1997; Brown et al., 2001; Scott & Munson, 1994). These studies reveal increases in SES, such as income and education, relate to greater intensity of perceived constraint including time constraints (Shores et al., 2007). Previous research also discusses the relevance of life stage in the contexts of constraints inquiry (Kuentzel & Heberlein, 2008; Raymore, Godbey, & Crawford, 1994; Scott & Jackson, 1996; Witt & Goodale, 1981). While the majority of these works examined perceived constraints at different life stages, the results indicate diversity of perceived constraints across life cycle stages, including school-related activities constraining adolescents (Silbereisen, 2003) and health-related issues constraining the elderly (Mowen et al., 2005). Similarly, some research conducted on recreation constraints related to age reveals constraints increase with age. For example, lack of time and family obligations are constraining to the young and to people with no one to go with, and poor health and lack of transportation are constraints to the old (Henderson, 1991; Jackson, 1994; Jackson & Henderson, 1995; Scott & Jackson, 1996; Searle & Jackson, 1985; Shaw, Bonen, & McCabe, 1991). Research on gender has also found relevance in the context of constraints (Henderson & Bialeschki, 1991; Herridge, Shaw, & Mannell, 2003; Iso-Ahola, Jackson, & Dunn, 1994; Shaw & Henderson, 2005). In particular, clear gender differences exist in terms of amount and type of leisure constraints, with women experiencing more and different constraints than men (Shaw & Anderson, 2005). Additionally, women are primarily constrained by time, stress, and lack of time for self (Shaw & Anderson, 2005).

In regards to participation in outdoor recreation, women are constrained by fear of crime and lack of partner (Bialeschki, 2005; Henderson & Bialeschki, 1993; Mowen et al., 2005; Shaw, 1994). As evidenced, past research examining demographic-related constraints to leisure participation suggests variables such as SES, life stage, age, and gender influence perceived constraints of participation.

There has been much discussion in the academic field on the perceived constraints of minority groups for leisure participation. However, research has revealed conflicting reports. For example, some have found racial and ethnic minorities experience more constraints to their recreation than nonminorities (Gobster, 2002; Johnson et al., 2001; Wilhelm-Stanis, Schneider, Chavez, & Shinew, 2009) especially among those of low SES and older women (Shores et al., 2007), while others have found fewer constraints among minorities (Shinew et al., 2004). Shores, Scott, and Floyd (2007) provide a review of constraints to minority groups and show that research has suggested minorities are constrained by SES and social group identity. Specifically, these groups experience constraints due to lack of transportation (Gobster, 2002; Mowen et al., 2005), lack of adequate facilities (Gobster, 2002; Stodolska & Yi-Kook, 2005), expense of participation (Mowen et al., 2005), physical exhaustion from work demands (Crespo, 2000), fear of crime (Johnson et al., 2001; Mowen et al., 2005), discrimination (Hibbler & Shinew, 2002; Phillip, 2000), and social acceptance by peers for engagement in exclusive race/ethnic sanctioned activities (Phillip, 1999).

The discussion in the academic field on perceived constraints of minority groups for leisure participation revealed conflicting reports about minority and nonminority group differences. In addition, this research provides understanding of within group differences among minority groups; however, little information is available that explores those within group differences for individual minority groups and across diverse demographic variables (e.g., residence).

Purpose of Study

The review of the literature examining constraints to leisure participation in outdoor recreation provides insight into diverse racial/ethnic groups’ constraints by demographic variables as compared between groups. In addition, this review revealed
a dearth of research examining within racial/ethnic group differences along constraints and demographic variables as well as limits on demographic variables (e.g., lack of consideration for “residence”)—thus, the relevance for inquiry of nonhomogenous groups (e.g., African Americans, Hispanics). The purpose of this study was to examine intraracial/ethnic group differences regarding constraints across demographic variables. One research question was formulated and empirically tested: What differences exist within race/ethnic groups in constraints to outdoor recreation based on demographic variables (i.e., gender, age, education, income, residence)?

Method

Sampling
A statewide survey of Florida residents was conducted targeting permanent residents aged 18 or older of the 67 counties within the state. Sampling techniques involved the use of stratified random sampling. This technique allowed for the identification of homogenous subsets (i.e., counties). Counties were divided into two subsets—rural (i.e., 32 counties) and nonrural (i.e., 35 counties)—based on a population threshold (i.e., rural counties were those with a population of less than 75,000 residents; nonrural counties were those with populations over 75,000 people). The survey employed random digit-dial samples of household telephone numbers in Florida across the stratified subsets. A total of 3,610 telephone surveys were completed; 2,600 completed surveys for nonrural counties (i.e., 70.1% response rate) and 1,010 for rural counties (i.e., 62.3% response rate). All data were collected in 2001.

Instrument
A six-page telephone interview was developed for the purpose of gathering representative information from residents of Florida. Pilot survey procedures involved testing the instrument for content validity among a sample of 10 participants as well as confirming face validity among a panel of topical experts without affiliation to the study. Telephone interviews were conducted late-April to mid-June 2001. Up to three callbacks were made for each member of the designed sample. About 59% of the interviews were conducted in May, while 37% were conducted in June and 4% in April.

In order to assess perceived constraints to outdoor recreation in parks and public lands, respondents were asked questions relating to their perceived constraints and demographics. Respondents were asked to indicate on a 3-point scale to what extent 16 constraint statements influenced their participation in outdoor recreation. The constraint statements and scale were taken from past research and represented the three theoretical constructs of constraints: intrapersonal (i.e., three items), interpersonal (i.e., five items), and structural (i.e., nine items) (Crawford et al., 1991) (see Table 2). Constraint items for intrapersonal constraints included those such as poor health and fear of crime, for interpersonal constraints items such as don’t have a travel companion and lack of family interest were included, and structural constraints consisted of items such as don’t have enough time and have no way to get to the parks. Constraints were measured on a 3-point scale that consisted of 1 = not a reason, 2 = minor reason, and 3 = major reason for not participating in outdoor recreation in parks. This scale was deemed appropriate for this research as three points provided ample variation for mean comparisons in the analyses conducted.

The demographic questions included in this study referred to gender, age, income, education, and residence (i.e., suburban, urban, farm/ranch/rural). Ethnicity was self-reported by respondents to indicate if they were of Hispanic/Spanish origin and one of the following races: Caucasian, African American/Black, Asian, Pacific Islander, Native American/American Indian, Multiracial/Mixed race, or other nationality (with open-ended response option). As this study contained only Caucasian Hispanics, the Caucasian race was delineated into two groups (i.e., Caucasian of Hispanic origin, Caucasian not of Hispanic origin), as defined in past research (Wilhelm-Stanis et al., 2009). For the remainder of this paper, these two groups are referred to as Hispanic and Caucasian, respectively.
Analysis
Data were analyzed using SPSS 17.0. Demographics were analyzed using descriptive statistics (i.e., frequency and percentage). Constraints were analyzed using principal components factor analysis with reliability scaling and racial/ethnic differences within groups across demographic variables were analyzed using multivariate analysis of variance (MANOVA) with Tukey’s HSD post hoc comparison, which was appropriate in all cases based on the results of the Levene’s tests. The MANOVA was conducted as a separate analysis for each demographic variable in order to obtain information on the constraint differences within racial/ethnic groups.

Results
In terms of demographics (Table 1), respondents were almost evenly split between males and females. The majority of the sample was between the ages of 25 and 64. Most respondents had a high school degree, followed by some college, and a college degree. The majority of respondents reported income levels between $20,000 and $59,999. In addition, most respondents reported living in a farm, ranch, rural, or suburban area. In regards to race and ethnicity, the majority was Caucasian, followed by African American, Hispanic, and Native American. There was very low representation of Asian, Pacific Islander, and multiracial groups. As a result, these three groups were removed from the data set.

Table 1
Respondents’ Demographic Responses

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1791</td>
<td>49.6</td>
</tr>
<tr>
<td>Female</td>
<td>1819</td>
<td>50.4</td>
</tr>
<tr>
<td>Age Groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–24</td>
<td>413</td>
<td>11.4</td>
</tr>
<tr>
<td>25–44</td>
<td>1241</td>
<td>34.4</td>
</tr>
<tr>
<td>45–64</td>
<td>1224</td>
<td>33.9</td>
</tr>
<tr>
<td>65+</td>
<td>732</td>
<td>20.3</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under High School</td>
<td>328</td>
<td>9.1</td>
</tr>
<tr>
<td>High School Degree</td>
<td>1119</td>
<td>31.2</td>
</tr>
<tr>
<td>Some College</td>
<td>972</td>
<td>27.1</td>
</tr>
<tr>
<td>College Degree</td>
<td>745</td>
<td>20.8</td>
</tr>
<tr>
<td>Grad/Professional School</td>
<td>422</td>
<td>11.8</td>
</tr>
<tr>
<td>Income Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 19,999</td>
<td>546</td>
<td>17.4</td>
</tr>
<tr>
<td>20,000–39,999</td>
<td>864</td>
<td>27.5</td>
</tr>
<tr>
<td>40,000–59,999</td>
<td>758</td>
<td>24.1</td>
</tr>
<tr>
<td>60,000–79,999</td>
<td>425</td>
<td>13.5</td>
</tr>
<tr>
<td>80,000 and over</td>
<td>547</td>
<td>17.4</td>
</tr>
<tr>
<td>Area Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm, ranch, rural area</td>
<td>1459</td>
<td>41.7</td>
</tr>
<tr>
<td>Suburban area</td>
<td>1368</td>
<td>39.1</td>
</tr>
<tr>
<td>Urban area</td>
<td>674</td>
<td>19.3</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish/Hispanic Caucasian</td>
<td>159</td>
<td>4.6</td>
</tr>
<tr>
<td>Non-Spanish/Hispanic Caucasian</td>
<td>2894</td>
<td>84.4</td>
</tr>
<tr>
<td>African American</td>
<td>255</td>
<td>7.4</td>
</tr>
<tr>
<td>Native American</td>
<td>119</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Note: Respondents’ demographics responses consist of those from the races/ethnicities included in the study. Responses of those from the Asian, Pacific Islander, and multiracial races are not included.
Using principal components factor analysis (Table 2) the 16 constraint items were sorted into three factors (i.e., intrapersonal, interpersonal, and structural constraints) identified in past research (Crawford et al., 1991), with only one factor extracted for each analysis. This confirmation of previously identified constraint factors revealed minimally acceptable factor loadings ranging between 0.33 and 0.86 (Hair, Black, Babin, Anderson, & Tatham, 2006) with no cross-loadings (see Table 2). Reliability analysis of these three factors revealed high alpha reliability (i.e., α > 0.63), and mean scores reflecting perceived structural constraints ($M = 1.78$) as the greatest constraint across respondents.

The findings for within racial/ethnic group analyses revealed constraint differences across individual demographic variables (i.e., age, gender education, income, residence). Significant differences existed within Caucasian, Hispanic, African American, and Native American groups in regards to their perceived constraints across demographic variables. Specifically, African Americans showed significant difference in perceived constraints across income groups (Table 3). Those earning lower annual incomes revealed greater intrapersonal and structural constraints. Respondents earning less than $19,999, $20,000 to $39,999; and $60,000 to $79,999 showed greater intrapersonal (Wilks’ $\lambda = .036, M = 1.73, 1.73, 1.83$, respectively) constraints than the remaining income groups. Those earning $20,000 to $39,999 showed greater structural (Wilks’ $\lambda = .045, M = 2.06$) constraints than all remaining income groups. However, these two tests are considered borderline significantly powerful (1-β = .73, 0.70, respectively).

Caucasians revealed significant differences in perceived constraints along gender, age, education, income, and residence variables (Table 4). Women portrayed significantly greater intrapersonal (Wilks’ $\lambda = .000, M = 1.64$), interpersonal (Wilks’ $\lambda = .001, M = 1.59$), and structural (Wilks’ $\lambda = .000, M = 1.81$) constraints than men ($M = 1.53, 1.53, 1.72$, respectively). In addition, individuals aged 65 and older revealed significantly greater intrapersonal (Wilks’ $\lambda = .000, M = 1.77$) and interpersonal (Wilks’ $\lambda = .000, M = 1.67$) constraints than all other age groups. Moreover, those aged 65 and older showed significantly less structural constraint (Wilks’ $\lambda = .000, M = 1.69$) than other groups ($M = 1.79, 1.80, 1.78$, respectively). Regarding education, those with less than a high school degree showed significantly greater intrapersonal (Wilks’ $\lambda = .000, M = 1.67$) and structural constraint (Wilks’ $\lambda = .000, M = 1.87$) than those with a high school education and greater. Also, those with greater education (i.e., college degree $M = 1.54$ and grad/professional $M = 1.50$) revealed significantly less (Wilks’ $\lambda = .009$) interpersonal constraint than the other educational groups. In regards to income, those earning lower incomes showed significantly greater intrapersonal, interpersonal, and structural constraints than those earning higher incomes. For example, those earning less than $19,999 revealed greater intrapersonal (Wilks’ $\lambda = .000, M = 1.77$) and interpersonal (Wilks’ $\lambda = .000, M = 1.71$) constraints than all other income groups. Moreover, those earning less than $19,999 and $20,000 to $39,999 annually revealed greater structural constraints (Wilks’ $\lambda = .000, M = 1.88, 1.82$, respectively) than those in the remaining income groups. Last, Caucasians also revealed significant differences in perceived constraints as compared to type of residence. Specifically, this group showed greater structural constraints among those residing in farm, ranch, or rural areas (Wilks’ $\lambda = .018, M = 1.79$) than those in suburban ($M = 1.76$) or urban ($M = 1.73$) areas. Each of these tests retains statistical power with power levels at 0.905 and greater.

