# Self-Serving Bias in Visitors' Perceptions of the Impacts of Tourism

Christine M. Van Winkle University of Manitoba Kelly J. MacKay University of Manitoba

This study explores tourism destination impacts through the unique lens of visitors' perceptions of their contributions to impacts. Self-serving bias of attributions was used as the theoretical framework to examine how campers in the Canadian Rocky Mountain National Parks perceived the impacts of their own behavior on the destination. In total 241 campers completed self-administered questionnaires that assessed common tourism impacts, camping experience, and socio-demographic characteristics. Results of factor analysis indicated three dimensions of impacts: immediate; gradual; and economic. Findings suggested that while visitors recognized their immediate and economic impacts on the destination, their contribution to gradual impacts depended upon an interaction between camping experiences and destination experience. The temporal nature of impacts, coupled with the interaction effect support self-serving bias as a useful framework to explain how visitors perceive their own impacts at a vacation destination. Implications for persuasive communication are discussed.

KEYWORDS: Self-serving bias, tourism impacts, past experience.

# Introduction

The implications of tourism activity at a destination have been a topic of study for decades (Ap, 1992; Butler, 1974; Dogan, 1989; Hammitt & Cole; 1998, Pearce, 1989). Through such research, the positive and negative impacts of tourism across environmental, socio-cultural, and economic domains have been well documented (Allen, Patrick, Perdue, & Kelselback 1988; Farrell, Hall, & White, 2001; Ibitayo & Virden, 1996; Mathieson & Wall, 1982; Roggenbuck, Williams, & Watson, 1993), and frequently derived from residents' perceptions (Ap, 1990; Lankford & Howard, 1994; Liu, Sheldon, & Var, 1987; Purdue, Long, & Allen, 1987; Sheldon & Var, 1984). Research examining visitors' perceptions of the impacts of tourism has been limited but is growing. Existing studies have typically examined the type of impacts

Address correspondence to: Christine M. Van Winkle, Health, Leisure & Human Performance Research Institute, Faculty of Kinesiology and Recreation Management, 307 Max Bell Centre, University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

Author note: Christine M. Van Winkle is an Assistant Professor at The University of Manitoba; Kelly J. MacKay is a Professor at the University of Manitoba and holds a joint appointment with Parks Canada Social Science Unit Western & Northern Service Centre.

This study was undertaken as a component of Christine Van Winkle's Masters Degree Thesis. The authors wish to thanks Parks Canada for sharing their expertise with the authors and supporting this project.

perceived by visitors and the effect the impact has on visitors' experiences (Farrell et al.; Hillery, Nancarrow, Griffin, & Syme, 2001; MacKay & Campbell, 2004; Priskin, 2003). Unfortunately, there is virtually no research that considers how visitors perceive their own contribution to the impacts that result from tourism (Alessa, Bennett, & Klinsky, 2003). While examining factors that affect depreciative behaviors in coastal areas, Alessa et al. found that personal attribution of depreciative behavior had a significant effect on actual depreciative behavior. Specifically, the more visitors attributed depreciative behavior to themselves the fewer depreciative behaviors they exhibited. These results suggest that research examining visitors' attribution of impacts is an essential perspective needed to understand visitor behavior and to inform decisions about managing visitors and their related impacts.

The broad purpose of this research was to explore visitors' perceptions of their contribution to impacts, both positive and negative, at a destination. Specifically, the relationship between past experience and visitors' perceptions of their contribution to impacts was investigated. While past experience is not the only factor that affects perceptions, individuals who have similar levels of past experience in the same recreational environments often share similar perceptions about the natural environment (Ibitayo & Virden, 1996; Schreyer, Lime & Williams, 1984). It is therefore reasonable to suspect that a relationship exists between past experience and visitors' perceptions of tourism impacts, including their own, at a destination. Self-serving bias theory served as the theoretical framework to guide this research about perceptions of one's own behavior. Self-serving bias, although not previously applied to tourism settings, is a valuable framework for understanding individuals' perceptions of their behavior. This attribution theory explains to whom or what individuals will attribute outcomes for their actions. According to the theory, biases about one's behavior are not only affected by the need to present oneself in a positive manner but also to protect and enhance one's self-esteem. Specifically, positive outcomes are generally credited to internal causes while negative outcomes are attributed to external forces (Arkin, Appelman, & Burger, 1980; Bradley, 1978; Myers, 1990; Tetlock, 1981).

#### **Tourism Impact Research**

The issue of tourism impacts made the transition from an economic perspective in the 1960s to a more holistic view in the 1980s, when it was recognized that all impacts, whether economic, socio-cultural or environmental, positive or negative, should be taken into consideration (Pearce, 1989; Xiao & Smith, 2006). Much of the tourism research to date that has explored people's perceptions of impacts has focused on residents' perceptions (Andereck, Valentine, Knopf, & Vogt, 2006; Gursoy & Rutherford, 2005; Jurowski, Uysal, & Williams, 1997; Lankford & Howard, 1994). This research has been useful to gain a thorough understanding of the various socio-cultural, environmental, and economic impacts related to tourism.

### Socio-Cultural Impacts

Survey research and case studies at one or multiple destinations have been common methods used to demonstrate the socio-cultural changes that can occur as a result of tourism (Andereck & Vogt, 2000; King, Pizam, & Milman, 1993; Snepenger & Reiman, 1998). Uncertainty exists regarding the socio-cultural impacts that directly result from tourism because there have not been experimental studies to link cause and effect; however, there appears to be general consensus among researchers that certain socio-cultural impacts are consistently associated with tourism development (Cohen, 1979; Hailey, Snaith, & Miller, 2005). These socio-cultural impacts result from two main sources: visitor interaction with residents and the destination, and the development of infrastructure (Keogh, 1989). The type and amount of impact can vary greatly depending on the characteristics of the destination and characteristics of the visitor (Butler, 1974; Mason, 2003).

Research regarding visitors' perceptions of socio-cultural impacts of tourism has frequently focused on perceptions of crowding in parks and outdoor recreation areas. This line of research identifies crowding as a negative and subjective evaluation of use level (Manning, Valliere, Minteer, Wang, & Jacobi, 2000). Visitors' perceptions of crowding are subject to demographic differences between individuals, the activities being pursued, the setting, and past experience (Manning et al.), with users who are more experienced at a site and in an activity being more sensitive to crowding (Manning, 1985). Vaske, Donnelly, & Heberlein (1980) reasoned that past experience at the destination affected what visitors expected at the destination during subsequent visits. Research examining specific social impacts that occur at campgrounds reveals that while crowding is of notable concern, noise and conflicting recreational use can also affect visitors' experiences (Farrell & Marion, 2000).

