Classification of Adventure Travelers: Behavior, Decision Making, and Target Markets

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*Focusing on consumer and travel behavior of adventure travelers, this study proposes a classification of adventure travelers for segmenting the U.S. adventure travel market. A survey of adventure travelers (*N = *892) examined traveler characteristics, trip-related factors in the decision-making process, and perception of adventure travel. Cluster analysis identified six distinct adventure traveler subgroups as (1) general enthusiasts, (2) budget youngsters, (3) soft moderates, (4) upper high naturalists, (5) family vacationers, and (6) active soloists. Implications of the classified adventure traveler subgroup characteristics in conjunction with their perception of adventure travel and the involvement with adventure tourism establishments are discussed. The study findings will help adventure travel providers and marketers better understand adventure travelers and formulate strategies to cater to target segments effectively.*

Keywords: *adventure travel; market segmentation; consumer and travel behavior; traveler typology*

Travel and tourism markets are changing. Sociodemographic changes marked by an active aging population, two-income families, childless couples, and a rising population of single adults have led to substantial changes in travel and leisure demand and in patterns of travel markets (Chon and Singh 1995; Loverseed 1997; Morrison et al. 1996; Ross 1999). The emergence of the special interest tourism segment, for instance, has been driven by market demand to cater to today's travelers who are pursuing special interests in more diversified categories than in the past (Hall and Weiler 1992). By definition, special interest tourism refers to "the provision of customized leisure and recreational experiences driven by specific interests of individuals and groups" (Derrett 2001, p. 3) In this, satisfaction and self-actualization appear to be crucial in understanding a traveler's engagement with an activity or a product for a distinct and specific purpose to satisfy his or her particular interests and needs (Hall 1989; Loverseed 1997; Sorensen 1993). Examples of special interest tourism include ecotourism (Boo 1990; Cater and Lowman 1994), nature tourism (Whelan 1991), and adventure tourism (Christiansen 1990; Hall 1992), just to name a few.

Adventure travel has been developed out of a broader growth of traditional outdoor and wilderness recreation (Ewert 1989). It has broadened its scope and appeal among travelers who want to "experience" a vacation by participating in specific activities (Black and Rutledge 1995; Madrigal 1995; Vellas and Becherel 1995) that are adventure based (Ewert 1987; Hall 1989). According to Sung, Morrison, and O'Leary (1997), the notion of adventure from past leisure and recreation studies can be linked to a tourism perspective in defining adventure travel as "a trip or travel with the specific purpose of activity participation to explore a new experience, often involving perceived risk or controlled danger associated with personal challenges, in a natural environment or exotic outdoor setting" (p. 66).

Although the exact size of the adventure travel market is still debatable due to the lack of a standard definition to measure the market, it is generally agreed that adventure travel is a newly emerging, fast-growing sector in the tourism industry (Sorensen 1993; Loverseed 1997; Fluker and Turner 2000). A survey of adventure travelers in the United States reports that nearly one-half of U.S. adults, or 98 million people, have taken an adventure trip in the past 5 years (Travel Industry Association of America [TIA] 1998). Similarly, about 45% of Canadian residents engaged in various outdoor adventure activities during their trips in 2001, which was overall ranked as the second most popular type of travel behavior following visiting friends and relatives (Canadian Tourism Commission [CTC] 2002).

Unlike ecotourism or nature-based tourism in which a number of definitions have evolved for conceptual development of each discipline, adventure travel, adopted from outdoor adventure or risk recreation, appears to be heavily oriented to the industry. This is particularly true in North America, where travelers' specific interest in experiencing "active" holidays has been matched with the rapid growth in commercial operators (Hall 1992). Thousands of small operators or outfitters are now offering an enormous variety of

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Journal of Travel Research, Vol. 42, May 2004, 343-356
DOI: 10.1177/0047287504263028

adventure activities ranging from hiking to skydiving in conjunction with a wide range of professional expertise such as guide services, equipment manufacturing or rentals, accommodations, or specific travel arrangement (Mallett 2002; CTC 2002; Carrera 1995; Eagles and Cascagnette 1995; Ewert 1989; Hall and Weiler 1992; Jackson 1994).

Despite its growing popularity and expansion in the travel and tourism industry, little scholarly investigation has been attempted in adventure travel (Fluker and Turner 2000; Walle 1997; Weber 2001). Moreover, such diversified products and services in adventure travel have attributed to a great complexity for business entities in developing, delivering, and packaging product offerings to today's marketplace (Loverseed 1997; Ross 1999). While both active holidays and value for money have become key factors in selecting an adventure vacation (Hall 1992; Oden 1995), it is challenging for adventure travel practitioners to match the enormous variety of adventure travel products and/or services with diversified consumer demands. Following this line of reasoning, Sung et al. (1997) suggested that research in adventure travel should start from understanding two dimensions: (1) the distinct notion of adventure that had been often referred to as "outdoor adventure recreation" or "risk recreation" in past leisure studies and (2) the travel components in serving the movement of individuals for specific activity participation.

Furthermore, understanding adventure travelers should be centered on distinct travel psychographics emphasizing specific needs, motivations, and expectations (Fluker and Turner 2000) or individuals' subjective experiences and perceptions of adventure need (Weber 2001). In travel and tourism marketing, analyzing travelers' decision-making process generally aims at obtaining two lines of information: (1) traveler characteristics and (2) their consumer and travel behavior. As Swarbrooke and Horner (1999) claimed, today's marketing is based on the idea that knowing your customers and then anticipating and meeting their needs is the key to success. The current business and industry trend toward increasing diversity in travel demands and travel-related products requires tourism marketers to identify detailed, specific characteristics of travelers and their travel behavior to effectively pinpoint their target segments (Kotler, Bowen, and Makens 2002; Middleton 2001; Morrison 2001). To enhance the effective strategy formulation for adventure travel providers and marketers, this study aims to improve understanding of distinct adventure traveler subgroups through development of a classification construct with specific focuses on (1) traveler characteristics, (2) trip-related factors in the decision-making process, and (3) perception of the adventure components.

CONCEPTUAL FRAMEWORK

Adventure Travelers in Consumer Behavior Research

A discussion of consumer behavior research might start with its conceptual linkage to leisure involvement originally reported by Sherif and Cantril (1947) in ego involvement theories. Selin and Howard (1988) further developed this and identified five components comprising ego involvement: (1) centrality, (2) importance, (3) pleasure, (4) interest, and (5) self-expression. Studies (Dimanche and Havitz 1994; Havitz and Dimanche 1990, 1995, 1997) have also explored the concept of involvement as an explanatory, psychological variable to understand individual leisure behavior, where leisure involvement refers to "individual's involvement with various recreation activities and associated products, leisure service agencies, or settings" (Havitz and Dimanche 1997, p. 246).

Involvement in consumer behavior research has been generally acknowledged as a major factor in the decision-making process between the choice of purchase or not. From a tourism perspective, the same decision can be applied to whether participating in a particular form of tourism is undertaken. It can be seen that consumer behavior research in tourism is primarily to explore the relationship between the involvement components with the inclusion of tourist behavioral variables specific to the research focus. Linking this to ego involvement, an individual's leisure involvement occurs when he or she expects personal meaning (importance) in leisure pursuits (interests) and realizes rewards (pleasure) from such involvement, where the amount of pleasure appears to have a positive relationship with the level of importance and interest (Havitz and Dimanche 1997; Selin and Howard 1988; Sung et al. 2001).

The main focus of involvement theory is on the individual. From the travel and tourism marketing perspective, such an individual has his or her own needs, taste, or attitude and is in a distinctive mode of living or lifestyle (Mill and Morrison 1998). More specifically, a lifestyle would be "a way of living characterized by the manner (*centrality*) in which people spend their time (for *pleasure*), what things they consider important (*importance* and *interests*), and how they feel about themselves (*self expression*)" (Mill and Morrison 1998, pp. 41-45). Such individual lifestyle or psychographics are primarily based on a personal value system (Hsu, Kang, and Wolfe 2002; Keng and Cheng 1999), the structural relationship of which could possibly explain how and why (or why not) an individual gets involved in leisure products or activities.

The underlying proposition is that an involved consumer is more likely to understand and memorize promotional stimuli and to purchase the product or service that raised his or her level of involvement (Havitz and Dimanche 1997). The structural relationship between factors associated with psychographics or personal value needs to be further explored as to how such distinctive individual behavior can be explained and how an individual's level of involvement in tourism activities can be increased. Given this, studies in travel and tourism marketing widely suggest use of psychographics or behavior variables to formulate preference functions in travelers' decision-making process often in conjunction with sociocultural and/or demographic variables to profile distinctive lifestyles or benefits sought (Bieger and Laesser 2002; Hsu, Kang, and Wolfe 2002; Hvenegaard 2002; Mill and Morrison 1998; Moscardo, Pearce, and Mossiron 2001; Plog 2002).

Among five components of ego involvement, Havitz and Dimanche (1995) argued that importance, interest, and pleasure might fall under an attraction facet in the leisure and tourism context. Sung, Morrison, and O'Leary (1997) reported activity, environment, experience, motivation, risk, and performance as the key elements to define adventure travel. Of those, activity, experience, and environment can

be suggested as the major attraction of adventure travel. That is, an individual would be engaged in adventure travel for the purpose of gaining pleasure and personal meaning (experience) through participation in leisure pursuits (activities) in a specific setting (environment). Such conceptual linkage between adventure travel and leisure involvement can be also seen in Havitz and Dimanche's (1997) review of 50 past studies of leisure involvement: with only few exceptions, importance, pleasure, and interest loaded together and produced the highest mean scores among participants in the activity context.