Regarding demographic differences for Hispanics, significant differences in perceived constraints were detected across age and income (Table 5). Specifically, those among the highest age group (i.e., 65 years and older) perceived greater intrapersonal (Wilks’ $\lambda = .000, M = 2.03$) and interpersonal (Wilks’ $\lambda = .050, M = 1.96$) constraint than the lower age groups. Statistical power of the test for intrapersonal constraints is significant with a power level of 0.97; however, the statistical power of the interpersonal test is not significant as power is retained at 0.64. In addition, those earning less than $19,999 annually perceived greater intrapersonal (Wilks’ $\lambda = .034, M = 1.79$) constraints than all other income groups. Statistical power for this test is borderline significant with the power level at 0.73.
**Table 2**  
*Principle Components Factor Analysis: Constraints to Outdoor Recreation*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Loadings</th>
<th>% Variance explained</th>
<th>Eigenvalue</th>
<th>Alpha Coefficient</th>
<th>Mean Factor Score</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACTOR 1: INTERPERSONAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t have a travel companion</td>
<td>0.77</td>
<td>58.28</td>
<td>1.75</td>
<td>0.63</td>
<td>1.57</td>
<td>0.02</td>
</tr>
<tr>
<td>Lack of family interests</td>
<td>0.86</td>
<td>26.80</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Companion(s) prefers to do other things</td>
<td>0.65</td>
<td>14.92</td>
<td>0.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR 2: INTRAPERSONAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor health</td>
<td>0.70</td>
<td>51.37</td>
<td>2.06</td>
<td>0.66</td>
<td>1.59</td>
<td>0.06</td>
</tr>
<tr>
<td>Don’t have the skills to participate</td>
<td>0.81</td>
<td>22.10</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Like to do other things for recreation</td>
<td>0.55</td>
<td>14.32</td>
<td>0.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t like to do things outdoors</td>
<td>0.78</td>
<td>12.21</td>
<td>0.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR 3: STRUCTURAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not enough time to participate</td>
<td>0.33</td>
<td>35.80</td>
<td>3.58</td>
<td>0.78</td>
<td>1.78</td>
<td>0.08</td>
</tr>
<tr>
<td>No way to get to public parks</td>
<td>0.63</td>
<td>14.11</td>
<td>1.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of crime</td>
<td>0.66</td>
<td>8.58</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor weather</td>
<td>0.60</td>
<td>7.38</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t have enough money</td>
<td>0.71</td>
<td>6.84</td>
<td>.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t have the equipment</td>
<td>0.69</td>
<td>5.74</td>
<td>.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parks are too crowded</td>
<td>0.62</td>
<td>4.95</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public parks are too far away</td>
<td>0.68</td>
<td>4.77</td>
<td>.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of information about the parks or their programs</td>
<td>0.58</td>
<td>4.09</td>
<td>.41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Mean scores based on Likert scale measurement where 1 = *not a reason*, 2 = *minor reason*, and 3 = *major reason* for not participating in outdoor recreation on public lands.
Table 3

Multivariate Analysis of Variance: African Americans (n=255) Constraint Means across Demographics

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Demographic Variables</th>
<th>Wilks' λ</th>
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Note: Mean scores based on Likert scale where 1 = "not a reason," 2 = "minor reason," and 3 = "major reason for not participating in outdoor recreation in parks." Any two means that do not share a superscript are significantly different across race/ethnicity groups at p<.05 using the Tukey’s HSD post hoc test.
Table 4

Multivariate Analysis of Variance: Caucasian (n=2,894) Constraint Means Across Demographics

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<th>Demographic Variables</th>
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<th>F</th>
<th>1-β</th>
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<tr>
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<td>10.181</td>
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<tr>
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<td>10.181</td>
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<td>23.606</td>
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Note: Mean scores based on Likert scale where 1 = “not a reason,” 2 = “minor reason,” and 3 = “major reason for not participating in outdoor recreation in parks.” Any two means that do not share a superscript are significantly different across race/ethnicity groups at p<.05 using the Tukey’s HSD post hoc test.
Table 5

**Multivariate Analysis of Variance: Hispanic (n=159) Constraint Means Across Demographics**

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Note: Mean scores based on Likert scale where 1 = "not a reason," 2 = "minor reason," and 3 = "major reason for not participating in outdoor recreation in parks." Any two means that do not share a superscript are significantly different across race/ethnicity groups at p<.05 using the Tukey's HSD post hoc test.
Native Americans also showed significant constraint differences across demographic variables (i.e., gender, age, income) (Table 6). Females showed greater structural (Wilks’ $\lambda = .042, M = 1.95$) constraints than males ($M = 1.77$), with statistical power insignificant at 0.45. Those between the ages of 25 and 44 revealed greater structural (Wilks’ $\lambda = .020, M = 2.01$) constraint than those aged 65 and older with statistical power significant at 0.75. Last, those earning annual incomes of less than $19,999 showed greater intrapersonal (Wilks’ $\lambda = .034, M = 1.79$) constraint than all other income groups with statistical power merging on significance at 0.73.

Discussion

This research examined differences within racial/ethnic groups across demographic variables and found significant differences existed within African American, Caucasian, Hispanic, and Native American groups.

Constraints Among African Americans

The African American cohort showed significant difference in perceived constraints across income groups. Those earning lower annual incomes revealed greater intrapersonal and structural constraints. This finding supports past research, which found constraints to recreation are prominent among racial and ethnic minorities with low SES (Shores et al., 2007). In addition, the structural constraints due to having no way to get to the parks and not having enough money experienced by African Americans in this study reflect past findings of minorities experiencing constraints due to lack of transportation (Gobster, 2002; Mowen et al., 2005) and expense of participation (Mowen et al., 2005).

Constraints Among Caucasians

Caucasians revealed significant differences in perceived constraints along gender, age, education, income, and residence variables. For instance, women portrayed significantly greater intrapersonal, interpersonal, and structural constraints than men. This finding is similar to that of past research that found women, without differentiation of race/ethnicity, experience more and different constraints than men (Shores et al., 2007). Specifically, women are primarily constrained by lack of time for self (Shaw & Henderson, 2005) as well as by fear of crime and lack of partner (Bialeschki, 2005; Mowen et al., 2005). This research found Caucasian women experience similar interpersonal and structural constraints as identified in past research as well as previously unidentified intrapersonal constraints including poor health, not having the skills to participate, liking other things for recreation, and not liking to do things outdoors.

Additionally, Caucasians aged 65 and older revealed significantly greater intrapersonal and interpersonal constraints as well as less structural constraint than all other age groups. Past research conducted on recreation constraints related to age revealed similar constraints: for example, lack of time and family obligations are constraining to the young and to people with no one to go with; poor health and lack of transportation are constraints to the old (Mowen et al., 2005; Shaw et al., 1991; Shores et al., 2007). While this research found intrapersonal and interpersonal constraints increased with age, as with previous research, also apparent was a decrease in structural constraints with age, contrary to past research. This dissimilarity might be explained by the changing Caucasian American demographic; those who were once constrained by time, transportation, fear of crime, not having enough money or equipment were working to older ages and making smaller incomes; thus, they were structurally constrained to participate in recreation. Now, that same age group is retiring at a younger age and earning larger incomes before retirement, leaving less perceived structural constraint to participate in recreation.

Regarding education, those with less education showed significantly greater intrapersonal, interpersonal, and structural constraint than those with greater education. In terms of income, those earning lower incomes showed significantly greater intrapersonal, interpersonal, and structural constraints than those earning higher incomes. In contrast, past research revealed increases in income and education relate to greater intensity of perceived
### Table 6
Multivariate Analysis of Variance: Native Americans (n=119) Constraint Means across Demographics

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Demographic Variables</th>
<th>Wilks' λ</th>
<th>F</th>
<th>1-β</th>
</tr>
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<tbody>
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<td></td>
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<tr>
<td>Male (n=63)</td>
<td>Female (n=56)</td>
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Note: Mean scores based on Likert scale where 1 = “not a reason,” 2 = “minor reason,” and 3 = “major reason for not participating in outdoor recreation in parks.” Any two means that do not share a superscript are significantly different across race/ethnicity groups at p<.05 using the Tukey’s HSD post hoc test.
constraint (Shores et al., 2007). This dissimilarity might be explained by the consumption-driven Caucasian American demographic change. For example, since the Victorian era it was commonplace for those with college educations and higher incomes to be the consumptive demographic; now, it is the “have-nots” that are equally consumptive. For this group, the lack of education and lower incomes may lead to insuperable constraints to recreation and manifest as greater constraints than their educated and affluent counterparts. Last, this group showed greater structural constraints among those residing in farm, ranch, or rural areas than those in suburban or urban areas.

As evidenced, there is much dissimilarity between this research and past inquiry for the Caucasian cohort. These dissimilarities may be explained by the lack of past investigation within race/ethnicities as well as by the changing American demographic. Without past inquiry examining constraints within the Caucasian group, comparing these findings with past research that does not differentiate between race/ethnicities is not a similar comparison and is akin to comparing apples to oranges. In addition, this research suggests the American demographic is changing and the effect of this change on recreation constraints is possibly greater than we realize.

Given this understanding, it is apparent that more research examining within racial/ethnic group constraint differences is needed. Doing so will not only provide greater opportunity for within group comparison, but also understanding of the changing demographic within racial/ethnic groups and the effect of this change on recreation constraints.

Constraints Among Hispanics

Hispanics revealed significant differences in perceived constraints across age and income. Those among the highest age group perceived greater intrapersonal and interpersonal constraint than the lower age groups. In addition, those with the lowest annual income perceived greater intrapersonal constraints than all other income groups. These findings support past research that compared minority groups to nonminority and found constraints to recreation are especially prominent among racial and ethnic minorities with low SES and among older women (Shores et al., 2007).

Constraints Among Native Americans

The Native American cohort also showed significant constraint differences across demographic variables (i.e., gender, age, income). Comparison with past research revealed similarities; however, past inquiry was focused on minority groups at large, not individual minorities. For example, females showed greater structural constraints than males. Similarly, past research found minority women are primarily constrained by time, stress, and lack of time for self (Shaw & Henderson, 2005) as well as fear of crime and lack of partner (Bialeschki, 2005; Mowen et al., 2005; Shores et al., 2007). In addition, those among the younger ages revealed greater structural constraint than those of the older ages. Correspondingly, past inquiry found minorities experienced structural constraints due to lack of transportation (Gobster, 2002), expense of participation (Mowen et al., 2005), and fear of crime (Johnson et al., 2001; Mowen et al., 2005). Last, those earning the lowest annual incomes showed greater intrapersonal constraint than all other income groups. Likewise, past research found constraints to recreation are prominent among minorities with low incomes (Shores et al., 2007).

Theoretical Next Steps

The conflicts with past research identified in this study provide insight for the generalizations we make as researchers when speaking about racial/ethnic group participation in outdoor recreation. For instance, we cannot speak about racial/ethnic constraints in tightly labeled boxes such as constraints due to particular variables such as lack of money, lack of time, and lack of companion; we cannot apply these definitive and unchanging constraint categories to individual racial/ethnic groups. Instead, we must consider other variables that serve as constraints to these groups. As this study found,
previously unidentified constraints hold relevance when considering how different racial and ethnic groups perceive constraints based on demographic variables. Thereby, to speak with parameters around what is a constraint to a racial/ethnic group is limiting. We must recognize that these generalizations diverge for different racial/ethnic populations and that what was relevant for one group may not be so for the same at another location or point in time. As illustrated by Hutchison (1987), homogenizing racial/ethnic groups oversimplified and masks differences within these very groups. If nothing else, constraints for minorities and nonminorities might be dynamic across temporal and spatial scales. Thus, further research is needed to longitudinally track racial/ethnic group constraints across these scales to better understand the consistency of these past generalizations.