### Environmental Impacts

Research has demonstrated that often the environmental impacts of tourism create the most concern among local residents (Liu et al., 1987). Visitation to natural areas can result in negative impacts to wildlife, soil, vegetation, and water (Hammitt & Cole, 1998). Tourism and recreational activities can result in both direct and indirect impacts on the wildlife of a natural area (Mathieson & Wall, 1982; Pearce, 1989). Direct impacts from camping include disturbance, human interaction and harassment, whereas indirect impacts are a result of habitat destruction and other environmental damage caused by recreational use (Mathieson & Wall; Pearce). Camping results in numerous direct effects on soil, including compaction and erosion. Indirect impacts from camping include ground cover loss from trampling or removal which, in time, affects the quantity of organic matter in the soil (Hammitt & Cole; Sharpe, Odegaard & Sharpe, 1994). Campsites are prone to vegetation damage and destruction from trampling and removal which

can affect trees, ground cover and shrubs (Cole, 1985). Vegetation can be affected indirectly by soil changes. Changes to water conditions can occur through direct contamination by sewage; furthermore water quality can be compromised by the indirect effects of soil erosion (Hammitt & Cole).

The impacts visitors have on an environment are affected by numerous factors including characteristics of the visitors and the natural area (Hammitt & Cole, 1998). For example, Hammitt and Cole found that canoeists tended to be more destination oriented, spent more time in camp, and carried more equipment and non-burnable materials than backpackers, resulting in an increased source of potential litter. Party size is another visitor factor related to environmental impact. For example, larger parties tend to contribute to the expansion of campsite boundaries and clear areas for additional equipment and space, hence potentially increasing the rate at which impacts occur (Hammitt & Cole).

Characteristics of the natural environment vary among destinations and will play a role in determining the amount and type of environmental impact inflicted on a particular area. Sensitive areas may become degraded with low levels of use requiring an increase in use re-distribution, while impact resistant areas may allow for higher density (Cole, 2000; Hammitt & Cole, 1998). Understanding the environmental impacts of tourism is critical, considering that the success of tourism is often dependent on sensitive environments (Cole, 2006).

#### Economic Impacts

Tourism often is considered an economic development strategy, as it can increase spending in an area; however, it also places additional demand on services required. The economic impact of tourism results from the balance of these costs and benefits (Pearce, 1989). Studies investigating the economic impact of tourism have concentrated primarily upon the impact of visitor expenditures, the multiplier effect of expenditures, and the employment that is generated as a result of tourism (Butler, 1974; Mason, 2003). A study investigating the economic impact of camping demonstrated that camping contributes to the economy by generating employment opportunities, inducing visitor spending and generating funds for recreational facilities (American Camping Association, 1984).

#### Past Experience and Perception of Impacts

Past experience and familiarity with a destination have been identified as factors that affect visitors' place image and how they perceive the environment (MacKay & Fesenmaier, 1997). Furthermore, when examining how visitors perceive impacts, past experience has been a useful variable in understanding differences in perceptions (Hammitt & McDonald, 1983; Ibitayo & Virden, 1996). Evidence from the outdoor recreation literature suggests

that frequency of visitation leads to differing perceptions of impacts (Hammitt & McDonald; Ibitavo & Virden). For example, using an experience index Hammitt and McDonald examined the amount of on site experience to measure exposure to and familiarity with a resource. They reasoned that experience might determine how individuals evaluate a recreational resource. Their study confirmed that level of past experience and perception of disturbances to the river environment were positively related. Experienced users also had a greater need to control adverse impacts of recreational use. Schreyer et al. (1984) also investigated the relationship between past experience and recreational behavior. They found that present situations are interpreted by visitors in reference to previous experience, such that novices were least likely to perceive environmental impacts, while veterans were most likely. In contrast, Knudson and Curry (1981), using a singular measure of experience, did not find a significant difference in perceptions of damage to natural areas between first-time campers and repeat campers. Experience level also has been related to perception of crowding, that is, users who are more experienced at a site and in an activity are more sensitive to crowding (Hillery et al., 2001; Manning, 1985). Manning also noted that this was true regardless of how experience is measured.

### Visitors' Attribution of Impacts

While residents' and visitors' perspectives of social, environmental and economic impacts explored in past research have been valuable, little attention has been paid to visitors' attribution of these impacts. Recently, Alessa et al. (2003) examined the relationship between visitors' personal attribution for depreciative behavior and observed behavior when pursuing nature-based activities in a coastal environment. This study revealed that recreationists recognize the damaging effect of the activities in which they participate. Specifically, a significant inverse relationship between attribution and amount of depreciative behavior was found such that visitors who indicated lower personal attribution engaged in more depreciative behaviors. Furthermore, the authors concluded that attribution played a more significant role in depreciative behavior than did knowledge (Alessa et al.). While this research provided valuable insight into visitors' perceptions of their contribution to depreciative behavior it did not address visitor attributions for both positive and negative outcomes of their visit and how attributions might differ based on the specific type of impact or visitor's experience level.

The following research questions were designed to further understanding of visitors' perceptions of their contribution to impacts while visiting a destination:

- 1) How do visitors perceive their own impacts (both positive and negative) at a destination?
- 2) How is past experience in an activity at a particular destination related to visitors' perceptions of their own impacts?

## Theoretical Framework

When attempting to understand how visitors perceive their own impacts on a destination, specific information is needed about how people perceive themselves and their behavior (Alessa et al., 2003). Attribution theory addresses how people arrive at an explanation for both positive and negative behavior in others and themselves (Fishbein & Ajzen, 1975; Tetlock, 1981). Various factors that affect causal attributions have been identified, including biases in attribution. For the purpose of this study, the self-serving bias of attributions provides a framework to explore how people might perceive their own impacts.

