

Testing a Constraints Model within the Context of Nature-Based Tourism

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This study focused on pleasure travelers' perceived constraints to nature-based tourism. Eleven constraint statements were identified through a literature review and were chosen a priori to represent three types of constraint as outlined by Crawford, Jackson, and Godbey. The purpose of the study was to determine whether the three types of constraints (intrapersonal, interpersonal, and structural) existed in the context of nature-based tourism. A confirmatory factor analysis using the EQS program was used to "confirm" that the data fit the three-constraint model. MANOVA was then employed to identify whether respondents differed in their perception of constraints based on demographic variables. The findings indicated that differences existed with regards to age and family life cycle stage.

Who are nature-based tourists, and what affects their decision to travel? Given the growth in nature-based tourism, which is 10% to 15% annually, this is an important question (Luzar et al. 1995). Various authors have described nature-based tourists as individuals who are interested in experiencing wilderness and undisturbed nature; seeing lakes, streams, and mountains; being physically active; and engaging in outdoor activities (Eagles 1992; Fennell and Eagles 1990; Kretchman and Eagles 1990; Leones, Colby, and Crandall 1998; Meric and Hunt 1998; Silverberg, Backman, and Backman 1994; Wight 1996). They also may be socially and environmentally conscious. As such, nature-based tourists have attracted the attention of destination marketers who have adopted nature or eco-based tourism as a panacea for their economic woes. Hence, a compelling question is what constrains or prevents people from traveling to or extending their stay in nature-based destinations? Not only do constraints prevent people from traveling to a destination at all, but according to Tian, Crompton, and Witt (1996), individuals may select a substitute destination because of perceived constraints.

The purpose of this study was to (1) investigate perceived intrapersonal, interpersonal, and structural constraints to nature-based travel; (2) determine whether the intrapersonal, interpersonal, and structural constraint model exists within the context of nature-based tourism; and (3) determine the extent to which individuals' perceptions of these constraints differ depending on socioeconomic status (SES), family life cycle, age, and gender.

PERCEIVED CONSTRAINTS

Constraints are factors that "limit the formation of leisure preferences and . . . inhibit or prohibit participation and enjoyment in leisure" (Jackson 1991, p. 279). "Leisure is not mitigated by a single constraint or even by a single set of constraints" (Hultsman 1995, p. 228). In fact, various authors (see Backman 1991; Backman and Wright 1990; Jackson and Dunn 1987; McGuire 1984) have documented that constraints are interrelated and should be evaluated in the context of underlying dimensions. Jackson (1993), building on this contention, identified six dimensions of constraints that appear to be common across settings: (a) social isolation: characteristics that involve interaction between/among people, (b) accessibility: lack of or limited access to transportation, (c) personal reasons: representing an individual's abilities or motivations, (d) cost: experience costs or cost of equipment, (e) time: referring to levels and intensity of participation, and (f) facility: crowding and maintenance.

More than a decade ago, Crawford, Jackson, and Godbey (1991) developed a framework to guide constraints research. They argued that there are three types of constraints: intrapersonal (e.g., stress, depression, anxiety, perceived self skill), interpersonal (i.e., lack of an appropriate partner), and structural (e.g., family life cycle, cost, season, opportunity). The constraints are sequentially ordered and, as such, represent a hierarchy of importance from most proximal (intrapersonal) to most distal (structural). Empirical verification of the Crawford, Jackson, and Godbey model is limited, however. Raymore et al. (1993) tested the model with a sample of adolescent students and found support for the hierarchy of importance of leisure constraints. Alexandris and Carroll's (1997) study did not. However, their study was conducted with a sample of the Greek population and involved a different methodology, making direct comparisons difficult.

