Journal of Travel Research
50(1) 57–63

DOI: 10.1177/0047287509353189
http://jtr.sagepub.com
SAGE

Measuring Residents' Attitudes toward Sustainable Tourism: A Reexamination of the Sustainable Tourism Attitude Scale

Chia-Pin (Simon) Yu,[1] H. Charles Chancellor,[1] and Shu Tian Cole[1]

Abstract

This project examined the Sustainable Tourism Attitude Scale (SUS-TAS), which measures residents' attitudes toward sustainable tourism. This study has two major purposes: (1) to reassess reliability and construct validity of the 44-item SUS-TAS using confirmatory factor analysis and (2) to identify a shorter version of the SUS-TAS that would not compromise the scale's psychometric properties. To accomplish these purposes, an empirical study was conducted in rural Orange County, Indiana. Findings support a seven-dimension SUS-TAS model using 27 items that maintained construct validity and internal consistency.

Keywords

sustainable tourism, residents' attitudes scale, SUS-TAS, tourism development

Introduction

Tourism is a major contributor to economic development in many parts of the world (Kandampully 2000). Tourism contributes to income generation, new employment, and often helps diversify the local economy. For decades, tourism has been a powerful force for improving domestic economies and providing foreign exchange. On the other hand, mass tourism in particular has been known to bring negative impacts to host communities. Rapid unplanned development, coupled with large numbers of tourists, has caused adverse impacts on cultural and natural resources (Sirakaya, Jamal, and Choi 2001). As a response to developmental ills associated with conventional mass tourism, there has been an increased awareness of potential negative impacts to the host community, and as a result researchers have been conducting impact assessment studies (Choi and Sirakaya 2005). In addition, alternate forms of tourism (e.g., ecotourism, green tourism, geotourism) have been used in attempts to make tourism more sustainable. *Sustainable tourism* is defined as "tourism which meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future" (World Tourism Organization 1993, p. 7). McIntyre (1993) stated that sustainable tourism is defined as an alternative tourism form that improves the quality of life of the host community, provides a high quality experience for visitors, and maintains the quality of the environment on which both the host community and visitors depend. In summary, as a term, *sustainable tourism* seeks to minimize negative impacts on the local culture and natural environment while generating benefits for local residents.

The existing literature argues that sustainable tourism planning should focus on balancing the needs and wants of major stakeholders, which requires integrated, dynamic, flexible, detailed, action-oriented strategies that can be applied at national, regional, and local levels (Sharpley 2000; Gunn 1994; Jamieson and Jamal 1997; Sirakaya 1997; Sirakaya, Ekinci, and Kaya 2008). Stakeholder participation and cooperation is a crucial factor of successful sustainable tourism development. Murphy (1985), Ap (1992), and Gunn (1994) posited that residents are major stakeholders in the tourism development process since they are directly affected by tourism regardless of their occupation. Residents' behavior and openness toward tourism development and tourists, affect tourist satisfaction (Cooke 1982; Davis, Allen, and Cosenza 1988), which is another practical reason for considering residents as major stakeholders in the tourism planning and development process (Hall 1994; Jamal and Getz 1995; Joppe 1996; Murphy 1985). In summary, residents' positive attitude toward

[1]Indiana University Bloomington

Corresponding Author:
H. Charles Chancellor, Department of Recreation, Park, and Tourism Studies, Indiana University Bloomington, 1025 East Seventh Street, 133 HPER Building, Bloomington, IN 47405
Email: hcchance@indiana.edu

sustainable tourism has significant influence on tourism development policy. Therefore, Sirakaya , Ekinci, and Kaya (2008, p. 415) suggest that policy makers and destination managers could benefit from a better understanding of residents' attitudes toward sustainable tourism. Since residents' attitude is one of the determinants of successful tourism, it is important to have a tool capable of measuring attitudes toward tourism development.

