Tourism Analysis, Vol. 13, pp. 387–400
Printed in the USA.

1083-5423/08 $60.00 + .00

www.cognizantcommunication.com

ESTIMATION OF THE DETERMINANTS OF EXPENDITURES BY FESTIVAL VISITORS

SAMUEL SEONGSEOP KIM,* HAGCHIN HAN,† and KAYE CHON‡

*Department of Hospitality & Tourism Management, Sejong University, Seoul, Korea
†Department of Leisure and Tourism Management, Halla University, Woonju, Korea
‡School of Hotel and Tourism Management, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong

A good understanding of the predictors of festival visitor expenditures could serve as a guide for the planning of marketing campaigns for successful festival management. Thus, a main objective of this study is to investigate the effects of the sociodemographic and festival experience-related variables of visitors on the volumes and patterns of their expenditure. Rather than using an OLS (ordinary least squares) regression model, which requires the continuity assumption when several zero expenditures exist in a dependent variable, this study uses a tobit model. The results of the tobit analyses indicate that certain variables seem to be more important than others, and reveal variations in the effects of determinants on the estimates of expenditures. In particular, "overnight versus no overnight stay" was found to be a significant predictor for all six categories of expenditure. It was also found that the role of sociodemographic variables such as age, marital status, occupation, and place of residence was minimal, except in the case of specific expenditure categories.

Key words: Festival; Expenditure; Tobit model

Introduction

In recent years, festivals and similar events have been among the fastest growing forms of tourist attraction (Felsenstein & Fleischer, 2003; Getz, 1997). There may be several reasons why local festivals have become increasingly popular with tourists. First, local festivals that feature a variety of themes or local traditions/customs tend to meet the tourists' desire to understand the local culture and their thirst for novel experiences. Such festivals also offer opportunities for socialization and an escape from the routine of daily life, and can be a means of learning about something new (Backman, Backman, Uysal, & Sunshine, 1995; Crompton & McKay, 1997; Mohr, Backman, Gahan, & Backman, 1993; Pearce, 1993; Schneider & Backman, 1996; Scott, 1996; Uysal, Gahan, & Martin, 1993). The driving force behind people's growing desire for new experiences is probably the general improvement in their living standards, as reflected in increased real disposable income,

Address correspondence to Samuel Seongseop Kim, Ph.D., Associate Profesor, Department of Hospitality & Tourism Management, Sejong University Seoul, Korea, 143-747. E-mail: sskim@sejong.ac.kr

reductions in the number of days and/or hours worked, and upgrades in the level of education. Festivals provide tourists with opportunities to experience the unique traditions or customs associated with the ethnicity or local culture of the location they are visiting.

From the perspective of the local government and local residents, there are obvious economic benefits to be gained by the promotion of local festivals. In the first place, local festivals are generally viewed as substantial revenue-generating opportunities by local municipalities (Crompton, Lee, & Shuster, 2001; Crompton & McKay, 1994; Delpy & Li, 1998; Frey, 1994; Gamage & Higgs, 1997). Even though they do indicate some negative aspects of hosting festivals or events, previous studies have demonstrated the positive economic impact that festivals can have on the local economy, in the form of enhanced sales, added value to local products and services, increased employment, and increased income for local residents. Secondly, festivals can often generate nonmarket benefits, for example by reinforcing a positive image of the host area or city (Felsenstein & Fleischer, 2003; Getz, 1997). Thirdly, festivals can help to both promote and preserve heritage resources (Prentice & Andersen, 2003). Fourthly, festivals often add vibrancy and vivacity to the quality of life of local inhabitants, and build a sense of solidarity among residents (Kim & Petrick, 2005). Finally, in many instances, festivals are used as a political tool by local governments to promote their role and performance (Jeong, 1998).

Concomitant with the significant increase in the number and popularity of festivals and events organized by host communities, many researchers in the tourism field have begun to regard them as pivotal tourist resources. A wide variety of topics has been investigated in previous studies, including the perceptions of local residents of festivals or special events (Deccio & Baloglu, 2002; Jeong, 1998; Kim & Petrick, 2005; Mihalik & Simonetta, 1998; Ritchie & Aitken, 1985; Ritchie & Lyons, 1987; Soutar & McLeod, 1993; Waitt, 2003). Most of these studies showed that festivals or events had both positive and negative impacts. Another focus of research is to identify the motivational forces behind festival attendance (Backman et al., 1995; Crompton & McKay, 1997; Formica & Uysal, 1996, 1998; C. Lee, Lee, & Wicks, 2004; Mohr et al., 1993; Schneider & Backman, 1996; Scott, 1996; Uysal et al., 1993). Others have sought to estimate the economic impact of festivals and other events (Crompton & McKay, 1994; Crompton et al., 2001; Delpy & Li, 1998; Dwyer, Forsyth, & Spurr, 2005; Gamage & Higgs, 1997). Other researchers have sought to understand the factors influencing the quantity of visitor expenditures (Felsenstein & Fleischer, 2003; Long & Perdue, 1990; Rao, 2001; Thrane, 2002), or to identify the differences between a variety of methodological approaches (Breen, Bull, & Walo, 2001; Dwyer, Mellor, Mistilis, & Mules, 2001; Faulkner & Raybould, 1995; Jackson, Houghton, Russell, & Triandos, 2005; Tyrrell & Johnston, 2003).

However, among all these previous studies, only a very few have attempted to identify predictors for the spending by festival goers. The absence of such economic analysis of festival and special event visitor expenditures is in stark contrast to the numerous hospitality marketing studies, which typically have focused on the importance of identifying the psychological and economic profiles of customers who purchase a product or destination. Additional studies are needed to obtain an in-depth understanding of the customers' orientation in terms of their decision to attend and participate in a festival. Failure to achieve such an understanding of festival participants is likely to lead to lower levels of customer satisfaction, loyalty, and intention to repeat the experience. This, in turn, would be detrimental to both the host governments and the festival organizers, because many of the anticipated benefits are negated. Over time, this is likely to result in a drop in the number of visitors, and a consequent reduction in financial support (subsidies) relating to admission and booth rental prices, and often leads to the downsizing of a festival and a deterioration in the brand equity. Thus, a main objective of this study is to identify the effects of the sociodemographic and festival experience-related variables of visitors on the volumes and patterns of their expenditure.