Researchers have suggested that the perception of constraints is related to demographic characteristics, including SES. Searle and Jackson (1985), for example, found that SES was correlated with beginning recreation participation. They found, as did Howard and Crompton (1984), that increased

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SES was inversely related to perceived constraints. Godbey (1985) noted that people in lower SES categories were less aware of public leisure services, thus eliminating the possibility of participation in some activities. And Raymore, Godbey, and Crawford (1994) found that perceived SES in teenagers was found to be negatively related to intrapersonal constraints but not related to interpersonal constraints or structural constraints. Raymore, Godbey, and Crawford suggested that individuals with lower SES are more likely to have intrapersonal constraints. In summary, studies have found that increases in SES correspond with greater knowledge of the activity, greater interest in it, and more participation.

Researchers also have indicated the importance of considering life cycle stages in understanding the dynamics of leisure constraints. Orthner (1976) suggested that exploring barriers to leisure as a function of family life cycle stage does provide better understanding of the husband-wife-child(ren) relationship, communication patterns, task differentiation, and marital satisfaction in relation to leisure participation. In addition, understanding how life cycle stage is related to leisure constraints may provide "support for strategies to alleviate them" (Scott and Jackson 1996, p. 2).

Much of the research to date has either examined constraints at different life cycle stages (McGuire 1982; Raymore, Godbey, and Crawford 1994) or compared constraints between different life cycle stages (McGuire, Dottavio, and O'Leary 1986; Searle and Jackson 1985; Rapoport and Rapoport 1975; Witt and Goodale 1981). With regard to the study of constraints at different life cycle stages, researchers have found that self-esteem and SES may be linked to leisure participation for those in the adolescent stage (Raymore, Godbey, and Crawford 1994). As well, issues related to health may influence participation in leisure for seniors (McGuire 1982).

Comparison between different life cycle stages has shown that Crawford and Godbey's (1987) interpersonal constraints (lack of someone to participate with, lack of family support, etc.) may be greater when parents have preschool children at home (Witt and Goodale 1981; Rapoport and Rapoport 1975), while intrapersonal constraints (i.e., diminishing motivation to participate in leisure activities) seem to be greater for those in the empty nest stage (children leave the home) (Hall 1975; Rapoport and Rapoport 1975; Witt and Goodale 1981). One reason for this diminished motivation may be failure to develop personally meaningful leisure interests because their lives revolve around the children.

Tied to the notion of family life cycle is age. Existing literature suggests that participation in outdoor recreation or nature-based activities decreases with age. In fact, participation by the elderly is infrequent and usually consists of walking, visiting a park, or gardening (McAvoy 1976). Researchers have found that health reasons as a constraint to participation increase as individuals' age (McGuire, Dottavio, and O'Leary 1986). Lack of money, lack of transportation, and lack of information, however, may not be any more of a constraint for seniors than for any other age group (McGuire, Dottavio, and O'Leary 1986).

Differences in leisure constraints between men and women have been addressed by several researchers (Henderson 1991; Jackson and Henderson 1995; Searle and Jackson 1985; Shaw, Bonen, and McCabe 1991). According to Jackson and Henderson (1995), examining constraints by

gender provides two distinct benefits: (1) insights are gained into the nature of the phenomena, and (2) the results can enhance understanding of the context of people's lives.

The literature on women's leisure supports the assumption that leisure for women is more constrained than leisure for men. Green, Hebron, and Woodward (1987) suggested that constraints to leisure may be different between men and women because of the combination of personal, social, and situational characteristics that combine to create a person's lifestyle and that gender may be a mediating variable in the life cycle framework. Iso-Ahola, Jackson, and Dunn (1994) reported that men and women have very different life circumstances across the life course that lead to differences in leisure participation as a response to differences in constraints. Furthermore, research has suggested that women tend to subordinate their needs in favor of others (Scott and Jackson 1996) because of a feeling of lack of sense of entitlement (Henderson and Bialeschki 1991) and a strong "ethic of care" (Henderson et al. 1989).