Over the past few years, tourism researchers have investigated several tools designed to measure residents' attitudes toward tourism development (e.g., Ap and Crompton 1998; Davis, Allen, and Cosenza 1988; Delamere 1998; Godfrey 1998; Gursoy, Jurowski, and Uysal 2002; Ko and Stewart 2002; Lankford and Howard 1994; Lindberg and Johnson 1997; Sirakaya, Jamal and Choi 2001). Building on these earlier projects and directing the scale toward sustainability principles, Choi and Sirakaya (2005) designed the residents' attitudes toward sustainable tourism scale (SUS-TAS). In developing the SUS-TAS using EFA with a varimax rotation, the authors found that 44 items loaded on seven factor domains. The seven factors were perceived social costs (minimization of negative social culture impacts), environmental sustainability (protection of physical and man-made resources, ethics, policy, standard, and minimization of negative impacts), long-term planning (long-term, integrated participation), economic benefits (optimization of economic benefits), community-based tourism (residents' benefits in use of recreational facilities, community reinvestment fund, locals-first policy, promotion of local businesses, local participation), ensuring visitor satisfaction (visitor satisfaction, maintaining destination attractiveness), and maximizing community participation (leadership role, active participation, participation in decision making, collaboration, information, and communication). Their work has enriched the body of knowledge of residents' attitude toward tourism development.

The standard psychometric procedure for scale development has seven stages (Churchill 1979; DeVellis 1991; Nunnally 1978; Peterson 2000): (1) determine what to measure, (2) generate items to measure the construct of interest, (3) develop the final list of items and determine the type of rating scale, (4) purify the measure (checking reliability and validity), (5) replicate the study, (6) refine the scale with a new sample (reassessing reliability and validity of the scale via confirmatory factor analyses), and (7) establish norms (developing standards and norms for decision makers). Choi and Sirakaya's study (2005) focused on Stages 1 to 4 and used exploratory factor analysis (EFA) to purify the measure. However, a further validation process is required to access construct validation within other cross-cultural and urban settings using confirmatory factor analysis (CFA; Choi and Sirakaya 2005). Hence Sirakaya, Ekinci, and Kaya (2008) reexamined the validity of SUS-TAS in cross-cultural settings. This study refined the SUS-TAS with a new sample using CFA.

EFA can be a satisfactory technique for variable reduction in the early stage of scale development. In EFA, the number of latent variables is not determined before the analysis; therefore, all latent variables typically influence all observed variables. In contrast, in CFA, a model is constructed in advance, the number of latent variables is set by the analyst, and whether a latent variable influences an observed variable is specified (Bollen 1989). The advantage of CFA is that it allows for testing hypotheses regarding a particular factor structure. CFA is a specific application of structural equation modeling and can be an effective technique to examine construct validity. This research is an extension of Choi and Sirakaya's (2005) study on SUS-TAS and has two major purposes: (1) to reassess reliability and validity of the SUS-TAS via CFA and (2) to seek a shortened version of the SUS-TAS that does not compromise its psychometric properties.

This project furthers the examination of the SUS-TAS through an empirical study conducted in rural Orange County, Indiana, which has embraced a reemerging tourism industry as the major economic development tool. Orange County is known for its natural beauty, slow pace of life, and rural character. However, this perception is changing as recent tourism development included an upscale resort, casino, golf courses, and a water park. The findings are also a baseline indicator to be used for comparisons with subsequent residents' attitudes studies. This longitudinal approach will allow for a better understanding of the evolution of residents' attitudes toward tourism development in a rural destination.

Method

Research Instrument

This study used the 44-item SUS-TAS (Choi and Sirakaya 2005) instrument to measure residents' attitudes toward sustainable tourism. Choi and Sirakaya's study (2005) focused on Stages 1 to 4 of the standard psychometric procedure for scale development (Churchill 1979; DeVellis 1991; Nunnally 1978; Peterson 2000), which purified the measure by checking reliability and validity. In developing the SUS-TAS using EFA with a varimax rotation, the authors found that 44 items loaded on seven factor domains, which were perceived social costs (8 items), environmental sustainability (9 items), long-term planning (7 items), perceived economic benefits (7 items), community-based tourism (5 items), ensuring visitor satisfaction (4 items), and maximizing community

participation (4 items). The internal consistency (Cronbach's alpha range .78 to .95) of SUS-TAS was verified via reliability analyses (Choi and Sirakaya 2005). Sirakaya, Ekinci, and Kaya (2008) examined the validity of the SUS-TAS in cross-cultural settings. Their study focused on Stage 6 of the standard psychometric procedure for scale development, by reassessing external validity and reliability of the scale. They reported adequate construct validity and good internal consistency using CFA. Since face validity, content validity, construct validity, and internal consistency were established through previous studies, this study adopted the SUS-TAS with slight wording modification.