Iso-Ahola (1982) identified two dimensions to explain why people engage in outdoor recreation: an attempt to achieve something and an attempt to avoid something. Similarly, Selin and Howard (1988) reported that "commitment to leisure activities could occur when the behavior would express the need of the individual" (p. 240). This is one of the key assumptions of the self-expression facet to explain the participant's development of attachments to certain types of leisure activities. Manning (1986) reported that motives for participation in outdoor recreation generally consisted of a desire for achievement, affiliation, control, escape, and self-awareness. In a more comprehensive manner, Hall (1992) tried to categorize the motivations associated with adventure travel into risk seeking, self-discovery, self-actualization, contact with nature, and social contact. It is noticeable that these motivations can be clearly grouped into two involvement domains. The first group, including self-awareness, self-discovery, achievement, and self-actualization, is central to the individual's value system (centrality), whereas control, affiliation, and social contact fall into the expression category of individuals' self-concept (self-expression). Likewise, adventure travel is associated with specific activities as a primary motive for trips, as well as the expected outcomes (rewards) from the participants' experiences in particular environments.

Havitz and Dimanche (1990), in their study of an empirical testing of the involvement constructs in the recreational and tourist context, discussed that individuals' leisure and touristic experiences should also involve interactions from all behavioral components. Activity in adventure travel, for example, has proven to be the primary domain and is closely interrelated with experience and environment (Sung, Morrison, and O'Leary 1997, 2000). However, this does not mean that activity alone can legitimately represent the entire scope of adventure travel. By the same token, a "leisure equals activity" conceptualization appears to be far from an adequate explanation or interpretation of the complex context of leisure.

While it is the activity that primarily attracts individuals as participants in adventure recreation (Ewert 1989; Hall 1992), traditional forms of adventure recreation usually involved elements of skill in a specific outdoor setting. According to Iso-Ahola (1980), the challenging nature of adventure experiences should be derived from the "interaction of situational risk and personal competence." The degree of risk taking appears to have a positive correlation with the level of experience and skill of the participant. That is, performance in adventure travel would be consistently associated with skill level (Ewert 1987, 1989; Martin and Priest 1986). The notion of performance in adventure participation appears to share important criteria with the importance facet in the ego involvement context.

Traditional risk recreation theories have broadly conceptualized the outdoor adventure experiences in view of two constructs: perceived risk and perceived competence. The importance of risk for the notion of adventure has been recognized as an important element in distinguishing outdoor adventure activities (Ewert 1987, 1989; Ewert and Hollenhorst 1994; Hall 1992; Meier 1978; Weber 2001). Havitz and Dimanche (1997) also found that centrality items have performed well in adventure and risk recreation settings, producing strong factor loadings and reliability scores. Noticeable is that activity is recognized as a core concept for experiencing risk-taking adventure with varying degrees of the enduring risk involved (Walle 1997).

It is interesting that among the six major components of adventure travel reported by Sung, Morrison, and O'Leary (1997)—activity, experience, environment, motivation, risk, performance—only risk does not appear to adequately fit in the context of leisure involvement. As Ewert (1989) argued, risk might be a completely additional dimension specific only to risk recreation, distinguishing this from other types of recreation. It is the complex nature of risk recreation that makes it difficult to identify and understand underlying factors to influence enduring involvement in risk recreation activities (Robinson 1992). McIntyre's (1992) adventure model appears to be a challenging attempt in exploring relationships between involvement with motivations, experiences, and level of engagement in risk recreation. The remaining question is how an individual's attachment to participation or the involvement level might provide a more appropriate basis for assessing the levels of engagement in future risk recreation involvement.

Consumer involvement with products is now widely recognized as a significant variable in marketing studies. By the same token, tourism researchers have focused on tourist behavior for better understanding patterns in consuming tourism products and services as well as for contributing to the practice of tourism marketing. Linking the behavioral aspects of adventure travelers to the leisure involvement domain, consumer involvement in leisure can be integrated in people's participation (activities) in leisure experiences that are interrelated with multidimensional behavioral components: centrality, importance, pleasure, interest, and self-expression (adopted from Selin and Howard 1988). This supports that the six major components of the notion of adventure—activity, environment, experience, risk, motivation, and performance (Sung, Morrison, and O'Leary 1997)—could be used as a set of powerful explanatory factors that might explain travelers' specific behavior in different adventure trip participation.

Research Objectives

According to one general assumption for market segmentation research in travel and tourism, travelers with particular travel or consumer behavior are likely to be different from others who are engaged in different behavior (Jeffrey and Xie 1995; Kashyap and Bojanic 2000; Moscardo et al. 2000). Those who go camping in a neighborhood state park, for instance, might behave differently on their trip from those who are on safaris in Kenya. Stated differently, segmenting a market is targeting specific customers with homogeneous (Andereck and Caldwell 1994) characteristics or behaviors, so that marketers can focus their marketing attention on

selective groups of customers (Kotler, Bowen, and Makens 2002; Middleton 2001; Morrison 2001).

Attempts to define tourist types or to develop a traveler typology have been understood as segmentation, classification, or clustering (Hvenegaard 2002). In this study, using traveler and consumer characteristics for market segmentation purposes can be seen as one way to classify traveler subgroup segments to develop a traveler typology. Looking at the vast variety of adventure travel and participation levels, not all adventure travelers are, hypothetically, alike. One important question is how to identify significant factors that are presumably related to distinctive travel and consumer behavior in classifying different group memberships.

The varied activities that constitute adventure travel accommodate a number of different demographic and socioeconomic segments. Although subject to debate, studies of ecotourism or nature tourism have reported that these travelers in general are likely to be men, middle aged, well educated, engaged in managerial or professional occupations, and affluent (Higgins 1996; Loverseed 1997; Silverberg, Backman, and Backman 1996; TIA 1998; Wight 1996). This general profile appears to be the case for adventure travelers (Sung 2001) but is of limited value in explaining distinctive travel behavior to formulate strategies for different target segments. Moreover, the demographic and socioeconomic profile of adventure travelers may differ from activity to activity (e.g., from camping to hot air ballooning) and from location to location (e.g., from Brown County State Park to Mr. Kilimanjaro), and their consumer and travel behavior is also affected by a changing marketing environment in the travel industry (Ewert and Hollenhorst 1994; Hall 1992; Oden 1995; Ross 1999; Sorensen 1993; Sung, Morrison, and O'Leary 2000; TIA 1998; Weber 2001).

In explaining variances among different travel behavior and understanding travelers' decision-making process, various trip-related characteristics appeared to receive increased research attention in recent tourism studies (Chandler and Costello 2002; Dolnicar and Leisch 2003; Horneman et al. 2002; Kemperman et al. 2003; Moscardo, Pearce, and Morrison 2001; Prebensen, Larsen, and Abelsen 2003). The uses of psychographics such as activities, interests, preferences, benefits, or opinions have mainly looked to identify influential factors on the travel decision-making process (i.e., participation in a specific type of adventure travel or not). Some examples related to decision making might include traveling companion, the most influential entity in making travel decisions, and information source.

As discussed earlier, adventure travel appears to be experiential and participatory in nature. This involves several additional behavioral components to explain travelers' participation in adventure trips. Travelers' preference of a specific adventure activity type and the likelihood of taking an adventure trip, for instance, might reveal some patterns about how different adventure traveler subgroups are associated with different levels of involvement (participation) in taking trips. The underlying reasoning is that there might exist a relationship between and individual's past experience and his or her future levels of involvement in purchasing leisure products or services (Dimanche and Havitz 1994). Other variables specific to adventure travel can be adventure trip arrangement, adventure vacation destination, number of adventure trip per year, and so forth.

Activity, experience, environment, motivation, risk, and competence (Sung, Morrison, and O'Leary 1997) were identified as primary dimensions that might represent the travelers' perception of adventure travel. According to Plog (2002), individuals' perceptions of adventure travel would affect their subjective experience of adventure. The examination of perceived importance of adventure travel components by different adventure traveler subgroups could explain some underlying factors in adventure travelers' different involvement levels in selecting different trips. For adventure travel providers and marketers, such psychographics of adventure traveler subgroups might suggest ways to develop and deliver adventure travel products with improved customer appeal in the travelers' decision-making process.

This study proposes a behavioral analysis to classify how distinctive groups of adventure travelers might be associated with their demographic (D), socioeconomics (SE), trip-related characteristics (TR), and perception of adventure travel (P) in travel decision making. Those factors could explain their travel behavior in purchasing and consuming adventure travel products and services, representing distinctive traveler subgroups with different behavioral characteristics. The conceptual model proposed for the subgroup formation can be generally written as Cluster formation = f(D, SE, TR, P, and the error term ε). Once identified, adventure traveler subgroups are further examined to determine any meaningful association with their perception of adventure travel, linking the involvement in the adventure constructs to target segments. The classification and understanding of adventure travelers in this study, for effective segmentation purposes, has the following specific research objectives:

1. to classify adventure traveler subgroups based on their traveler characteristics and consumer and travel behavior in adventure travel decision making,
2. to understand how the classified adventure traveler subgroups might perceive adventure travel differently, and
3. to discuss how adventure travel products and services could be developed and delivered to target segments.

RESEARCH METHODS

Sample

The participants for this study were adventure travelers in the United States defined as *those who have taken adventure trips or who are interested in taking adventure trips.* This was similar to the participants in the TIA's (1998) study, those who had been on an adventure trip in the past 5 years or who would like to take one in the next 5 years. It should be noted that some of the instruments in the current study were measured not in terms of respondents' past travel behavior but with their preferences to represent future involvement in adventure travel. Included were (1) the most preferable adventure activity type, (2) the most preferable adventure travel arrangement, (3) preferable adventure vacation destination, and (4) trip expenditure for the next trip. This was mainly due to the justification of defining adventure travelers not only by having taken an adventure trip in the past but also including those who are interested in taking a trip but have

not taken one yet. As no significant differences between these two groups were expected, questions were designed not to limit individuals' past travel behavior but to avoid any systematic exclusion of those who had never been on an adventure trip from the sample.