CONSTRAINTS WITHIN THE CONTEXT OF TRAVEL

To date, perceived constraints to travel have not received much attention. Blazey (1987), Crompton (1977), and Lansing and Blood (1964) documented that lack of money, time, family support or interest, and poor health were the primary constraints perceived to influence an individual's decision of whether to travel. Others (see Cunningham and Thompson 1986; Edgell 1990; Fridgen 1984; Kerstetter and Holdnak 1990; Smith 1985) addressed, but did not have as their primary focus, the study of constraints. In 1991, Norman (1995) chose to address the influence of perceived constraints on the decision of whether to take a summer trip. Later, Tian, Crompton, and Witt (1996) assessed constraints that inhibited museumgoers from visiting museum attractions in Texas. They documented six constraint dimensions: cost, time, difficulty of access, repetition, product failings, and lack of interest. Given the dearth of research regarding perceived constraints to travel, especially in the context of nature-based travel, this study was conducted.

METHODOLOGY

Procedures

A survey conducted by the Travel, Tourism and Recreation Resources Center at Michigan State University (TTRRC) has been in continuous operation since October 1995. Data are collected in a computer-assisted telephone-interviewing laboratory. The survey population consists of adults 18 or older who permanently reside in Indiana, Illinois, Minnesota, Michigan, Ohio, Wisconsin, and Ontario, Canada. The TTRRC uses random-digit-dial samples of household telephone numbers purchased from Survey Sampling, Inc. On average, about 474 interviews are conducted during weekday and weekend evenings each month. Up to three callbacks are made for each household in the designated sample. The overall response rate is approximately 35%. The data for this particular study were collected during

1 month of the larger survey. Due to time constraints, only 1 month of data collection was feasible. A total of 350 individuals who had an interest in visiting natural resources in Michigan but could not visit were interviewed during the month of June 1997.

Measures

To assess perceived constraints to nature-based tourism, respondents who indicated that they “had an interest in traveling to Michigan for the purpose of outdoor recreation” but could not do so were asked to respond to 11 constraint statements. (Note: The pilot test used the wording, “had an interest in traveling within Michigan for the purpose of nature-based tourism.” However, interviewers found that the general public was not familiar with this term and became irritated and ended the interview. Therefore, the wording was changed to “had an interest in traveling within Michigan for the purpose of outdoor recreation.”) Support for interpreting outdoor recreation as a component of nature-based tourism came from Lindberg’s (1991) definition of four basic types of nature-based tourists: (1) hard-core nature tourists, (2) dedicated nature tourists, (3) mainstream nature tourists, and (4) casual nature tourists. This study focused on the last type, “casual nature tourists”: individuals who partake of nature as part of a trip.

After a comprehensive review of the literature as well as previous studies conducted in the state of Michigan, 11 constraint statements were chosen to represent the three theoretical constructs of constraints outlined by Crawford, Jackson, and Godbey (1991): intrapersonal, interpersonal, and structural. Only 11 constraint questions were included to eliminate repetitiveness on the telephone and respondent frustration. Respondents were asked to indicate how much influence each constraint had on their decision not to participate in nature-based tourism in Michigan, using a 5-point Likert-type scale ranging from 1 = *no influence* to 5 = *very strong influence*. Statements representing each type of constraint are presented in Table 1.

The demographic questions included in this study referred to gender, age, family life cycle, total household income, and level of education. Duncan’s Socioeconomic Index uses education and income attributes as proxies for a categorical scale of social prestige (Hodge 1981). Therefore, total household income and level of education were combined to create the variable SES. Twelve categories resulted from each level of education being combined with each level of household income.

Method of Interpretation

Structural equations modeling was used, using the EQS program (Bentler 1995). These analyses use a maximum likelihood estimation method of parameter estimation, and all analyses were performed on the variance-covariance matrix. Listwise deletion was used. As suggested by Hu and Bentler (1995), multiple fit indices were used. Fit indices greater than .90 suggest a good fit of the data, and fit indices greater than .95 suggest an excellent fit of the data.