To assert as in past research, that minority groups experience more constraints to leisure and outdoor recreation participation than nonminority groups has been shown not only to be inconsistent (Gobster, 2002; Johnson et al., 2001; Wilhelm-Stanis et al., 2009), but also off the mark in retaining relevance. Simply reporting who experiences more or less constraints does not lead scientific understanding anywhere productive or new. Therefore, we must consider what is happening within particular minority groups to constrain their participation in outdoor recreation in order to understand their individualized constraints, particularly based on demographic variables as conducted in this study. If little emerges in terms of describing within group differences along these variables, this may be due to the indicators used to assess constraints, the variables leading to these constraints (e.g., demographic), and how these variables may not be accurate measurements of this particular minority group’s constraint to outdoor recreation participation. Thus, future research should consider other indicators (e.g., dimensions) of and variables (e.g., psychographics) leading to constraints. For instance, as African Americans and Hispanics are more likely to be distinctly different in their composition of social groups (Gobster, 2002; Hutchison, 1987), we might look more into the social dimensions of constraints including group composition, discrimination (Gobster, 2002; Hibbler & Shinew, 2002; Phillip, 2000), and social acceptance by peers for engagement in exclusively race and ethnically sanctioned activities (Phillip, 1999).

Implications for Managers

These research findings also hold relevance in providing insight for implications for public land managers of protected areas. Specifically, as these results were based on a statewide survey for Florida, the relevance for Florida protected area managers is greatest; however, other public land managers might find relevance in these findings by looking at the individual racial/ethnic group constraints and examining these for parallels along their temporal and spatial scales.

To begin, these findings provide practical relevance for public land managers through a twofold approach. Specifically, public land managers with a culturally diverse demographic of visitors, wishing to maintain or increase visitor participation in outdoor recreation on public lands, might find these findings useful by first identifying their own target market, based on race/ethnicity and demographic variables (e.g., gender, age, education, income) and the corresponding constraint as identified in this research, and then providing a solution to mitigate that particular constraint.

To mitigate constraints, solutions must be provided for each of the individualized item constraints within each constraint factor. For example, to mitigate intrapersonal constraints (i.e., don’t have the skills to participate, like to do other things for recreation, don’t like to do things outdoors, poor health, and fear of crime), public land managers might consider offering technical skill training programs such as workshops for skill development, diversifying the outdoor recreation services provided to meet diverse visitor outdoor recreation desired experiences, providing services as an outlet for healthy behavior such as partnerships with community (e.g., municipal and county) recreation departments for training grounds for athletic leagues and fitness groups, and raising awareness on strategies to mitigate crime on public lands (e.g., education and communication). Additionally, to lessen interpersonal constraints (i.e., don’t have a travel companion, companion prefers to do other things, and lack of family interests), public land managers might think about offering services for community- or park-sponsored clubs and diversifying services to meet diverse interests. Last, to alleviate structural constraints (i.e., don’t
have enough time, have no way to get to the parks, poor weather, don’t have the equipment, parks are too crowded, public parks are too far away, and lack of information about the parks or their programs), public land managers might reflect on raising awareness on the convenience of outdoor recreation at local protected areas in terms of location and public transportation, partnering with local outfitter for private concession or simple endorsement for gear rental or purchase, raising awareness of diverse park locations with different levels of visitor use to allay concerns of overcrowding, and raising awareness of park programs and services through community education and communication.

In regard to the findings of this research, land managers with an identified African American, low annual income target market might focus on alleviating interpersonal and structural constraints. To mitigate these constraints, managers might focus on partnering with municipal recreation departments for free health-based activities and offering interpretive and educational programs that raise awareness of protected area locations as well as availability of and access to programs.

Those with identified Caucasian populations as target markets might focus on mitigating intrapersonal, interpersonal, and structural constraints. For instance, women, Caucasians with lower levels of education, and those aged 65 and older experience the greatest intrapersonal constraint. To mitigate these constraints, managers might offer skill development opportunities for women only, programs/services during nontraditional hours to allow those working diverse hours the opportunity to participate, interpretive services such as early morning birding outings for older aged groups. Moreover, women, Caucasians with little education, and those aged 65 and older perceive the greatest interpersonal constraints. Practices to alleviate those constraints might include offering women only programming, providing programs of varying comprehension levels, and partnering with other agencies to diversify their education programs. Last, women, Caucasians aged 24 years and younger, those with little education, and those from rural residences perceived greater structural constraints than their counterparts. Suggestions to mitigate these constraints include focusing on ways to improve availability and access to visitor services: for example, raising awareness of protected area locations; partnering with local outfitters for equipment rental; and offering education and programming during diverse times, on various topics, and at remote and nearby locations.

Public land managers with identified Hispanic visitor populations might consider mitigations for intrapersonal and interpersonal constraints. Specifically, Hispanics aged 65 and older as well as those earning the lowest annual incomes perceived the greatest intrapersonal constraints, while those aged 65 and older perceived the greatest interpersonal constraint. To resolve these constraints, managers might focus on providing interpretive services such as seniors only coffee with the ranger for older aged groups, partnering with municipal recreation departments for free health-based activities, and partnering with other agencies to diversify education programs.

For areas with identified Native Americans visitor populations, public land managers might consider mitigations for interpersonal and structural constraints. For instance, Native Americans with the lowest annual income perceived the greatest interpersonal constraint, while women and those aged 24 and younger experienced the greatest structural constraint. To alleviate these constraints, managers might focus on interpretive and educational programs that raise awareness of protected area locations as well as availability of and access to programs.

Limitations

While these findings provide insight for practical implication, they should be approached with caution. Specifically, these findings generally indicate individuals across racial/ethnicity groups perceive their demographic characteristics as, at most, minor reasons for their constraint to outdoor recreation. Thus leaving the question, what are the substantive implications of this research? The answer to this question lies in recognizing that within racial/ethnic group constraint differences exist. For example, African Americans among the $20,000 to $39,999 income group perceived greater structural constraints to
their outdoor recreation participation than those in all other income categories. Thereby, identifying target markets (e.g., African Americans among $20,000 to $39,999 income group) to mitigate constraints for these particular populations is essential. Future research might consider using a broader scale to measure constraints (e.g., 5-point) as a way of obtaining greater variability of perceived constraints.

Further limitations were evident in this research. For instance, the data used for analyses were obtained in 2001; any interpretation of analyses based on these data should be interpreted with the understanding of this time limitation. In addition, the limitations of the Native American group sample size should be discussed. Given the low size of this group, analysis for the income variable, which reflected significance for intrapersonal constraints, should be interpreted with caution.

Conclusion

The changing American demographic reveals implications for protected area managers in providing visitor services for outdoor recreation on public lands. Specifically, diverse population demands require diverse opportunities and services from protected area management, which dictate land managers consider visitor needs, expectations, and motivations for visiting. This paper lends insight into the within racial/ethnic group differences in constraints to outdoor recreation participation based on demographic variables, the theoretical relevance of these findings, and strategies for public land managers to mitigate constraints and increase outdoor recreation participation.

References


Goodale & Witt, 1989


EXECUTIVE SUMMARY: Many protected areas offer night programs for visitors; however, night hours have not been fully recognized as a potential resource. Night hours in protected areas could provide visitors with experiences unique to these times of the day. Typically, low levels of visitation during night hours could provide visitors with additional or better suited opportunities to fulfill motivations and outcomes sought during daytime activities. This study was conducted to explore the experience of night hiking for visitors to parks and protected areas. Specifically, the study describes the night hiking activity, describes relevant characteristics of the night setting, describes the lived experience of night hikers, describes motivations for the experience, and suggests implications for management of night hiking. Semistructured interviews were conducted with 31 participants of three night hikes: a strenuous night hike at Table Rock State Park, South Carolina; an easy “owl prowl” at Congaree National Park, South Carolina; and a moderately difficult night hike at Pisgah National Forest, North Carolina. Also, interpretive rangers who lead night programs were interviewed from Table Rock State Park; Congaree National Park; and Acadia National Park, Maine. Themes identified from the data were related to new or different experiences, night sky and sounds, solitude, perceived risk, and legality of night recreation. Meanings of each of these themes are explored. Findings from this study have several implications for the management of parks and protected areas. First, night hiking programs provide a safe, welcoming opportunity for visitors to participate in a new or different activity. Second, the understanding that solitude is perceived at night as both an individual and a group experience suggests the need for managers to consider both recreation group size and group numbers. Third, informing visitors about the actual risks—and guidelines for mitigating these risks—during night hiking recreation may facilitate greater, safer participation in night activities. Fourth, management of artificial light may prove critical in providing for high quality night recreation experiences. Too much artificial light (either from the hikers themselves or from outside sources) detracts from a night experience because
it creates difficulty in viewing the night sky, makes visually encountering other
groups easier and more likely, and may quiet nocturnal animals. Fifth, managers
need to clarify the policies regarding the permissibility of night recreation within
parks and protected areas. Findings from this study suggest that night hiking is
a unique way to experience a park or protected area and that night is a valuable
experiential resource to parks.

KEYWORDS: Motivations, visitor experience, night sky, soundscapes, night
recreation

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The current concept of resources in parks and protected areas is expanding. Park
resources are traditionally thought of as tangible, physical assets including plants, water,
wildlife, geologic features, and historical or cultural artifacts. However, parks also have
intangible resources that have been widely recognized to include aesthetic beauty (Carlson
& Lintott, 2008), solitude (Manning, 1999; Manning, Valliere, Wang, & Jacobi, 1999; Moyle
& Croy, 2007), and naturalness (Cole, Yung, Zavaleta, Aplet, Chapin, Graber . . . Woodley,
2008). As the field of park and protected area management has grown and evolved, managers
and researchers have identified and begun to place increased attention on other intangible
resources, such as natural soundscapes (Aasvang & Engdahl, 2003; Booth, 1999; Downing &
Stunsick, 2000) and night sky (National Park Service [NPS], 2008).

Night in parks and protected areas differs from daytime hours in a number of ways.
It is a time when different wildlife, the night sky, and nocturnal sounds are present. Night
may also provide a period when visitation levels are likely lower. Protection of night as a
potential resource, as with others resources, requires a full recognition of the uses and benefits
it may provide visitors. For example, it is possible that outdoor recreationists may begin to
use or have already begun to use the night hours to seek solitude from crowds or to increase
challenge and risk while recreating. Also, some visitors may be drawn to sights, sounds, or
experiences that occur or are intensified during the night.

Few statistics exist that document the number of recreationists that participate in night
activities. A member survey of the Association of Outdoor Recreation and Education (AORE;
comprised of military and university outdoor recreation programs) found that 63% of the 70
respondents offered nighttime recreation programs (Beeco, 2008). Of the programs offered
by these organizations, the most popular activities were hiking (71%) and flat water paddling
(49%). Additionally, many protected areas (e.g., state and national parks) are beginning to
offer night programs, including hiking. An extensive review of state (n = 3,505) and national
park (n = 395) Web sites revealed diverse (in activities and guided or self-guided) nighttime
recreational activities occurring within parks (Smith & Hallo, 2010). Within the context of
this study participants reported to have engaged in activities ranging from interpretative tours
to astronomy club outings to white-water kayaking trips to lion sighting tours in Africa.

Research into night outdoor recreation is largely absent; therefore, there is little
understanding of the experiential aspects of this potential resource. This study has addressed
this gap by exploring the experience of night hiking, specifically by examining an individual’s
perceived motivations and outcomes of night hiking. This analysis seeks to identify the
motivations and outcomes that may contribute to a better understanding of the night outdoor
recreation experience. We acknowledge that respondents in different outdoor recreation
activities may have dissimilar motivations and realize somewhat different outcomes. For
example, both night hikers and kayakers may enjoy the extra challenge and risk, but kayakers
may not experience a benefit in spotting nocturnal wildlife. While acknowledging these differences, this study limits the focus of investigation to night hiking. Night hiking was chosen because it is a current ongoing night recreation activity in a large number and diversity of park and protected areas. In addition, its low skill and equipment requirements make it a potential activity for a majority of visitors. Specifically, this study uses a phenomenological lens to understand the experience and meanings associated with participation in guided night hiking programs within a framework of motivations and outcomes. To gain a more integrated understanding, this study also examines park rangers’ perceptions of visitors’ night experiences and the value of night as a resource.

Literature Review

Individual Outcomes and Motivations

As shown by a number of texts including Manning (1999) and Driver (2008), the individual motivations and outcomes of outdoor recreation have been researched extensively by social scientists. Furthermore, prior research has shown that outdoor recreation participants benefit in multiple ways from a single outdoor recreation activity (Decker, Brown, & Gutierrez, 1980; Hammitt, McDonald, & Noe, 1989). This multiple benefits concept is rooted in the multiple satisfactions concept first articulated independently by Driver and Brown (1975) and Hendee (1974). As an example of this multiple benefit concept, Hammitt et al. (1989) found that hunters benefit from environmental (i.e., setting) and social factors (i.e., crowding and hunter behavior) and that these were better predictors of the hunting experience than bagging of deer.