The basic premise of the self-serving bias is that people tend to accept recognition for praiseworthy behavior and attribute those successes to internal causes, but deny responsibility for blameworthy behavior and attribute those failures to external forces (Arkin, Appelman & Burger, 1980; Bradley, 1978; Myers, 1990; Tetlock, 1981). Myers presented three general explanations for the self-serving bias. First, individuals are motivated to protect and enhance their self-esteem. Second, individuals like to present a good image to external audiences. Finally, self-serving biases are a by-product of the way individuals process and remember information about themselves. Research in this area has found self-serving biases to exist in a variety of situations including; teachers' explanations of students' successes and failures, individuals' beliefs about their own health, and explanations for one's own task achievement (Arkin et al.; Bradley; Dunn, 1989; Larwood, 1978; Miller & Ross, 1975).

Miller and Ross (1975) have questioned whether self-serving bias is motivated by a need to protect and enhance self-esteem. Rather, they proposed that these biases reflect logical inferences in that "people are more likely to accept responsibility of expected outcomes than for unexpected outcomes and, in general, people intend and expect success not failure" (p. 223). In part, this contention was based on research that revealed situations where people exaggerated responsibility for poor performance or behavior, producing the reverse outcome of what would be anticipated if self-serving biases existed. Also, Miller and Ross noted that in studies investigating attribution of success and failure in situations where others were involved (i.e., cooperative and competitive games), people were not more likely to attribute failure to the other participant as one might expect, considering the selfenhancement aspect of the self-serving bias. Bradley (1978) addressed this criticism through an expansion of her initial explanation of the self-serving bias. To enhance and preserve self-esteem, it is sometimes necessary to accept responsibility for poor performance or behavior. In certain situations "the potential for present or future invalidation of individuals' self-presentation tends to make them more modest about their own abilities and attributes" (Bradley, 1978, p. 66), therefore individuals may accept responsibility for undesirable behavior.

Tetlock (1981) supported the self-presentation motive and found that subjects' public attributions for their own behavior were more flattering than their anonymous attributions suggesting self-presentation motive for selfserving biases. Although individuals are likely to see themselves as good or better than others, this is particularly true in situations that are open to interpretation and that are less easily verified (Myers, 1990). However, if verifiable (as in the case of the examples provided by Miller and Ross) people may not deny their contribution for failure, because they risk being exposed and therefore accepting responsibility for failure enhances self-presentation and protects their self-esteem. A study conducted by Arkin et al. (1980) demonstrated that regardless of their level of social anxiety, people presented themselves in a more favorable light when little public scrutiny of their actual results was anticipated; however, when public scrutiny was present, highly socially anxious individuals were more modest about their outcome assuming more personal responsibility. This supports Bradley's defense of the selfesteem motive behind the self-serving bias.

The present study examined how visitors perceive their own contribution to impacts, both positive and negative, at a vacation destination. Selfserving bias research provides insight into how visitors might perceive their own contributions and therefore was employed to better understand visitors' attributions.

#### Method

The Canadian Rocky Mountain National Parks were selected as the macro destination of interest. The area is a major Canadian tourist destination that attracts over nine million visitors annually (Parks Canada, 2002). Campgrounds were selected as the microdestination under study because they offered a discernible area with a large number of visitors participating in a common activity at the destination. Data collection took place at three different campgrounds during a one-week period in August 2001. Mosquito Creek, Kicking Horse, and Redstreak campgrounds are located in Banff, Yoho, and Kootenay National Parks, respectively and represent unserviced, semi-serviced, and fully-serviced campground types.

A cluster sample of all camping parties registered in the three campgrounds during that time period was taken. Cluster sampling involves random sampling in stages where cases are only drawn from sampled clusters (Singleton & Straits, 1999). Typically, clusters are made up of natural occuring groups (e.g. campsites) (Singleton & Straits). At each campground campsites were randomly selected by choosing every third campsite. Individuals at campsites were then randomly selected by asking that the adult camper with the next birthday complete the questionnaire. A self-administered questionnaire was delivered in person to campers at their campsites. Participants were informed that the researcher would return within a few hours to pick up the questionnaire and would give them a gift of tea for their participation.

The questionnaire was designed to obtain information about visitor demographics, past experience with camping in general, and camping specifically at the destination, as well as perceptions of impacts from their visit to the park. Past experience was measured using two experience indices. The first measured experience camping and the second measured experience at the destination. An equation based on Hammitt and McDonald (1983) was used to create the two indices. Their measure included experience in an activity, frequency per year participating in the activity, experience in the activity at the site and frequency per year participating in the activity at the site. Since length of stay can vary significantly among campers, this item was incorporated into the indices for this study. Past experience camping was measured using a series of open-ended questions (see Table 1).

Prior to responding to questions about their own contributions to specific destination impacts, visitors were asked to write down any impacts (positive or negative) they believe resulted from camping at their campground. This open-ended question was intended to provide the researchers with insight into the impacts of which campers were aware.

A seven-point Likert-type scale was used to measure visitors' perceptions of their impacts. Since the present study was the first attempt to examine visitors' attribution biases in a camping setting, the question format used to measure attribution biases in other fields was used as a guide (Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995; Klein, 2001; Neir, 2004; Pahl & Eiser, 2005). In other fields researchers typically have asked participants to compare their performance, traits or behavior to the performance, traits or behavior of their peers (Klein; Neir; Pahl & Eiser). For example Alicke et al. examined attribution biases among college undergraduates. The measure asked students to compare themselves to the average college student on various personality traits. Responses ranged from 0 (*much less than the average* 

	Percent of Respondents		
Variable	Low	Medium	High
"In total, how many years have you gone on a camping trip"	19.4	66.3	14.3
"On average, how many times per year do you usually go camping?"	58.2	30.0	11.8
"On average, how many nights do you usually stay when you are camping?"	48.1	41.4	10.5
Average % (Activity Experience)	29.1	57.4	13.5
"In total, how many years have you gone on a camping trip at this campground?"	77.5	16.3	6.2
"On average, how many times per year do you usually go camping at this campground?"	62.4	31.8	5.8
"On average, how many nights do you usually stay when you are camping at this campground?"	61.8	21.5	12.3
Average % (Destination Experience)	62.7	21.3	16.0

TABLE 1 Number of Respondents Within Each Experience Category

college student) to 9 (much more than the average college student). In the present study campers were asked "Compared to the average camper, please indicate how likely you think your visiting the campground will affect the conditions listed below". Scale anchors were 1 (*extremely likely decrease*) through 7 (*extremely likely increase*), with 4 representing no impact. This question gave visitors a point of reference (compared to the average camper); it allowed them to indicate whether they felt they had an impact, and the direction of that impact (increase or decrease the condition).