The initial step in interpreting the constraint data was to perform a confirmatory factor analysis (CFA) to establish whether the three types of constraints—interpersonal, intrapersonal, and structural—did actually exist in the context of nature-based tourism. In practice, a measurement

TABLE 1
NATURE-BASED TRAVEL CONSTRAINT STATEMENTS

Here is the list of factors that might have affected your decision NOT to participate in outdoor recreation in Michigan. Please rate each statement on a scale of 1 through 10 where 1 is *strongly disagree* and 5 is *strongly agree*.

Intrapersonal	
	Safety in Michigan’s natural areas
	Skills to participate in outdoor recreation activities
	Skill in obtaining travel information about outdoor recreation activities
Interpersonal	
	Family interest in outdoor recreation activities
	Influence of friends
	Having a travel companion
Structural	
	Money to participate in outdoor recreation activities
	Time to participate in outdoor recreation activities
	Weather conditions in natural areas
	Road conditions getting to natural areas
	Equipment to participate in outdoor recreation activities

model for the observed variables and a causal model for the latent variables are proposed and then fit to the sample covariance matrix using the EQS program. Figure 1 depicts the three types of constraints or factors, the questions that were expected to load on each of the factors, and the intercorrelations between factors.

RESULTS

Characteristics of Sample

The sample for this study was evenly split between males and females. The majority of households had children (57%) and were 60 years of age or younger (82%). Nearly one-half earned \$50,000 or less per year, regardless of level of education. Approximately 19% lived in Michigan with the other 81% equally distributed among the five surrounding states (Illinois, Wisconsin, Ohio, Minnesota, and Indiana) and one Canadian province (Ontario) (Table 2).

Perception of Constraints

Descriptive statistics indicated that the constraints that had the most influence on individuals’ decision not to participate in nature-based tourism were money, time, and weather. The constraints that had the least influence were the influence of friends and the intrapersonal constraints, safety, skills to participate, and skills in obtaining information. Overall, structural types of constraints were perceived to have the most influence ($M = 2.99$) (Table 3).

Factor Analysis

CFA was used to investigate the reliability of the constraint model in a nature-based tourism context. CFA differs from exploratory factor analysis because the constructs are determined a priori and the reliability of each construct is evaluated at the same time as the overall model. The model

FIGURE 1
PROPOSED MODEL FOR THE THREE LEISURE CONSTRAINTS

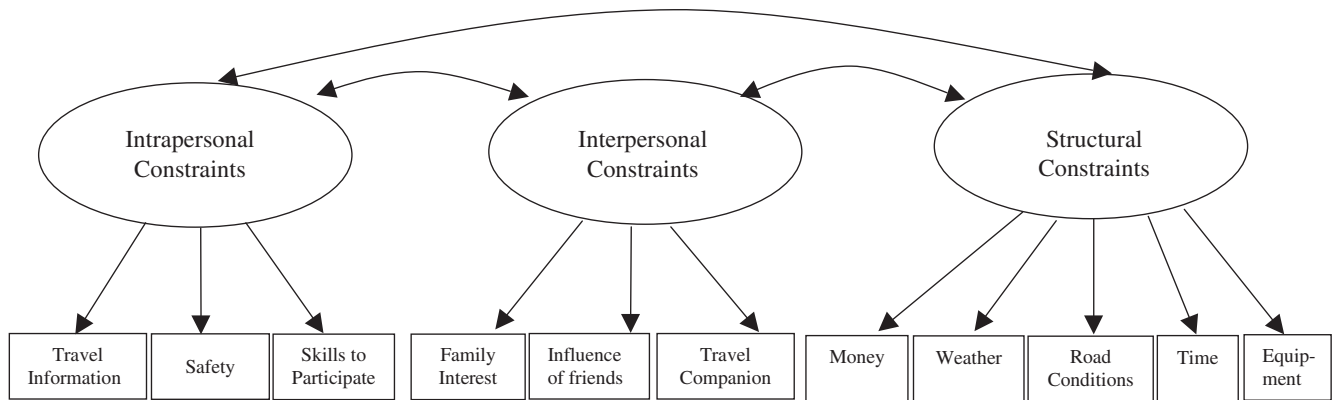


TABLE 2
CHARACTERISTICS OF THE SAMPLE (N = 350)