Theoretical Background

As discussed above, the studies relating to festival attendee expenditures may be classified into

three groups. The first set of studies includes economic impact analyses of festivals based upon visitor expenditures in the host city or country. Chhabra, Sills, and Cubbage (2003) estimated the multiplier effects, based on estimated expenditures of nonlocal visitors attending two local festivals. They reported that direct expenditures by nonlocal visitors at the Grandfather Mountain Highland Games amounted to $2.6 million. Visitor expenditures were subclassified into those pertaining to food and beverages, groceries, lodging, Scottish goods, miscellaneous retail, gasoline, vehicle repair, vehicle rental, admission, and registration. This study found that the largest amount was spent on lodging (42.5%), followed by food and beverages (17.1%), and Scottish goods (12.5%). They computed the economic impact estimates using input–output analysis. An input–output model has been by far the most popular tool employed in past studies, because it allows investigators to estimate the multiplier effects (Crompton & McKay, 1994; Crompton et al., 2001; Delpy & Li, 1998; Dwyer et al., 2005; Gamage & Higgs, 1997; Uysal & Gitelson, 1994). However, Dwyer et al. (2005) pointed out that the input–output model is fundamentally flawed for event assessment and instead argued in favor of a CGE (Computable General Equilibrium) approach.

Other studies have used other approaches to estimate the economic impact of events (Breen et al. 2001; Burgan & Mules, 1992; Dwyer et al., 2001; Faulkner & Raybould, 1995; Jackson et al., 2005; Long & Perdue, 1990; Tyrrell & Johnston, 2003). In Long and Perdue's (1990) study, the spatial distribution of expenditures of 235 visitors to a rural arts and crafts festival was examined. They found that 74.9% of tourist expenditures occurred outside the host community. These findings clearly signal the potential danger of overestimating the economic impact of an event on a local community. Unlike previous studies, which used only visitor expenditures to calculate the economic impact of an event, Dwyer et al. (2001) argued that the expenditures of organizers, participants, and the media, should also be included, in addition to those of visitors. An additional point is that economic impact studies should consider both the intangible costs and the social benefits together, because they tend to emphasize positive economic gains.

Breen et al. (2001) compared the mean scores derived by various measures of five categories of patron expenditure at a local festival. They used a diary method and this revealed higher mean scores than the recall method for all expenditure categories, suggesting that memory decay has an effect when recalling expenditures. Significant differences were also noted between the mean values derived from within-group interviews and those derived by other methods. For example, the social bravado effect was not apparent when respondents were with their peers. Another important finding was that male respondents indicated higher expenditures than females, by all survey methods. These results are quite consistent with those of Faulkner and Raybould's (1995) study, which compared the diary and recall methods with respect to average visitor expenditures.

Tyrrell and Johnston (2003) commented that failing to identify the source, the geographic starting point, the destination or end point, and the purpose of a given expenditure can produce errors in economic impact models. Potential sources of information on the event impact can include the spectators, players/competitors, volunteers and contributors, the media/umpires/other attendees, the host and major sponsors, and exhibitors/vendors. Determining which sources are relevant can be complicated by the locations or causes of the spending. These authors have shown that most studies on event expenditures fail to identify the characteristics of those expenditures, and their suggestions for more accurately ways of estimating the direct economic impact of a festival are helpful.

Another area that past studies have investigated is the factors influencing the amount of visitor expenditures (Felsenstein & Fleischer, 2003; Jackson et al., 2005; Rao, 2001; Thrane, 2002). Rao (2001) estimated the level of festival expenditures by a family in two villages in India, using the OLS method. His study found that a household's festival expenditures increased with the educational level of the parents, the number of young children, and the number of girls of marriageable age. The study found that households that spent more on festivals often were of higher social status and tended to have access to more opportunities for

private benefits, such as lower food prices and more frequent invitations to meals. Rao (2001) also demonstrated that there were specific Indian customs that influenced a family's spending on village festivals, for example the convention that expenditure at festivals is a social investment or donation. This study concluded that expenditures of residents at local festivals tend to vary with their level of attachment and social status. This also suggests that the meanings underlying festival expenditures may be different across countries or regions.

Thrane (2002) investigated the relationship between jazz festival visitors' interest in jazz music and their spending. Using both OLS regression analysis and logistic regression analysis, he found that people who were more interested in jazz music exhibited higher levels of spending. In two regression models, a semilogarithmic functional form was used for visitor expenditures. Thrane (2002) reported that certain visitor characteristics—such as length of stay, place of origin, household income, and household size—were influential factors for estimating visitor expenditures in both regression models. However, the two regression models generated somewhat different findings. For example, "age" was significant at the 0.01 level when using multiple regression, whereas the variable was not significant at even the 0.05 level of significance in a logistic regression model. Hence, the relative importance of different variables may vary according to the estimation method used for the analysis.

Felsenstein and Fleischer (2003) estimated visitor expenditures at both the Kfar Blum Festival and the Acre Festival in Israel. The average planned length of visit among attendees of the Kfar festival was 3.57 days, and the average number of persons in the family group was 2.19. Expenditures per family at the festival were $790 for accommodation, $441 for food and restaurants, $490 for tickets, $145 for gasoline, parking, and transportation, and $141 for other items and services. Total expenditures from both local and nonlocal festival attendees were $1,221,000. However, this study calculated only direct expenditures.

Jackson et al. (2005) produced a do-it-yourself kit for more precise measurement of the economic impact of local festivals. Their kit was designed to permit the development of a more accurate questionnaire related to attendees' expenditures and the festival host region characteristics, such as export income, import replacement, and income redistribution within the region. They claimed that the festival kit reduced misleading data outcomes and was convenient to use.