More recently, Pohl, Borrie, and Patterson (2000) studied women users of wilderness and found that the essential outcomes of their experience were escape, challenge, new opportunities, connection with nature, and solitude. Holman and McAvoy (2005) surveyed wilderness adventure program participants and reported that the main outcomes of the experience included relationships with others, self-understanding, awareness and appreciation for wilderness and nature, the chance to try something new, and the development of skills. A similar study of Appalachian Trail hikers found comparable results, including outcomes such as companionship, physical challenge, environmental awareness, self-reliance and self-fulfillment, fun and enjoyment of life, and solitude (Goldenberg, Hill, & Freidt, 2008). Goldenberg et al. (2008) went on to suggest that these outcomes were the underlying motivations for hiking.

Night activities offer an alternative to more traditional times of recreation that might provide different recreational outcomes as well as better satisfy outcomes that have been documented to accompany traditional outdoor recreation activities. For example, limited visibility and decreased use levels may reduce encounters with others and increase opportunities for solitude. Therefore, it is possible that visitors to parks and protected areas have already used or will begin to use night hours as a means of recreational exploration or to avoid crowds experienced in daytime recreation. The only documented study related to night recreation in protected areas reported that “in many cases use appeared to be primarily motivated by the desire to be out in the evening” (Kuekes, 1989, p. 39). Furthermore, the study stated that nighttime use appeared to be “legitimate” (p. 39) recreation rather than vandalism and other depreciative acts. However, this study used unobtrusive observation methods and did not ask participants directly about their motivations. Furthermore, this study was from a single location and observed a relatively inactive form of recreation. More active recreation may present greater difficulty with route finding and physical tasks, which may better fulfill motivations for risk or challenge seeking. New experiences such as the opportunity to see or hear nocturnal animals (e.g., owls) may be offered during night recreation. Solitude, risk taking, challenge seeking, and experiencing new opportunities may be the main motivations and outcomes for night recreation, but due to a lack of research these motivations can only be hypothesized.

It must be noted that motivations and outcomes comprise only a portion of the overall visitor experience (Driver, 2008). A recreationist’s preferences, perceptions, expectations,
and attitudes, for example, can substantially influence their experience. This study chose to focus on motivations and outcomes because these constructs have been extensively studied in daytime recreation and because little is known about them in relationship to night recreation or experiences. Benefits and outcomes are terms haphazardly used interchangeably in the literature. The term benefit implies only positive consequences, while outcome is a less value-laden term that includes both positive and negative consequences (Driver, 2008). Therefore, this study uses the term outcomes.

**Natural Lightscapes and Natural Sounds**

Managers and researchers have identified intangible resources that are an integral part of a working ecosystem and an important component of the visitor experience. For example, night hours provide a time for many animals to forage, hunt, and mate while also providing a time for visitors to view the night sky and listen to night sounds such as wolf howls, cicada chirps, and owl hoots. The NPS has initiated two programs pertinent to the visitors’ night experience: The Night Sky and Natural Sounds Programs.

The NPS Night Sky Team has been charged with the protection and restoration of dark skies in national parks (NPS, 2008). Through various methods of measurement beyond the scope of this paper, the NPS has assessed the darkness of the night sky in many parks and assigned to them a Bortle class ranking (Bortle, 2001). Bortle class rankings are used to determine the darkness of the night sky (1 being the darkest and 9 being the brightest). For example, a rating of 9 is classified as an ‘inter-city sky,’ which makes finding familiar constellations impossible. A Bortle class rating of 1 indicates a sky in which brighter stars can negatively affect night vision adaptation. Development of both urban and rural areas has caused the loss of natural darkness in many areas including parks and protected areas. While the night sky is intuitively an important component of the night experience in parks and protected areas, no current research has been conducted on what role the night sky plays in the visitor experience.

Soundscapes are another resource in parks that is important to the visitor experience. In fact, “72% of visitors say that one of the most important reasons for preserving national parks is to provide opportunities to experience natural peace and the sounds of nature” (NPS, n.d.). Research has shown that noise from aircraft and oversnow vehicles may negatively impact natural soundscapes and the visitor experience (Aasvang & Engdahl, 2003; Burson, 2005). Soundscapes and related impacts may be more important during night recreation because natural quiet at night seemingly intensifies sounds that may not be audible during the day because of natural or anthropogenic noise. Furthermore, because of limited visibility, visitors are required more so to use their sense of hearing to experience a park or protected area at night. Also, many animals, such as crickets, cicadas, frogs, owls, and wolves, are known for their night calls and provide a unique experience during night hours. Researchers have yet to assess the importance of the night sky and natural sounds to the night visitor experience.

**Guided Recreation**

A distinction between guided and unguided recreationists is often made within leisure management and research (Boren, Gemmell, & Barton, 2008; Wright & Sanyal, 1998). Guides provide services to recreationists including safety, knowledge, equipment, and facilitation of experiences. Guided and unguided recreationists differ in their experiences (Boren et al., 2008) and motivations for participation (Ewert, 1993; Wright & Sanyal, 1998). For example, tourists who chose guided tours rather than unguided tours while walking or swimming with seals in New Zealand elicited fewer avoidance responses from seals (Boren et al., 2008). Thus, use of guides in this case improved the visitor experience. Additionally, guided versus unguided fly-fishing anglers differed in their motivations and desires to catch trophy fish, to catch different kinds of fish, to test homemade flies, to learn new skills, and to release built-up tension (Wright & Sanyal, 1998). In examining guided versus unguided Mt. McKinley climbers, Ewert (1993) found that guided participants were more motivated by exhilaration/excitement and social aspects than unguided climbers.
Roggenbuck and Driver (2000) state that preferences of recreationists’ perceived benefits shape their preferred settings for specific activities, meaning that recreationists seek environments and conditions that will provide a certain type of experience (e.g., challenge, solitude, meeting new people). This may extend to a person’s choice of guide-facilitated and nonfacilitated experiences. A literature review of facilitated versus nonfacilitated wilderness experiences found differences in benefits and motivations for engaging in these experiences (Roggenbuck & Driver, 2000). For example, some studies found that guides facilitated communion with nature and group cohesion (Arnould & Price, 1993). Furthermore, there is more evidence of personal development on facilitated trips than nonfacilitated wilderness experiences. It is important to note that the study presented in this paper examines only respondents of guided night hikes, which may limit any transferability to more independent recreationists.

Method

A phenomenological approach employing interviews explored the individual experience of night hiking. Generally, phenomenology is a qualitative approach which focuses on understanding a particular lived experience and the meaning of this experience for an individual (Van Manen, 1990). Phenomenology was used as an approach to understand the unique aspects associated with the experience of night hiking. This was done by using a comparison of night and day hiking and the concepts of motivations and outcomes as the framework through which data and qualitative analyses were viewed. A phenomenological approach was used since it encourages respondents to reflect on the whole experience of night hiking, what it means to them, and the important elements.

The interviewing process funneled the discussion from (a) a focused life/recreation history to (b) the details of the experience and then to (c) reflections about the recreation experience. This structure leads the interviewee from the holistic and broad to their personal experience and the meanings they derived from it (Seidman, 1998). Interview times with hikers were shorter than most traditional phenomenological inquiries; this difference is attributed to the shorter duration of the actual experience (some hikes lasted only two hours). Furthermore, the number of interviews was increased to compensate for the shorter time frame of interviews. Attempts to establish relationships and trust with respondents were accomplished by the lead researcher participating in the night hikes. Additional interviews with rangers helped understand the reasons for implementing night hiking programs and the impacts associated with night hiking at parks and protected areas. Ranger interviews acted to supplement data and triangulate results from visitor interviews.

The motivations and outcomes identified through the interviews helped formulate potential management implications related to night hiking. A literature review was completed prior to data collection and supplemented after data collection. The literature was used to inform the interview script, specifically its design (a “funnel” approach) and questions about solitude, challenge, perceived risk, motivations, and outcomes. A total of 31 night hikers and four park rangers were interviewed.

Hiker Component

Interviews with hikers from three different types of night hikes were conducted. This allowed for a variation of experiences, which potentially could highlight the essential elements of the experience more likely to be instrumental to other cases. These hikes included a strenuous three mile night hike (3 hours) at Table Rock State Park, South Carolina, led by a ranger; an easy “owl prowl” (2 hours) at Congaree National Park, South Carolina, led by a ranger; and a moderately difficult mile-and-a-half night hike (2 hours) at Pisgah National Forest, North Carolina, led by staff of Clemson University’s Outdoor Recreation and Education Program (CORE).

The interpretive rangers of these programs stated that night programs were some of the most popular programs offered at these parks (F. Rametta, personal communication, October, 2008; S. Stegenga, personal communication, July, 2008). The “owl prowl” program offered by Congaree National Park is held weekly and typically booked full in the
spring and fall. Table Rock State Park’s night hike is offered only once a month during the summer and fall months and is typically full with a wait list.

At the beginning or end of each program (at the guides’ discretion), all hikers over the age of 18 were invited to participate. No compensation was available to respondents. Night hikers who agreed to participate were interviewed using a semistructured format. All interviews were conducted off site, between three and six days after the night hike. This provided two outcomes: first, there was minimal disruption to the hikers’ experience; second, hikers had time to reflect on their experience before being interviewed. (It should be noted that participant reflections may or may not reflect actual experiences during the night hike.) Interviews were conducted both over the phone and face-to-face. All semistructured interviews followed a script where the same questions were asked to all respondents. The respondents were asked questions about their night hiking experience, specifically their enjoyment, motivations, experiences, outcomes, drawbacks, and the differences between day and night hiking. Interviews also included more reflective questions including what was learned about oneself during night recreation and personal stories that night experience brought to life. However, the interviewer (all interviews were conducted by the first author) was permitted to ask additional exploratory or follow-up questions. Interviews lasted on average 17 minutes with a range from nine to 39 minutes. As with traditional qualitative methods, data saturation helped determine the total number of participants. However, because of the shortened interview times and diversity of locations/programs, additional participants were recruited.

All hikers that participated in the Table Rock State Park hikes (n = 10) and the Pisgah National Forest hikes (n = 10) experienced both daytime and nighttime conditions on the same trails. This allowed visitors to compare the two experiences. The Congaree National Park hikers (n = 11) only experienced the trail at night during their hikes. However, only two of these visitors had not already experienced the same trail at Congaree National Park during daytime hours. Participants were recruited on three different occasions at the Table Rock and Congaree programs and twice at Pisgah programs. All guided hikes took place between the months of July and November. Weather during the programs varied from clear and warm to cool and overcast.

Park Staff Component

To fully understand the motivations, outcomes, and impacts associated with offering night activities, interpretive rangers who lead night programs were interviewed from parks that currently offer these programs. Three sites were chosen: Table Rock State Park (n = 1), Congaree National Park (n = 2), and Acadia National Park (n = 1). (No guides from the hikes in Pisgah National Forest were interviewed because they were not experienced/trained interpreters. As mentioned above, these were guides from the CORE program rather than professional land management interpreters.) These parks were chosen because of their diversity in location, history, funding, and visitors.

Semistructured interviews were also used to gather information from park staff on the current night programming at their park. Ranger interviews were examined separately from hiker interviews and were used as a method for triangulating findings (see below). Four interpretive rangers were interviewed. Interviews lasted on average 33 minutes with a range of 17 to 53 minutes. Each ranger answered questions related to the motivations of and outcomes to the park for establishing and conducting night programming, the constraints and difficulties of offering these programs, the environmental impacts of night programs, and perceived influences of night programs on the visitor experience.

Data Analysis

The semistructured interviews were transcribed verbatim from the recorded interviews and then coded and analyzed according to procedures adapted from Miles and Huberman (1994). Borrowing terms from Grounded Theory in the process of data reduction, both open (i.e., codes assigned within responses to a question that was asked) and axial (i.e., codes assigned between responses to multiple questions that were asked) coding were
used (Strauss & Corbin, 1998). Coding was viewed as the process of segmenting data into simpler, general categories that could be used to expand and tease out new questions and levels of interpretation (Coffey & Atkinson, 1996). Semistructured interview questions were used as an organizing tool for data. Once all interviews were coded, the first four interviews (more than 10%) were recoded to ensure that codes developed later in the coding process were represented in the first four interviews. General categories from this reduction were then organized into groups and then axial coding was used to identify universal elements of the experience. This allowed for the development of themes from these elements. After the themes were identified, they were examined through the framework of motivations and outcomes. The ranger interviews were examined last and used to compare and contrast the ranger and visitor perspective.