Data Collection

Survey instruments were mailed to a random selection of 2,000 households in Orange County, Indiana, during January through April 2007. Using a modified Dillman (2000) Tailored Design technique, each respondent was contacted six times. The questionnaire contained each of the 44 items from the SUS-TAS as well as information on the residents' demographics, perception of quality of life in Orange County, and extent of contact with tourists. There were 649 usable survey instruments for a response rate of 32.5%. Among the respondents, 43.5% were female. Approximately 14.6% of the participants were between 36 and45 years of age, 23% between 46 and 55, and 23.4% between 56 and 65.

Data Analysis

To examine construct validity, CFA using the maximum likelihood method was calculated using LISREL-8.8 software. Goodness of fit, using chi-square (χ^2), examined the overall fit of the model. The χ^2 statistic, in practice, is more useful when regarded as a measure of fit rather than as a test statistic (Joreskog and Sorbom 1993). A χ^2 value measures the closeness of fit between the sample covariance matrix and the fitted covariance matrix, serving therefore as an indicator of overall model fit (Byrne 1994). When determining fitness, lower χ^2 statistics indicate a better model fit, and a significant p value of χ^2 indicates an inadequate fit. However, Bryne (1994) argues that this finding is not appropriate for most empirical research because the χ^2 statistic relates to sample size, and large sample theory is the underpinning of covariance structure analysis. Thus researchers have developed a wide variety of fit indexes that are independent of sample size (Marsh, Balla, and McDonald 1988; Hu and Bentler 1998). Several indices were calculated for this study, including the goodness of fit index (GFI), adjusted goodness of fit index (AGFI), normed fit index (NFI), nonnormed fit index (NNFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). For the maximum likelihood (ML) method, GFI, AGFI, NFI, NNFI, and CFI values greater than .95 have served as a rule of thumb for acceptable fit (Hu and Bentler 1999). An RMSEA value less than .06 and an SRMR value less than .08 have served as rule of thumb of acceptable fit (Hu and Bentler 1999; Joreskog and Sorbom 1993; Marcoulides and Hershberger 1997).

Table 1. Results of Goodness-of-Fit Indices of the Original Sustainable Tourism Attitude Scale (44 items, n = 564; listwise deletion method)

χ^2	2,409.48
df	881
p	.00
RMSEA	.057
GFI	.83
AGFI	.81
CFI	.96
NFI	.94
NNFI	.96
SRMR	.061

Note: RMSEA = root mean square error of approximation; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; NFI = normed fit index; NNFI = nonnormed fit index; SRMR = standardized root mean square residual.

Results and Discussion

CFA was conducted on the Orange County data using the original 44-item SUS-TAS (Choi and Sirakaya 2005). The 44 items loaded on seven factor domains—perceived social costs (8 items), environmental sustainability (9 items), long-term planning (7 items), perceived economic benefits (7 items), community-based tourism (5 items), ensuring visitor satisfaction (4 items), and maximizing community participation (4 items). The model fit indices (Table 1) demonstrated that the overall statistics for the original SUS-TAS model were not acceptable, $\chi^2(881) = 2409.48$, $p = .00$, RMSEA = .057, GFI = .83, AGFI = .81, CFI = .96, NFI = .94, NNFI = .96, and SRMR = .061. Three indices, CFI, NFI, and NNFI, met the .90 criterion. The data set did not support the seven-dimension, 44-item SUS-TAS model.