In summary, most studies have tended to investigate the economic impact of a festival or local event on its host area or country by employing an input–output model or, less frequently, using a CGE model. Studies that focus on identifying the characteristics of visitor spending have been relatively few. This suggests that previous studies have failed to examine the characteristics of those who participate in a festival or event. One approach that might provide a fuller and more accurate understanding of customers could involve the identification of festival visitor spending patterns in line with a customer-oriented philosophy. A good understanding of the predictors of festival visitor expenditures could be useful to guide the planning of marketing campaigns at many visitor attractions and destinations. Thus, a key objective of this study is to investigate the effect that the sociodemographic and festival experience-related variables of the visitors would have on the volumes and patterns of their expenditure.

Method

As described above, only two papers have attempted to identify the determinants of festival visitor spending using advanced statistical methods. One was Thrane's (2002) study, which used both OLS regression and logistic regression models. The other was conducted by Rao (2001), who basically used an OLS regression model. Because there have been no attempts made to study the specific characteristics of festival customers, it would be useful to review the methodologies used in the field of tourism in general. Past research has shown that tourism expenditures are contingent upon a number of factors. These include the purpose of the trip, travel party size, length of stay, type of travel activities participated in, and the sociodemographic characteristics of the samples studied (Becken & Gnoth, 2004; Cai, 1998, 1999; Cai, Hong, & Morrison, 1995; Dardis, Soberon-

Ferrer, & Patro, 1994; H. Lee, 2001; Leones, Colby, & Crandall, 1998; Mak, Moncur, & Yonamine, 1977; Pizam & Reichel, 1979; Spotts & Mahoney, 1991).

Evidence from past literature reveals that tourist expenditures differ according to household characteristics (Cai, 1998; Cai, 1999; Cai et al., 1995; Jang, Bai, Hong, & O'Leary, 2004; H. Lee, 2001), tourist nationality (Suh & Gartner, 2004), tourist types (Becken & Gnoth, 2004; Dardis et al., 1994; H. Lee, 2001), the regions visited (H. Lee, 2001; Leones et al., 1998), purpose of the trip and country of origin (Mules, 1998), as well as whether the tourist is a first-time or repeat visitor to an event (Godbey & Graefe, 1991). Simple methodologies were used in these studies, including comparisons of frequencies, *t*-tests, one-way analysis of variance (ANOVA), and logistic regression analysis.

The current study uses a tobit model to predict the expenditures of festival visitors rather than the above-mentioned statistical methods. According to Tobin (1958), because there is a potential grouping of values for a dependent variable at zero values of independent variables, and because the value of the dependent variable cannot be less than zero, the sample can be said to be censored at zero. Within festival visitor expenditure data, many zero expenditures are found in the different expenditure categories. The final tobit model allows for all the available information related to independent variables to be used, but also includes both the decision on whether or not to spend, and the level of expenditure, in a single model. The tobit model regression analysis method was selected for this study, over the more common least squares method, because the dependent variable has a censored distribution (the lower threshold for expenditures must be "0").

The expenditures of visitors to a local festival, the Great Admiral Lee Sun-Shin Festival, in Asan City, South Korea, were split into six expenditure categories: lodging, food and beverages, shopping, transportation, entertainment, and admission fees. In addition, independent variables were selected as factors that influence the expenditure in each of these six categories and were divided into two groups. The first group consists of general characteristics relating to travel to the festival that may affect expenses: "number of times having attended the festival," "purpose of visit," "overnight stay versus no overnight stay," "number of those accompanying," and "means of transportation." The second group is comprised of the sociodemographic variables of the survey respondents: "age," "level of education," "marital status," "monthly household income," "occupation," and "local versus nonlocal resident." More detailed definitions of the variables are shown in Table 1.

To estimate the relationship between expenditures in the six categories and the independent variables, the following model was established:

$$\mathrm{Exp}_{ik} = f(\mathrm{Revi}_i, \mathrm{Pur}_i, \mathrm{Dur}_i, \mathrm{Pty}_i, \mathrm{Trn}_i, \mathrm{Age}_i, \mathrm{Edu}_i, \mathrm{Mar}_i, \mathrm{Inc}_i, \mathrm{Job}_i, \mathrm{Resi}_i)$$

With regard to the coding of these variables, first-time visitors were coded "0" and visitors who had come to the festival at least twice were coded "1." A "0" was assigned to a 1-day trip without lodging, and "1" was assigned to visitors who stayed in the local area for at least 1 night. As for respondent's martial status, "0" was assigned to subjects who were single, and "1" to those who were married. Residents of the local area were coded "0," whereas visitors from out of town were coded "1."

Data were collected at the Asan Admiral Lee Sun-Shin Festival, held in Asan City, Chungchung Province, Korea between April 24 and 28, 2004. This festival has been held since 1962 and has been designated as one of the representative local festivals by the Korean Ministry of Culture and Tourism. The festival's main objective is to commemorate Admiral Lee, whose naval contributions were instrumental in saving Korea from Japanese invasion between 1592 and 1598. He is also considered to be one of the most remarkable admirals in international naval battle history, along with Admiral Horatio Nelson of England, who is famous for the victory at the Battle of Trafalgar. Admiral Lee is a historical figure who is highly respected by almost all Korean people, and he has been almost deified in Korea.