Several procedures were used for checking the validity of codes assigned and their interpretation. These included seeking triangulation with findings from other studies, checking for the meaning of outliers or extreme cases, and conducting checks of research findings with both experts and informants (Miles & Huberman, 1994). Triangulation was used to enhance the reliability of research findings by seeking a convergence of results using multiple methods, investigators, data sources, or theoretical lenses (Denzin, 1970; Green, Caracelli, & Graham, 1989; Tashakkori & Teddlie, 1998). Triangulation with other findings of individual motivations and outcomes was used to validate study findings. For example, respondents commonly reported wanting a new or different experience as a motivation for participating in outdoor recreation. The ranger interviews were also used as a triangulation method in which findings were validated by comparisons with experienced staff. No outliers or extreme cases of personal experiences or situations were found. There were, however, two distinct groups based on night recreation experience levels: those with and those without prior experience. Only a handful of respondents had prior night recreation experiences, all of whom had participated in night activities multiple times. Research findings were also validated by transcripts reviewed by another experienced qualitative researcher and based on discussions of any coding discrepancies between the data coder and the reviewer. No substantive differences were found in the codes assigned. Informant check procedures involved respondents giving feedback on a summary of the findings (Miles and Huberman, 1994). These respondents were asked if their experience was consistent with the findings. They were also encouraged to consider how others’ experience may have differed from theirs at other locations. Informant checks revealed respondents found themes consistent with their experience.

Results

The number of females and males that chose to participate was nearly the same, 14 and 17 respectively. Other demographics revealed an average age of 38 and that respondents were highly educated including 25 with college or graduate degrees, four with some college, and two with high school degrees. All respondents reported their race as white/Caucasian.

Analysis of interview data identified five major themes. These themes resulted from patterns found in the hiker interviews and do not represent a frequency of comments. Ranger interviews were used as a method of triangulation and will also be discussed. Themes presented explain the night recreation experience in a manner that may be pertinent to both managers and researchers of outdoor recreation.

Night as a New or Different Experience

Respondents reported that they were motivated to participate in night hiking because it provides a new or different experience. There was a slight difference between a new experience and a different experience, but these two attributes were similar enough to be grouped together as one theme. For example, the following response is an example of one focusing more on the new attribute of the experience: “Just to see what hiking at night was like. I had never done it before. A new experience again.” Another respondent, leaning toward the different attribute of the experience, stated, “Because it was a different
experience. It was neat to see how different things look. Or how the same hike looks during day and how it looks during the night.”

Many respondents tried to describe what was different about the experience using words like quiet, peaceful, adventure, and mysterious. One typical response of this kind is as follows:

I really like walking at night. It gives a whole different flavor, kind of a mystique. I guess just a way to enrich the adventure at the park. There is [sic] the day time activities, [but] the night activities are a special calling card that the parks offers and I certainly enjoy taking advantage of them.

Another response of this kind references the night wildlife:

I mean the real difference to me is that at night, and that is most true if you are with a small group or a quiet group, is just the peacefulness of it, the spiritual aspect of just sitting there listening to millions of frogs and seeing millions of fire flies or seeing the stars.

Many of the following themes were derived from respondents’ explanation of why night hiking was different than day hiking. Overall, respondents wanted a hiking experience that was special and not typical.

Ranger interviews supported the idea that participants were motivated to participate in a new or different activity. When asked about visitor outcomes one ranger stated, “I think for the visitors to step out of their comfort zone, do something new, experience nature at a whole different time when most people…are not out experiencing nature.” When asked the same question another ranger replied, “I think just to see the resources here from a different aspect…It is just a chance to see the mountain at a different angle, so to speak. Just a different atmosphere.”

Unique Soundscapes and Night Sky

Visitors reported that nighttime hiking was a different sensory experience than daytime hiking. The two main sensory differences reported were based on night soundscapes and the night sky. These attributes were fundamental to the night hiking experience. The importance of these two resources was drawn from questions throughout the entire interview. Respondents mentioned night sounds and night sky when asked about overall enjoyment, favorite aspects of the experience, motivations for and outcomes of their participation, and if they would try night hiking again in the future.

The results of this study suggest that soundscapes are particularly important to the experience of night hiking and that night sounds provide a different auditory experience. The following quote typifies this finding:

And then the sound’s around you. Because those cicadas were just…going and going and going. And then when we were walking along the creek, I mean you couldn’t see anything, but you could definitely hear it. I just thought that was fascinating that you could be able to hear the babbling brook next to you but you couldn’t see a thing. So, just due to the different kind of sensory experience...

The contrast between hearing and seeing in this quote outlines the difference between day and night hiking experiences. When asked about overall enjoyment one respondent stated, “I like being out at night for the cacophony of night sounds. That unique symphony of all the different, you know, amphibians or insects and the occasional bird sounds and certainly the owls. The owls are really magical to hear.” Another respondent answered the same question: “The different types of cicadas and you know, some of the night bugs are just, in some weird way very peaceful.” When asked about the differences between night
hiking and day hiking one respondent highlighted how the soundscapes differ from day to night:

You also hear different noises with animals. I know one time we heard, I don’t know if it was a dog, he [the guide] didn’t know if it was a dog or a coyote, but we heard them at night and we knew they were far away so it was not really scary, but you would not hear that during the day. And the bugs and stuff.

The stars and moon were also frequently pointed out as memorable parts of the experience. This result suggests that the night sky was equally as important to the experience of night hiking as soundscapes. When asked about her motivation for participating in a night hike, one respondent stated,

I was just really curious to see what it would be like at night, where I’m from you can’t even see the stars in the sky because there is [sic] so many lights. So, to be able to see the stars and moon and everything is just something that I wanted to see.

Another respondent stated, “You know you hope to get a clear night where you can see the stars and just hang out there.” When asked about his best experience, one respondent noted, “Probably just taking the occasional stop and just looking at the stars, and seeing how the moon actually travels across the sky.” The stars and moon were mentioned repeatedly throughout the interviews. For example, “I love the stars and obviously you couldn’t do too much astronomy any other times” and “It was quiet and it was a full moon. It was nice to be able to see the stars.”

Ranger interviews also supported the idea that night soundscape and night sky are important to the night experience. Rangers overwhelmingly supported the protection of these resources and suggested the importance visitors attach to night sky and sounds. The following ranger quote communicates this importance and the unique opportunities night recreation presents through soundscapes and night sky:

We view the clear night skies as a resource. And, one of the reasons we do that is if you see a photograph of our planet at night, we have already affected the night sky, because you can see the eastern seaboard of the United States all lit up and those lights can be seen all the way out into space…Oh, it brings a new experience with their senses. A lot of times we are just looking, while our sense of hearing gets stronger and sometimes even our sense of smell. So some of those other senses you don’t use as much during the daytime kind of take over and then we experience the whole forest in different ways with those different senses. And we hear night sounds. Some are mysterious and we don’t know where they originate from. Other night sounds, we hear the owl calls and we hear the wind through the trees at night. We may hear other night animals, like maybe a bobcat or screech owls. And so these are things that you would not have the opportunity to hear or experience during the daytime.

**Solitude at Night**

A question about how the sense of solitude changes during a night hike was directly asked during the interview. Therefore, this theme was specifically examined rather than emerging more organically. Sense of solitude was approached more openly because of the direct manage implications related to solitude as well as because of an interest in examining how low levels of visitation during the night might effect the experience.

Each night hike examined in this study ranged from 10 to 30 people and was comprised of different parties. Participants did not report solitude seeking as a motivation for participating in the night hikes. However, solitude (in general) was reported to be a distinct part of the night experience despite large group sizes during the hike. This suggests
that solitude was an unexpected component of the night hiking experience. Respondents reported that solitude was experienced in both a group and an individual context.

When reporting on their sense of solitude, respondents often used the term we rather than I, indicating that they felt the group was alone.

There was a bit more solitude for our group. Just because in the daylight hours we ran into a few other people, a few other groups, and I think the night brings with it a sense of solitude. Not many other people are going to be out doing that, we were actually the only ones out doing that.

This indicates that participants received some sense of solitude within the context of their hiking group. This sense of group solitude seemed to increase due to limited visibility, which reduced the ability to see other group members or other groups, and to it being quieter at night. These two factors were cited repeatedly as one reason for increased solitude:

It felt really quiet...people were whispering like they should be quiet...during the day you could really see people clearly off in the distance. So if there is a tent off in the distance you could see that tent. You could see the people camped under that little tree. You could see people hiking up on the ridge. And at night at one point we stopped and we were maybe 20-30 feet from a tent that I didn’t even realize that there was a tent there until somebody told that me that someone was camped down there. So yeah it increases the solitude.

One respondent tried to explain why he felt a sense of solitude with so many other people around:

There was a different level of solitude during the night, because during the day you know you are surrounded by people. During the night you still know you are surrounded by people but you also have that sense of quiet peace, if you will.

Some respondents also reported times they felt a sense of individual solitude. This is more similar to the traditional concept of solitude defined as one being away from other people or a sense of being alone. Again, limited visibility and the quietness of night play a key role in this increased sense of individual solitude:

There were a lot more people out during the day. There were people camping and what not, and they were out of their tents walking around and there were other groups hiking as well. And I thought at night we were definitely the only ones out there. And then, I remember a couple of times we stopped and I kind of, not really wandered off, but walked off about you know 10 to 15 feet away from everybody and just kind of looked up at the stars and definitely felt more alone up there at night, because people were often quieter too and weren’t talking as much.

This respondent indicated a sense of both group and individual solitude and his strategy for creating a sense of individual solitude in a large group.

Solitude was not an experience that interpretative rangers expected visitors to have during a program that numbered 10 to 30 people. When asked about solitude, one ranger stated,

I don’t think [solitude is being experienced] going up, because we have to stay so close together you can’t spread out and you are pretty close to each other and so you see people and hear people as you go. Rest breaks, I think probably a
little bit more solitude, because you are sitting and you are not moving and you are just being under a starlit sky…

This was the only major difference between what participants and rangers reported. Specifically, participants often reported a sense of group solitude, many times indicating we were the only group out there. Many of the rangers pointed to group size as the reason solitude was probably not experienced or at least was not a targeted benefit. These differences in perceptions of solitude as a group or individual experience may account for this one discrepancy between ranger and participant interview findings.

Higher Perceived Risk Prior to than During the Experience

Respondents reported that their perceived risk prior to a night hike was higher than their perceived risk during the hike. Two quotes typified this theme: “I didn’t feel, you know, maybe in anticipation I thought it was going to be riskier, but I didn’t feel any. It really didn’t bother me, it really wasn’t that big of a deal” and “Well my perceived risk, before I went was that it was going to be higher…but [the ranger] took a slow enough pace that it was not that difficult.”

Respondents frequently cited limited visibility as their main prehike concern and then reported that once the hike got started visibility was not as limited as they first had thought.

I was worried about my depth perception and all that, because in daylight everything is illuminated from all angles. I was worried about that to some degree, but it turned out it was easy. I did a few small trips, but it was nothing, I would trip anyways like that in the daylight hours so there was really no actual higher difficulty hiking up.

Risk was cited as a factor in participation in future night hiking. Some respondents indicated that they would now go again after realizing that the actual risks of night hiking were not as high as they had expected. The same respondent as quoted above said,

Well I know what to expect now. I know that these perceived dangers from the light angles being weird is not there. That it is totally safe at the pace that [the ranger] does it at. At a 3 hour pace…So there is no danger. I would take anybody with me. I mean as long as they can hike Table Rock.

Other respondents, however, reported that they would still not night hike without some kind of guide. When asked if she would participate in a night hike again one respondent said,

I would definitely hike again. I would definitely go with somebody who knew where they were going. But I don’t think I would try and do it alone or with one of my friends or something, you know… Just because I wouldn’t want to get lost. I guess I would be afraid to get lost.

Ranger interviews also indicated that risks as perceived by participants are sometimes higher than the actual risk during participation. Rangers also noted that visitors generally perceive risks of night hiking to be higher than that perceived by park staff. One ranger stated,

I think they may perceive their risk as higher because it is dark and they are in a place they may not be comfortable with. Some people are not comfortable being in the woods even in the daytime, but I think it is more of a perceived risk from their point of view, but from the park’s point of view it is not more risky.
Uncertain of the Legality of Night Hiking

Some respondents thought it was illegal or against the rules to hike at night. Some respondents felt the parks were closed at night. For example, one respondent said, “I mean I never hiked in the dark before. I didn’t realize they would even allow that up here, I thought that the danger was too great. I mean that was in my mind and my thoughts anyways.” Another respondent said, “Yeah actually me and a couple of my buddies were surprised, we talked to the ranger and I was actually surprised, he said it was something that was allowed to do, you could do.” Another respondent indicated that he thought the park was open for the night hiking program, but would normally be closed: “Yeah, it was fun to be able to see the park at a different time of the day…because generally it would be closed during that time.”

Another respondent indicated confusion about the legality of night activities in protected areas in general.

I know we did the Chattooga [paddling] one time and the ranger pulled up right as we were putting on and we all thought we were going to get in trouble putting on the Chattooga at you know, two o’clock in the morning, but all he did was ask where we were going and tell us to have fun and be safe.