Subsequently, items that were not statistically significant on their factor loading were eliminated. Furthermore, checking the Squared Multiple Correlations table eliminated items with lower R^2 values, which indicated insufficient item reliability. By using the criteria above, the CFA confirmed the seven-factor SUS-TAS but reduced the number of items from 44 to 27 (Table 2). The model fit indices (Table 3) demonstrated that the overall statistics for SUS-TAS model were acceptable, $\chi^2(303) = 690.9$, $p = .00$, RMSEA = .048, GFI =

Table 2. Results of Confirmatory Factor Analysis for the Revised Sustainable Tourism Attitude Scale

Items	Standardized Estimates	Cronbach's Alpha	Construct Reliabilities
Perceived social costs		.84	.85
Tourists in my community disrupt my quality of life	.84*		
Our community is overcrowded because of tourism	.84*		
Our community's recreational resources are overused by tourists	.58*		
Tourism is growing too fast in our community	.78*		
Environmental sustainability		.87	.87
Our community's diversity of nature is valued and protected	.78*		
Tourism development in our community always protects wildlife and natural habitats	.67*		
Our community's natural environment is being protected now and for the future	.78*		
Tourism development in our community promotes positive environmental ethics	.76*		
Tourism in our community is developed in harmony with the natural environment	.81*		
Long-term planning		.85	.85
Tourism development needs well-coordinated planning	.80*		
When planning for tourism, we can't be shortsighted	.74*		
Successful management of tourism requires advanced planning	.79*		
We need to take a long-term view when planning for tourism development	.73*		
Perceived economic benefit		.82	.82
Tourism is a strong economic contributor to our community	.78*		
Tourism benefits other than just tourism industries in our community	.66*		
Tourism brings new income to our communities	.85*		
Tourism generates substantial tax revenues for our local government	.62*		
Community-centered economy		.64	.63
Tourism business should try to hire most of their employees from within our community	.48*		
Tourism industry should try to purchase their goods and services from within the local community	.60*		
Tourism industry should contribute economically to a community's improvement	.71*		
Ensuring visitors' satisfaction		.71	.73
Tourism business must monitor visitor satisfaction	.71*		
Tourism industry should ensure good-quality tourism experience for visitors	.73*		
It's the responsibility of tourism business to meet visitor needs	.42*		
Community attractiveness is a core element of ecological "appeal" for visitors	.66*		
Maximizing community participation		.66	.68
Tourism decisions must be made by all members in communities regardless of a person's background	.71*		
Full participation by everyone in the community regarding tourism decisions is a must for successful tourism development	.76*		
Sometimes it's acceptable to exclude a community's residents from tourism development decisions	.43*		

* Significant to the $p < .001$ level.

.92, AGFI = .90, CFI = .97, NFI = .95, NNFI = .97, and SRMR = .045. All of the items were statistically significant to their respective factors. The data set supported the 27-item, seven-dimension SUS-TAS model.

Convergent validity can be assessed by determining whether the estimated factor loading of each indicator is significant on its underlying construct (Anderson and Gerbing 1988). All confirmatory factor loadings were

Table 3. Results of Goodness-of-Fit Indices of the Revised Sustainable Tourism Attitude Scale (27 items, $n = 564$; listwise deletion method)

χ^2	690.94
df	303
P	.00
RMSEA	.048
GFI	.92
AGFI	.90
CFI	.97
NFI	.95
NNFI	.97
SRMR	.045

Note: RMSEA = root mean square error of approximation; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; NFI = normed fit index; NNFI = nonnormed fit index; SRMR = standardized root mean square residual.

statistically significant, with *t* values ranging from 9.17 to 23.4. Therefore, the convergent validity concerns of the 27-item scales were satisfied. In scale development, individual item loadings should be assessed for both statistical significance and magnitude (Netemeyer, Bearden, and Sharma 2003). A rigorous rule of thumb for a completely standardized item-to-factor loading magnitude is an average of .7 (Hair et al. 1998). In this study, the averages of completely standardized item-to-factor loading magnitudes were .60 to .77. Some factor loadings were lower due to wording redundancy that resulted in correlated measurement error (Netemeyer, Bearden, and Sharma 2003). Overall, these items did not jeopardize the integrity of the results.