Unlike most festivals that emphasize local products, arts, or local culture, this festival centers on describing events in the life of a deified person. The festival programs include exhibitions of the

Table 1
Description of Variables

Variable	Detailed Description
Number of participations in the festival	0 = first visit, 1 = 2 or more
Purpose of this visit (a major purpose of my trip is to participate in the festival)	0 = no, 1 = yes
Number of accompanying people	0 = 3 or less, 1 = 4 or more
Overnight stay or not	0 = no overnight stay, 1 = overnight stay
Means of transportation	0 = other means, 1 = private automobile
Age	0 = less than 30, 1 = 30 or more
Level of education	0 = high school or less, 1 = some college or above
Marital status	0 = single, 1 = married
Monthly household income	0 = less than 3 million won, 1 = 3 million won or more
Occupation	0 = company employee, 1 = other occupations
Resident or not	0 = resident in the host city, 1 = nonresident

ironclad warships in the shape of a turtle, descriptions of victories in 23 naval battles against the Japanese navy, a calligraphy competition, reenactments of Admiral Lee's battles against the Japanese navy, performances of Korean traditional arts, and so on. During the year of our study, 260,700 visitors came to the festival, including 10,200 foreign visitors (3.8%), 111,500 out-of-towners (42.8%), and 139,000 local residents (53.3%).

To determine the sample size necessary to meet our study objectives, the following formula was applied (McNamara, 1994): $N = (P) \times (1 - P) \times (Z^2/E^2)$, where N = the size of the sample; Z = the standard score corresponding to a given confidence level; E = the proportion of sampling error in a given situation; and P = the estimated product or incidence of cases in the proportion. This study assumed $P = 0.5$, $Z = 1.96$ (95% confidence interval), and $E = 0.04$. Thus, a sample size of 600 was set [$N = 0.5\ (1–0.5) \times (1.96^2/0.04^2) = 600$].

Because this survey formed part of an overall evaluation of the festival that had been commissioned by Asan City administrators, administrative assistance and support were provided during the survey process. At the booth provided by the festival organization committee for the administration of the survey, a convenience sampling method was used, as it was not physically possible to control the visitors' passage through the open venue. Interviewers for this study consisted of three graduate students and four undergraduate students. Because this survey was part of a project that was commissioned by the festival host city, conveniences such as providing a pavilion, desks and chairs, drinking water, name tags, and putting up signage on the pavilion indicating a survey team were offered by the Asan City. In a survey process, visitors who exited after their participation in the event were asked to be interviewed at a pavilion nearby the exit gate. Most respondents showed a willingness to apply for the survey except the illiterate and those who hurried away by car. Before a respondent completed this questionnaire, the purpose of the survey was given and further explanation on questions that the respondent could not understand had been given.

Data collection was conducted in accordance with preassigned daily quotas on the basis of the daily proportion of visitors during the previous year's festival. For example, because the proportion of visitors in the first day of the 2003 festival was comprised of 20% of all total visitors, the number of questionnaires on the first day in this actual survey was allotted to 120 (20%). A total of 550 questionnaires were collected of which 534 questionnaires were used in the data analysis. The other 16 questionnaires had too many missing values and so were eliminated. The most likely reason for this relatively high rate of useful responses may be the persistence exhibited by the interviewers, their thorough preparation, the administrative support provided by the host city, and the offer of a gift to respondents after each face-to-face interview.

Results

Demographic Profile and Expenditure

Table 2 summarizes the demographic profile and the festival travel pattern of the respondents.

Table 2
Respondents' Profiles and Travel-Related Information

Variable/Category	Percentage
Gender	
Male	49.2%
Female	50.8%
Marital status	
Single	35.7%
Married	64.3%
Age	
20s	35.2%
30s35.5%	
40s	22.5%
50s or older 6.7%	
Income	
Less than 1.5 million won	27.2%
1.5–3 million won	47.7%
3–4.5 million won	19.7%
Educational level	
High school or less	38.6%
College student or college graduate	56.4%
Graduate or above 5.0%	
Occupation	
Company employee	24.1%
Businessman	12.2%
Civil servant 5.9%	
Professional 9/7%	
Student	16.9%
Housewife	17.9%
Others	13.3%
Number of participations in this festival	
1	56.7%
2–4	19.9%
5–7	4.9%
8–10	1.9%
Every year	16.7%
Transportation means	
Automobile	72.0%
Local bus	12.2%
A bus from other cities	4.9%
Others	12.7%
The main purpose of my trip is to visit the festival	
Yes	53.7%
No	46.3%
Length of stay (nights)	
0	83.7%
1	9.9%
2	3.0%
3	1.9%
4 or more	1.9%
Type of accompanying people	
Family/relatives	53.9%
Friends	26.4%
Alone	3.2%
Association	12.5%
Others	3.9%
Source of information	
Friends/relatives	24.7%
TV/radio	8.9%
Newspaper/magazine	5.3%
Placard/advertising tower	27.4%
Internet	5.9%
Others	27.8%

Just over one half (50.8%) were female; 70.8 % were in their 20s and 30s; more than half had a college education (56.4%), whereas 38.6% had a high school graduation level or less. With respect to monthly household income, the highest percentage (47.7%) reported between 1.5 million won (US$1,500) and 3 million won (US$3,000); the next highest percentage group (27.2%) received/earned less than 1.5 million won per month. More than 64% of the respondents were married. As for their occupation, company employees represented the highest percentage (24.1%), followed by housewives (17.9%), students (16.9%), and business workers (12.2%).

With regard to the travel of the respondents to the festival, the majority of the respondents indicated that this was the first time they were attending the festival (56.7%) and that the festival was their main purpose for visiting the area (53.7%). The largest percentage of co-travelers consisted of immediate or more distant relatives (53.9%) and the next highest percentage was friends (26.4%). Most respondents were there only for the day, with no plans to stay overnight (83.7%). A small percentage (9.9%) intended to stay 1 night, and even fewer (3.0%) 2 nights. A sizeable majority (72.0%) had traveled to the festival by automobile. Respondents had heard about the festival from a variety of sources, including placards and advertising billboards (27.4%), word of mouth from friends or relatives (24.7%), and other sources (27.8%).