Demographic Characteristics	N	%
Gender		
Male	176	50.3
Female	174	49.7
Family life cycle variables		
Children younger than age 6	36	10.2
Children age six and older	93	26.6
Children both younger than age 6 and older than age 6	71	20.3
Young adults no children	51	14.7
Retired	99	28.3
Age		
Younger than 30 years	71	20.2
31-40	71	20.4
41-50	71	20.2
51-60	74	21.0
61-70	35	10.1
71+	28	8.1
Socioeconomic status		
High school and under \$30,000	82	23.4
Undergraduate and under \$30,000	11	3.1
Graduate and under \$30,000	8	2.2
High school and \$31,000 to \$50,000	44	12.6
Undergraduate and \$31,000 to \$50,000	32	9.0
Graduate and \$31,000 to \$50,000	16	4.6
High school and \$51,000 to \$70,000	17	4.9
Undergraduate and \$51,000 to \$70,000	39	11.1
Graduate and \$51,000 to \$70,000	22	6.2
High school and over \$71,000	19	5.3
Undergraduate and \$71,000	33	9.5
Graduate and over \$71,000	28	8.1
Residence		
Illinois	43	12.2
Indiana	43	12.2
Michigan	68	19.4
Minnesota	54	15.3
Ohio	66	18.9
Ontario	36	10.2
Wisconsin	41	11.7

Note: Percentages may not equal 100% due to rounding.

specified that each item was only allowed to load on one factor. Maximum likelihood estimation was used for parameter estimation. Interitem correlations are presented in Table 4. The correlations ranged from .33 to .72.

The model was evaluated using fit indices and individual path coefficients. Fit indices exist to assess the “degree of congruence between the model and the data” (Hoyle 1995, p. 81). Three measures of overall fit were used: the goodness of fit (GFI), the comparative fit index (CFI), and the root mean square error (RMR). When models fit well, the GFI and CFI will fall at about .9, and the RMR will produce a low value. All parameters should be statistically significant, with a significance value greater than 1.96 and the strength of the relationship greater than .60. Interitem correlations (correlation between constraint and item) and correlations among constructs (correlations between constraints) are presented in Figure 2.

The GFI value in this model was .89, the CFI was .91, and the RMR was .05. Because the CFI was greater than .90 and the RMR was low, the model was considered acceptable. In addition, all path coefficients were greater than .60 (Figure 2), and the *t* values for the coefficients were greater than 1.96, proving the significance of the model. Based on these statistics, we can conclude that the underlying constraint constructs proposed by Crawford, Jackson, and Godbey (1991) do exist in the context of nature-based tourism.

The paths among the constructs were relatively high, ranging between .85 and .92 (Figure 2). According to Raymore et al. (1993), “factor intercorrelations seem meaningful when an instrument contains questions concerning facets of the same concept” (p. 103). Therefore, to rule out other factor structures, both a one-factor model and a two-factor model were tested. Due to the nature of the constructs and the fact that all statements are measuring “constraints,” it seems appropriate that a one-factor model also would be tested. However, a two-factor model is a logical test for this particular study given the similar nature of statements measuring intrapersonal and structural constraints. When the models were tested, neither of the alternative models fits the data. The measures of fit for each of the models

TABLE 3
DESCRIPTIVE STATISTICS FOR INTRAPERSONAL, INTERPERSONAL, AND STRUCTURAL CONSTRAINTS

Constraint Type	Number of Responses	<i>M</i>	<i>SD</i>
Intrapersonal	325	2.56	1.28
Safety in Michigan's natural areas	327	2.57	1.58
Skills to participate in Michigan's outdoor recreation activities	326	2.58	1.56
Skill in obtaining travel information about outdoor recreation activities	329	2.52	1.66
Interpersonal	324	2.77	1.31
Family interest in outdoor recreation activities	326	2.97	1.67
Influence of friends	327	2.34	1.37
Having a travel companion	325	2.99	1.72
Structural	323	2.99	1.25
Money to participate in outdoor recreation activities	326	3.22	1.65
Time to participate in outdoor recreation activities	325	3.17	1.65
Weather conditions in natural areas	325	3.08	1.56
Road conditions getting to natural areas	325	2.80	1.57
Equipment to participate in outdoor recreation activities	325	2.72	1.54
Total constraints	323	3.09	1.53

Note: 1 = *no influence* and 5 = *strong influence*.