This indicates that confusion about the legality of night recreation is not isolated to hiking or just parks. However, rangers indicated that hiking at night within the parks sampled in this study is not illegal as long as the rules are followed. One ranger mentioned night recreation was “shunned” but not actually against the rules, while rangers at a different park indicated they encourage visitors to walk the park at night.

I usually suggest that they walk around the boardwalk [at night]. I see more wildlife during the evening and night when I am out there just on my own or with just one other person. So I usually recommend that, so I think some of the campers tell me they do it, so I do think they are out there. We do have reflectors on the trail from the campground to the boardwalk.

Discussion and Implications

It is not unexpected that respondents’ motivations for participating in night hiking reflect its novelty. Generally, lower use levels at night in parks and protected areas seem to indicate that for many visitors hiking at night would constitute a new experience. For many of the hikers in this study, it was the first time they had experienced night hiking. The hiking program provided a gateway to experience this unique opportunity.

While the novelty of night hiking proved to be a major motivator, the night hiking experience proved to be inherently different from day hiking because of the lighting and sound conditions. Night sky was indicated as one of two central differences that defined the night hiking experience. Lighting conditions are important to the night hiking experience because it makes the night sky a viewable resource for visitors. This study suggests that night sky, particularly the stars and moon, was an important experiential resource during night hiking. Interpretive rangers in this study encouraged hikers to keep their lights off (when possible) to improve night sky viewing. Also, red cellophane was sometimes used—to great effect—to cover flashlights. This further improved viewing night sky resources by protecting participants’ night vision and decreasing light pollution.

Night soundscapes were the second defining characteristic of the night hiking experience. Specifically, night hikers in this study mentioned the importance of sounds such as owls, coyotes, cicadas, and crickets to their experience. These sounds are generally not heard during the day, so they represent an experiential resource for night hikers. (The importance of specific night sounds likely varies depending on animals or insects present in a hiking area.) Also, the importance of natural quiet experienced during the night was mentioned by several hikers. Night hours are typically a time when there is less human,
noise-generating activity both within (e.g., other visitors or staff activities) and outside (e.g., traffic on nearby roads or planes flying overhead) of parks or protected areas. This creates, in general, greater periods of natural quiet during the night. Also, natural quiet reported by hikers is likely enhanced during the night because of changes in perceptions of noise created by darkness. Darkness caused hikers to rely more heavily on their sense of hearing, drawing greater attention to both night sounds and the lack of sounds (i.e., natural quiet). Certain sounds during the night such as motorized vehicles or human voices may seem out of place because of this increased focus on soundscapes. Most participants in this study acknowledged this and tried to protect natural quiet at night by whispering when communicating during hikes. These results support prior research suggesting soundscapes to be an important part of the outdoor recreational experience (Aasvang & Engdahl, 2003; Burson, 2005).

While night sky and soundscapes were reported as being critical parts of the night hiking experience, solitude emerged from this study as an unintended benefit. Hall (2001) reports that despite large amounts of research conducted on crowding, little is known about how visitors define and experience solitude. Night hikers in this study experienced solitude in both an individual and a group context, which provided some insights into how they defined and experienced solitude. Most participants reported a sense of group solitude, indicated many times by the use of we when describing their sense of solitude. This concept of solitude is similar to many empirical studies (see Shelby & Heberlein, 1986 or Manning, 2007 for a listing of such studies), as evidenced by the use of encounters with other groups or number of other people seen, instead of the number of people within one’s own group, as a proxy for solitude. Also, Manning (1999) states, “Solitude in outdoor recreation may have more to do with interaction among group members free from disruptions than with physical isolation” (p. 107). The lack of other groups at night or of the ability to see these groups, contributed to respondents’ sense of group solitude and may suggest the unique role that night may play as a resource for visitors seeking solitude.

Some night hikers also reported a sense of individual solitude, which seems different from the concept of group solitude more generally examined in outdoor recreation research (i.e., encounters) (Manning, 1999). Respondents who reported a sense of individual solitude reported that this feeling occurred while walking away from the group or when lights were turned off and their eyes had not adjusted to the dark. Night hiking allows participants to more easily find individual solitude by turning off artificial light sources or isolating themselves by stepping a short distance away from their group into the cover of darkness. Furthermore, darkness and the natural quiet of night were also cited as factors that increased both individual and group solitude. These results imply that night hiking may provide greater opportunities for solitude than hiking during the day. It must be noted here that the theme of solitude, unlike the other themes, was directly examined in the interview questions. Therefore, some bias may be inherent within this finding.

High levels of perceived risk and related concerns of safety at night may further influence the motivation for and outcomes of participating in night hiking. Specifically, high perceived risks may act as a barrier for participation in night hiking. Risk and safety have been previously recognized as barriers to outdoor recreation participation in general (Johnson, Bowker, & Cordell, 2001) and for solo hikers (Coble, Selin, & Erickson, 2003), but based on study findings it seems that it may also be an important consideration for some people in choosing to participate in night hiking. The guided hikes examined in this study seemed to provide an avenue for people to participate in night hiking who might not have otherwise attempted it because of this risk. This finding is supported by past research showing that lack of companionship or information (some of which could be provided by a guide) is a barrier to hiking participation (Bialeschki & Henderson, 1988). While participants later reported that the risk experienced was less than they anticipated, night recreation might indeed have higher levels of risk outside of carefully selected and controlled interpretative programs as compared to daytime activities. In some cases (likely outside of the context of a guided hike or interpretive program), this risk may be a motivating factor to participate in night recreation. Risk seeking is a motivation for general
and protected area visitation (Galloway, 2002) and it seems that night hiking might more specifically cater to this motivation. Darkness and the need to adapt skills, such as route finding, to nighttime conditions provide opportunities for those visitors seeking to increase challenge and risk.

Perceptions about legality may also influence motivations for or outcomes of participating in night hiking. If visitors are unsure of the permissibility of night recreation at parks and protected areas, visitors may choose to not participate. Many facilities or businesses in society close at night, so visitors might assume that parks or protected areas would be closed, too. Also, confusion about the legality of night hiking reported by respondents may, in part, be because gates to parking areas at two of the places sampled in this study (Table Rock State Park and Congaree National Park) were closed at night. With parking lots closed, visitors who were interested in night hiking (outside of the interpretative programs) would need to camp overnight or park their vehicle in an undesignated area. This limited access confused some respondents about whether night hiking outside of interpretative programs is actually allowed. These results may imply that other visitors are unintentionally being kept from participating in night recreation experiences.

Management Implications

Findings from this study have several implications for the management of parks and protected areas. First, night hiking programs provide a safe, welcoming opportunity for visitors to participate in a new or different activity. Therefore, parks or protected areas looking to expand the breadth of programming options should consider night programming (including leisurely paddles, stargazing, night hikes, and campfire programs) as an avenue for enhancing the visitor experience. Night hiking programs (or other night recreational opportunities) should emphasize the unique night sky and night soundscape resources valued by participants. Second, the understanding that solitude is perceived at night as both an individual and a group experience suggests the need for managers to consider both recreation group size and group numbers. Specifically, the finding that group solitude was reported more frequently than individual solitude indicates that group encounters may detract more from an overall sense of solitude than being part of a large group. Therefore, the experiential quality of night activities may be better protected by having large groups rather than a greater number of small groups that may encounter each other. Third, informing visitors about the actual risks—and guidelines for mitigating these risks—during night hiking recreation may facilitate greater, safer participation in night activities. Fourth, management of artificial light may prove critical in providing for high quality night recreation experiences. Too much artificial light (either from the hikers themselves or from outside sources) detracts from a night experience because it creates difficulty in viewing night sky, makes visually encountering other groups easier and more likely, and may quiet nocturnal animals.

A fifth implication suggested by this study is that managers need to clarify the policies regarding night recreation within parks and protected areas. Night hiking programs offer a gateway for participation in the activity to visitors intimated by night recreation. It also may provide an opportunity to clarify the legality of night recreation at a site. However, we recognize that ambiguity about the legality of night recreation may create a desirable management condition—in some circumstances—where either only select visitors (likely well informed, more committed to the activity, and more responsible) participate in night recreation or where night recreation is allowed but discouraged due to safety, staffing, resource management, vandalism, or liability concerns. However, managers should consider the unique experiences and outcomes that may come from night hiking, and perhaps other forms of nighttime outdoor recreation, when deciding to allow or disallow and encourage or discourage night visitation. Also, additional or different environmental impacts may influence a manager’s decisions related to night recreation. For example, a number of wildlife species hunt and gather food at night and large numbers of visitors
Analysis Implications

The qualitative approach applied in this study proved useful in understanding night hiking. First, it brought forth unexpected findings (Mann & Leahy, 2009). The theme “Uncertain of the Legality of Night Hiking” is an example of how qualitative research may bring about unexpected findings that are relevant to both researchers and managers. This theme emerged from unsolicited comments to semistructured questions pertaining to other topics; it also revealed an important barrier for night recreation. Second, phenomenology in particular was a useful approach because of the increased emphasis on an individual’s experience and the meanings of that experience. However, the limitations of this study are inherent in its qualitative design; the limited numbers of interviews/hikes and nonsystematic participant selection decreases the assurances of generalization. Nevertheless, triangulation (between participant and staff interview data and previous literature on motivations and outcomes) of these results provides some assurance that findings presented are transferable to similar experiences and park and protected area settings (Miles & Huberman, 1994). A need exists for a more quantitative approach to exploring the phenomena of night hiking and night recreation in general.

Conclusion

Findings from this study suggest that night hiking is a unique way to experience a park or protected area. Night hikers received a new or different outdoor recreation experience. Specifically, the presence of night sky and night sounds provided this distinct experience. Some motivations and outcomes traditionally sought during daytime recreation are enhanced while hiking at night. Decreased visibility, lower use levels, and natural quiet promoted a greater sense of solitude. Also, visitors motivated to seek additional risk or challenge in their outdoor recreation activities may benefit from night as a setting for their activities. However, this additional risk or challenge — along with questions about the legality of night recreation — may deter visitors from experiencing the outcomes of night recreation. These findings suggest that night hours are an experiential resource for visitors in parks and protected areas.

This study represents a first step in understanding the night recreation experience. Findings presented here may help inform managers and future researchers about the night hiking experience, specifically what night resources are important, why visitors want to engage in this activity, and what visitors want to derive from it. This information can inform policy decisions, program designs, and management decisions related to night hiking and perhaps night recreation more generally. However, the experience of night hiking during guided or interpretative programs is only a small part of the larger context of night recreation in parks and protected areas.

Very little is known about the night hiking experience for visitors outside of guided or interpretive programs, for activities other than hiking (i.e., flat water kayaking, white-water kayaking, mountain biking), and in other environments such as desert or coastal areas. These settings, activities, and experiences need researched to fully understand the night recreation experience. Also, while it can be assumed that the number of daytime visitors exceed night visitors, there are no studies identifying the amount of night recreation that occurs.

Overall, night presents a new frontier for park and protected area recreationists, managers, and researchers. As with all frontiers, night must be fully explored to be understood. This study attempts to draw attention to the need for further examining night recreation and to lay the groundwork for future empirical studies. Night recreation is currently occurring within parks and protected areas. The motivations of night hiking found in this study seem to suggest that visitors will continue to value and utilize night resources through recreation.
References


Keeping Up with the Digital Generation: Practitioner Perspectives

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Kate Cromwell

EXECUTIVE SUMMARY: The current generation of youth is commonly identified as the digital generation. Their quick adoption of technology often leaves practitioners struggling to stay up to date with the rapidly changing technological landscape. Although the perceived technology gap may seem daunting, insights can often be drawn from pooling the collective knowledge and experience of fellow practitioners. The purpose of this study was to assess practitioners’ perspectives on the use of technology among youth and the incorporation of technology in out-of-school time programs. Practitioners completed a survey that addressed both their comfort level with technology as well as how it was addressed in their organization. Practitioners’ responses provided insight into both why and how technology is used within their organization and how youths’ use of technology is managed during programs. The findings from this study indicate that while practitioners recognize the existence of a technology knowledge gap between youth and adults, the majority of respondents have an overall positive attitude toward technology. While most respondents indicated technology was intentionally incorporated into their programming, their primary use of technology was for communication and information dissemination followed by educational enrichment and other specific program initiatives (e.g., community mapping). Practitioners also noted difficulties in trying to effectively manage the use of technology among youth during programs. Strategies to address this generally fell into one of three categories: no technology use allowed, limited use during down times, and privileged use according to adherence to certain guidelines. Although most practitioners reported an overall positive attitude toward technology, some did express fear that youths’ overreliance on technology may present a variety of negative outcomes including underdeveloped social skills. The increasing role of technology in youths’ lives has led some practitioners to focus more intentionally on face-to-face social opportunities for their participants. The study’s findings show that most practitioners believe technology can and should positively enhance youth programs. However, as noted by the authors, technology is one of many potential programming tools and should be employed intentionally to facilitate specific targeted outcomes rather than be utilized as a simple reaction to popular trends.
Today's youth have been labeled the *digital generation*. Technology usage among adolescents is at record levels (Rideout, Foehr, & Roberts, 2010). Given the speed at which many youth adopt new technologies, youth practitioners often find themselves technologically out of touch with the youth they serve. Some practitioners might consider themselves digital immigrants, as they struggle to learn and adopt new technological advancements, whereas the youth they serve are often digital natives who have grown up immersed in technology (Prensky, 2001a, 2001b). Whether practitioners consider themselves digital natives or immigrants, many struggle with the tension between the importance of trying to keep up technologically with today's youth and the difficulty of staying abreast of the newest technological trends. To effectively function as mentors and program planners under these circumstances, practitioners need to understand a host of issues including technology trends, how technology affects youth, and how best to intentionally incorporate technology into program design.

