Taking dogs to tourism activities: testing a pet-related constraint–negotiation model

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RESEARCH NOTE

TAKING DOGS TO TOURISM ACTIVITIES: TESTING A PET-RELATED CONSTRAINT–NEGOTIATION MODEL

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This research's purpose is to examine the factors that affect pet owners' decisions when taking pets to participate in tourism activities. Unlike tourist traveling alone, pet owners must consider their own circumstances as well as the constraints their pets place on them. After examining 30 British dog owners' interview transcripts through interpretive approach and 388 British dog owners' surveys through structural equation modeling, the results show pet-associated constraints will negatively affect owners' motivation and behavior. However, motivated owners can still participate if they have sufficient negotiation strategies. Contrary to the literature, owners' attachment with their pets will not directly cause them to take pets when participating in tourism activities.

Key words: Pet owners; Tourism participation; Dogs

Introduction

This article addresses the issue of including an animal companion when participating in tourism activities. Globally, pet-related products (including services) became a $41 billion industry in 2007 (all monetary figures are in US$), which was more than 10 times the value of the industry in 1997 (Ridgway, Kukar-Kiney, Monroe, & Chamberlin, 2008). In addition, increasing numbers of pet owners are attached to their pets and are willing to spend significant money on them in the form of luxury products and services (Albert & Bucroft, 1988; Ridgway et al., 2008).

To date, scholars and practitioners are uncertain about the influence of pets on their owners' tourism participation behavior and the factors that influence pet owners' decisions to bring pets with them when participating in tourism activities. Through the examination of specific pet-related tourism constraints in the present study, scholars, practitioners, and owners may be able to more accurately evaluate the difficulties that owners face when attempting to include their pets in tourism activities. This

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topic is important because pets may affect the quality of an individual's tourism experience, and companion animals play an increasingly important role in human life (Chen, Hung, & Peng, 2011; VisitBritian, 2011).

The objectives of this research are as follows. First, this study plans to establish the applicability of the constraint–negotiation model to the context of traveling with pets for tourism activities. Second, this study examines whether pet-associated constraints affect owners' motivation and decisions to bring pets to tourism activities. Third, this research investigates how owners' attachment to their pets influences their motivation.

Literature Review

Context of the Study

This study focuses on British dog owners for the following reasons. First, dogs are the most common pets in UK households (Pet Food Manufacturer Association, 2009). In 2008, approximately 8 million dogs were classified as pets in the UK, and 25% of British families own dogs (Pet Food Manufacturer Association, 2009). Second, British pet owners' spending on nonessential pet products (e.g., grooming and travel) has been increasing (Pet Food Manufacturer Association, 2009). British pet owners spent $6.48 billion on their pets per year, and they spend approximately $19,150 throughout a dog's lifetime. Third, the British are enthusiastic about participating in tourism activities. In 2010, UK residents took 56.6 million holidays lasting one night or more and spent more than $19.6 billion on these holidays (VisitBritian, 2011). Fourth, according to surveys gathered from American and British pet owners, more than 40% of these pet owners have taken their pets on holiday with them (K9 Magazine, 2012; TripAdvisor, 2012).

Taking Pets to Tourism Activities: Definitions and Conceptual Models

Through a series of anthrozoology studies, researchers have gained additional understanding of human–pet relationships and interactions (e.g., Albert & Bulcroft, 1988; Johnson, Garrity, & Stallones, 1992; Stallones, Johnson, Garrity, & Max, 1990). However, little is known about the constraints involved when pet owners plan to bring pets on tourism activities. To investigate this question and contribute to the literature, this article modifies Son, Mowen, and Kerstetter's (2008) leisure constraint–negotiation models. This study's proposed constraint–negotiation model considers the impact of animal companionship on pet owners' lives, including owners' attachment to their pets (Chen et al., 2011; Stallones et al., 1990).

The negative correlation between constraints and participation has been consistently supported by empirical evidence (Hung & Petrick, 2010; Jackson & Scott, 1999; Nyaupane, Morais, & Graefe, 2004; Son et al., 2008; White, 2008; Wilhelm Stanis, Schneider, & Russell, 2009). For example, Alexandris, Funk, and Pritchard (2011) suggest that constraints have a negative relationship with skiers' motivation; however, few studies have tested this relationship outside of the context of skiing. In this study, the phrase *pet constraints* refers to the factors that inhibit pet owners from including their pets in tourism activities and the obstacles that owners encounter when they decide to include their pets (Hung & Petrick, 2010). Because it is difficult to examine pets directly, this study focuses on the constraints imposed on holidaymakers by their desire to bring their pets with them. By extending Chen et al.'s (2011) findings, these perceived constraints can be related to pets' suitability (e.g., aggressiveness), other tourism participants' attitudes toward pets, and the destination's barriers (e.g., extra costs).