The tourism impact items (conditions) included on the questionnaire were selected based on environmental, economic, and socio-cultural dimensions generated from a review of the impact literature (Clark, Hendee, & Campbell, 1971; Farrell, Hall, & White, 2001; Hammit & McDonald, 1983; Ibitayo & Virden, 1996; Keogh, 1989; Knudson & Curry, 1981; Manning, 1985; Mathieson & Wall, 1982; Pigram & Jenkins, 1999; White, Hall & Farrell, 2001). Furthermore, discussions with Parks Canada staff allowed the researchers to select impact items that were relevant to the selected campgrounds. Finally the questionnaire was pre-tested with campers at Riding Mountain National Park to ensure the instrument was clear and comprehensive. Campers were asked to comment on the impact items included and list any additional items. In total, 13 impact items were included. These items were; water quality, amount of waste/garbage, benefits to native wildlife, campfire smoke in the air, quality of the natural environment, the quality of native vegetation, crowding, noise levels, growth of the local economy, level of traffic, employment opportunities, condition of roads, and quality of other campers' experiences.

### Results

In total 246 surveys were distributed at the three selected campgrounds. Five individuals refused to participate because they did not read English fluently, resulting in 241 completed questionnaires and a 98% response rate. Responses were quite evenly distributed across the three campsites with 83 returned from Mosquito Creek, 79 from Kicking Horse and 77 from Red-streak.

In terms of demographic characteristics, the majority of respondents were between 35 and 64 years old (68%) and from Canada (62%). Approximately half of the respondents were female (49%). Respondents were well educated; the majority had either University or post-graduate degrees (55%). Almost three-quarters of respondents (71%) had an annual household income above \$50,000 Canadian.

With respect to camper characteristics, campers had already been camping at this campground during this trip on average for 2 nights and were planning to camp for a total of 5 nights. Tents were the most frequently used shelter type (42%) followed by trailer or camper (41%). The average group size was three campers with the most common camping party size consisting of two people. Overall, group size ranged from individuals camping alone to as many as 11 people. Most campers were staying in the campsite type they preferred (86.4%). The majority of visitors (62%) were at the campgrounds for the first time.

### Perceptions of Impacts

When asked to list impacts that result from campers staying at the destination, most respondents were able to identify at least one impact (81%). They noted both negative and positive impacts that resulted from visitation as well as impacts from economic, environmental and social domains. Disturbing wildlife was the most frequently cited impact (68% of those who stated an impact indicated wildlife). Other commonly identified impacts included waste/litter (39%) and disturbing vegetation (27%). Among the more distinctive impacts listed were multicultural experience, human injuries, and lack of recycling.

When visitors were asked to rate their contribution to impacts, compared to the average camper, the mean scores were within the 'no impact' range for seven of the 13 impact items: water quality, noise level, condition of native wildlife, condition of roads, quality of the natural environment, quality of the native vegetation, and quality of other campers' experiences (see Table 2). Mean scores for crowding, amount of waste, growth of the

			SD	95% Confidence Interval	
Impact Item	Mode	Mean		Lower Bound	Upper Bound
Water quality	4	3.66	0.91	3.53	3.77
Crowding	5	4.59	1.17	4.42	4.73
Noise levels	4	4.32	1.32	4.13	4.49
Amount of waste/garbage	5	4.46	1.34	4.26	4.62
Growth of local economy	5	4.98	1.15	4.8	5.11
Benefits to native wildlife	4	3.57	1.12	3.39	3.68
Level of traffic	5	4.89	1.2	4.74	5.05
Employment opportunity	5	4.8	1.01	4.65	4.92
Campfire smoke in the air	4	4.61	1.43	4.4	4.77
Condition of roads	4	4.03	1.15	3.87	4.17
Quality of the natural environment	4	3.79	1.27	3.63	3.96
Quality of native vegetation	4	3.72	1.18	3.58	3.89
Quality of other campers' experiences	4	4.29	0.89	4.18	4.41

 TABLE 2

 Visitors' Perception of the Effect of their Visit on the 13 Impact Conditions

Note: Responses were based on a 7 point scale (1 = extremely likely decrease, 4 = no impact, 7 = extremely likely increase).

local economy, employment opportunities, level of traffic and amount of campfire smoke in the air were within the slightly likely to increase range.

Since visitors were camping at three different campgrounds (fullyserviced, semi-serviced and unserviced) an analysis of variance was used to determine whether differences existed between visitors' perceptions of their contribution to impacts based on the type of campground where they were staying. A significant difference was found between the perceptions of campers at the fully-serviced campground and the other two campground types for the economic and employment impact items (see Table 3). Results revealed that while campers from all three campgrounds felt that employment and economic growth would increase as a result of their visit, fully-serviced campground campers indicated a slightly higher increase as a result of their visit than the campers at the other two campgrounds.

Exploratory factor analysis reduced the 13 impact items to three factors. These factors had eigenvalues greater than 1 and explained 60% of the total variance (see Table 4). Factors appeared to be differentiated by time and human use. The first factor included impact items that occur instantly and are clearly attributable to human use (i.e., noise, waste, crowding, traffic, and campfire smoke). The second factor was comprised of impacts that occur gradually and may be less directly attributable to human use (i.e., vegetation, wildlife, water, the natural environment, other campers, and roads). The final factor included items that occur gradually and are more clearly attributed to human use; these were employment and impacts on the economy. Cronbach's alpha reliability coefficient was .82 for factor one, .77 for factor two and .73 for factor three, suggesting good internal consistency

Impact Item		Sum of Squares	df	Mean Square	F	Sig.
Economy impact	Between Groups	37.854	2	18.927	16.208	.001
	Within Groups	272.078	233	1.168		
	Total	309.932	235			
Employment impact	Between Groups	14.871	2	7.436	7.640	.001
	Within Groups	226.768	233	.973		
	Total	241.640	235			

TABLE 3

ANOVA: The Effect of Campground on Perceptions of Economic Impact and Employment Impact

Economy R Squared = .122 (Adjusted R Squared = .115)

Employment R Squared = .062 (Adjusted R Squared = .053)

Impact Factor	Factor Loading	Eigenvalue	Variance Explained	Alpha
(Factor 1) Immediate		4.07	31.32	.82
Noise	.852			
Waste	.768			
Crowding	.764			
Traffic	.599			
Campfire smoke	.497			
(Factor 2) Gradual		2.56	19.67	.77
Environment	.864			
Vegetation	.823			
Campers	.668			
Wildlife	.586			
Water	.520			
Roads	.454			
(Factor 3) Economic		1.11	8.50	.72
Employment	.807			
Economy	.705			

TABLE 4 Impact Factors

(George & Mallery, 2000). Summated means for these factors revealed that according to visitors' perceptions of their own contribution to impacts, immediate impacts were *slightly likely to increase* (M = 4.58), gradual impacts were neutral (M = 3.85) and economic impacts were *slightly likely to increase* (M = 4.89).