Internal consistency was determined using two different techniques. In this study, the Cronbach's alpha scores were in the range from .64 to .87. This indicated that the variables exhibited a moderately strong correlation within their factor grouping and were found to be internally consistent (Nunnally and Bernstein 1994). Typically, a Cronbach's alpha score of .70 or higher is desired while .60 or higher is an acceptable reliability coefficient for research at the early stage of the scale development (Nunnally and Bernstein 1994). Second, latent construct reliability was calculated using a formula provided by Fornell and Larcker (1981). The thresholds for construct reliability have been recommended to be at least .60 (Bagozzi and Yi 1988). The construct reliability of all seven constructs exceeded the recommended minimum level (.63 to .87). Both internal consistency results confirm the seven constructs of the scale.

Discriminant validity was assessed by constraining the estimated correlation parameter between every possible pair of constructs to 1.0 and then conducting χ^2 difference tests to compare the constrained to the unconstrained model (Joreskog 1971; Fornell and Larcker 1981; Anderson and Gerbing 1988). The results of χ^2 difference tests showed that all paired comparisons were significant at the $p < .001$ level. Therefore, it can be considered that the scale possessed discriminant validity.

Conclusion

The tourism literature demonstrates that residents' attitudes toward tourism have significant influence on tourism development. Hence, an understanding of residents' attitudes can help policy makers and destination developers better evaluate the community's perception of tourism development. Tourism scholars have been developing scales to determine residents' attitudes toward tourism for several years. The recently developed SUS-TAS focuses heavily on the current sustainable issues regarding tourism impacts and could be an important tool for helping policy makers and regional planners. Newer, shorter versions of the scale are needed, but they must not compromise its psychometric properties. Although adjustments will have to be made to fit the different cultures, languages, and research settings, the ultimate goal is the development of a shorter version of the scale with a predictive value equal to or better than the ones currently in use (Sirakaya, Ekinci, and Kaya 2008). This study helps to investigate the possibility of the SUS-TAS being a tool of that nature. The results support the construct validity and internal consistency of a shortened version of the SUS-TAS. Significant items of each construct reflected the strength of a community's attitudes toward sustainable tourism. Therefore, the individual constructs can be adapted for a researcher's particular interest. This shorter instrument (Table 4) minimally compromises the psychometric properties of the original SUS-TAS and may be an effective tool for policy makers, developers, and researchers.

Future research suggestions include exploring the use of the SUS-TAS in other studies to determine if similar factors and item loadings are found; this would aid in further refining the instrument and dimensions. Furthermore, studies using the SUS-TAS as a means of segmenting residents could be useful to determine if particular community groups vary in their attitudes toward tourism development.

Declaration of Conflicting Interests

The authors declared no conflicts of interests with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

Table 4. Sustainable Tourism Attitude Scale (27 items)

Perceived social costs
Tourists in my community disrupt my quality of life
Our community is overcrowded because of tourism
Our community's recreational resources are overused by tourists
Tourism is growing too fast in our community
Environmental sustainability
Our community's diversity of nature is valued and protected
Tourism development in our community always protects wildlife and natural habitats
Our community's natural environment is being protected now and for the future
Tourism development in our community promotes positive environmental ethics
Tourism in our community is developed in harmony with the natural environment
Long-term planning
Tourism development needs well-coordinated planning
When planning for tourism, we can't be shortsighted
Successful management of tourism requires advanced planning
We need to take a long-term view when planning for tourism development
Perceived economic benefit
Tourism is a strong economic contributor to our community
Tourism benefits other than just tourism industries in our community
Tourism brings new income to our communities
Tourism generates substantial tax revenues for our local government
Community-centered economy
Tourism business should try to hire most of their employees from within our community
Tourism industry should try to purchase their goods and services from within the local community
Tourism industry should contribute economically to a community's improvement
Ensuring visitors satisfaction
Tourism business must monitor visitor satisfaction
Tourism industry should ensure good-quality tourism experience for visitors
It's the responsibility of tourism business to meet visitor needs
Community attractiveness is a core element of ecological "appeal" for visitors
Maximizing community participation
Tourism decisions must be made by all members in communities regardless of a person's background
Full participation by everyone in the community regarding tourism decisions is a must for successful tourism development
Sometimes it's acceptable to exclude a community's residents from tourism development decisions

Note: Respondents were asked to rate their opinions on tourism in their community, by circling the number that best represents agreement or disagreement with each statement. A 5-point scale was used, with 1 = *strongly disagree* to 5 = *strongly agree*.