Although perceived pet constraints may negatively influence owners' participation in tourism with pets, pet owners' strategies to negotiate their resources (e.g., time, money, and transportation) can promote participation in tourism activities (White, 2008). Negotiation can be defined as strategies that individuals use and develop to cope with difficulties (Wilhelm Stanis et al., 2009). The positive effects of these strategies on tourism participation have been supported by Alexandris, Kouthouris, and Girgolas (2007). The current study suggests that owners must employ negotiation strategies to include their pets when traveling and participating in tourism activities because this inclusion is often time consuming, requires additional planning, costs more, and is not always welcomed by other tourism participants (Chen et al., 2011).

Scholars agree that the negotiation strategies that people employ contribute to leisure and tourism participation, but people must also be driven by motivation (Alexandris et al., 2007; Funk, Alexandris, & Ping, 2009; White, 2008). Iso-Ahola and Allen (1982) suggest that motivation is the driving force behind people's decisions to participate in activities. Previous studies (e.g., Alexandris et al., 2007; Funk et al., 2009; Son et al., 2008; White, 2008; Wilhelm Stanis et al., 2009) have shown that people's motivation to participate in tourism and leisure activities has a positive and significant relationship with their negotiating strategies. The literature on animal companionship provides similar examples of how pet owners' motivations influence their abilities to negotiate through difficulties (Chen et al., 2011; Ellson, 2008; Holak, 2008).

For anthrozoologists, pet attachment is one of the most important indicators when evaluating human–pet relationships and owners' treatment of their animal companions (Lago, Kafer, Delaney, & Connell, 1989). Johnson et al. (1992) define pet attachment as the "degree of affection that may exist between individuals and their companion animals" (p. 161). Based on Ellson's (2008) and Greenebaum's (2004) findings, the present study includes owners' attachment to their pets as a key factor that influences owners' motivation to include their pets in tourism activities as well as their behavior in including pets when participating in tourism activities.

Methodology

For the main study, 668 participants were recruited through an on-site purposive sampling method. They have previously participated in tourism activities with or without taking their dogs. The sampling areas included the Greater London area, the Southwest, the Midlands, and the Northeast. Interviewers were stationed near veterinary clinics and pet shops (e.g., Pets at Home) to increase the chances of meeting dog owners interested in taking their pets on tourism activities. From the results, 388 surveys were deemed effective. The participants were primarily female (57.5%) and between the ages of 31 and 40 (38%). The distribution of the visits was as follows: 23.2% went nature sightseeing; 20.9% visited cultural sites; 20.6% participated in recreation activities; 16.8% went to festivals; and 18.6% participated in other tourism activities lasting four or more hours.

Participants completed a survey that evaluated the modified leisure–constraint variables and pet attachment (Chen et al., 2011; Nyaupane et al., 2004; Son et al., 2008). All variables in this study's model were measured with multiple items. Unless otherwise indicated, the items were designed with a 7-point Likert-type scale, and some of the items were rephrased to maintain consistency. The items for each variable are presented in Table 1. The target research question was "What are the factors that affect owner's tourism participation with their pets?"

Data Analysis and Results

The data were analyzed with SPSS 17 and AMOS 5.0. As recommended by Anderson and Gerbing (1988), a two-step approach to structural equation modeling (SEM) was used. The first step determines the adequacy of the measurement model before analyzing the structural components with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The second step creates the structural equation modeling (Lehto, O'Leary, & Morrison, 2004). Detailed results from the EFA and CFA can be found in Table 1. To purify the measurements, a series of EFA was applied. First, EFA was used to identify the underlying structure of a research construct and then CFA was employed to test whether the structure could form an acceptable measurement model for the construct, with modifications and adjustments where necessary. The research's results are shown in Figure 1.