TABLE 4
CORRELATION BETWEEN CONSTRAINTS ITEMS

	A1	A2	A3	B1	B2	B3	C1	C2	C3	C4	C5
A1 = safety	1.00										
A2 = skills	0.58	1.00									
A3 = travel information	0.42	0.37	1.00								
B1 = family	0.55	0.46	0.58	1.00							
B2 = friends	0.38	0.34	0.33	0.56	1.00						
B3 = companion	0.44	0.38	0.43	0.46	0.37	1.00					
C1 = money	0.39	0.36	0.43	0.52	0.39	0.58	1.00				
C2 = time	0.46	0.43	0.48	0.50	0.51	0.52	0.57	1.00			
C3 = weather	0.42	0.48	0.37	0.46	0.38	0.46	0.47	0.53	1.00		
C4 = road condition	0.40	0.50	0.40	0.48	0.43	0.43	0.47	0.55	0.72	1.00	
C5 = equipment	0.47	0.40	0.55	0.53	0.47	0.46	0.60	0.63	0.55	0.58	1.00

were well below the acceptable level of fit (.90), and both were rejected.

Constraints and Sociodemographic Variables

The 11 constraint statements were recoded into three variables representing the three types of constraints (intrapersonal, interpersonal, and structural). A reliability analysis was run, and the alpha coefficients for the constraints were .73, .77, and .88, respectively. The three types of constraints were then examined in relation to four sociodemographic variables: gender, age, family life cycle, and SES. The three types of constraints to nature-based tourism were compared using multiple analysis of variance (MANOVA) to determine whether differences existed between the groups. MANOVA is more appropriate than univariate ANOVA to assess overall differences between groups when there are multiple dependent variables and when multicollinearity exists between the dependent variables (Hair, Anderson, and Tatham 1992). Mean scores for

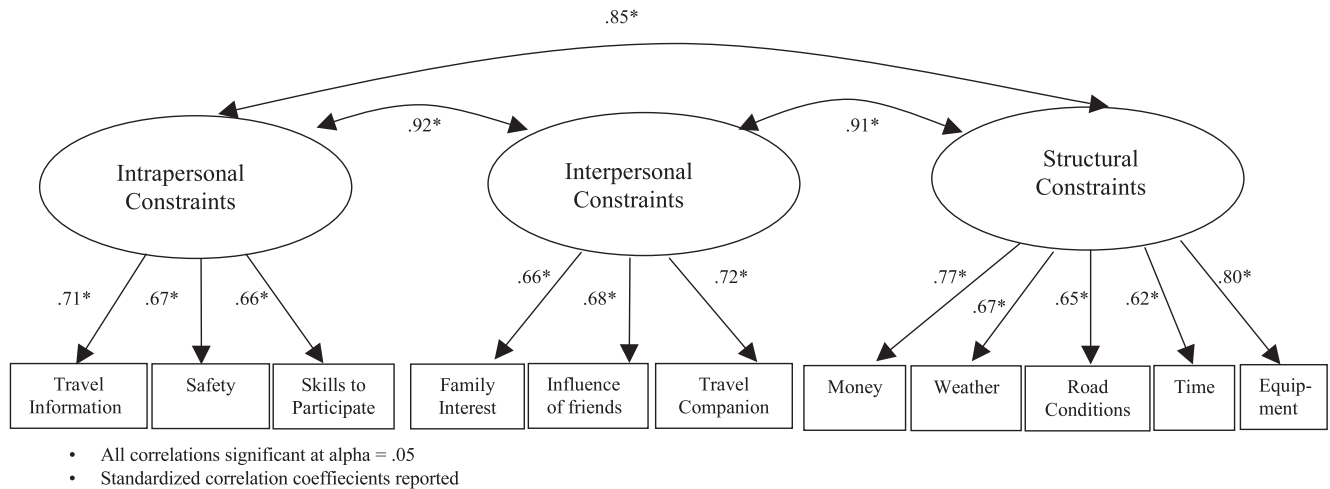
intrapersonal, interpersonal, and structural factors on each of the sociodemographic variables are presented in Table 5. For two of the four demographic variables, the Wilks's Lambda statistic indicated significant differences after controlling for intercorrelations between independent variables (Table 5).