References

Anderson, James C., and David W. Gerbing (1988). "Structural Equation Modeling in Practice: A Review and Recommended Two-step Approach." *Psychological Bulletin*, 103 (3): 411-23.

Ap, John (1992). "Residents' Perceptions of Tourism Impacts." *Annals of Tourism Research*, 19 (4): 665-90.

Ap, John, and John L. Crompton (1998). "Developing and Testing a Tourism Impact Scale." *Journal of Travel Research*, 37: 120-30.

Bagozzi, Richard P., and Youjae Yi (1988). "On the Evaluation of Structure Equation Models." *Journal of the Academy of Marketing Science*, 16 (1): 74-94.

Bollen, Kenneth A. (1989). *Structural Equations with Latent Variables*. New York: John Wiley.

Byrne, Barbara M. (1994). *Structural Equation Modeling with EQS and EQS/Windows: Basic Concepts, Applications, and Programming*. Newbury Park, CA: Sage.

Choi, Hwan-Suk, and Ercan Sirakaya (2005). "Measuring Residents' Attitude toward Sustainable Tourism: Development of Sustainable Tourism Attitude Scale." *Journal of Tourism Research*, 43: 380-94.

Churchill, Gilbert A., Jr. (1979). "A Paradigm for Developing Better Measures of Marketing Constructs." *Journal of Marketing Research*, 16 (1): 64-73.

Cooke, Karen (1982). "Guidelines for Socially Appropriate Tourism Development in British Columbia." *Journal of Travel Research*, 21 (1): 22-28.

Davis, Duane, Jeff Allen, and Robert M. Cosenza (1988). "Segmenting Local Residents by Their Attitudes, Interests, and Opinions toward Tourism." *Journal of Travel Research*, 27 (2): 2-8.

Delamere, Tom A. (1998). "Development of a Scale to Measure Local Resident Attitudes toward the Social Impact of Community Festivals." Unpublished PhD dissertation, University of Alberta.

DeVellis, Robert F. (1991). *Scale Development: Theory and Applications*. Newbury Park, CA: Sage.

Dillman, Don (2000). *Mail and Internet Services: The Tailored Design Method*. Hoboken, NJ: Wiley.

Fornell, Claes, and David F. Larcker (1981). "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error." *Journal of Marketing Research*, 18 (February): 39-50.

Godfrey, Kerry B. (1998). "Attitudes towards Sustainable Tourism in the UK: A View from Local Government." *Tourism Management*, 19 (3): 213-24.

Gunn, Clare A. (1994). *Tourism Planning: Basics, Concepts, Cases*, 3rd edition. Washington, DC: Taylor and Francis.

Gursoy, Dogan J., Claudia Jurowski, and Muzaffer Uysal (2002). "Resident Attitudes: A Structural Modeling Approach." *Annals of Tourism Research*, 29 (1): 79-105.

Hair, Joseph F., Rolph E. Anderson, Ronald L. Tatham, and William. C. Black (1998). *Multivariate Data Analysis*, 5th edition. Englewood Cliffs, NJ: Prentice Hall.

Hall, C. Michael (1994). *Tourism and Politics: Policy, Power, and Place*. Chichester, UK: Wiley.

Hu, Li-tze, and Peter M. Bentler (1998). "Fit Indices in Covariance Structure Modeling: Sensitivity to Underparameterized Model Misspecification." *Psychological Methods*, 3 (4): 424-53.

Hu, Li-tze, and Peter M. Bentler (1999). "Cutoff Criteria for Fit Indices in Covariance Structure Analysis: Conventional Versus New Alternatives." *Structural Equation Modeling*, 6: 1-55.

Jamal, Tazim, and Donald Getz (1995). "Collaboration Theory and Community Tourism Planning." *Annals of Tourism Research*, 22 (1): 186-204.

Jamieson, Walter, and Tazim Jamal (1997). "Tourism Planning and Destination Management." In *International Tourism: A Global Perspective*, edited by C. Gee and E. Fayos-Sola. Madrid: World Tourism Organization, pp. 321-37.