While literature exists regarding adolescent perspectives on and use of technology, less is known about youth practitioners’ attitudes toward and programmatic use of technology. To address this gap in the literature and to aid practitioners in their efforts to effectively leverage technology to promote positive youth development, a study was designed to assess practitioners’ perspectives on the use of technology by youth and the incorporation of technology as a program element in out-of-school time programs.

**Literature Review**

Many of today’s youth live in a world of technology and media. After accounting for multitasking, youth average almost 11 hours of media exposure per day (Rideout et al., 2010). Seventy-five percent of teenagers own a cell phone, and of those cell phone users, one-third send more than 300 text messages per day (Lenhart, Ling, Campbell, & Purcell, 2010). Ninety-three percent of adolescents regularly use the Internet, and of this group, 73% use social media platforms like Facebook or Twitter (Lenhart, Purcell, Smith, & Zickuhr, 2010).

Technology use, especially overuse, appears linked to multiple negative outcomes. For example, about 8% of teenage video game players exhibit addictive symptomology similar to pathological gamblers (Gentile, 2009). Heavy technology use has been linked to lower academic performance and life satisfaction scores (Rideout et al., 2010). The Internet can also be a pathway to potentially negative content and experiences such as pornography, online bullying, and unwanted sexual advances (Livingstone & Brake, 2010).

At the same time, technology has the ability to facilitate positive development. Research suggests that the Internet can provide youth a context through which to develop their identities (Bers, 2006) and become civically engaged (Bers, 2010). For example, researchers have proposed that various societal changes such as increased fear of stranger
danger and lack of walkable communities have decreased teenagers’ ability to access community social spaces, and the Internet may mitigate this loss by providing entry into virtual community spaces through social media applications (Williams, 2006). Preliminary research findings suggest technology-assisted activities like geo caching may prove an effective means to engage youth in outdoor activities (Chavez, 2009). Technology can also provide creative outlets for adolescents and provide them contexts to express their voice through blogs, chat rooms, and other social media platforms.

Practitioners can easily feel overwhelmed as they survey the rapidly changing landscape of adolescent technology usage. While some argue that the divide between digital natives and digital immigrants is insurmountable, others suggest that technological knowhow can be acquired and that practitioners do not have to feel relegated to the ranks of lifetime technological outcasts (Helsper & Eynon, 2009). However, practitioners still face decisions, regardless of their level of technological expertise, about how to use technology in their programs. In order to gain an up-to-date perspective on how practitioners were handling this challenge the authors employed an online survey to gather mixed-methods data related to the following research questions:

1. What attitudes do practitioners have towards the relationship between technology and youth?
2. How are practitioners currently using technology in their programs?
3. What types of policies are in place to govern youth participants’ use of technology while taking part in program offerings?

Method

Email invitations to participate in a survey were sent to an email list of youth development practitioners maintained by Texas A&M’s Sequor Youth Development Initiative (www.ydi.tamu.edu). One reminder email was sent a week after the initial email. In total, 511 individuals received email invitations and 106 individuals followed the embedded link in the email producing a 21% click-through rate. Out of the 106 who followed the link, 94 completed at least 60% of the quantitative items, for an overall response rate of 18%. Because demographic data is not available for the full email list population, it is difficult to compare the respondent sample to the overall email list population.

Of those who reported demographic and organizational information, 59% were female (n = 45) and 41% were male (n = 31). The average respondent’s age was 42 (n = 76; SD = 11.22), and the average amount of youth practitioner experience was 14.5 years (n = 76; SD = 7.72). Most of the respondents were either full-time staff or administrators and worked with 4-H programs, after school programs, or park and recreation departments. See Table 1 for a complete breakdown of respondent positions and organizations.

Data were collected through the use of an online survey that contained both quantitative items and open-ended questions (see Table 2). Questions were developed to address the study’s research questions and were reviewed by a panel of youth development experts including three scholars and one practitioner who were each involved in research or practice related to youth development and or technology. The survey’s quantitative items were each scored using five point Likert scales. The items were treated individually and were not intended to be combined into a scale.

Descriptive statistics were run for the quantitative survey items. The survey’s open ended responses were compiled and analyzed using a grounded theory approach (Strauss & Corbin, 1998). The authors separately analyzed the data and then met to compare and contrast results of the open coding process. After establishing agreement regarding the major codes related to the research questions axial coding was employed to organize codes into major themes. The results section includes a summary of these results.
Results

The quantitative and open-ended data were analyzed concurrently and the results section presents an integrated overview of both analyses. Descriptive statistics for all quantitative items are provided in Table 3. Open-ended results were organized into three main categories of information derived from the study’s research questions: practitioner perceptions of youth and technology; practitioner uses of technology; and policies regarding the use of technology with programs. Within each category relevant themes emerged from the data. The following sections provide an overview of each category’s themes with the inclusion of representative quotes. Quantitative findings are also reviewed and incorporated where applicable.

Practitioner Perceptions on Youth and Technology

Practitioners expressed a variety of perceptions of the role of technology in their work and the lives of youth. Three main views emerged: an awareness of the increasingly prominent role of technology in youth’s lives; the need to stay current; and possible negative side effects of technology use among youth.

Technology is their language. Seventy-nine percent of respondents (n = 94) agreed that technology use had increased dramatically among youth over the last five years. As one respondent noted that while some technology may seem new to adults, “technology is such an embedded part of youth’s lives that use of technology is not ‘new’ or ‘innovative’ to them, it’s just part of life.” Another suggested that technology is “what youth know and understand and how they learn.” Accordingly, practitioners recognized that if they did not make attempts to keep up technologically they might get left behind: “I believe that this [technology] is the way our youth [are] communicating and if we do not roll with it, then we will lose them.”

Table 1

Respondent Positions and Organizations

<table>
<thead>
<tr>
<th>Position</th>
<th>Counts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator</td>
<td>26</td>
<td>28%</td>
</tr>
<tr>
<td>Program Supervisor</td>
<td>16</td>
<td>17%</td>
</tr>
<tr>
<td>Full-Time Staff</td>
<td>29</td>
<td>31%</td>
</tr>
<tr>
<td>Part-Time Staff</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Volunteer</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>No Response</td>
<td>18</td>
<td>19%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization</th>
<th>Counts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-H and Youth Development</td>
<td>24</td>
<td>26%</td>
</tr>
<tr>
<td>After-School Program</td>
<td>12</td>
<td>13%</td>
</tr>
<tr>
<td>Park and Recreation Dept</td>
<td>10</td>
<td>11%</td>
</tr>
<tr>
<td>Boys and Girls Club</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Residential/Foster Care</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Faith-based organization</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Camp/Outdoor Programs</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>YMCA/YWCA</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Other*</td>
<td>15</td>
<td>16%</td>
</tr>
<tr>
<td>No Response</td>
<td>18</td>
<td>19%</td>
</tr>
</tbody>
</table>

* The other category included: Hospitals, Texas Brigades, Leadership programs, College Readiness, Mentoring, Youth Advocacy, Homeless Youth Social Services, Higher education, Housing Programs, After School Network, City Youth Employment Program
Table 2

Quantitative and Open-Ended Questionnaire Items

<table>
<thead>
<tr>
<th>Quantitative Items</th>
<th>Response Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Technology use among youth over the last five years has increased dramatically.</td>
<td>1 = strongly disagree to 5 = strongly agree</td>
</tr>
<tr>
<td>-The digital divide between adolescents and adults makes it harder for youth workers to connect with program participants.</td>
<td></td>
</tr>
<tr>
<td>-I am a fairly competent user of technology.</td>
<td></td>
</tr>
<tr>
<td>-Practitioners should use technology to enhance their youth programs.</td>
<td></td>
</tr>
<tr>
<td>-In general, what type of impact do you believe technology (e.g., cell phones, Internet, etc.) has on today’s youth.</td>
<td>1 = very negative to 5 = mostly positive</td>
</tr>
<tr>
<td>-Does your organization have any policies related to how youth can use technology (e.g., cell phones, mp3 players, etc.) while participating in your programs?</td>
<td>0 = No and 1 = Yes</td>
</tr>
</tbody>
</table>

Open-Ended Items

-Please describe in as much detail as possible any effective and innovative uses of technology you have implemented in your programming.
-Please describe in as much detail as possible any effective and innovative uses of technology you have implemented in your marketing.
-What advice would you give to other practitioners regarding using technology to promote positive youth development?
-Does your organization have any policies related to how youth can use technology (e.g., cell phones, mp3 players, etc.) while participating in your programs? And if so, describe the policy and its impact and effectiveness.
-What trends in technology use among the youth in your program have you noticed?

**It’s important to stay current.** Even though 91% of respondents ($n = 94$) felt competent in their use of technology, 68% still felt the gap between practitioner and youth technological expertise made it more difficult to connect with youth. Apparently, respondents were using different benchmarks of technological competence for adults and youth. Although the majority indicated personal technological competence, many still expressed a sense of inadequacy compared to what youth could do with technology. At the same time, they expressed the importance of trying to keep up technologically: “Embrace it and constantly challenge yourself to stay current with what technology you use. MySpace is out, Facebook is slowly going out, and Twitter was popular last year.” Another respondent expressed the belief that the only way to attract and keep youth’s attention was through technology, “We must embrace the positive aspects of technology and use it to advance our programs and stay on the cutting edge in order to get the attention of the youth of today.” This feeling appears shared by the study’s population as 92% ($n = 94$) agreed with the statement, “practitioners should use technology to enhance their youth programs.”

**Negative implications of technology use.** While 73% ($n = 91$) felt that technology had “a mostly positive” or “very positive” impact on youth, 22% indicated technology was having a negative effect. Although the positive impact of technology was recognized, practitioners pointed out a number of potentially negative effects associated with the increasing use of technology. For example, one respondent noted personally witnessing connections between technology use and some extreme forms of adolescent deviance:

My experience working in a Title 1 Middle School involves mostly inappropriate use of electronic devices, such as bullying, spreading rumors, texting while in class (even while taking tests), planning gang activity (such as several people beating up a single person) and/or soliciting drugs.
The majority of respondents mentioned less extreme negative impacts of technology on youth with a specific emphasis around the perception that use of technology was impeding the development of face-to-face social skills.

Youth would rather text their friends than [have an] actual conversation. Social interaction, reading, public speaking, and so on, can be negatively impacted.

Many youth are totally preoccupied with their cell phones, Blackberries, etc. They seem to prefer texting over actually communicating in first person.

Everything is online, they communicate by text messaging or email because they don’t want to have to talk.

All of our kids text or get information from the internet. They seem to be much more social, but not necessarily when they are face to face. They would rather text than call or email than call.

To understand why and how practitioners are using technology in their youth development work, it is important to first understand their general perceptions regarding technology. Comments from this section indicate awareness among practitioners of technology’s increasingly salient role in the lives of youth and the need for adults who work with youth to intentionally remain digitally literate. At the same time, while noting positive aspects of technology use, practitioners noted some level of concern with how technology was affecting youth, especially in terms of social skill development.

**Practitioner Use of Technology**

While the majority of respondents indicated they were utilizing technology within their programs, the types of utilization varied widely. Results indicated the three primary uses of technology in ranked order of predominance were communication/information dissemination, educational enrichment, and specific program initiatives. The following sections will focus on both the why, how and efficacy of these efforts.

**Communication and information dissemination.** Part of the impetus for this type of technology use stemmed from perceived increases in organizational effectiveness through the use of online calendars, digital newsletters, video conferencing, electronic medical records and online needs assessments. Respondents noted that technology allowed

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**Table 3**

*Descriptive Statistics*

<table>
<thead>
<tr>
<th>Question</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technology trends</td>
<td>94</td>
<td>4.73</td>
<td>.67</td>
</tr>
<tr>
<td>2. The digital divide</td>
<td>94</td>
<td>3.46</td>
<td>1.03</td>
</tr>
<tr>
<td>3. Technology competency</td>
<td>94</td>
<td>4.23</td>
<td>.57</td>
</tr>
<tr>
<td>4. Technology implementation in programs</td>
<td>94</td>
<td>4.43</td>
<td>.57</td>
</tr>
<tr>
<td>5. Technology impacts</td>
<td>91</td>
<td>3.58</td>
<td>.92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>n</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Technology Policies</td>
<td>79</td>
<td>40</td>
<td>39</td>
</tr>
</tbody>
</table>
them to stay connected to and communicate with youth participants and other program stakeholders (e.g., parents, community leaders, etc.). On the other hand, technology adoption appears to be a reaction to cultural and behavioral changes among their target market. For example, one respondent noted, “communication with youth has changed. It is best to connect with them via text, email or pages like Facebook or Twitter.”