The study used the mailing list of the Adventure Club of North America (ACONA), a nationwide association of 60,000 active adventure travelers, to serve as the sampling frame. Being a primary association of the largest membership of adventure travelers in the United States, ACONA issues and distributes a bimonthly members-only magazine, *Outdoor Adventure*. The membership also provides members with a wide range of services such as field-testing privileges of new equipment, escorted outings, and product and travel discounts by cooperating with a number of industry providers. Therefore, this membership group can be considered as actively involved or at least interested in taking adventure trips, representing not necessarily the entire population in the United States but adventure travelers in general.

The stratified random sampling method was based on ACONA's membership distribution in nine census regions within the United States. The confidence interval approach using the 95% level of confidence yielded a computation of a sample size of 1,067 to claim ±3% accuracy. According to Burns and Bush (2003), for a sample size of 1,000 or more, only very little gain in accuracy occurs even with doubling or tripling the sample. Given this and the estimated p to be 50% in the population, the sample size (N = 1,067) appears to be reasonable for this study both in terms of accuracy and cost-effectiveness. Targeting the response rate of 50% or more to the survey, the sampling frame should have at least 2,000 names.

Using the census region classification as a basis for stratification, each population member was sorted by the assigned random number within the stratum. In drawing 2,000 names from ACONA's 60,000 membership subscription, the sampling frame selected every 30th member in each stratum. As shown in Table 1, the proportion of strata sample sizes by stratified random sampling appears to be faithful to their relative sizes in the circulation of ACONA's membership subscription by region.

TABLE 1

SAMPLE DISTRIBUTION BY STRATIFIED RANDOM SAMPLING

	ACONA Membership			Sample Distribution		
Region	*n*	%	Total %	*n*	%	Total %
Northeast						
New England	5,124	8.5		96	10.8	
Middle Atlantic	8,178	13.6	22.1	104	11.7	22.5
South						
West south central	3,942	6.6		59	6.6	
East south central	2,694	4.5		35	4.0	
South Atlantic	9,696	16.2	27.3	110	12.3	22.9
Midwest						
West north central	3,954	6.6		76	8.5	
East north central	9,408	15.7	22.3	154	17.3	25.8
West						
Pacific	10,440	17.4		158	17.7	
Mountain	6,564	10.9	28.3	100	11.1	28.8
Total	60,000		100.0	892		100.0

Data Collection

A three-phase mail survey was employed for data collection between June and August 1998. A total of 2,000 surveys was sent out initially and was followed by the same number of postcard reminders 10 days later. Of those, 22 mailings were returned for incorrect or unreachable addresses. The response rate of the initial mailings was 39.1% with 773 valid, completed questionnaires collected. The follow-up mailing was sent out to every nonrespondent to the initial survey. A total of 260 completed surveys were additionally collected out of 1,261 valid mailings, providing 20.6% of the response rate. Overall, the response rate to this mail survey reached 52.3%, or a total of 1,033 completed surveys.

Survey Instrument

An eight-page, self-administered questionnaire consisted of questions about traveler and trip characteristics that are considered to be critical for participating in adventure trips. In classifying adventure travelers, the factors examined were (1) traveler's demographic characteristics (i.e., age, gender, marital status, household size, number of children younger than 12 years, and region of residence), (2) socioeconomic backgrounds of the respondents (i.e., occupation, education, income, number of income earners), (3) trip-related factors in decision making (i.e., preference of adventure activity type, likelihood of taking an adventure trip, trip arrangement, destination, number of trips per year, trip length, trip expenditures, traveling companion, influential person, and travel information source), and (4) perceived importance of adventure travel components (i.e., activity, environment, experience, motivation, risk, and performance, as reported by Sung, Morrison, and O'Leary 1997). Among the trip-related characteristics, adventure activity types (soft nature, risk equipped, hard challenge, rugged nature, and winter snow) were adopted from Sung, Morrison, and O'Leary (2000) in grouping adventure activities reported by industry providers in terms of the level of agreement in belonging to the adventure travel category.

As Creswell (2003) suggested, pilot testing is important to establish the face validity of the questionnaire and to improve questions, format, and the scales of the instrument. Lauer and Asher (1988) reinforced the importance of the pilot test in developing new questions and suggested using pilot samples of the population of interest to review initial responses to the questionnaire with accuracy. This study chose the 1998 International Adventure Travel and Outdoor Show, one of the major trade shows of its kind, at the Rosemont Convention Center in Rosemont, Illinois, as the location for the pilot study.

This show was set within a confined location and restricted period of time, providing easy access to large numbers of people who were actively participating in adventure travel or interested in taking adventure trips. A total of 185 completed survey questionnaires were collected through the pilot study during February 21 and 22, 1998, with a response rate of 52.9% (185 responded out of 350 distributed). The completed questionnaires, 185 in total, were reviewed focusing on directness, simplicity, and clarity of the questions. No indication of problems was present, concluding that the pilot

questionnaire could be used for the main survey without major editorial or content change.

FINDINGS AND DISCUSSION

Cluster Formation

The first research objective of classifying adventure traveler subgroups was based on the proposed conceptual model: Cluster formation = f (D, SE, TR, P, and the error term ε). Of the 1,033 respondents to the survey, 892 cases were included in the analysis after excluding surveys with one or more missing values in any clustering variable. Among various multivariate analysis techniques, cluster analysis has often been used to classify subgroups of individuals or objects into a small number of mutually exclusive groups based on a set of specified homogeneous characteristics among the individuals or objects (Arimond and Elfessi 2001; Grant and Weaver 1996; Lang, O'Leary, and Morrison 1997: Sirakaya, Uysal, and Yoshioka 2003).

This study employed the K-means method to cluster cases. Unlike hierarchical cluster procedure, the results of this method can be less sensitive to the outliers in the data and more appropriate in analyzing very large samples with 200 or more cases (Churchill 1999; Hair et al. 1998; Kinnear and Gray 2000). Although this method can be used to analyze various types of data, it is important that variables are measures on comparable scales. For example, variables with a 1 to 7 scale have larger standard deviations than do variables with a 1 to 3 scale, affecting the final similarity value. The value of each interval, metric, or categorical data in this study was standardized on comparable scales (i.e., transformed z scores) prior to the cluster analysis to avoid misinterpretation of the calculations of distance measures caused by the scale difference.

In line with Hair et al. (1998), the focus of cluster analysis in this study was on the comparison of objects (cases) according to the natural relationships between the hypothesized factors. It is considered an objective methodology to quantify the structural characteristics of a set of observations, constructing typology for classifying distinct adventure traveler subgroups with homogeneous traveler characteristics and travel behavior. As the main objective of K-means cluster analysis in this study was data simplification in which all of the observations can be viewed as members of a cluster and profiled by its general characteristics, many variables (both scale and categorical) were used in the cluster analysis as collapsed data. Age, for example, was used as a nominal variable with six categories (19-24, 25-34, 45-54, 55-64, and older than 65) and grouped into three: generation X (age 19-34), baby boomers (35-54), and seniors (55 years or older).

In this case, not for confirmatory but for exploratory purposes, the selection of clustering variables should be based on theoretical and conceptual as well as practical considerations (Churchill 1999), so that the number of clusters should be specified by the researcher. As there is no clear-cut standard to determine the optimal number of clusters, several techniques were examined in deriving cluster solutions and assessing overall fit. Taking into account practical considerations for segmenting the adventure travel market, the study findings appeared to be more manageable and easier to communicate if it was three to six adventure traveler subgroups. Solving for this number of clusters and selecting the best solution depended on several factors such as distances between final cluster centers, iteration history, final cluster centers, number of cases in clusters, and an ANOVA table. As a result, a six-cluster solution was proposed.

TABLE 2

CLUSTER SIZE AND DISTANCES BETWEEN FINAL CLUSTER CENTERS

Cluster	1	2	3	4	5	6	Total
n	243	193	84	128	119	125	892
%	27.2	21.6	9.4	14.3	13.3	14.0	100.0
1		3.141	4.865	2.954	3.167	3.286	
2	3.141		3.979	3.519	4.372	2.911	
3	4.865	3.979		3.415	3.62	3.912	
4	2.954	3.519	3.415		3.004	2.963	
5	3.167	4.372	3.62	3.004		4.233	
6	3.286	2.911	3.912	2.963	4.233		

Distances between final cluster centers can be the most popularly used measure to determine the similarity of the clusters. These are actually a measure of dissimilarity, with greater values denoting lesser similarity (Hair et al. 1998). As shown in Table 2, the means of cluster 1 and cluster 3 were furthest apart (4.865), while cluster 2 and 6 were closest to each other (2.911). Overall, cluster 3 appeared to be furthest from all other clusters (ranges = 4.865 and 3.620), whereas cluster 4 was relatively close to other groups (ranges = 3.415 and 2.963). Looking at cluster size, it appeared that cases were not equally distributed across clusters; there were relatively fewer cases in cluster 3 (n = 84) but more in cluster 1 (n = 243). Assuming that each cluster represents a type of adventure traveler, it can be said that there might be more travelers of the type represented by cluster 1 (27.2%) than the type found in cluster 3 (9.4%). The results of cluster analysis are summarized in Table 2 with cluster sizes.