Measurement Model

A CFA is first used to confirm the factor loadings of the five constructs (i.e., pet attachment, perceived pet constraints, owners' motivation, negotiation strategies, and participation) and to assess the model fit. The model adequacy was assessed by the fit indices suggested by Hair, Anderson, Tatham, and Black (1998). Convergent validity of CFA results should be supported by item reliability, construct reliability, and average variance extracted (Hair et al., 1998). As shown in Table 1, construct reliability estimates ranging from 0.77 to 0.95, which exceed the critical value

Table 1
Descriptive Analysis of the Measure

Variable	Measurement Items[a]	Mean	EFA Factor Loading	EFA α	CFA SFL	CFA CR	CFA AVE
Perceived pet constraints (PPC)[a] [KMO = 0.86; Bartlett's test of sphericity: $\chi^2 = 2629.78$; $p = 0.000$]	Strongly disagree (1)/Strongly agree (7)					0.77	0.54
	Suitability constraints (SC)			0.80	0.74		
	SC1: My pet lacks of self-control (over-excited, aggressive etc).	3.57	0.87				
	SC2: My pet is not suitable for this activity.	2.9	0.81				
	SC3: My pet does not like to go out.	2.96	0.75				
	Social constraints (SCi)			0.72	0.86		
	SCi1: Because some of the participants do not like animals, I feel uncomfortable when participating in this activity with my pet.	3.78	0.66				
	SCi2: No other participants in the activity bring their pets	3.48	0.61				
	SCi3: My pet can be unfriendly to other human/animal participants.	3.05	0.57				
	Structural constraints (SCii)			0.90	0.69		
	SCii1: Taking pets to a tourism activity involves greater costs (e.g., dining, accommodation).	4.27	0.83				
	SCii2: I do not know anyone or any companies who can provide me information about how to take my pet to participate in this activity.	4.37	0.83				
	SCii3:This destination is not fitting for my pet.	4.28	0.82				
	SCii4: Taking my pet to this activity is time consuming.	4.39	0.81				
	SCii5: I cannot participate in this activity because I have to take care of my pet at the same time.	3.97	0.73				
Motivation (MO) [KMO = .90; Bartlett's test of sphericity: $\chi^2 = 3680.08$; $p = 0.000$]	Strongly disagree (1)/Strongly agree (7)					0.76	0.52
	Pet's benefit (PB)			0.9	0.72		
	PB1: My pet can learn some skills.	4.86	0.84				
	PB2: My pet can be with me.	4.95	0.77				
	PB3: My pet can socialize with other pets/people.	4.79	0.77				
	Social (S)			0.74	0.78		
	S1: Be with family or friends who are attending.	5.39	0.62				
	S2: Be with pet owners who are attending.	5.19	0.56				
	S3: Gain an opportunity to socialize with other pet and participants	5.05	0.53				
	Enjoyment (E)			0.97	0.65		
	E1: I can gain enjoyment or pleasure.	5.29	0.87				
	E2: I can gain a sense of novelty.	5.34	0.85				
	E3: I can experience a unique adventure.	5.40	0.84				
	In order to participating in this activity with my pet, I will need the ability to . . .						

Negotiation strategy (NE) [KMO = 0.88; Bartlett's test of sphericity: χ^2 = 3656.21; p = 0.000]	Strongly disagree (1)/Strongly agree (7)					0.84	0.56
	Knowledge acquisition (KA)			0.91	0.75		
	KA1: Get relevant information about how to get to this activity's location with my pet.	5.06	0.86				
	KA2: Get relevant information about taking my pet to this activity through TV, books, articles, magazines, or Internet.	5.16	0.86				
	KA3: Get relevant information about how to take care of pets during the trip.	5.13	0.85				
	Changing interpersonal relations (CIR)			0.91	0.75		
	CIR1: Try to find other pet owners with similar interest	4.89	0.82				
	CIR2: Ask other people to participate this activity and take care of my pet when I am occupied.	4.81	0.82				
	CIR3: Try to find participants who get along well with pets.	4.99	0.77				
	Budgeting (BU)			0.92	0.72		
	BU1: Try to obtain enough fund for tourism activities.	4.98	0.53				
	BU2: Plan my tourism budget.	5.06	0.52				
	Time management (TM)			0.77	0.78		
	TM1: Prioritize my tourism activities	4.96	0.74				
	TM2: Set aside time to take pet to tourism activities.	4.83	0.65				
	TM3: Arrange my weekly schedule properly.	4.96	0.62				
Pet attachment (ATT) [KMO = 0.75; Bartlett's test of sphericity: χ^2 = 278.44; p = 0.000]	Strongly disagree (1)/Strongly agree (7)						
	Pet attachment			0.71		0.81	0.50
	ATT1: "No family is complete until there is a pet in the home."	5.29	0.75		0.77		
	ATT2: "Pets should have the same rights and privileges as family members."	4.16	0.71		0.69		
	ATT3: "I like my pet because s/he is more loyal to me that the people in my life."	5.27	0.70		0.69		
	ATT4: I ___ keep a picture of my pet in my wallet or on display at my home or office. Never (1)/Always (7)	5.41	0.55		0.67		
Participation (P) [KMO = 0.51; Bartlett's test of sphericity: χ^2 = 705.12; p = 0.000]	**Participation (P)**			0.95		0.95	0.91
	B1: In the past year, I take my pet to tourism activities: (1) 0 time, . . . (7) Above 15 times	2.72	0.89		0.91		
	B2: In the past year, I ____ take my pet to tourism activities: (1) never, . . . , (7) always	3.29	0.87		0.98		