Expenditures pertaining to eight expenditure sources were computed. The estimates were generated both including and excluding zero category expenditures. Comparisons of average expenditures are presented in Table 3, both including and excluding zero items, in seven expenditure categories: lodging; food and beverages; shopping; admission fees or partaking in tourism activities in the host city; transportation; entertainment including using a Korean-style singing bar and an amusement park; and others. There appears to be a noticeable gap between the number of visitors who spent money in a certain category and those who did not spend money in that category. In an analysis of 533 visitors, food and beverages was the category that incurred expenditures by the largest number ($N = 425$ spenders). In other words, 87% of the respondents purchased food and/or beverages at the festival or in the host community/

Table 3
Results From the Descriptive Analysis of Festival Expenditure Items ($N = 533$)

Expenditure Category	No. of Visitors Who Responded More Than "0"	Percentage of the No. of Visitors Who Responded More Than "0"	Average Expenditure I (Including "0")	Average Expenditure II (Excluding "0")	I Minus II
Lodging	57	11%	7,022 won	64,982 won	57,960 won
Food and beverages	425	87%	20,380 won	25,504 won	5,124 won
Shopping	185	38%	8,436 won	24,102 won	15,666 won
Admission fees	51	10%	832 won	7,854 won	7,022 won
Transportation	253	52%	6,920 won	14,428 won	7,508 won
Entertainment	60	12%	3,295 won	28,583 won	25,288 won
Others	76	16%	3,134 won	20,171 won	17,037 won

area. The next most important categories (in terms of numbers of purchasers) were transportation ($N =$ 253 spenders; 52%), shopping ($N = 185$ spenders; 38%), and entertainment ($N = 60$ spenders; 12%).

The analysis of average expenditure per visitor per category, excluding visitors with zero expenditures, reveals that lodging represented the highest expense (about 64,982 won), followed by entertainment (28,583 won), food and beverages (25,504 won), and shopping (24,102 won). Conversely, when individuals who had made no purchases in a given category are included, food and beverages became the category incurring the highest expenditures (20,380 won), followed by shopping (8,436 won), accommodation (7,022 won), transportation (6,920 won), entertainment (3,295 won), and others (3,295 won). The biggest gap observed when the analyses including and excluding zero purchase items are compared, existed for lodging (57,960 won), followed by entertainment (25,288 won), others (17,037 won), shopping (15,666 won), transportation (7,508 won), admission fees (7,022 won), and food and beverages (5,124 won). The wide difference between the 57,960 won noted for lodging, and of 5,124 won observed for food and beverages is of particular interest. The reason why a large gap is found on expenditures on lodging and food and beverages is likely to be the existence of day-trippers or casual visitors.

As Table 3 shows, regarding expenditure on lodging, 476 respondents (89%) answered "0" (no expenditure). If a certain number is concentrated on a dependent variable, credibility on interpreting the coefficient of determination (R^2) will be lowered. The reason is that a more accurate prediction needs dispersion of expected values in a prediction interval and thus it leads to reducing the possibility of extrapolative estimation. This comment is linked to the continuity assumption in the case of a censored sample, in which some observations of the dependent variable that correspond to known sets of independent variables are not observable (Green, 2002; Maddala, 1983). In other words, the independent variables are observed for the entire sample, but the same is not true for the dependent variable. Censored samples often are encountered in studies on expenditures, and can pose a challenge for researchers attempting to estimate visitor expenditures. For this reason, rather than using an OLS regression model, which requires the continuity assumption when several zero expenditures exist in a dependent variable, a tobit model was used in this study.

Tobit Model Estimation

A tobit model was used to estimate festival visitor expenditures. In carrying out the estimation, expenditures on other categories, with the exception of "other costs," were used to analyze the relationship between the amount of expenditures and the variables of the demographics of festival visitors and festival-related travel. Estimates of the tobit parameters are presented in Table 4.

A total of 12 independent variables were used to estimate expenditures in the six spending categories. Table 4 demonstrates significance, at the 0.05 level, for "overnight versus no overnight

Table 4
Results of Tobit Model Estimation on Expenditure Categories

Variables	Lodging	Food/ Beverages	Shopping	Admission Fees	Transportation	Entertainment
Number of participations in this festival	−4.53 (0.53)	7.80* (2.39)	1.19 (0.34)	−1.26 (0.83)	0.14 (0.07)	3.94 (0.78)
Purpose of this visit	1.24 (0.16)	3.34 (1.15)	7.37* (2.39)	0.03 (0.02)	−1.34 (0.78)	3.26 (0.71)
Number of accompanying people	−6.02 (0.76)	8.73* (2.92)	−4.84 (1.51)	0.07 (0.05)	−1.44 (0.81)	8.82* (1.88)
Overnight stay or not	107.60* (11.21)	29.71* (7.63)	16.92* (4.20)	8.10* (4.89)	5.65* (2.47)	24.70* (4.39)
Means of transportation	−10.25 (1.21)	7.95* (2.34)	8.71* (2.35)	−2.61 (1.74)	−3.29 (1.67)	8.29 (1.56)
Age	19.57* (2.16)	−1.09 (0.31)	2.11 (0.58)	2.14 (1.30)	−3.48 (1.64)	−5.68 (1.02)
Level of education	−11.51 (1.40)	−6.09* (1.99)	−5.25 (1.61)	−1.19 (0.84)	−0.10 (0.06)	−16.40* (2.93)
Marital status	5.80 (0.61)	2.75 (0.77)	11.73* (3.03)	0.59 (0.36)	−2.11 (1.03)	−4.59 (0.84)
Monthly household income	−3.00 (0.35)	2.55 (0.81)	−1.35 (0.40)	−3.08 (1.99)	−4.01* (2.13)	−0.21 (0.04)
Occupation	−2.05 (0.22)	−1.83 (0.53)	3.16 (0.85)	−3.12* (2.02)	−2.18 (1.07)	2.09 (0.38)
Resident or not	2.48 (0.27)	−2.77 (0.81)	0.34 (0.09)	2.01 (1.27)	7.02* (3.44)	−1.03 (0.19)
Constant term (Constant)	−70.89* (4.91)	1.68 (0.33)	−27.64* (4.74)	−7.43* (3.20)	11.60* (3.98)	−39.91* (4.52)
LL function	−1374	−5589	−2879	−1143	−3493	−1392
Sigma 2	54.95	32.14	29.96	10.22	17.65	36.12

The number in parentheses is the *t*-value.
*Means significant at the 0.05 level.

stay" ($t = 11.21$) and "age" ($t = 2.16$) for estimating festival visitor spending related to lodging in the festival venue area. In the tobit model, "overnight versus no overnight stay" exerted significant positive effects on visitor lodging expenditures. This result is intuitive, because those staying overnight require local accommodation. That "age" had a significant positive effect on visitor spending for lodging reflects the greater expenditures by those aged 30 or over, compared to those in their 20s. This also is intuitive, because those over 30 are more likely to have more children to accommodate and more money to spend.