The size of the overall F statistics in K-means' one-way ANOVA was useful for identifying variables that contribute to the clustering and also those that differ little across the clusters. Shown in Table 3 is a one-way ANOVA result, using the final clusters as groups, computed for each variable individually. The means of number of people in the household (F = 237.444) and number of income earners (F = 213.932) differed the most, indicating a basis for a great deal of the difference between the clusters. Other significant demographic and socioeconomic variables included household disposable income (F = 96.006), number of children younger than 12 years (F = 61.060), and marital status and age category (F = 59.373 and 43.274, respectively). On the other hand, the means of region of residence (F = 2.587) differed little across the six clusters (F = 2.587).

The results (see Table 3) also pointed out that all six of the perceived importance variables appeared to make considerable contributions in characterizing clusters (F ranges from 45.433 for environment to 92.321 for risk). For trip-related characteristics, adventure trip arrangement (F = 43.594), likelihood to take an adventure trip (F = 39.458), and traveling companion (F = 36.012) had sizeable differences, whereas adventure vacation destination did not contribute greatly to differences between the clusters (F = 3.667).

TABLE 3

K-MEANS ANOVA FOR CLUSTERING VARIABLES

Variable	Cluster		Error		F	Significance
	M	*df*	*M*	*df*		
Perceptions of major components						
Importance of activity	55.417	5	0.627	886	88.396	.000
Importance of experience	49.407	5	0.709	886	69.637	.000
Importance of environment	35.478	5	0.781	886	45.433	.000
Importance of motivation	50.110	5	0.700	886	71.632	.000
Importance of risk	60.916	5	0.660	886	92.321	.000
Importance of performance	48.817	5	0.715	886	68.234	.000
Demographic						
Gender	12.575	5	0.926	886	13.584	.000
Age category	34.972	5	0.808	886	43.274	.000
Marital status	44.750	5	0.754	886	59.373	.000
Household size	101.435	5	0.427	886	237.444	.000
Number of children younger than 12 years	45.443	5	0.744	886	61.060	.000
Region of residence	2.509	5	0.970	886	2.587	.025
Socioeconomic						
Current occupation	3.096	5	0.934	886	3.314	.006
Highest level of education attained	16.248	5	0.902	886	18.006	.000
Household annual disposable income	62.092	5	0.647	886	96.006	.000
Number of income earners	97.617	5	0.456	886	213.932	.000
Trip related						
Preference of adventure activity type	8.755	5	0.842	886	10.393	.000
Likelihood of taking an adventure trip	30.581	5	0.775	886	39.458	.000
Adventure trip arrangement	34.323	5	0.787	886	43.594	.000
Adventure vacation destination	3.621	5	0.987	886	3.667	.003
Number of trips per year	19.980	5	0.886	886	22.539	.000
Length of adventure vacation	14.501	5	0.926	886	15.657	.000
Travel expenditure per person	12.111	5	0.930	886	13.019	.000
Traveling companion	30.769	5	0.854	886	36.012	.000
Influential person or entity	14.886	5	0.906	886	16.436	.000
Information source	7.116	5	0.967	886	7.360	.000

Note: The significance levels should be ignored here since these *F* statistics are not to test significance of a model but to describe the contribution of each variable in cluster formation. The clusters have been chosen to maximize the differences between cases in different clusters, and the observed significance levels are not corrected for this. Therefore, the significance levels cannot be interpreted as tests of the hypothesis that the cluster means are equal.

One remaining question was how valid the classification might be. Assessing classification accuracy typically involves the use of discriminant analysis (Churchill 1999; Hair et al. 1998), which can be done once the clusters are identified. Using the categorical dependent variable a priori–defined six-cluster solution, the result of discriminant analysis revealed significant differences between the group characteristics. The classification results (see Table 4) were used to determine how successfully the discriminant function could work. Among those who belonged in cluster 1 (n = 240), for instance, a total of 98.8% (or 237 cases) were classified correctly, leaving only 3 cases (1.2%) misclassified. Overall, 92.4% of the cases (819 out of 886) were assigned to their correct groups, validating the results of cluster analysis for useful classification of adventure traveler subgroups based on their traveler and consumer characteristics.

TABLE 4

EVALUATION OF CLUSTER FORMATION BY CLASSIFICATION RESULTS

Cluster Case	Predicted Group Membership						Total
	1	2	3	4	5	6	
Count							
1	237	1	0	1	1	0	240
2	8	179	3	1	0	2	193
3	0	3	78	2	0	1	84
4	6	4	2	109	1	4	126
5	8	1	0	1	108	0	118
6	6	9	0	2	0	108	125
Percentage							
1	98.8	0.4	0.0	0.4	0.4	0.0	100.0
2	4.1	92.7	1.6	0.5	0.0	1.0	100.0
3	0.0	3.6	92.9	2.4	0.0	1.2	100.0
4	4.8	3.2	1.6	86.5	0.8	3.2	100.0
5	6.8	0.8	0.0	0.8	91.5	0.0	100.0
6	4.8	7.2	0.0	1.6	0.0	86.4	100.0

Note: n = 886 (from n = 892 for cluster analysis) after excluding 6 cases with one or more missing discriminating variable. Of the original grouped cases, 92.4% were correctly classified.

Profile of the Respondents

The summary statistics in Tables 5 and 6 clearly indicate that the respondents were demographically distinctive. They tended to be younger (49% are 19-34 years old), and most (83.5%) had no children younger than 12 years old. Adventure travel was more popular among men (67.6%), singles (54.5%), and those who lived in the West (28.8%). As for

TABLE 5

DEMOGRAPHIC SEGMENTATION OF ADVENTURE TRAVELERS BY CLUSTERS

Summary Statistic			Segmentation by Adventure Traveler Subgroup (%)							
Demographic Factor	*n*	%	GE	BY	SM	UHN	FV	AS	χ^2	Significance
Gender									63.511	.000
Male	603	67.6	79.8	69.9	45.2	53.1	80.7	57.6		
Female	289	32.4	20.2	30.1	54.8	46.9	19.3	42.4		
Age category									184.175	.000
19-34	439	49.2	61.3	80.3	32.1	23.4	38.7	25.6		
35-54	400	44.8	36.6	19.7	56.0	62.5	57.1	62.4		
55 and older	53	5.9	2.1	11.9	14.1	4.2	12.0			
Marital status									223.866	.000
Single/not married	486	54.5	47.7	91.7	63.1	28.9	16.8	66.4		
Married	406	45.5	52.3	8.3	36.9	71.1	83.2	33.6		
Household size									646.298	.000
1	321	36.0	0.8	83.4	63.1	14.1	0.8	68.8		
2	284	31.8	36.2	11.9	29.8	71.9	24.4	21.6		
3 or more	287	32.2	63.0	4.7	7.1	14.1	74.8	9.6		
Children (< 12 years old)									228.596	.000
None	746	83.6	72.8	99.0	100.0	96.9	44.5	93.6		
1 or more	146	16.4	27.2	1.0		3.1	55.5	6.4		
Region of residence									32.592	.005
Northeast	201	22.5	21.4	16.6	32.1	21.1	21.8	29.6		
South	204	22.9	23.5	21.8	22.6	20.3	21.8	27.2		
Midwest	230	25.8	27.6	31.6	13.1	20.3	33.6	20.0		
West	257	28.8	27.6	30.1	32.1	38.3	22.7	23.2		

Note: GE = general enthusiasts; BY = budget youngsters; SM = soft moderates; UHN = upper high naturalists; FV = family vacationers; AS = active soloists.

TABLE 6

SOCIOECONOMIC SEGMENTATION OF ADVENTURE TRAVELERS BY CLUSTERS

Summary Statistic			Segmentation by Adventure Traveler Subgroup (%)							
Socioeconomic Factor	*n*	%	GE	BY	SM	UHN	FV	AS	χ^2	Significance
Occupation									33.860	.004
Managerial/professional	394	44.2	36.2	39.9	47.6	59.4	42.0	50.4		
Technical/sales/ operational	193	21.6	23.5	25.4	14.3	15.6	26.1	19.2		
Service/self-employed	213	23.9	25.1	25.4	27.4	18.0	21.0	25.6		
Retired/other	92	10.3	15.2	9.3	10.7	7.0	10.9	4.8		
Education									108.789	.000
High school	68	7.6	10.7	9.8	8.3	1.6	8.4	3.2		
Some college	298	33.4	46.5	31.6	26.2	13.3	37.8	32.0		
College complete	326	36.5	29.2	47.2	39.3	39.8	31.9	33.6		
More than college	200	22.4	13.6	11.4	26.2	45.3	21.8	31.2		
Household income									326.866	.000
Low (<$30,000)	200	22.4	8.6	61.7	39.3	3.9	3.4	14.4		
Middle ($30,000-$49,999)	281	31.5	32.9	33.7	28.6	24.2	27.7	38.4		
High (>$50,000)	411	46.1	58.4	4.7	32.1	71.9	68.9	47.2		
Income earners									487.885	.000
1	434	48.7	9.1	93.3	77.4	30.5	14.3	88.8		
2 or more	458	51.3	90.9	6.7	22.6	69.5	85.7	11.2		

Note: GE = general enthusiasts; BY = budget youngsters; SM = soft moderates; UHN = upper high naturalists; FV = family vacationers; AS = active soloists.

socioeconomics, respondents were more likely to work in professional or managerial occupations (44.2%), be well educated (92.4% with more than high school education), and be more affluent (46.1% with annual income of $50,000 or higher).