### Past Experience

Before the relationship between past experience and perceptions of impacts could be examined two experience indices were created: a camping experience index and a destination experience index. Following Hammitt and McDonald (1983) the camping experience index used the following data: number of years the respondents had gone on a camping trip, average number of trips per year, and average nights stay per trip. Based on frequency distributions for each of these three items, individual cases were categorized as low (1), medium (2), or high (3) for each variable. The score (1, 2 or 3) for each variable was multiplied to create the activity experience index. For example, a visitor who had a high number of years camping (3), goes on a high number of trips in a year (3) and camps for a low number of nights (1) would produce the following equation  $3 \times 3 \times 1 = 9$ . This resulted in each individual receiving a composite camping experience score ranging from 1 through 27. Next, these composite scores were divided into the three camping experience categories (low = 1, medium = 2, and high = 3). To determine which respondents were within the low camping experience category, the percent of respondents within low years camping

(19.4%), low trips per year (58.2%) and low nights per trip (48.1%) was averaged (see column 1 Table 1). This average percentage (29%) was used to determine respondents to be included in the low camping experience category. Specifically, the 29% of respondents scoring the lowest composite score for camping experience were assigned to the low category for overall camping experience. This same procedure was followed to determine the percent of respondents to be included in the medium and high categories. This entire procedure was repeated for destination experience (campground), except in this case the variables used were years camping at the campground, trips per year to the campground, and nights per trip at the campground. In total, two indices (ranging from 1-3) were created. Results of the experience indices were correlated with respondents' self-rated level of experience to confirm that the index reflected how visitors perceived their own experience level.

In order to understand the relationship between past experience and campers' perceptions of their impacts a two-way analysis of covariance (ANCOVA) was conducted for each of the dependent variables; immediate impacts, gradual impacts, and economic impacts. Variables selected as covariates were based on the results of correlations with the dependent variables. Variables that significantly ( $p \le .05$ ) correlated with the dependent variables included education, party size, number of nights camping at this site during this trip. Although age did not correlate significantly with any of the dependent variables it was still included as a covariate because intuitively experience level is related to age.

Analysis of covariance results revealed no interaction or main effects between the types of experience and visitors' perceptions of immediate impacts (i.e., noise, waste, crowding, traffic, and campfire smoke). The same was true for visitors' perceptions of economic impacts (i.e. economic growth, and employment opportunities). Again, ANCOVA results revealed no main effects between experience types and gradual impacts (i.e., environment, vegetation, campers, wildlife, water and roads); however, there was an interaction effect between the types of experience and campers' perceptions of gradual impacts (F = .929, p = .042). The results revealed that visitors' perceptions of their contribution to gradual impacts depend on an interaction between their level of camping experience and their level of destination experience (see Table 5). Specifically campers with a combination of low camping experience and moderate destination experience or high camping experience and high destination experience perceived that the gradual impact factor was likely to decrease as a result of their visit. Campers with other combinations of low, medium and high camping and destination experience indicated that they did not have an impact compared to the average camper.

### Discussion

Prior to examining visitors' perceptions of their contribution to impacts, visitors were asked to indicate impacts resulting from campers visiting the destination. This open-ended question provided insight into the impacts that

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.631	8	.829	1.424	.188
Intercept	1393.714	1	1393.714	2393.687	.001
Activity Exp	.568	2	.284	.488	.615
Destination Exp	.493	2	.246	.423	.656
AE * DE	5.891	4	1.473	2.529	.042
Error	124.018	213	.582		
Total	3435.119	222			
Corrected Total	130.649	221			

 TABLE 5

 ANOVA: The Effect of Past Experience on Perceptions of the Gradual Impact Factor

R Squared = .051 (Adjusted R Squared = .015)

visitors think exist at the destination. Most respondents were able to identify at least one impact (81%), indicating that they are aware that camping contributes to changes in the destination. Most respondents who identified an impact indicated disturbing wildlife (68%). The next most commonly identified impact was waste or litter (39%). The literature that has explored the impacts perceived by campers has generally found that campers tend to identify impacts that are obviously a result of human use (Farrell et al., 2001; MacKay & Campbell, 2004). This is consistent with the high number of individuals who listed waste or litter as an impact, but would appear to conflict with the result that most campers identified wildlife. Interestingly, at the time of the study there were a variety of educational public relations materials made available to visitors about how to minimize their impacts on wildlife, which could explain their heightened awareness of this issue. One component of the message conveyed to visitors was to avoid leaving garbage where it could be accessed by animals. This could also explain the frequency of litter and waste as a listed impact.

The three underlying impact dimensions (immediate, gradual and economic) found in this study differ from the traditional impact classifications of social, environmental, and economic found in past impact research using residents as subjects (Liu et al., 1987). In addition, the dimensions found here are not consistent with dimensions revealed in a study that investigated how impacts affect visitors' experiences in a park; they included site/sound impacts (environmental), people encounters (social), wild animals and horse encounters (Roggenbuck et al., 1993). Possibly the factors found in the present study were simply a function of the impact items included in the scale; alternatively it is possible that campers perceive how they impact the destination differently than how the impacts affect their experience at the site. This highlights the importance of looking at visitors' perceptions from multiple perspectives when conducting research and developing communication material. Also, residents and campers may conceptualize impacts differently. When reflecting on their own behavior, campers' ability to see the result of their actions (immediate vs. gradual) and to attribute it to themselves (directly resulting from human use) may hold greater meaning than the traditional concept of social, environmental and economic dimensions of impacts derived from resident perception research. This suggests that when conducting research or developing communication material to deal with impacts of visitation different strategies are needed for residents and visitors since they might distinguish the types of impacts differently.