Expenditures on food and beverages were affected by the "number of times having attended this festival" ($t = 2.39$), "number of accompanying people" ($t = 2.92$), "overnight versus no overnight stay" ($t = 7.63$), "means of transportation" ($t = 2.34$), and "level of education" ($t = 1.99$), all showing significance at the 0.05 level. Among the significant variables, the most significant predictor of visitor spending on food and beverages was "overnight versus no overnight stay" ($t = 7.63$). Those who were revisiting the festival had more people accompanying them, stayed overnight locally, used their automobile as their mode of transportation to the festival, and had a lower educational level tended to spend more on food and beverages.

Four independent variables were significant predictors of shopping expenditures. These four variables were "purpose of this visit" ($t = 2.39$), "overnight versus no overnight stay" ($t = 4.20$), "means of transportation" ($t = 2.35$), and "marital status" ($t = 3.03$). All of these relationships were positive. In other words, respondents who said that the main purpose of their trip was to participate in the festival reported higher expenditures on shopping than those who did not. Those who stayed overnight used their automobile to travel to the festival, and were married, also spent more money on shopping.

For admission fees, the significant predictors were "overnight versus no overnight stay" ($t = 4.89$), "monthly household income" ($t = 1.99$), and "occupation" ($t = 2.02$). A positive relationship existed between expenditures for admission fees and "overnight versus no overnight stay," whereas negative relationships existed between expenditures for admission fees, and both "monthly household income" and "occupation." Respondents who stayed overnight, had a lower income level, and were not company employees, tended to spend more on admission fees.

Expenditures related to transportation to the festival venue were significantly affected by "overnight versus no overnight stay" ($t = 2.47$),

"monthly household income" ($t = 2.13$), and "local versus nonlocal resident" ($t = 3.44$). Those who stayed overnight had a lower income level, and were nonresidents, and spent more on transportation.

Three independent predictors of entertainment spending were "number of accompanying people" ($t = 1.88$), "overnight versus no overnight stay" ($t = 4.39$), and "level of education" ($t = 2.93$). A negative relationship between expenditures on entertainment and "level of education" was identified, whereas positive relationships were discovered between entertainment spending and both the "number of accompanying people" and "overnight versus no overnight stay."

Marginal Effect Analysis

After generating the tobit expenditure estimation functions, there is a need to analyze the relative influence on the spending in a particular expenditure category of each increase of one unit of an explanatory variable. This has been done by computing the marginal effects of each explanatory variable on expenditures. The results are reported in Table 5, and show that only "overnight versus no overnight stay" continued to be a significant predictor of lodging expenditure. Overnight festival attendees spent 40,111 won (US$40.11) more on local accommodation than did day visitors. For expenditure on food and beverages, the significant predictors were the "number of previous times attending the festival" ($t = 2.43$), "number of accompanying people" ($t = 2.93$), "overnight versus no overnight stay" ($t = 7.74$), "means of transportation" ($t = 2.72$), and "level of education" ($t = 2.10$). Those revisiting the festival spent 7,230 won (US$7.23) more on food and beverages than first-time visitors.

Respondents accompanied by four or more others spent 7,970 won (US$7.97) more on food and beverages than those accompanied by fewer than four others. Overnight lodgers spent 27,700 won more (US$27.70) on food and beverages than day visitors. Those who drove their own automobile to the festival spent 8,440 won (US$8.44) more on food and beverages than those who used other modes of transportation. Finally, visitors who had an education at high school level or lower spent 5,830 won (US$5.83) less on food and beverages than more educated individuals.

Four independent variables predicted the marginal effects of the explanatory variables on shopping expenditures. The significant variables were "purpose of this visit" ($t = 2.56$), "overnight versus no overnight stay" ($t = 5.15$), "means of transportation" ($t = 4.71$), and "marital status" ($t = 1.93$). The marginal effects of these variables on shopping expenditures were estimated to be 3.83, 10.50, 4.71, and 3.55, respectively. Those who said that the main purpose of their trip was to attend the festival spent 3,830 won (US$3.83) more on shopping than those coming for other reasons. Overnight lodgers spent 10,500 won (US$10.50) more than day visitors, whereas those who used their