[a]The standardized factor loading value for "There are no such areas/destinations near me" and "My pet gets tired easily" did not meet the minimum criterion of 0.40; hence, they were eliminated to enhance reliability while decreasing error (Ford, MacCallum, & Tait, 1986).

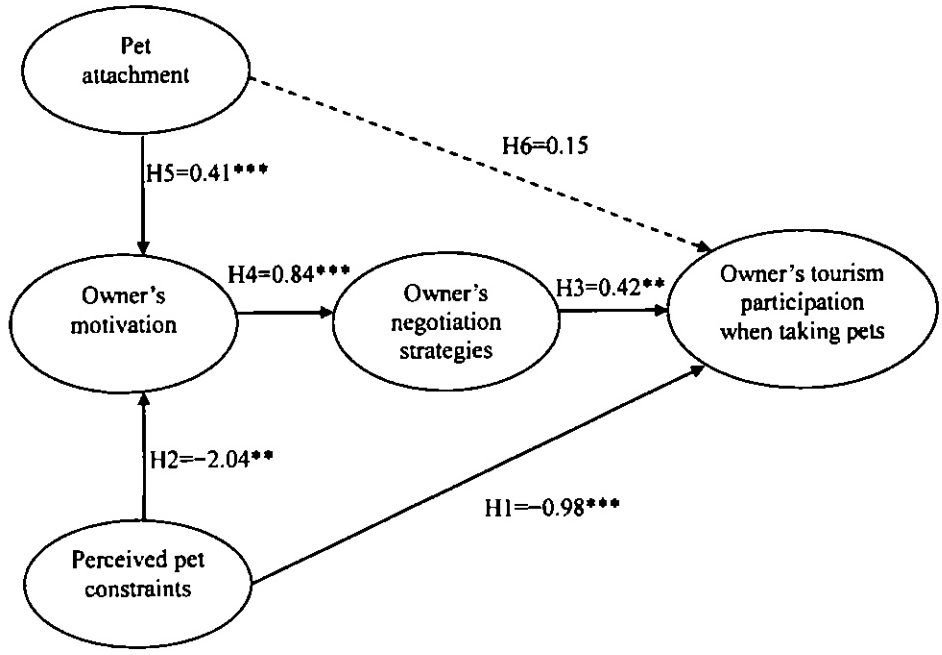

Figure 1. Research framework. All paths values are standardized parameter estimates; $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$; dotted line is nonsignificant.

of 0.7, indicating a satisfactory estimation. The average extracted variances of all constructs range between 0.50 and 0.91, which are above the suggested value of 0.5. The results indicate that the measurement model has good convergent validity. Thus, the proposed measurement model is meaningful and reliable to test the structural relationships among the constructs.