The findings reported here also suggest campers believe that immediate and economic impacts are likely to increase as a result of their visit, whereas they think they have no impact on the gradual impact items. Farrell et al. (2001) suggested that it is easier for visitors to recognize impacts that obviously and intentionally result from human use. It is reasonable to conclude that campers are able to recognize their contribution to immediate impacts because they occur right away and they are easily attributable to their own behavior. As well, economic impacts are easily attributable to human use and therefore campers perceive that their camping affects those conditions. Meanwhile, gradual impacts occur over time and therefore visitors are not likely to see the result of their own impact unless they return to the destination. Furthermore, gradual impacts are not easily directly attributable to human use. Many factors may produce changes in these gradual impact items and visitors may not take responsibility for their role in those changes; therefore, park managers may need to focus visitors' attention to how their behavior can affect the park over time and offer visitors appropriate behavioral alternatives that will allow them to minimize their negative impact while enjoying their camping experience.

Farrell et al. (2001) pointed out that for impacts to affect campers' evaluations of campsites they first must be perceived. The findings presented here suggest that visitors must first witness camping impacts before they attribute impacts to their own behavior; therefore, repeated destination experience (visitors with moderate or high destination experience) may be required for visitors to gain awareness of impacts that occur gradually. This is because only when they see differences in the conditions at the destination will they attribute those conditions to camping. Activity (camping) experience may affect the way visitors feel they contribute to those impacts when they do perceive them. This would account for those individuals with little experience at the destination who do not perceive gradual impacts regardless of their overall camping experience because they have not seen the changes at the specific destination. Those campers who have experience at the destination and therefore are aware that camping can result in changes to the destination will perceive those impacts differently based on their overall activity experience. Furthermore, it is possible that inexperienced campers may feel that they do not know how to prevent their impacts so any amount of camping affects the destination, whereas moderately experienced campers may think that they know how to minimize their own impacts and highly experienced campers may feel that they camp so often that they inevitably impact the destination. These results suggest a need for carefully developed educational and communication material targeted to specific visitor groups based on their level of experience camping and experience at the specific destination. While this strategy could be costly, it might be necessary for destinations that struggle with the negative consequences of camping in a natural area.

The interpretation of the results provided above would certainly explain the outcome of the two-way analysis of covariance; however, it does not explain why visitors with moderate destination experience and low camping experience perceive impacts differently than those with high destination experience and low camping experience. The date of the respondents' first visit was not included as a variable in this study but could help to better understand the relationship between past experience and visitors' perceptions of impacts (Vaske et al., 1980). The differing conditions during visitors' first visit could account for some of the variance in visitors' perceptions of their contribution to impact conditions.

Campers' perceptions of their impacts compared to the average camper appear to provide an example of a self-serving bias. According to existing research about self-serving biases, people tend to accept responsibility for positive outcomes and deny responsibility for negative consequences unless their responses were subject to public scrutiny or easily verified (Myers, 1990). Generally, there have been two explanations for the self-serving bias. The first is that the self-serving bias is motivated by individuals' need to protect and enhance their self-esteem. The other explanation is that the bias is logical, not motivational. The results of this study provide additional support for the cognitive (logical) explanation for the self-serving bias. Visitors accept responsibility for impacts to which they are aware they contribute, such as those that occur immediately and are a direct result of human use, whereas when they are unable to see their contribution to conditions that occur gradually, visitors do not accept responsibility for their contribution.

The way campers perceived the gradual impact factor depended on their past experience, and varied depending on activity experience and destination experience. In most circumstances, visitors perceived that they did not have an impact on gradual impacts. However, two situations existed where visitors accepted responsibility for a decrease in the quality of the gradual impact items; when camping experience was low and their destination experience was moderate and when both their camping experience and destination experience were high. It is possible that when visitors are exposed to and become aware of their contribution to impacts (through repeat visits) they take responsibility for their part. If a self-serving bias does exist in the way campers perceive their impacts, past experience may alter the way the self-serving bias affects campers' perceptions of gradual impacts.

# Implications

The results reported in this study suggest support for examining selfserving bias as a way to understand how visitors perceive their own impacts. The majority of past self-serving bias research has been conducted in controlled settings to verify existence of biases and to explore how they operate (Arkin et al., 1980; Miller & Ross, 1975). This study provided additional insight into how the self-serving bias might be applied to real world scenarios and suggests a need for additional research exploring the self-serving bias in field-based studies.

This study is among the first to explore how visitors conceptualize their own impacts at a destination. The results imply that the way visitors perceive their own impacts may be quite different from how they perceive impacts in general. Furthermore, the temporal impact dimensions found in the present study have received little attention in the tourism impact literature.

The effect of past experience on recreationists' perceptions is well documented in past research. It has been employed both as a variable on its own and as a component of specialization (Hammitt & McDonald, 1983; Virden & Schreyer, 1988). This study confirms that past experience is a useful variable in explaining differences in perceptions of impacts at destinations. Often, in past research, activity experience and destination experience have been combined and explored as a single variable or various combinations of general and site-specific experience were combined to create distinct categories of experience (Hammitt & McDonald; Schreyer et al., 1984). In the present study, the influence of destination experience (experience at the campground) on visitors' perceptions of gradual impacts changes according to respondents' level of activity experience (experience camping). This suggests that these two dimensions of experience are unique but interact. Additional research should be conducted to explore the effects of different measures of experience on visitors' perceptions.

More practically, this line of tourist destination impact research provides valuable insights to destination managers who must find effective ways to minimize the negative outcomes that can result from visiting the destination. Cole (2006) stresses the importance of understanding visitor variables to enhance park management practices. Alessa et al. (2003) found that individuals who attributed depreciative behaviors to themselves were less likely to exhibit actual depreciative behavior. Considering visitors may not attribute certain negative impacts to themselves because of a self-serving bias should be a relevant concern to those charged with minimizing negative behaviors and impacts at destination. All of the items contained in the impact scales were identified in discussions with Parks Canada research staff as ones that occur at the destination; however, visitors believed that their camping had no impact on most of the items. Furthermore, for the case of gradual impacts, most campers felt that they did not contribute to these items. Since they are not likely to see the results of their contribution during their stay at the destination, managers should include raising awareness of gradual impacts as part of communication strategies. Although it is possible that visitors are taking precautions to minimize their impact at the destination, it is unlikely that they have no impact on the conditions listed. Past research confirms that visitors often do not recognize impacts to the destination (MacKay & Campbell, 2004; Roggenbuck, 1992). If visitors are not aware of some impacts, therefore unaware of their contribution to these impacts, they will have no reason to modify their behavior to minimize their impacts. Park management should begin by raising visitors' awareness of how individuals affect specific conditions at the park.