Table 5
Marginal Effect Analysis on Expenditure Categories

Variables	Lodging	Food/Beverages	Shopping	Admission Fees	Transportation	Entertainment
Number of participations in this festival	0.11 (0.05)	7.23* (2.43)	0.07 (0.04)	0.33 (0.99)	0.82 (0.70)	0.51 (0.39)
Purpose of this visit	1.44 (0.73)	2.58 (0.98)	3.83* (2.56)	0.26 (0.89)	–0.58 (0.56)	0.96 (0.83)
Number of accompanying people	–3.65 (1.80)	7.97* (2.93)	–2.65 (1.71)	0.46 (1.53)	–1.21 (1.13)	0.80 (0.67)
Overnight stay or not	40.11* (15.0)	27.70* (7.74)	10.50* (5.15)	2.40* (5.95)	5.00* (3.54)	9.86* (6.25)
Means of transportation	–0.70 (0.30)	8.44* (2.72)	4.71* (2.67)	–0.36 (1.03)	0.42 (0.34)	4.52* (3.31)
Age	1.52 (0.64)	–1.36 (0.42)	–0.41 (0.22)	0.22 (0.63)	–2.46* (1.95)	–2.59 (1.84)
Level of education	–1.28 (0.62)	–5.83* (2.10)	–2.53 (1.60)	0.03 (0.12)	–0.67 (0.61)	–4.32* (3.53)
Marital status	0.16 (0.06)	2.26 (0.70)	3.55* (1.93)	0.25 (0.71)	–0.27 (0.21)	–3.30* (2.33)
Monthly household income	2.14 (1.01)	3.12 (1.09)	1.03 (0.63)	–0.23 (0.73)	–1.32 (1.17)	0.11 (0.08)
Occupation	0.72 (0.31)	–0.35 (0.11)	2.30 (1.28)	0.38 (1.08)	–0.92 (0.74)	2.91* (2.08)
Resident or not	–2.29 (0.98)	–2.24 (0.71)	–0.89 (0.50)	–0.17 (0.48)	4.49* (3.64)	–1.13 (0.82)

The number in parentheses is the *t*-value.
*Means significant at the 0.05 level.

own car spent 4,710 won (US$4.70) more than those traveling by other means. Married respondents spent 3,550 won (US$3.55) more than single visitors.

With respect to the marginal effects on admission fees, the only significant predictor was "overnight versus no overnight stay," the marginal effects of other explanatory variables being very minimal. Those who stayed overnight spent 2,400 won (US$2.40) more for admissions than day visitors.

Three independent variables were significant predictors of the marginal effects on spending incurred by transportation: "overnight versus no overnight stay" ($t = 3.54$), "age" ($t = 1.95$), and "local versus nonlocal resident" ($t = -4.49$). Overnight lodgers spent 5,000 won (US$5) more on transportation than day visitors, whereas those in their 30s or older spent 2,460 won (US$2.46) less than those in their 20s. Nonresident festival visitors reported spending 4,490 won (US$4.49) more than local area residents.

Finally, an analysis of the marginal effects of the nine independent variables on entertainment costs identified five predictor variables. These were "overnight versus no overnight stay" ($t = 6.25$), "means of transportation" ($t = 3.31$), "level of education" ($t = 3.53$), "marital status" ($t = 2.33$), and "occupation" ($t = 2.08$). Overnight lodgers spent 9,860 won (US$9.86) more for entertainment than day visitors, whereas those using their own car spent 4,520 won (US$4.52) more than those using other means of transportation. Those with high school education level or less spent 4,320 won (US$4.32) more compared to those with college education level or above. Single respondents spent 3,300 won (US$3.30) more than married visitors, while those who were company employees spent 2,910 won (US$2.91) more than those in other occupation groups.

Discussion and Conclusions

As mentioned in the introduction, most studies in the festival or event field have focused on understanding the perceptions of local residents of festivals or special events, exploring the motivational forces behind festival attendance, and estimating the economic impact of festivals or events. However, little attention has been paid to investigating expenditures by festival attendees. Consequently, this study's primary objective was to understand the determinants of festival visitor expenditures. The methodology used was a tobit model, which takes into consideration zero expenditure categories.

In this study, the following six expenditure categories were used in the tobit model estimations: lodging, food and beverages, shopping, transportation, entertainment, and admission fees. Potential predictors of festival attendee expenditures were studied, including travel-related variables ("number of times having attended the festival," "purpose of this visit," "number of accompanying people," "overnight versus no overnight stay," "means of transportation") and the demographic variables of visitors ("age," "level of education," "marital status," "monthly household income," "occupation," and "local versus nonlocal resident").

When comparing the results when zero expenditure categories were included or were not included, large differences were found. The largest differences were identified for "lodging" (57,960 won) and "entertainment" (25,288 won). These sizeable differences are likely to have resulted from the large number of zero expenditure visitors, ranging from 13% to 90% across the six categories. These results confirmed the validity of using a tobit model, which can take into account the problem of zero expenditures.

On the other hand, the results differ from the assumptions of conventional utility theory, namely that every individual is a potential consumer who will participate in a consumption activity. This study finds that many festival tourists did not purchase any product at the festival or in the local community. This contradicts the expectations underlying local government policy, namely that hosting a local festival will lead to the creation of new jobs, more tax revenues, and a revitalized local economy. The reason for existence of no expenditure on expenditure categories is that the main purpose of festival visitors is not exactly related to festival participation. They are likely to be causal visitors who drop by the festival venue casually or unintentionally. Another possible reason is the existence of many day-trippers in case of expenditure for lodging. Thus, the festival orga-

nizer needs to make an effort to discern day-trippers and overnight stayers and to develop strategies for day-trippers to spend more in the host community.

On the basis of the results of the tobit analyses, certain variables seem to be more important than others, and variations were apparent in the effects of the determinants on estimates of expenditures. "Overnight versus no overnight stay" was a significant predictor for all six expenditure categories. This factor should be considered an essential variable, therefore, when predicting festival tourist expenditures. It is particularly significant that overnight lodgers spent more in all six of the expenditure categories than did 1-day visitors. Other variables were less consistent. The variables that predicted expenditures in two of the six categories were "number of accompanying others," "means of transportation," "level of education," and "monthly household income." The variables that predicted expenditures in only one of the six categories were "number of times having attended the festival," "purpose of this visit," "age," "marital status," "occupation," and "local versus nonlocal resident."

The findings of this study are both similar and dissimilar to those of other studies on festival attendee expenditures. For example, Thrane's (2002) study identified the significance of length of stay, origin, household income, and household size in predicting festival attendee consumption behaviors. Additionally, Felsenstein and Fleischer (2003) found that being a local as opposed to a nonlocal resident was a determinant of festival participant total expenditures. However, their study also indicated that there are variations in the various significant independent variables.