Structural Model Test and Hypotheses Testing

After the overall measurement model was found acceptable, the structural model was again tested with the entire sample ($N = 388$). The model fit was good [χ^2 (97) = 211.7, RMSEA = 0.055, CFI = 0.956, GFI = 0.941]. The structure estimates of −0.98 ($t = -5.85, p < 0.001$) and −0.204 ($t = -2.894$, $p < 0.05$) show that perceived pet constraints has a significant and negative effect on an owner's motivation and behavior to take pets on tourism activities. As a result, H1 and H2 are both supported. The more constraints the pets have, the less likely it is that their owners will take them to tourism activities or have the motivation to do so. For H3, this study's finding supports the hypothesis that the more negotiation strategies the owner possesses, the more likely it is that he/she will take pets along for tourism activities. H3's structure estimate was 0.42 ($t = 2.65$, $p < 0.01$). Thirdly, H4, which states that the owner's motivation to take pets along for tourism activities will positively affect his/her negotiation strategies, is significantly supported. The structure estimate for H4 was 0.84 ($t = 10.92$, $p < 0.001$). A pet owner is more likely to have higher negotiation strategies if he/she is highly motivated to take pets along for tourism activities. As for attachment's influences, H5 is supported, but H6 is not supported by this study's finding. The structure estimate for H5 was 0.41 ($t = 6.60$, $p < 0.001$) and H6 was 0.15 ($t = 0.99$, $p = 0.321$). In other words, owners' attachment to pets will positively affect their motivation to take pets when participating in tourism activities, but this attachment will not direct affect their behavior.

To test the mediating effects of motivation on negation strategies, a Sobel test was performed (Sobel, 1982). Because the Z value was found to be greater than 1.96, negotiation strategies were determined to fully mediate the relationship between motivation and participation. In addition, the

relationship between pet attachment and negotiation was full mediated by motivation.

Discussion

Based on the results gathered from empirical research, this study confirms that constraints cause nonparticipation, and motivation and negotiation strategies promote participation. The applicability of the proposed model has been confirmed and all hypotheses have been supported, but additional issues are worthy of further discussion.

First, this study provides new insights into the influences of attachment. Although owners who are attached to their pets may have the motivation to bring their pets when participating in tourism activities, they are aware of the difficulties. For this reason, attachment can directly influence motivation but not behavior. Second, this study's finding of a correlation between constraint and motivation adds new evidence to Alexandris et al.'s (2011) work. Moreover, by modifying Crawford and Godbey's (1987) typology, perceived pet constraints can be further divided into suitability constraints, social constraints, and structural constraints. Because this research uses qualitative and quantitative methods to formulate its survey questions, this modification and the subsequent results can be used in future studies because they are valid and reliable. Third, an owner's negotiation strategies can promote the owner's behavior, whereas motivation can positively affect negotiation strategies. This finding is consistent with previous constraint–effects mitigation models (Alexandris et al., 2007; Son et al., 2008; White, 2008).

Finally, our findings have implications for tourism managers. Promoting the benefits of an activity or destination for a pet by mentioning that their activity or destination provides an opportunity for pet owners to socialize with other owners can be effective. Alternatively, emotional appeal ads with content regarding the pleasure of taking pets when visiting may be useful when targeting owners who have a close relationship their pets. If appealing to motivation is insufficient, operators can reduce the constraints that pets impose on their owners by focusing on the items that apply to owners and the issues that they can resolve. For example, not charging owners extra fees if they travel with pets and providing discount tickets if pet owners travel in groups with their pets could be considered.

Limitations, Future Studies, and Conclusion

To conclude, this research narrows a gap in the tourism and anthrozoology literature by examining the factors that affect pet owners' tourism participation with their pets. Furthermore, managerial policies are proposed for practitioners to improve the services they offer to existing and future customers. However, this study also has limitations. Because relevant research on this issue has been scarce, this research focuses on a simple context in which the pet owner acts as the decision maker when considering whether to bring his or her dog when participating in a tourism activity and in which there are only two types of behavior (participation with pets and nonparticipation). Future research should evaluate different contexts (e.g., family members jointly deciding whether to include pets in tourism activities) and changes in owners' tourism choices because their pets cannot participate in certain activities as well as the frequency of these changes.

References

Albert, A., & Bulcroft, K. (1988). Pets, families, and the life course. *Journal of Marriage and the Family, 50*(2), 543–552.

Alexandris, K., Kouthouris, C., & Girgolas, G. (2007). Investing the relationships among motivation, negotiation, and Alpine skiing participation. *Journal of Leisure Research, 39*(4), 648–667.

Alexandris, K., Funk, D. C., & Pritchard, M. (2011). The impact of constraints on motivation, activity attachment, and skier intention to continue. *Journal of Leisure Research, 43*(1), 56–79.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411–423.