Although campers were aware of their contribution to six impact items, they did not necessarily understand what alternatives exist to minimize their impacts. In addition to alerting visitors to the impacts that exist, visitors should also be informed of appropriate behavior (Moscardo, 1999). Ensuring programs are available to inform visitors of their behavioral options will increase visitors' ability to reduce their negative impacts. Roggenbuck (1992) suggests that in situations where impacts result from unskilled or uninformed actions, the individuals would prefer to behave appropriately, but are not aware of their options; hence programs emphasizing education, demonstration and audience participation could be useful to these visitors. Evidence of the effectiveness of communication strategies exists in the current study where the majority of campers were able to identify impacts to wildlife. This issue was prevalent in signage, educational and communication materials present in the parks at the time of the study. A noteworthy finding by Alessa et al. (2003) revealed that the more knowledge individuals had about the ecosystem they were visiting, the more depreciative behaviors they displayed. This stresses the importance of imparting specific information to visitors about how to reduce one's contribution to negative impacts rather than simply providing general information about the environment.

In conclusion, this study provided the first opportunity to explore how visitors may have self-serving biases in perception of their impacts at a tourism destination. The value of this line of research has been clearly demonstrated, including theoretical and practical implications. While this study presents a much needed examination of visitors' perceptions of their own contribution to impacts, limitations exist that, if addressed in future research, would enhance understanding visitors' perceptions. When measuring visitors' attribution biases visitors were asked to indicate their own contribution to impact items "compared to the average camper". While the average camper reference point was used because it was in line with past attribution research, there are some potentially problematic implications of using this measure in this context. This question was intended to have respondents compare their contribution to impact items to the average camper's contribution to those same impacts, however the question did not specify whether respondents were to compare themselves to the average camper at that campground, in that park or in general. Some studies examining attribution have asked individuals to compare themselves to their average peer without specifying who that is, while other studies have specifically identified the average peer as someone with particular characteristics (i.e. a peer of the same sex) (Klein, 2001). Future research needs to examine how responses vary based on the specific reference group to which visitors compare themselves. In addition to rating their contribution to individual impacts, a measure of their general perceptions should be included. Also, research employing additional

variables would enhance our knowledge of the factors that affect visitors' perceptions. Qualitative studies would allow for an in-depth understanding of visitors' perceptions. Finally, different destinations (e.g., urban, rural, coastal, and developing countries) and activities would provide additional insight into this important aspect of tourism impact research.

# References

- Alessa, L., Bennett, S., & Kliskey, A. (2003). Effects of knowledge, personal attribution and perception of ecosystem health on depreciative behaviors in the intertidal zone of Pacific Rim National Park and Reserve. *Journal of Environmental Management*, 68, 207-219.
- Alicke, M. D., Klotz, M. L., Breitenbecher, D. L., Yurak, T. J., & Vredenburg, D. S. (1995). Personal contact, individuation, and the better-than-average effect. *Journal of Personality and Social Psychology*, 68, 804-825.
- Allen, L. R., Patrick, T. L., Perdue, R. R., & Kieselback, S. (1988). The impact of tourism development on residents' perceptions of community life. *Journal of Travel Research*, 21, 16-21.
- American Camping Association. (1984). The economic impact of organized camping in the United States in 1982: An estimate and analysis. Martinsville, IN: Author. (ERIC Document Reproduction Service No. ED 303310)
- Andereck, K. L., Valentine, K. M., Knopf, R. C., & Vogt, C. A. (2005). Residents' perceptions of community tourism impacts. *Annals of Tourism Research*, 32, 1056-1076.
- Andereck, K. L., & Vogt, C. A. (2000). The relationship between residents' attitudes toward tourism and tourism development options. *Journal of Travel Research*, 39, 27-37.
- Ap, J. (1990). Residents' perceptions research on the social impacts of tourism. Annals of Tourism Research, 17, 610-615.
- Ap, J. (1992). Residents' perceptions of tourism impacts. Annals of Tourism Research, 19, 665-690.
- Arkin, R. M., Appelman, A. J., & Burger, J. M. (1980). Social anxiety, self-presentation, and the self-serving bias in causal attribution. *Journal of Personality and Social Psychology*, 38, 23-35.
- Bradley, G. W. (1978). Self-serving biases in the attribution process: A reexamination of the fact or fiction question. *Journal of Personality and Social Psychology*, *36*, 56-71.
- Butler, R. W. (1974). The social implications of tourist developments. *Annals of Tourism Research*, 2, 100-111.
- Clark, R. N., Hendee, J. C., & Campbell, F. L. (1971). Values, behavior and conflict in modern camping culture. *Journal of Leisure Research*, *3*, 143-159.
- Cohen, E. (1979). A phenomenology of tourist experiences. Sociology, 13, 179-201.
- Cole, D. N. (1985). Recreational trampling effects on six habitat types in Western Montana. USDA Forest Service Research Paper INT-312.
- Cole, D. N. (2000). Managing campsite impacts on wild rivers. Are there lessons for wilderness managers? *International Journal of Wilderness*, 6, 12-16.
- Cole, D. N. (2006). Visitor and recreation impact monitoring: is it lost in the gulf between science and management? *The George Wright Society Forum, 23,* 11-16.
- Dogan, H. S. (1989). Sociocultural impacts of tourism. Annals of Tourism Research, 16, 216-236.
- Dunn, D. S. (1989). Demonstrating a self-serving bias. Teaching of Psychology, 16, 21-22.
- Farrell, T., Hall, T. E., & White, D. D. (2001). Wilderness campers' perception and evaluation of campsite impacts. *Journal of Leisure Research*, 33, 229-250.
- Farrell, T. A., & Marion, J. L. (2000). Identifying and assessing ecotourism visitor impacts at eight protected areas in Costa Rica and Belize. *Environmental Conservation*, 28, 215-225.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior. London: Addison-Wesley Publishing Company.