As shown in Table 7, almost all of the respondents (95.4%) would be either highly likely (66.1%) or likely (29.3%) to take adventure trips in the foreseeable future, emphasizing the high growth potential of this market. Almost every other adventure traveler (53.5%) preferred

TABLE 7

TRAVEL CHARACTERISTICS SEGMENTATION OF ADVENTURE TRAVELERS BY CLUSTERS

Summary Statistic			Segmentation by Adventure Traveler Subgroup %							
Trip-Related Factor	*n*	%	GE	BY	SM	UHN	FV	AS	χ^2	Significance
Preference for activity[a]									124.482	.000
Soft nature	284	31.8	18.9	22.8	66.7	40.6	41.2	29.6		
Risk equipped	80	9.0	9.1	9.3	9.5	7.8	6.7	11.2		
Hard challenge	233	26.1	35.8	33.2	6.0	14.8	20.2	27.2		
Rugged nature	220	24.7	26.3	23.3	14.3	32.0	18.5	28.8		
Winter snow	69	7.7	8.6	11.4	3.6	3.1	12.6	3.2		
Other	6	0.7	1.2			1.6	0.8			
Likelihood of taking a trip									161.240	.000
Unlikely to take	41	4.6		1.0	21.4		10.1	7.2		
Likely to take	261	29.3	17.3	23.3	50.0	28.1	44.5	34.4		
Highly likely to take	590	66.1	82.7	75.6	28.6	71.9	45.4	58.4		
Trip arrangement									190.808	.000
Inclusive	166	18.6	12.8	4.1	16.7	14.8	18.5	57.6		
Partially inclusive	477	53.5	56.4	49.2	59.5	63.3	56.3	37.6		
Self-arranged	249	27.9	30.9	46.6	23.8	21.9	25.2	4.8		
Vacation destination									21.231	.020
America	543	60.9	61.3	57.0	75.0	46.3	69.7	52.8		
Europe/Africa	110	12.3	11.9	11.9	10.7	22.2	10.1	12.0		
Asia/Pacific	239	26.8	26.7	31.1	14.3	31.6	20.2	35.2		
Frequency of trip per year									109.733	.000
< Once	134	15.0	8.2	5.7	28.6	20.3	26.9	16.8		
Once	348	39.0	33.3	28.0	46.4	50.0	39.5	50.4		
> Once	410	46.0	58.4	66.3	25.0	29.7	33.6	32.8		
Trip length									72.417	.000
< 7 nights	410	46.0	51.9	57.5	35.7	17.2	60.5	39.2		
> 7 nights	482	54.0	48.1	42.5	64.3	82.8	39.5	60.8		
Trip expenditure									88.570	.000
Undecided	229	25.7	25.9	33.2	23.8	21.1	30.3	15.2		
< $1,000	299	33.5	39.5	44.0	31.0	20.3	37.0	17.6		
> $1,000	364	40.8	34.6	22.8	45.2	58.6	32.8	67.2		
Traveling companion									285.272	.000
Alone/group	153	17.2	11.5	9.8	25.0	10.9	2.5	54.4		
Family	143	16.0	19.8	2.1	13.1	25.8	27.7	11.2		
Friends	284	31.8	27.2	58.0	29.8	25.8	12.6	26.4		
Family and friends	312	35.0	41.6	30.1	32.1	37.5	57.1	8.0		
Influential person(s)									125.570	.000
Self	549	61.5	64.6	68.4	59.5	59.4	23.5	84.8		
Spouse	198	22.2	21.0	11.4	26.2	31.3	47.1	5.6		
Friends and relatives/ others	145	16.3	14.4	20.2	14.3	9.4	29.4	9.6		
Information source									85.337	.000
Agent/operator/ destination marketing organizations	204	22.9	16.0	11.9	31.0	18.8	26.9	48.0		
Friends and relatives	235	26.3	24.3	39.9	25.0	24.2	23.5	15.2		
Internet	194	21.7	25.1	21.2	16.7	25.0	21.0	16.8		
Magazine/others	259	29.0	34.6	26.9	27.4	32.0	28.6	20.0		

Note: GE = general enthusiasts; BY = budget youngsters; SM = soft moderates; UHN = upper high naturalists; FV = family vacationers; AS = active soloists.
a. Sample activities for each type were listed in the survey questionnaire as follows: soft nature = hiking, nature trip, bird watching, bicycling, camping; risk equipped= paragliding, hang gliding, windsurfing, sailing; hard challenge = mountain climbing, sea canoeing, kayaking; rugged nature = jungle exploring, safari, arctic trips, trekking, rafting; winter snow = skiing, snowshoeing.

partial arrangement of trips through a travel agency plus activities with an operator or traveling on their own. Among destinations, the popularity of American destinations (60.9%) among the North American adventure travelers (Loverseed 1997; TIA 1998) was clearly evident in the study results. A total of 85% of the respondents were likely to take an adventure trip at least once a year. Friends seemed to be the most preferred companion for adventure travelers, and adventure travelers tended to be mostly self-oriented (61.5%) in making travel decisions. The length of travel or travel expenditure per person for the next adventure trip did not vary greatly among adventure travelers. Instead of

relying heavily on any specific source, respondents would rather use various information sources in their adventure travel planning (see Table 7).

The "soft nature" activities such as camping or hiking appeared to be most popular (31.8%), followed by "hard challenge (26.1%) or "rugged nature" (24.7%) types. Although travelers' preference of an adventure trip did not seem to make a significant contribution to clustering adventure travelers, nearly all (99.3%) respondents indicated their preference for adventure activity types among one of the five given types. This ensured that the suggested groupings of adventure travel activities initially reported by Sung, Morrison, and O'Leary (2000) could represent the entire range of adventure activities available in the U.S. market. Summary statistics of all activity types are exhibited in Table 7.

Perception of Adventure Travel by Traveler Subgroups

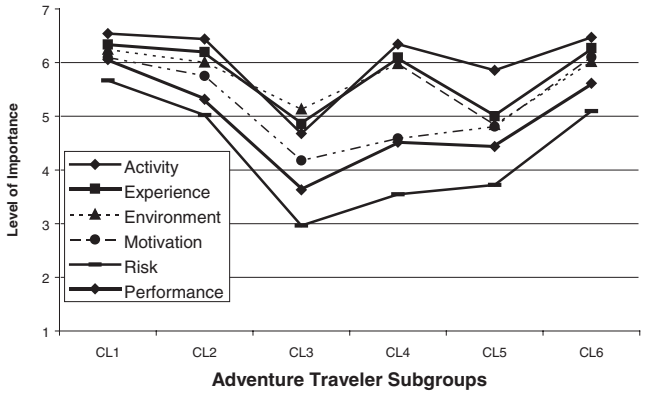
The second research objective was to understand perceptions of adventure travel across the classified adventure traveler subgroups. Among six major elements composing the notion of adventure, activity was perceived most importantly in taking adventure trips followed by experience and environment in terms of mean values (M = 6.06, 5.79, and 5.70, respectively, with 1 = *least important* and 7 = *extremely important*). Motivation, performance, and risk appeared to be relatively less important across all the clusters (M = 5.25, 4.93, and 4.34, respectively). This pattern was the most evident in cluster 4 (see Figure 1), in which means of the upper three components were clustered close to the extremely important level leaving the other three at far less important levels.

The ANOVA results (see Table 3) showed substantial variation in terms of the level of importance among six components across all six clusters classified. The presentation in Figure 1 also indicated risk to be perceived the least important, which was consistent among all six clusters. Although risk can still be considered an important factor in adventure travel (Fluker and Turner 2000; Weber 2001; Sung, Morrison, and O'Leary 1997), care should be taken to clarify the degree or amount of risk to be involved.

The fact that cluster 3 appeared to be most distinct from all other clusters (see Table 3) can also be seen in Figure 1. Travelers in this group seemed to assign less importance to the six components (means between 2.96 for risk and 5.13 for environment) than other groups. Cluster 1 travelers appeared to be the most positive about all six components (ranges = 5.67 for risk and 6.54 for activity). Members in clusters 2 and 6, on the other hand, tended to be very close in their perception of adventure travel both with activity the highest and risk the lowest. Cluster 5 travelers perceived most of the components as somewhat important but identified activity as extremely important (M = 5.86).

A correlation analysis further revealed significant structural relationships between adventure traveler subgroups and the perceived importance of adventure travel components. All six subgroups were highly related to six major components. Both clusters 3 and 5 were significantly distinct from the other four traveler groups as to how importantly they would perceive those components for their adventure trips. Adventure travel overall was less importantly perceived by these two groups than by the other four, clearly indicating

FIGURE 1
PERCEPTION OF ADVENTURE TRAVEL BY CLUSTERS



Note: Level of importance: 1 = *least important*, 7 = *most important*.

different levels of involvement in adventure trip participation. Also noticeable was that to upper high naturalists, activity, experience, and environment were more important than were motivation, risk, and performance.

Classification of Adventure Traveler Subgroups

For market segmentation purposes, profiling the cluster solutions should lead toward a classification scheme through describing the characteristics of each cluster to explain how they might differ on relevant dimensions. To interpret the meaning and patterns of clusters, Tables 5, 6, and 7 display a breakdown of each variable by cluster membership.

General Enthusiasts (Cluster 1: n = 243, 27.2% of the Respondents)

Travelers in this type appeared to be enthusiastic fans of adventure travel, in general. They had the most positive perception for all six components of adventure travel and were most likely to take adventure trips (see Table 7 and Figure 1). The experiential and participatory nature of adventure travel appeared to be the most evident among these travelers. They were largely male travelers (79.8%) with some college education. Most of them had two or more wage earners (90.9%) in the household, and their household income was mostly at the high (58.4%) or at least the middle-income level (32.9%). Married or not, there was at least two persons (99.2%) in the household, and some (27.2%) had children younger than 12 years old.