Joppe, Marion (1996). "Sustainable Community Tourism Development Revisited." *Tourism Management*, 17:475-79.

Joreskog, Karl G. (1971). "Statistical Analysis of Sets of Congeneric Tests." *Psychometrika*, 36: 109-13.

Joreskog, Karl G., and Dag Sorbom (1993). *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*. Hillsdale, NJ: Lawrence Erlbaum.

Kandampully, Jay (2000). "The Impact of Demand Fluctuation on the Quality of Service: A Tourism Industry Example." *Managing Service Quality*, 10 (1): 10-18.

Ko, Dong-Wan, and William P. Stewart (2002). "A Structural Equation Model of Residents' Attitudes for Tourism Development." *Tourism Management*, 23 (5): 521-30.

Lankford, Samuel, and Dennis R. Howard (1994). "Developing a Tourism Impact Attitude Scale." *Annals of Tourism Research*, 21 (1): 121-39.

Lindberg, Kreg, and Rebecca L. Johnson (1997). "Modeling Resident Attitudes toward Tourism." *Annals of Tourism Research*, 24 (2): 402-24.

Marsh, Herbert W., John R. Balla, and Roderic P. McDonald (1988). "Goodness-of-Fit Indexes in Confirmatory Factor Analysis: The Effect of Sample Size." *Psychological Bulletin*, 103 (3): 391-410.

Marcoulides, George A., and Scott L. Hershberger (1997). *Multivariate Statistical Methods*. Mahwah, NJ: Lawrence Erlbaum.

McIntyre, George (1993). *Sustainable Tourism Development: Guide for Local Planners*. Madrid: World Tourism Organization.

Murphy, Peter E. (1985). *Tourism: A Community Approach*. New York: Methuen.

Netemeyer, Richard G., William O. Bearden, and Subhash Sharma (2003). *Scaling Procedures: Issues and Applications*. Thousand Oaks, CA: Sage.

Nunnally, Jum C. (1978). *Psychometric Theory*, 2nd edition. New York: McGraw-Hill.

Nunnally, Jum C., and I. H. Bernstein (1994). *Psychometric Theory*, 3rd edition. New York: McGraw-Hill.

Peterson, Robert A. (2000). "A Meta-Analysis of Variance Accounted for and Factor Loadings in Exploratory Factor Analysis." *Marketing Letters*, 11 (3): 261-75.

Sirakaya, Ercan (1997). "Attitudinal Compliance with Ecotourism Guidelines." *Annals of Tourism Research*, 24 (4): 919-50.

Sirakaya, Ercan, Yusel Ekinci, and Alp G. Kaya (2008). "An Examination of the Validity of SUS-TAS in Cross-Cultures." *Journal of Travel Research*, 46 (4): 414-21.

Sirakaya, Ercan, Tazim Jamal, and Hwan-Suk Choi (2001). "Developing Indicators for Destination Sustainability." In *The Encyclopedia of Ecotourism*, edited by D. B. Weaver. New York: CAB International, pp. 411-32.

Sharpley, Richard (2000). "Tourism and Sustainable Development: Exploring the Theoretical Divide." *Journal of Sustainable Tourism*, 8 (10): 1-19.

World Tourism Organization (1993). *Sustainable Tourism Development: Guide for Local Planners*. Madrid: World Tourism Organization.

Bios

Chia-Pin (Simon) Yu is a doctoral student of department of recreation, park and tourism studies, Indiana University Bloomington. He received a BS degree in Agricultural Economics from National Taiwan University, Taipei, Taiwan, and a master's degree in Public Affairs Management from National Sun Yat-sen University, Kaohsiung, Taiwan. His research interests are tourism marketing and tourism management. His current research involves study of the residents' quality of life and of tourism destination competitiveness.

H. Charles Chancellor is an assistant professor in the department of recreation, park, and tourism studies at Indiana University. His research interests are in social and environmental effects of tourism, travel patterns, and incorporating GIS into tourism research.

Shu Tian Cole is currently an associate professor in the department of recreation, park and tourism studies at Indiana University. Her research expertise is in tourism marketing with a focus on tourist experience management.