- George, D., & Mallery, P. (2000). SPSS Windows Step by Step: A Simple Guide and Reference. Needham Heights, MA: Allyn & Bacon.
- Gursoy, D., & Rutherford, D. G. (2004). Host attitudes toward tourism: An improved structural model. *Annals of Tourism Research*, *31*, 495-516.
- Haley, A. J., Snaith, T., & Miller, G. (2005). The social impacts of tourism: A case study of Bath, UK. Annals of Tourism Research, 32, 647-668.
- Hammit, W. E., & Cole, D. N. (1998). Wildland recreation: Ecology and management. New York: John Wiley & Sons.
- Hammit, W. E., & McDonald, C. D. (1983). Past on-site experience and its relationship to managing river recreation resources. *Forest Science*, 29, 262-266.
- Hillery, M., Nancarrow, B., Griffin, G., & Syme, G. (2001). Tourist perception of environmental impact. Annals of Tourism Research, 28, 853-867.
- Ibitayo, O. O., & Virden, R. J. (1996). Visitor and manager perceptions of depreciative behaviors in urban park settings. *Journal of Park and Recreation Administration*, 14, 36-51.
- Juroswski, C., Uysal, M., & Williams, D. R. (1997). A theoretical analysis of host community resident reactions to tourism. *Journal of Travel Research*, *30*, 3-7.
- Keogh, B. (1989). Social impacts. In G. Wall (Ed.), Outdoor recreation in Canada (pp. 231-273). Toronto: John Wiley & Sons.
- King, B., Pizam, A., & Milman, A. (1993). Social impacts of tourism: Host perceptions. Annals of Tourism Research, 20, 650-660.
- Klein, W. (2001). Post hoc construction of self-performance and other performance in selfserving social comparison. *Personality and Social Psychology Bulletin*, 27, 744-754.
- Knudson, D. M., & Curry, E. B. (1981). Campers' perceptions of site deterioration and crowding. *Journal of Forestry*, 79, 92-94.
- Lankford, S. V., & Howard, D. R. (1994) Developing a tourism impact attitude scale. Annals of Tourism Research, 21, 121-139.
- Larwood, L. (1978). Swine flu: A field study of self-serving biases. Journal of Applied Social Psychology, 8, 283-289.
- Liu, J., Sheldon, P. J., & Var, T. (1987). Resident Perception of the Environmental Impacts of Tourism. Annals of Tourism Research, 14, 17-37.
- MacKay, K. J., & Campbell, J. M. (2004). A mixed method approach for measuring environmental impacts in nature-based tourism and outdoor recreation settings. *Tourism Analysis*, 9, 141-152.
- MacKay, K. J., & Fesenmaier, D. R. (1997). Pictorial element of destination promotions in image formation. Annals of Tourism Research, 24, 537-65.
- Manning, R. E. (1985). Crowding norms in backcountry settings: A review and synthesis. Journal of Leisure Research, 17, 75-89.
- Manning, R., Valliere, W., Minteer, B., Wang, B., & Jacobi, C. (2000). Crowding in parks and outdoor recreation: A theoretical, empirical, and managerial analysis. *Journal of Park and Recreation Administration*, 18, 57-72.
- Mason, P. (2003). Tourism impacts, planning and management. Burlington, MA: Butterworth-Heinemann.
- Mathieson, A., & Wall, G. (1982). Tourism: Economic, physical, and social impacts. New York: Longman.
- Miller, D. T., & Ross, M. (1975). Self-serving biases in the attribution of causality: fact or fiction? Psychological Bulletin, 82, 213-225.
- Moscardo, G. (1999). Making visitors mindful. Champaign, IL: Sagamore Publishing.
- Myers, D. G. (1990). Social psychology. New York: McGraw-Hill Publishing Company.
- Nier, J. A. (2004). Why does the above average effect exist? Demonstrating idiosyncratic trait definition. *Teaching of Psychology*, *31*, 53-54.

- Sharpe, G. W., Odegaard, C. H., & Sharpe, W. F. (1994). A comprehensive introduction to park management (2nd Ed.). Champaign, IL: Sagamore Publishing.
- Pahl, S., & Eiser, J. R. (2005). Valence, comparison focus and self positivity biases: Does it matter whether people judge positive or negative traits? *Experimental Psychology*, *52*, 303-310.
- Parks Canada. (2002). Parks Canada Attendance 1996-97 to 2000-01. Retrieved June 10, 2002, from Parks Canada Web site: http://www.parkscanada.gc.ca/library/DownloadDocuments/ DocumentsArchive/attendance\_e.pdf
- Pearce, D. (1989). Tourist development. New York: Longman Scientific & Technical.
- Perdue, R. R., Long, P. T., & Allen, L. (1987). Rural resident tourism perceptions and attitudes. Annals of Tourism Research, 14, 420-429.
- Pigram, J. J., & Jenkins, J. (1999). Outdoor recreation management. New York: Routledge.
- Priskin, J. (2003). Tourist perceptions of environmental degradation caused by coastal naturebased recreation. *Environmental Management*, 32, 189-204.
- Roggenbuck, J. W. (1992). Use of persuasion to reduce resource impacts and visitor conflicts. In M. J. Manfredo (Ed.), *Influencing human behavior* (pp. 149-208). Champaign, IL: Sagamore Publishing.
- Roggenbuck, J. W., Williams, D. R., & Watson, A. E. (1993). Defining acceptable conditions in wilderness. *Environmental Management*, 17(2), 187-197.
- Schreyer, R., Lime, D. W., & Williams, D. R. (1984). Characterizing the influence of past experience on recreation behavior. *Journal of Leisure Research*, 16, 34-50.
- Sheldon, P., & Var, T. (1984). Resident attitudes to tourism in North Wales. *Tourism Management*, 5, 40-47.
- Singleton, R. A., & Straits, B. C. (1999). *Approaches to social research*. New York: Oxford University Press.
- Snepenger, D. J., & Reiman, S. (1998). Is downtown mainly for tourists? *Journal of Travel Research*, 36, 5-12.
- Tetlock, P. E. (1981). The influence of self-presentation goals on attributional reports. *Social Psychology Quarterly*, 44, 300-311.
- Vaske, J. J., Donnelly, M. P., & Heberlein, T. A. (1980). Perceptions of crowding and resource quality by early and more recent visitors. *Leisure Sciences*, 3, 367-381.
- Virden, R. J., & Schreyer, R. (1988). Recreation specialization as an indicator of environmental preference. *Environment and Behavior*, 20, 721-739.
- White, D. D., Hall, T. E., & Farrell, T. A. (2001). Influence of ecological impacts and other campsite characteristics on wilderness visitors' campsite choices. *Journal of Park and Recreation Administration*, 19, 83-97.
- Xiao, H., & Smith, S. (2006). The making of tourism research: Insights from a Social Sciences Journal. Annals of Tourism Research, 33, 490-507.