Adventure travelers in this group might take at least one adventure trip per year (91.8%), mostly (88.5%) with friends and/or family members in the travel party. As both activity (89.3%) and experience (86.4%) were perceived very importantly in their taking trips, they preferred hard challenge (35.8%) or rugged nature (26.3%) rather than soft nature (18.9%) types of adventure activities. They also preferred trips to American destinations (61.3%) that could be partially arranged (56.4%) or fully inclusive (18.6%) through travel agencies or adventure tour operators. Familiarity appeared to be dominant in adventure trip participation, but some members preferred the hard challenge (35.8%) type of trips for mountain climbing or sea kayaking that might be self-

arranged (30.9%) in non-American destinations such as Asia/Pacific (26.7%).

Budget Youngsters (Cluster 2: n = 193, 21.6% of the Respondents)

A typical traveler of this type would be a young (80.3% are between 19 and 34 years of age) and single (91.7%) person earning relatively low income (61.7%) by himself or herself. Being so young and price sensitive, these travelers would try to arrange trips by themselves (46.6%) as much as possible, and they least preferred (4.1%) all-inclusive trips. At the same time, however, about every other traveler in this group also preferred partially inclusive trips (49.2%) for professional expertise in escorted guide services or equipment arrangement. This might be particularly true with some of them (33.2%) who wanted to ensure the desired level of perceived risk and competence for the hard challenge activities that would be relatively challenging and demanding.

The budget youngsters appeared to be highly self-oriented (68.4%) in making travel decisions. Unlike the active soloists, they wanted to take trips with friends (58.3%) rather than traveling alone (9.8%). Interestingly enough, they were least likely (2.1%) to take an adventure trip with family members. They would take trips most frequently (94.3% are likely to take at least one adventure trip) and likely to American destinations (57.0%). Primarily due to their budget trip expenditures, Europe or Africa appeared to be the least popular (11.9%) destination among them.

Soft Moderates (Cluster 3: n = 84, 9.4% of the Respondents)

On average, this type of traveler was the most distinct from all other clusters and accounts for the smallest membership (9.4%; see Table 3). Here, travelers seemed to be relatively moderate in their likelihood of taking trips and perception of adventure travel (see Figure 1 and Table 8). A representative profile for this type of traveler could be a middle-aged (56.0%; 35-54 years) woman (54.8%) who would be less likely to live in the Midwest region (13.1%). Although well educated, her disposable income was relatively low (39.8%) because there was only one wage earner (77.4%) in the household. Married or not, she did not have a child younger than 12 years of age.

These travelers clearly preferred the soft nature type of adventure activities (66.7%) such as hiking, nature trips, or camping in mostly American destinations (75.0%). Although travelers in this group seemed to take trips less frequently than other groups (28.6% would take fewer than one per year), they largely preferred to purchase all-inclusive or partially inclusive packages (16.7% and 59.5%, respectively) and to use travel agents or operators as the most popular travel information source (31.0%). Here, familiarity was at a maximum with almost no risk or nothing unusual desired in making travel decisions.

Upper High Naturalists (Cluster 4: n = 128, 14.3% of the Respondents)

Similar to soft moderates in cluster 3, travelers in this group did not strongly perceive risk or performance as being important for adventure travel (see Figure 1). Instead, they would be rather closely attached to the great outdoors for soft or rugged nature types of activities (40.6% and 32.0%, respectively). Being middle-aged (62.5% in the 35-54 year old category) and married (71.1%), these travelers largely resided in the western region (38.3%) and had professional or managerial occupations (59.4%) to earn high income (71.1%). Female travelers made up a considerable part of this group (46.9%), and they would like to travel with family members and/or friends. Most of them had dual income earners (71.9%) in the household but no children younger than 12 years old (96.9%). They had a high socioeconomic profile (see Table 4).

TABLE 8

CORRELATION BETWEEN ADVENTURE COMPONENTS AND TRAVELER SUBGROUPS

	Coefficient					
Component	CL1	CL2	CL3	CL4	CL5	CL6
Activity	.149**	.119**	–.547**	.105**	–.111**	.131**
Experience	.219	.112**	–.344**	.125**	–.355**	.096**
Environment	.251**	.047	–.200**	.083**	–.359**	.059
Motivation	.293**	.121**	–.323**	–.264**	–.178**	.193**
Risk	.392**	.129**	–.331**	–.291**	–.201**	.113**
Performance	.366**	.068*	–.325**	–.203**	–.196**	.120**

*Significant at the .05 level (2-tailed). **Significant at the .01 level (2-tailed).

Being the most affluent, travelers in this group appeared to be seeking novelty. For instance, their preference for more exotic destinations such as Europe/Africa (22.2%) or Asia/Pacific (31.6%) was much stronger than the other groups. While they would take trips once a year on average (50.0%), they would like to stay longer (82.8% would stay longer than 7 nights) and spend more than the other groups (58.6% would spend more than $1,000 per person per trip) (see Table 7). For such upscale trips, the role of tourism establishments might be greatly significant in making sophisticated travel arrangements and in ensuring the quality of services desired. Familiarity is still present, but the experience of novelty is greater among this type of adventure travelers.

Family Vacationers (Cluster 5: n = 119, 13.3% of the Respondents)

Overall, travelers in this group did not seem to be greatly excited about taking adventure trips as general enthusiasts of cluster 1. Unlike those in the budget youngsters group, a typical traveler of this type appeared be a household head who was married (83.2%) and male (80.7%). Having completed at least some college education (91.6%), many of them (42.0%) were engaged in professional or managerial occupations. There were at least two income earners in the household (85.7%), so that their disposable income could be higher than the average (68.9% with $50,000 or more). With one or more children younger than 12 years old, most had more than three persons in the household (74.8%).

Travelers in this group seemed to be very family oriented in making travel decisions and taking trips. Their adventure trips were likely to be to familiar destinations such as the American continent (69.7%) including South and Central America (see Table 7). Without having any specific preference for the type of adventure activities, they appeared to participate in adventure trips as if they had been on vacation with family members. They would rather have tourism

establishments to make partial (56.3%) or even all-inclusive arrangement (18.5%) for their carefree vacations. Familiarity was still dominant but not at a maximum level as in the soft moderates, as they preferred to travel farther than the soft moderates.

Active Soloists (Cluster 6: n = 124, 14.0% of the Respondents)

Activity was extremely important for this group of travelers ($M = 6.47$). Unlike other groups, they considered motivation as being highly important ($M = 6.10$) for adventure travel, and some of them (11.2%) even preferred risk-equipped activities such as hang gliding or windsurfing. Since they would rather travel alone or as a member of organized packages (54.4%), they appeared to be naturally self-oriented (84.8%) in making travel decisions. Although they were relatively well educated, they had more members in the middle-income range (38.4%) than did upper high naturalists or family vacationers (24.2% and 27.7%, respectively), who had more than two earners. A traveler of this type did not have children younger than 12 years (93.6%) and seemed to be a single income earner in the household (88.8%).

Travelers in this group distinctively preferred all (57.6%) or partially inclusive (37.6%) travel arrangements by adventure tourism establishments and sought travel information largely from travel agencies or destination organizations (48.0%). This group could clearly represent the most institutionalized form (see Cohen 1972 for further discussion) of tourists who would heavily depend on an organized establishment in making travel arrangements. Their travel expenditures were higher than the others (the highest distribution, 67.2%, for more than $1,000 per person per trip), and some (35.2%) of them preferred the Asia/Pacific region for their adventure vacation destinations. Novelty appeared to be important to a great extent among this type of travelers when selecting exotic destinations.

LIMITATIONS

The structural limitations of this study included (1) the limited amount of literature directly associated with adventure travel and, as a consequence, (2) some challenges in adopting past leisure/recreation or consumer behavior theories to the context of adventure travel due to the structural differences between these areas. Adventure travel has been heavily industry driven, so that the importance of theoretical constructs might not have been fully recognized while much more attention has been paid to the empirical applications. Leisure/recreation studies, on the other hand, appear to find a theoretical tradition in a social science perspective. This suggests that exchanging research terms or application practices may take extra caution not to violate assumptions across these two areas.

With regard to research methodology, sampling of participants from ACONA's membership subscription might possibly cause an issue in terms of representativeness. It was noted earlier that the respondents ($N = 1,033$) were drawn from an a priori known group, presumably having a similar interest in adventure travel. By subscribing with a paid membership, those respondents are considered more actively involved in adventure travel. As a result, they might have unique group characteristics or travel behavior associated with adventure travel than the general population does. Nevertheless, the target population of this study was not the general public in the United States. Rather, it was adventure travelers who would be interested in taking an adventure trip (whether they have been on a trip or not). The extension or generalization of the study results to the general public, therefore, should be treated with a degree of caution.

CONCLUSIONS AND IMPLICATIONS

The classification of adventure travelers developed in this study presented a challenging but worthy task, particularly when little systematic research has previously been reported on the subject to date. The unique classification approach to market segmentation in this study was to establish classification constructs of adventure traveler subgroups across the hypothesized factors (demographic and socioeconomic measures, trip-related factors, and perception of adventure) in the multivariate analysis, which has rarely been attempted or fully developed. The results of this study will fill these gaps in the literature by providing a meaningful explanation of consumer and travel behavior of adventure travelers. Clearly, adventure travelers are distinct in terms of some traveler and consumer characteristics and therefore have specific needs and demands for travel and tourism products and services. For effective target market purposes, the current hypothesized relationship with greater reflection on the study findings may suggest some additional development in understanding factors relevant to adventure travelers' travel decision making.