The two variables that indicated significant differences were age and family life cycle. First, with respect to age, subjects who were "under 30" and "31-40 years" of age perceived significantly more structural constraints than those who were 71 years and older. Also, individuals with children older than the age of 6 or with children of all ages were significantly more likely to perceive higher levels of structural constraints than were retired individuals.

DISCUSSION OF FINDINGS

The purpose of this study was to investigate perceived intrapersonal, interpersonal, and structural constraints to nature-based travel; test the constraint model in a nature-based tourism setting; and determine whether

FIGURE 2
CONFIRMATORY FACTOR MODEL FOR THE THREE LEISURE CONSTRAINTS



individuals’ perceptions of constraints differed depending on SES, family life cycle, age, and gender.

Generally, individuals perceive constraints to nature-based tourism similarly to those associated with traditional leisure activities. The most important perceived constraint was money, followed by time. This finding is consistent with those documented by Haukeland (1990) and Norman (1995). Traveling costs money and requires people to expend time doing something other than the ordinary. Interestingly, the least important were influence of friends and the intrapersonal constraints. Why is this? Have people become comfortable with the notion of traveling? Do they perceive of nature-based destinations as safe environments? The results of this research suggest that people are not constrained by intrapersonal issues, at least in the context of domestic nature-based tourism. Would this same finding be true for international tourists contemplating visiting Costa Rica, for example? Future research should address this issue.

With respect to the constraint model, the 11 constraint statements fit it well. The results of the structural equations model provide empirical support for Crawford and Godbey’s (1987) notion that interpersonal, intrapersonal, and structural constraints form three distinct types of constraints to leisure. To our knowledge, this study provides the first empirical support for the existence of the three types of constraints outlined by Crawford, Jackson, and Godbey (1991) in a tourism setting. However, respondents were fairly neutral in their response to the three dimensions. The means on the dimensions ranged from 2.56 to 2.99, suggesting that overall, individuals did not feel that the 11 items comprising the three types of constraints represented constraints to visiting nature-based tourism destinations. This finding may have multiple meanings. First, it may mean that people do not perceive that they are constrained in terms of their travel to nature-based destinations. If this is true, the industry should not have difficulty maintaining the interest of their target markets. Or, second, this finding may suggest that we have not identified the true constraints to travel. Nearly all of the constraint research to date has been conducted within a

traditional leisure context. And, most of the travel constraints research, including our study, has used scales developed for the study of constraints in traditional leisure settings. In the future, we may want to use a constructivist approach to studying constraints in an effort to truly understand what, if anything, is constraining individuals from traveling. In addition, we should take into account facilitators to participation. Crawford, Jackson, and Godbey argued that constraints are hierarchical in nature: people negotiate through each level of constraints. How do they negotiate through constraints? What facilitates their ability to negotiate through constraints? Do the facilitators explain more than constraints in terms of patterns of participation? These questions should be addressed in the future.