To address this change, a variety of digital communication strategies were employed with social media being chief among them. Commonly used social-media tools included Facebook, Twitter, and My Space. Other, lesser known, social media sites such as Ning and Edmodo were also used by practitioners. Ning allows users to create their own, private social media portal and Edmodo is a social media site designed specifically for students and educators. In addition to connecting with youth, these sites also allow donors and community leaders to stay updated with program news and events. Some respondents noted that to effectively utilize social media they had to look beyond their programs for external expertise. Several practitioners noted their organizations have recently hired people whose primary job function is to keep the organization present on various social media sites.

Most respondents who discussed the incorporation of social media efforts in their organization saw them as effective. They felt it allowed them to keep participants updated about current activities as well stay in touch with participants during the off-season. One practitioner indicated that “Facebook and MySpace make great marketing tools” and that the use of these has “increased program visibility and participation.” At the same time, the distinction between social media contact and face to face interactions was widely noted. Practitioners indicated the use of social media did not make up for quality face-to-face interactions. One practitioner stated using social media has made kids “seem much more social, but not necessarily when they are face to face” and that kids “would rather text than call or email.”

Educational enrichment. The second most common application of technology appeared to be for educational enrichment activities. Technology was most commonly reported to serve a supporting role in educational endeavors through methods such as homework assistance (e.g., computer games for math, spelling, etc.) and information gathering/research/sharing (e.g., online libraries, Google Scholar, etc.). Specific examples of technically mediated educational enrichment activities included:

- Games to improve educational skills: “The kids also use computers for the typical educational games. We use free typing programs to help the kids (and adults) improve their skills in that area as well.”
- Creative writing activities utilizing blogs and collaborative online writing forums.
- Access to computers so youth could work on their homework.

When technology was applied as an educational enrichment activity, practitioners often reported the facilitation of youth voice as an additional positive outcome. The technology activities provided youth opportunities to teach adult leaders and peers about various technology topics.

Specific programming initiatives. Practitioner respondents saw technology as a way to facilitate collaborative activities, youth voice, and the development of additional technology skill sets. Collaborative technologies such as Google Docs, a free online document sharing/collaboration utility, have allowed youth to work together on projects while meeting in different locations. For example one respondent noted a collaborative project facilitated in this manner between Future Farmers of American participants in Texas and Tennessee.

Technology was also seen as an ideal tool for promoting youth voice. The use of video cameras and blogs were among the more frequent technologically mediated youth voice activities as noted in the following examples:

Students want to have a voice and technology gives them this voice. They are very creative with video and writing via blogs.
The kids and teens use Flip video recorders to create videos and post on our blog to show people what they’re learning and doing.

Another mentioned activity was the use of GPS technology to help youth conduct community mapping initiatives. For example, one youth group used community mapping to assess the walkability of local neighborhoods as part of larger physical activity advocacy effort.

Although less frequently mentioned, some practitioners discussed specific program initiatives designed to help youth develop additional technology skills. The following quote provides an example of one such program:

We have a Digital Connectors program for 14- to 21-year-olds that engages them in web page design, online financial literacy and leadership programs, creating mobile apps, and becoming certified in Cisco IT Essentials.

While such efforts are laudable, the amount of technological expertise and resources required would make them difficult for many programs to replicate. Accordingly, most programs found simpler and more economical ways to incorporate technology in their programs including free online services like Google Docs and various blogging sites.

**Program Policies Surrounding the Use of Technology**

As noted in the section on practitioners’ perceptions of youth and technology, it appears that while practitioners noted the need to adopt technology in their programs and the potential positive benefits it can have for their participants, technology use still presents them with some difficulties. More than half of the respondents (n = 79) reported having a specific policy related to how youth could use technology within their programs. The main impetus for such policies, at least noted by this study’s respondents, stemmed from concerns about technology being a distraction to youth during programs and the presence of personal technology items as presenting opportunities for theft.

These policies related to both technology intentionally utilized within the program (e.g., computers, video/music equipment, etc.) and personal technology use (e.g., cell phones, iPods, etc.). Concerning personal technology usage, findings indicated that most programs abided by one of three general policies.

**Not permitted policy.** Participants are not permitted to use personal technology during program hours: “Cell phones and similar things that may cause distractions are NOT permitted anywhere that distraction may pose a safety hazard or any time it may result in sharing information to generate an unfair advantage to individuals using such technology.”

**Limited use policy.** Participants are permitted to use personal technology during rest periods or down time: “We allow cell phones at 4-H camp, but they can only be used during free time.”

**Privileged or conditional based policy.** Participants are permitted use throughout the program day as long as personal technology is used appropriately and according to program guidelines:

I also allow mp3 players as long as the kids agree to allow me or my staff to listen to their music at random. The same is for cell phones. The kids might not agree with the rules but are willing to compromise in order to have their little gadgets. They must also participate otherwise they lose their privileges to have their items in the [program].

Although most respondents noted their program had a technology policy, the majority indicated these policies were difficult or even impossible to enforce:
This [technology] policy has been rather difficult to enforce with both youth and staff.

We technically do not allow them [personal technology devices]…but that is impossible to enforce so we discourage the kids from bringing them.

In addition, findings suggested that programs are having difficulty not only enforcing technology polices but also in developing appropriate consequences for violating polices. Some programs are implementing monetary fines. One respondent reported: “If an item is picked up by a staff member, the youth must pay $25 to get it back at the end of the event and parents will be notified.”

This discussion related to technology policies highlights the multifaceted nature of incorporating technology in youth programs. On the one hand, it is a ubiquitous part of youth culture and one that can be used in innovative ways to promote a variety of positive youth development outcomes; but on the other hand, it presents practitioners with additional potential concerns.

**Discussion**

Results indicated that the topic of youth and technology is both pertinent and pressing for youth practitioners. There exists an awareness of ever-increasing youth involvement with technology and an uneasiness regarding the growing digital divide between youth participants and adult practitioners. As noted by Fisher and Baird (2006), technology has revolutionized the way we teach, learn, and retrieve information. Thus, there exists a corresponding expectation for practitioners to be media multitaskers, integrating technologies into activities, program preparation, and management (Fisher & Baird).

Results from this study indicate that many practitioners are not simply bemoaning this gap but are working to meet youth where they are by actively incorporating technology into their programs.

Over half of the study’s respondents affirmed they were using technology in their programs for specific reasons including communication, educational enrichment, and other program initiatives. Although communication (e.g., social media) represented the main way practitioners were using technology, some respondents reported more innovative efforts, including youth web design projects and GPS-enabled community mapping programs. Respondents also expressed the opinion that technology tools like flip cams and blogs provided excellent opportunities for the facilitation of youth voice.

Practitioners in this study also seemed very cognizant of the impacts, both positive and negative, of technology on youth. Most salient among the concerns expressed by practitioners in this study was the impact technology appeared to be having on adolescent face-to-face social skills. Some practitioners felt a need existed to use their programs to promote the development of face-to-face social skills to compensate for their youths’ overreliance on digitally mediated interactions.

Additionally, practitioners are facing decisions about how to best manage the use of technology among participants during program activities. While more than half of the respondents reported having an organizational technology policy, many expressed it was difficult to enforce. Although a number of practitioners indicated negative perceptions and or experiences with youth and technology, the policy discussion did not elicit responses related to commonly portrayed technology concerns such as cyber bullying, sexting, etc. While it is difficult to make conclusions regarding this aspect of the data, it could mean that these issues were not prevalent concerns for the study’s sample, or if they were happening, the adult leaders were not aware of their occurrence.

**Limitations**

The low response rate, small size, and self-selected nature of the sample present the study’s primary limitations. Accordingly, the authors make no claims regarding the
generalizability of these findings. Rather, the data represent exploratory insights from a group of practitioners who self-selected to share their opinions about youth and technology. The authors hope the insights gained in this study provide direction for future research in this area.

**Future Research**

The study provides an exploratory view of how youth practitioners are thinking about and reacting to the role of technology in development of today’s youth. Technology appears to be a topic that will only increase in salience for those who interact with youth. Future research is needed to both develop and assess the impact of technolog-assisted programming, and research is necessary to assess the most effective strategies for regulating undesired technology use by participants during programming. Further research should also address the increased technology use on social exchanges between youth and practitioners. Another point raised by respondents deserving of future research consideration, though tangential to this study’s focus, is the possibility of technology exacerbating pre-existing SES gaps. A number of practitioners noted that while the general perception is that all youth are part of the digital generation, many kids do not have the same amount of access to technology (e.g., cell phones, personal laptops, Internet access, etc.) as their peers: “[technology] has created a bigger divide with those youth that do not have access. Sometimes we forget about all those youth that don’t have access (could be due to location, financial reasons, etc.).”

**Conclusion**

Amidst the discussion of impacts, trends, and programmatic adoption of technology, it is important to remember that technology, like any other programmatic tool, is only effective so far as it is intentionally planned and implemented. The incorporation of technology in programming, simply to keep up does not guarantee a more positive experience for participants. Practitioners need to view technology as a tool rather than a necessity. Programs that are intentionally designed will be better situated to evaluate whether or not the incorporation of technology will help or hinder their ability to reach their pre-identified goals. While it is important to keep up it is more important to get where you intend to go.

**References**


The American Academy for Park and Recreation Administration, in keeping with one of its purposes – “to advance knowledge related to the administration of recreation and parks” – initiated a project to develop a library of interviews with top professionals in the field. The interviews, in addition to being of great historic value, contain many ideas on agency administration, working with board members, staff relations, organizational development, and creative management. The interviews record personal background, professional insights, advice and philosophical beliefs. Each tape is approximately 45 minutes in length and is available in VHS or DVD format. Interviews are available for purchase for $15 each with a $5 shipping/handling fee. For more information, please contact Andee Chestnut at (217) 586-3360 or info@aapra.org.

Tape Inventory
January, 2011

Jane Adams
Horace Albright
Edith Ball
Joseph Bannon
William Bird
James Brademas
Herbert Brantley
Roger K. Brown
Frances Cannon
Reynold Carlson
Joseph Caverly
James Colley
Alice Conkey
Robert W. Crawford
John Crompton
Ralph S. Cryder
Joseph E. Curtis
John H. Davis
Patricia Delaney
Theodore Deppe
Pauline des Granges
Russell Dickenson
Ronald H. Dodd
Charles E. Doell
Terry Dopson
Joe Doud
Newton Drury
Garrett Eppley
Robert D. Espeseth
David Fisher
Ted Flickinger
Robert Frazer
Bill Frederickson
Ray Freeman
Clifton E. French
Geoffrey Godbey
David E. Gray
Mary E. Grogan
Robert J. Hall
Pat Harden
Charles E. Hartsoe
Donald Henkel
John P. Hewitt
Thomas I. Hines
Ford W. Hughes
Ira J. Hutchison
Chris Jarvi
Walter C. Johnson
Donald Jolley
Charles Jordan
O-Joong Kim
Ray L. Kisiah
Ed Koenemann
Kathryn Krieg
David O. Laidlaw
Darrell Lewis
Janet MacLean
Olga Madar
Fran Mainella
John McGovern
Joel Meier
Tony A. Mobley
William Penn Mott, Jr.
Jean Mundy
Ernest Nance
Pat O’Brien
Charles H. Odegaard
Joseph O’Neill
Ellen O’Sullivan
Rhodell Owens
James A. Peterson
Michael S. “Mick” Pope
John C. Potts
Joseph Prendergast
Max Ramsey
Bob Robertson
James Ruth
H. Douglas Sessoms
Graham Skea
Kenneth J. Smithee
Robert Stanton
James S. Stevens, Jr.
Willard C. Sutherland
R. Dean Tice
Robert F. Toalson
Richard Trudeau
James J. Truncer
Joseph J. Truncer
Louis F. Twardzik
Stewart Udall
Betty van der Smissen
Frank Vaydik
Nathaniel Washington
Sandra Whitmore
Ken Winslade
Conrad Wirth
Eugene Young
Charles Hartsoe,
Robert Toalson and Douglas Sessons on the merger of organizations to form the NRPA

Fran Mainella, Chris Jarvi, and Bill Walters on the National Park Service
GUIDELINES FOR CONTRIBUTORS TO THE JOURNAL OF PARK AND RECREATION ADMINISTRATION

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