The first research objective of classifying distinctive adventure traveler subgroups emphasizing traveler characteristics and consumer and travel behavior was accomplished. The empirical research identified a six-cluster solution labeled as (1) general enthusiasts, (2) budget youngsters, (3) soft moderates, (4) upper high naturalists, (5) family vacationers, and (6) active soloists. Although the primary purpose of using a cluster analysis in this study was not to identify individual relationships of each variable associated with the cluster solution, some factors appeared to have significant impacts on cluster formulation. Household size and number of income earners had the greatest variation across clusters; both household disposable income and number of young children showed a somewhat similar pattern.

The classified adventure traveler subgroups were then tied to their perception of adventure travel, addressing the second research objective. Overall, the relative importance of activity, experience, and environment perceived by adventure travelers appeared to have an almost identical pattern with what had been reported by Sung, Morrison, and O'Leary (1997) in defining adventure travel with providers. As shown in Table 8, travelers' perceptions of adventure travel across all the six components appeared to be significantly relevant to the identified traveler subgroups. Linking to the leisure involvement theories, it was likely that the general enthusiast type of travelers would be more positive in their adventure participation than those of the soft moderate type, where the notion of adventure was less significantly perceived. The inclusion of perception of adventure travel in the analysis suggests to practitioners how adventure travel products and services should be developed with the

appropriate level of involvement to improve customer appeal.

The results of this study also suggest ways to discuss practical recommendations as to how adventure travel products and services might be developed and delivered to target segments. For effective use of marketing resources, marketers and industry providers should warrant an extensive attention to institutionalized tourists who would prefer all or mostly inclusive travel arrangements. For instance, the general enthusiasts subgroup clearly appears to be the biggest segment in terms of both the market share (27.2%) and the market potential with strong involvement level. Their willingness to participate in challenging adventure activities suggests that they would prefer high or hard experiences in their adventure trips rather than stay safe in familiarity. Targeting those who belong in the upper high naturalists group will be a good strategy for providers who offer a well-organized itinerary in exotic destinations such as safaris in Kenya or arctic trips on tall sailboats. Although this segment is not as big as the general enthusiasts in terms of the market share or potential, travelers in this group appear to be most affluent and willing to pay for novelty trips where they can enjoy such exotic destinations at an upscale comfort level. For the active soloists, distinct in their strong preferences of organized packages, both high activities and socializing would be key elements to a successful itinerary.

On the other hand, those who belong in the budget youngsters group tend to be at some distance from the institutionalized segments. Not every traveler in this type can afford organized packages. Instead, most of them would rather make travel arrangements by themselves. Targeting the family vacationers might also be challenging since these travelers do not show any specific preference for adventure activity types. Alternatively, they can be easily satisfied as long as their trip is well organized and offers something for every family member. Although those who are in the soft moderates category tend to keep their involvement with the tourism organizations at a minimum level, they appear to be more approachable and easy to pinpoint due to their strong preference of the soft nature trip type in American destinations. An ecotrip to Costa Rica at an affordable price, for instance, would be an appropriate product match with this group. However, marketers still need to make extra efforts to offer strong motivation to take a trip that interests this group of travelers.

The distinctive group characteristics from the classification of adventure traveler subgroups have significant implications to revisiting Cohen's (1972) classic typology of four tourist groups and their involvement with institutions in making travel arrangements. As discussed in studies of tourist typology (Basala and Klenosky 2001; Hvenegaard 2002; Keng and Cheng 1999; Lee and Crompton 1992; Moscardo et al. 2000; Snepenger 1987; Smith 1990), Plog's (1974) cognitive-normative tourist typology focuses on travel motivation (allocentrics, midcentrics, and psychocentrics), while Cohen's (1972) typology is activity oriented and emphasizes behavioral constructs and/or psychographics of travelers. Although Cohen's original study focus was on different roles of tourist types (i.e., the organized mass tourist, the individual mass tourist, the explorer, and the drifter) in the host community, his novelty versus familiarity grid appeared to be a good fit in market positioning of adventure traveler subgroups.

The exploration of the classified adventure travel subgroups reported in this study is expected to make a meaningful contribution to understanding distinct adventure traveler subgroups and measuring travelers' involvement as to how they would purchase and consume adventure travel products and/or services. Examination of key dimensions of the notion of adventure (Sung, Morrison, and O'Leary 1997) in this study was the first attempt in identifying the conceptual linkage between consumer behavioral aspects of adventure travelers and leisure involvement theories from a tourism perspective. The results provide an improved understanding of adventure traveler subgroups and suggest a comprehension of involvement constructs, which will help adventure travel marketers and practitioners determine their roles particularly in the strategy formulation process to match available marketing resources with target segments. Future research could include more behavioral components and/or psychographics such as needs, motivations, or benefits in the analysis to provide reliable, useful information about consumer behavior specific to particular travel participation.

REFERENCES

Andereck, K. L., and L. L. Caldwell (1994). "Variable Selection in Tourism Market Segmentation Models." *Journal of Travel Research*, 33 (2): 40-46.

Arimond, G., and A. Elfessi (2001). "A Clustering Method for Categorical Data in Tourism Market Segmentation Research." *Journal of Travel Research*, 39 (4): 391-397.

Basala, S. L., and D. B. Klenosky (2001). "Travel-Style Preferences for Visiting a Novel Destination: A Conjoint Investigation across the Novelty-Familiarity Continuum." *Journal of Travel Research*, 40 (2): 172-182.

Bieger, T., and C. Laesser (2002). "Market Segmentation by Motivation: The Case of Switzerland." *Journal of Travel Research*, 41 (1): 68-76.

Black, N., and J. Rutledge (1995). *Outback Tourism: The Authentic Australian Adventure*. North Queensland, Australia: James Cook University Press.

Boo, E. (1990). *Ecotourism: The Potentials and Pitfalls*. Baltimore: World Wildlife Fund.

Burns, A. C., and R. F. Bush (2003). *Marketing Research: Online Research Applications*. 4th ed. Upper Saddle River, NJ: Prentice Hall.

Canadian Tourism Commission (2002). "Canadian Tourism Facts & Figures 2001." Canadian Tourism Commission. Retrieved May 20, 2003, from http://ftp.canadatourism.com/ctsuproads/en_publication/tourism2002.pdf

Carrera, N. (1995). "Rapid Growth: Consultant Helps Develop Adventure Travel Opportunities." *Denver Business Journal*, 46 (36): 19-20.

Cater, E., and G. Lowman (1994). *Ecotourism: A Sustainable Option?* New York: John Wiley.

Chandler, J. A., and C. A. Costello (2002). "A Profile of Visitors at Heritage Tourism Destinations in East Tennessee According to Plog's Lifestyle and Activity Level Preferences Model." *Journal of Travel Research*, 41 (2): 161-166.

Chon, K. S., and A. Singh (1995). "Marketing Resorts to 2000: Review of Trends in the USA." *Tourism Management*, 16 (6): 463-469.

Christiansen, D. R. (1990). "Adventure Tourism." In *Adventure Education*, edited by J. C. Miles and S. Priest, 433-442. State College, PA: Venture.

Churchill, G. A. (1999). *Marketing Research: Methodological Foundations.* 2nd ed. Fort Worth, TX: Dryden.

Cohen, E. (1972). "Toward a Sociology of International Tourism." *Social Research*, 39 (1): 164-182.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. 2nd ed. Thousand Oaks, CA: Sage.

Derrett, R. (2001). "Special Interest Tourism: Starting with the Individual." In *Special Interest Tourism: Context and Cases*, edited by Norman Douglas, Ngaire Douglas, and R. Derrett, 1-22. New York: John Wiley.

Dimanche, F., and M. E. Havitz (1994). "Consumer Behavior and Tourism: Review and Extension of Four Study Areas." *Journal of Travel and Tourism Marketing*, 3 (3): 37-57.

Dolnicar, S., and F. Leisch (2003). "Winter Tourist Segments in Austria: Identifying Stable Vacation Styles Using Bagged Clustering Techniques." *Journal of Travel Research*, 41 (3): 281-292.

Eagles, P. F., and J. W. Cascagnette (1995). "Canadian Ecotuorists: Who Are They?" *Tourism Recreation Research*, 20 (1): 22-28.