Chen, A-H., Hung, K-P., & Peng, N. (2011). Planned leisure behaviour and pet attachment. *Annals of Tourism Research, 38*(4), 1653–1657.

Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences, 9*, 119–127.

Ellson, T. (2008). Can we live without a dog? Consumption life cycles in dog-owner relationship. *Journal of Business Research, 61*(5), 469–479.

Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The applications of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology, 39*, 291–314.

Funk, D. C., Alexandris, K., & Ping, Y. (2009). To go or stay home and watch: Exploring the balance between motives and perceived constraints for major events: A case study of the 2008 Beijing Olympic Games. *International Journal of Tourism Research, 11*, 41–53.

Greenebaum, J. (2004). It's a dog's life: Elevating status from pet to "Fur Baby" at Yappy Hour. *Society and Animals, 12*(2), 117–135.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (8th ed.). Upper Saddle River, NJ: Prentice-Hall, Inc.

Holak, S. L. (2008). Ritual blessings with companion animals. *Journal of Business Research, 61*(5), 534–541.

Hung, K., & Petrick, J.F. (2010). Developing a measurement scale for constraints to cruising. *Annals of Tourism Research, 37*(1), 206–228.

Iso-Ahola, S. E., & Allen, J. R. (1982). Dynamics of leisure motivation: The effects of outcome on leisure needs. *Research Quarterly for Exercise and Sports, 53*(2), 141–149.

Jackson, E. L., & Scott, D. (1999). Constraints to leisure. In E. L. Jackson & T. L. Burton (Eds.), *Leisure studies* (pp. 299–321). State College, PA: Venture Publishing, Inc.

Johnson, T. P., Garrity, T. F., & Stallones, L. (1992). Psychometric evaluation of the Lexington Attachment to Pets Scale (LAPS). *Anthrozoos, V*(3), 160–174.

K9 Magazine. (2012). *Pet Friend Britain: Planning a pet friendly holiday*. Retrieved October 10, 2012 from http://www.k9magazine.com/pet-friendly-britain-planning-pet-friendly-holiday/

Lago, D., Kafer, R., Delaney, M., & Connell, C. (1988). Assessment of favourable attitudes toward pets: Development and preliminary validation of self-report pet relationship scales. *Anthrozoos, 1*(4), 240–254.

Lehto, X., O'Leary, J., & Morrison, A. (2004). The effect of prior experience on vacation behaviour. *Annals of Tourism Research, 31*, 801–818.

Nyaupane, G. P., Morais, D. B., & Graefe, A. R. (2004). Nature tourism constraints A cross-activity comparison. *Annals of Tourism Research, 31*(3), 540–555.

Pet Food Manufacturers' Association. (2009). *Statistics*. Retrieved September 12, 2010, from http://www.pfma.org.uk/statistics/

Ridgway, N. M., Kukar-Kinney, M., Monroe, K. B., & Chamberlin, E. (2008). Does excessive buying for self relate to spending on pets? *Journal of Business Research, 61*(5), 392–396.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Eds.), *Sociological methodology* (pp. 290–312). Washington, DC: American Sociological Association.

Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing alternative leisure constraint negotiation models: An extension of Hubbard and Mannell's study. *Leisure Sciences, 30*, 198–216.

Stallones, L., Johnson, T. P., Garrity, T. F., & Max, M. B. (1990). Quality of attachment to companion animals among U.S. adults 21 to 64 years of age. *Anthrozoos, III*(3), 171–176.

TripAdvisor. (2012). *Traveling with pets for the dogs, according to TripAdvisor survey*. Retrieved October 10, 2012,fromhttp://www.tripadvisor.com/PressCenter-i2275-c1-Press_Releases.html

VisitBritian. (2011). *Visitor economy facts—updated April 2011. The big picture*. Retrieved June 24, 2011, from http://www.visitbritain.org/insightsandstatistics/visitoreconomyfacts/index.aspx

White, D. D. (2008). A structural model of leisure constraints negotiation in outdoor recreation. *Leisure Sciences, 30*, 342–359.

Wilhelm Stanis, S. A., Schneider, I. E., & Russell, K. C. (2009). Leisure time physical activity of park visitors: Retesting constraint models in adoption and maintenance stages. *Leisure Science, 31*, 287–304.