With respect to the relationship between sociodemographic characteristics and constraints, perceptions of structural constraints were different based on age and family life cycle. The fact that those who were younger (either younger than 30 years or between the ages of 31 and 40) perceived that they have significantly more structural constraints than those who are older than 75 years of age was expected. In addition, it was not surprising that those who had children found they had more structural constraints to nature-based tourism than those who were retired and presumably living alone. Several earlier studies (see Jackson and Henderson 1995; McGuire, Dottavio, and O’Leary 1986; Rapoport and Rapoport 1975) documented that family structure or life span had a distinct effect on leisure constraints. Generally, not much can be done about structural constraints such as weather and time, two structural constraint items, but managers do have control over cost, road conditions, and equipment to participate. Packages can be developed for families with children. Special promotional campaigns can be introduced to entice individuals who do not own equipment. And relationships can be forged with state and county maintenance personnel. Furthermore, it is encouraging that as people age they find themselves less constrained to nature-based tourism. With an increasing aging population, nature-based destinations may be able to look forward to continued interest in

TABLE 5
DIFFERENCES IN RESPONSE TO THE THREE CONSTRAINT
DIMENSIONS DEPENDING ON DEMOGRAPHIC CHARACTERISTICS

Demographic Characteristics	Intrapersonal (Mean)	Interpersonal (Mean)	Structural (Mean)
Gender			
Male	2.9	2.9	3.2
Female	2.9	2.9	3.1
Wilks's Lambda = .956, $F = .486$, $p = .695$			
Age			
Younger than 30	2.6	3.2	3.4 ^a
31-40	2.7	3.1	3.3 ^b
41-50	2.8	2.7	3.1
51-60	2.8	2.8	3.1
61-70	3.0	2.9	2.7
71+	2.6	2.5	2.4 ^{ab}
Wilks's Lambda = .471, $F = 1.85$, $p = .039$			
Family life cycle			
Children younger than age 6	2.1	2.7	2.9
Children older than age 6	2.9	3.0	3.5 ^a
Children both older and younger than age 6	3.0	3.2	3.5 ^b
No children	2.5	2.9	3.3
Retired	2.7	2.7	2.7 ^{ab}
Wilks's Lambda = .539, $F = 1.80$, $p = .050$			
Socioeconomic status			
1 = High school and under \$30,000	2.8	3.1	3.2
2 = Undergraduate and under \$30,000	2.5	2.9	3.0
3 = Graduate and under \$30,000	2.4	2.8	3.1
4 = High school and \$31,000 - \$50,000	2.4	2.5	2.8
5 = Undergraduate and \$31,000 - \$50,000	3.4	3.6	4.0
6 = Graduate and \$31,000 - \$50,000	2.4	3.3	3.2
7 = High school and \$51,000- \$70,000	2.5	2.3	2.4
8 = Undergraduate and \$51,000- \$70,000	3.2	3.1	3.5
9 = Graduate and \$51,000- \$70,000	2.7	2.9	2.8
10 = High school and over \$71,000	3.0	2.5	2.7
11 = Undergraduate and over \$71,000	2.7	3.1	3.3
12 = Graduate and over \$71,000	2.0	2.2	2.2
Wilks's Lambda = .396, $F = 1.064$, $p = .396$			

Note: Items with the same superscript indicate significant differences. For example, individuals younger than 30 years of age (a) were significantly more likely to agree with the structural constraint dimension than were individuals 71 years of age or older (a). And individuals 31 to 40 years of age (b) were significantly more likely to agree with the structural constraint dimension than were individuals 71 years of age or older (b).

their product, especially if they attempt to control some of the structural constraints perceived to be inhibiting participation.

The fact that males and females did not significantly differ in their response to the three constraint dimensions was interesting. Researchers (see Jackson and Henderson 1995; Shaw, Bonen, and McCabe 1991) have suggested that women may perceive constraints and approach travel differently than men. Perhaps the reason we did not find differences is due to a concern expressed earlier—that we did not measure constraints specific to travel. More important, we may not be measuring constraints specific to women. As Jackson and Dunn (1987) and Henderson et al. (1989) have argued, we must recognize that men and women have very different life circumstances that affect the way they look at life, including their leisure time.

Further investigation of travel-related constraints is needed. Greater understanding of the constraints of different segments of the market would be helpful in the development of strategic marketing campaigns, including meeting the

needs of individuals who are attracted to and supportive of nature-based destinations.

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