Ewert, A. (1987). "Recreation in the Outdoor Setting: A Focus on Adventure-Based Recreational Experiences." *Leisure Information Quarterly*, 14 (1): 5-7.
———(1989). *Outdoor Adventure Pursuits: Foundation, Models, and Theories*. Columbus, OH: Publishing Horizons.
Ewert, A., and S. Hollenhorst (1994). "Individual and Setting Attributes of the Adventure Recreation Experience." *Leisure Sciences*, 16: 177-191.
Fluker, M. R., and L. W. Turner (2000). "Needs, Motivations, and Expectations of a Commercial Whitewater Rafting Experience." *Journal of Travel Research*, 38 (2): 380-389.
Grant, Y., and P. A. Weaver (1996). "The Meeting Selection Process: A Demographic Profile of Attendees Clusters by Criteria Utilized in Selecting Meetings." *Hospitality Research Journal*, 20 (1): 57-71.
Hair, J. F., R. E. Anderson, R. L. Tatham, and W. C. Black. (1998). *Multivariate Data Analysis*. 5th ed. Upper Saddle River, NJ: Prentice Hall.
Hall, C. M. (1989). "Special Interest ravel: A Prime Force in the Expansion of Tourism?" In *Geography in Action*, edited by R. Welch, 81-89. Dunedin, New Zealand: University of Otago Press.
———(1992). "Adventure, Sport and Health Tourism." In *Special Interest Tourism*, edited by B. Weiler and C. M. Hall, 141-158. London: Belhaven.
Hall, C. M., and B. Weiler (1992). "What's Special about Special Interest Tourism?" In *Special Interest Tourism*, edited by B. Weiler and C. M. Hall, 1-4. London: Belhaven.
Havitz, M. E., and F. Dimanche (1990). "Propositions for Guiding the Empirical Testing of the Involvement Construct in Recreational and Tourist Context." *Leisure Sciences*, 12 (2): 179-196.
———(1995). "How Enduring Is Enduring Involvement in the Context of Tourist Motivation?" *Journal of Travel and Tourism Marketing*, 4 (3): 95-99.
———(1997). "Leisure Involvement Revisited: Conceptual Conundrums and Measurement Advances." *Journal of Leisure Research*, 29 (3): 245-278.
Higgins, B. R. (1996). "The Global Structure of the Nature Tourism Industry: Ecotourists, Tour Operators, and Local Businesses." *Journal of Travel Research*, 35 (2): 11-18.
Horneman, L., R. W. Carter, S. Wei, and H. Ryus (2002). "Profiling the Senior Traveler: An Australian Perspective." *Journal of Travel Research*, 41 (1): 23-37.
Hsu, C. H., S. K. Kang, and K. Wolfe (2002). "Psychographic and Demographic Profiles and Niche Market Leisure Travelers." *Journal of Hospitality and Tourism Research*, 26 (1): 3-22.
Hvenegaard, Glen T. (2002). "Using Tourist Typologies for Ecotourism Research." *Journal of Ecotourism*, 1 (1): 7-18.
Iso-Ahola, S. (1980). *The Social Psychology of Leisure And Tourism*. Dubuque, IA: William C. Brown.
———(1982). "Towards a Social Psychological Theory of Tourism Motivation: A Rejoinder." *Annals of Tourism Research*, 9 (2): 256-262.
Jackson, E. L. (1994). "Activity-Specific Constraints on Leisure Participation." *Journal of Park and Recreation Administration*, 12 (2): 33-49.
Jeffrey, D., and Y. Xie (1995). "The UK Market for Tourism in China." *Annals of Tourism Research*, 22 (4): 857-876.
Kashyap, R., and D. C. Bojanic. (2000). "A Structural Analysis of Value, Quality, and Price Perceptions of Business and Leisure Travelers." *Journal of Travel Research*, 39 (1): 45-51.
Kemperman, A., A. Borgers, H. Oppewal, and H. Timmermans (2003). "Predicting the Duration of Theme Park Visitors' Activities: An Ordered Logit Model Using Conjoint Choice Data." *Journal of Travel Research*, 41 (4): 375-384.
Keng, K. A., and L. L. Cheng (1999). "Determining Tourist Role Typologies: An Exploratory Study of Singapore Vacationers." *Journal of Travel Research*, 37(4): 382-390.
Kinnear, P. R., and C. D. Gray (2000). *SPSS for Windows Made Simple: Release 10*. Ease Sussex, UK: Psychology Press.
Kotler, P., J. Bowen, and J. Makens (2002). *Marketing for Hospitality and Tourism*. 3rd ed. Upper Saddle River, NJ: Prentice Hall.
Lang, C. T., J. T. O'Leary, and A. M. Morrison (1997). "Distinguishing the Destination Choices of Pleasure Travelers from Taiwan." *Journal of Travel and Tourism Marketing*, 6 (1): 21-40.
Lauer, J. M., and J. W. Asher (1988). *Composition Research: Empirical Designs*. New York: Oxford University Press.
Lee, T. H., and J. Crompton (1992). "Measuring Novelty Seeking in Tourism." *Annals of Tourism Research*, 19 (4): 732-751.
Loverseed, H. (1997). "The Adventure Travel Industry in North America." *Travel and Tourism Analyst*, 6: 87-104.
Madrigal, R. (1995). "Personal Values, Traveler Personality Type, and Leisure Travel Style." *Journal of Leisure Research*, 27 (2): 125-142.
Mallett, J. (2002). *The Evolution of Adventure Travel*. Adventure Travel Society, Colorado. Retrieved June 7, 2003, from http://adventuretravelbusiness.com/index.php/research
Manning, R. (1986). *Studies in Outdoor Recreation*. Corvallis: Oregon State University Press.
Martin, P., and S. Priest (1986). "Justifying the Risk to Others: The Real Razor's Edge." *Journal of Experiential Education*, 10 (1): 16-22.
McIntyre, N. (1992). "Involvement in Risk Recreation: A Comparison of Objective and Subjective Measures of Engagement." *Journal of Leisure Research*, 24 (1): 64-71.
Meier, J. (1978). "Is the Risk Worth Taking?" *Leisure Today*, 49 (4): 7-9.
Middleton, V. T. (2001). *Marketing in Travel and Tourism*. 3rd ed. Avon, UK: Bath Press.
Mill, R. B., and A. M. Morrison (1998). *The Tourism System: An Introductory Text*. 3rd ed. Dubuque, IA: Kendall/Hunt.
Morrison, A. M. (2001). *Hospitality and Travel Marketing*. 3rd ed. Albany, NY: Delmar.
Morrison, A. M., P. L. Pearce, G. Moscardo, N. Nadkarni, and J. T. O'Leary (1996). "Specialist Accommodation: Definition, Markets Served, and Roles in Tourism Development." *Journal of Travel Research*, 35 (1): 18-26.
Moscardo, G., P. Pearce, and A. M. Morrison (2001). "Evaluating Different Bases for Market Segmentation: A Comparison of Geographic Origin versus Activity Participation for Generating Tourist Market Segments." *Journal of Travel and Tourism Marketing*, 10 (1): 29-50.
Moscardo, G., P. Pearce, A. M. Morrison, D. Green, and J. T. O'Leary (2000). "Developing a Typology for Understanding Visiting Friends and Relative Markets." *Journal of Travel Research*, 38 (3): 251-259.
Oden, W. (1995). "Adventure in Colorado." *Colorado Business Magazine*, 22 (5): 56-61.
Plog, S. C. (1974). "Why Destination Areas Rise and Fall in Popularity." *Cornell Hotel and Restaurant Administration Quarterly*, 14: 55-58.
———(2002). "The Power of Psychographics and the Concept of Venturesomeness." *Journal of Travel Research*, 40 (3): 244-251.
Prebensen, N. K., S. Larsen, and B. Abelsen (2003). "I'm Not a Typical Tourist: German Tourists' Self-Perception, Activities, and Motivations." *Journal of Travel Research*, 41 (4): 416-420.
Robinson, D. W. (1992). "A Descriptive Model of Enduring Risk Recreation Involvement." *Journal of Leisure Research*, 24 (2): 52-63.
Ross, K. (1999). "Exploring the World of Adventure Travel." *HSMAI Marketing Review*, 16 (2): 10-13.
Selin, S. W., and D. R. Howard (1988). "Ego Involvement and Leisure Behavior: A Conceptual Specification." *Journal of Leisure Research*, 20 (3): 237-244.
Sherif, M., and H. Cantril (1947). *The Psychology of Ego-Involvement*. New York: John Wiley & Sons.
Silverberg, K. E., S. J. Backman, and K. F. Backman (1996). "A Preliminary Investigation into the Psychographics of Nature-Based Travelers to the Southeastern United States." *Journal of Travel Research*, 35 (2): 19-28.
Sirakaya, E., M. Uysal, and C. F. Yoshioka. (2003). "Segmenting the Japanese Tour Market to Turkey." *Journal of Travel Research*, 41 (3): 293-304.
Smith, S. L. (1990). "A Test of Plog's Allocentric/Psychocentric Model: Evidence from Seven Nations." *Journal of Travel Research*, 28 (4): 40-43.
Snepenger, D. J. (1987). "Segmenting the Vacation Market by Novelty Seeking Role." *Journal of Travel Research*, 26 (3): 8-14.
Sorensen, L. (1993). "The Special Interest Travel Market." *Cornell Hotel and Restaurant Administration Quarterly*, 34: 24-30.
Sung, H. H. (2001). "Adventure Travelers: Who Are They and What They Do on Their Adventure Vacations?" In *Trends 2000: Shaping the Future. Proceedings of the 5th Outdoor Recreation & Tourism Trends Symposium*, 348-359. East Lansing: Michigan State University.
Sung, H. H., A. M. Morrison, G. S. Hong, and J. T. O'Leary (2001). "The Effects of Household and Trip Characteristics on Trip Types: A Consumer Behavioral Approach for Segmenting the U. S. Domestic Leisure Travel Market." *Journal of Hospitality & Tourism Research*, 25 (1): 46-68.
Sung, H. H., A. M. Morrison, and J. T. O'Leary (1997). "Definition of Adventure Travel: Conceptual Framework for Empirical Application from the Providers' Perspective." *Asia Pacific Journal of Tourism Research*, 1 (2): 47-67.
——— (2000). "Segmenting the Adventure Travel Market by Activities: From the North American Providers' Perspective." *Journal of Travel and Tourism Marketing*, 9 (4): 1-20.
Swarbrooke, J., and S. Horner (1999). *Consumer Behavior in Tourism*. Oxford, UK: Butterworth-Heinemann.
Travel Industry Association of America (1998). *The Adventure Travel Report*. Washington, DC: Travel Industry Association of America.
Vellas, F., and L. Becherel (1995). *International Tourism: An Economic Perspective*. New York: St. Martin's.
Walle, A. H. (1997). "Pursuing Risk or Insight: Marketing Adventures." *Annals of Tourism Research*, 24 (2): 265-282.
Weber, K. (2001). "Outdoor Adventure Tourism: A Review of Research Approaches." *Annals of Tourism Research*, 28 (2): 360-377.
Whelan, T. (1991). *Nature Tourism: Managing for the Environment*. Washington, DC: Island.
Wight, P. A. (1996). "North American Ecotourism Markets: Market Profile and Trip Characteristics." *Journal of Travel Research*, 35 (2): 2-10.