The results of the current study have a variety of implications for the marketing of festivals. For example, the role of sociodemographic variables—such as age, marital status, occupation, and place of residence—was minimal, except for specific expenditure categories. Interestingly, those revisiting the festival, those whose main purpose of the trip was to attend the festival, and those accompanied by more people did not necessarily spend more than their counterparts. These findings imply that festival planners and local governments should not base their outcome simply on their experience with previous patrons in previous years to predict favorable financial revenues for future events. However, it is quite feasible that visitor expenditure patterns may differ from year to year. This is quite understandable because a potential tourist may be particularly interested in seeking new experiences, for example by participating in different activities or visiting other, more distant tourist destinations. In addition, individuals are less likely to be highly interested in local festivals, when many such festivals have similar themes and a high degree of repetition from one year to the next.

The most significant predictor for all expenditure categories was "overnight versus no overnight stay." This means that festival organizers and/or local governments should design their marketing plan to induce visitors to stay overnight, and even for longer than a single night. Late night attractions or package deals with local hotels may be effective means to achieve this. Interestingly, it was found that better educated individuals tended to spend less. Thus, festival planners need to offer programs that will catch the interest of more highly educated visitors, and so stimulate them to spend more, especially because such individuals generally have more money available to spend.

In conclusion, this study provides information that should be useful both to researchers in the tourism field, and to festival planners and local governments who have a vested interest in enhancing tourist spending. Additionally, this study indicates the usefulness of tobit model estimations for predicting festival participant expenditure behaviors beyond such approaches as the OLS regression or logit model because the dependent variable has a censored distribution (the lower threshold is "0" in the amount of expenditure). Further studies are needed to identify whether the predictors identified in the current study would be applicable in other geographic areas and when dealing with other types of tourist event.

References

Backman, K. F., Backman, S. J., Uysal, M., & Sunshine, K. M. (1995). Event tourism: An examination of motivations and activities. *Festival Management & Event Tourism, 3*(1), 15–24.

Becken, S., & Gnoth, J. (2004). Tourist consumption sys-

tems among overseas visitors: Reporting on American, German, and Australian visitors to New Zealand. *Tourism Management, 25*(3), 375–385.

Breen, H., Bull, A., & Walo, M. (2001). A comparison of survey methods to estimate visitor expenditure at a local event. *Tourism Management, 22*(5), 473–479.

Burgan, B., & Mules, T. (1992). Economic impacts of sporting event. *Annals of Tourism Research, 19*(4), 700–710.

Cai, L. A. (1998). Analyzing household food expenditure patterns on trips and vacations: A tobit model. *Journal of Hospitality and Tourism Research, 22*(4), 338–358.

Cai, L. A. (1999). Relationship of household characteristics and lodging expenditure on leisure trips. *Journal of Hospitality and Leisure Marketing, 6*(2), 5–18.

Cai, L. A., Hong, G., & Morrison, A. M. (1995). Household expenditure patterns for tourism products and services. *Journal of Travel and Tourism Marketing, 4*(4), 15–40.

Chhabra, D., Sills, E., & Cubbage, F. W. (2003). The significance of festivals to rural economics: estimating the economic impacts of Scottish Highland Games in North Carolina. *Journal of Travel Research, 41*(4), 421–427.

Crompton, J. L., & McKay, S. L. (1994). Measurement the economic impact of festivals and events: Some myths, misapplications and ethical dilemmas. *Festival Management & Event Tourism, 2*, 33–43.

Crompton, J. L., & McKay, S. L. (1997). Motives of visitors attending festival events. *Annals of Tourism Research, 24*(2), 425–439.

Crompton, J. L., Lee, S., & Shuster, T. J. (2001). A guide for undertaking economic impact studies: The Springfest example. *Journal of Travel Research, 40*(1), 79–87.

Dardis, R., Soberon-Ferrer, H., & Patro, D. (1994). Analysis of leisure expenditures in the United States. *Journal of Leisure Research, 26*(4), 309–321.

Deccio, C., & Baloglu, S. (2002). Nonhost community resident reactions to the 2002 Winter Olympics: The spillover impacts. *Journal of Travel Research, 41*(1), 46–56.

Delpy, L., & Li, M. (1998). The art and science of conducting economic impact studies. *Journal of Vacation Marketing, 4*(3), 230–254.

Dwyer, L., Forsyth, P., & Spurr, R. (2005). Estimating the impacts of special events on an economy. *Journal of Travel Research, 43*, 351–359.

Dwyer, L., Mellor, M., Mistilis, N., & Mules, T. (2001). Forecasting the economic impacts of events and conventions. *Event Management, 6*, 191–204.

Faulkner, B., & Raybould, M. (1995). Monitoring visitor expenditure associated with attendance at sporting events: An experimental assessment of the diary and recall methods. *Festival Management & Event Tourism, 3*(2), 73–81.

Felsenstein, D., & Fleischer, A. (2003). Local festivals and tourism promotion: the role of public assistance and visitor expenditure. *Journal of Travel Research, 41*(4), 385–392.

Formica, S., & Uysal, M. (1996). A market segmentation of festival visitors: Umbria Jazz Festival in Italy. *Festival Management & Event Tourism, 3*(4), 175–182.

Formica, S., & Uysal, M. (1998). Market segmentation of an international cultural-historical event in Italy. *Journal of Travel Research, 36*(4), 16–24.

Frey, B. (1994). The economy of music festivals. *Journal of Cultural Economics, 18*, 29–39.

Gamage, A., & Higgs, B. (1997). Economics of venue selection for special events: With special reference to the 1996 Melbourne Grand Prix. *Asia Pacific Journal of Tourism Research, 1*(2), 15–26.

Getz, D. (1997). *Festival management & event tourism*. Elmsford, NY: Cognizant Communication.

Godbey, G., & Graefe, A. (1991). Repeat tourism, play, and monetary spending. *Annals of Tourism Research, 18*(2), 213–225.

Green, W. H. (2002). *Econometric analysis* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Jackson, J., Houghton, M., Russell, R., & Triandos, P. (2005). Innovations in measuring economic impacts of regional festivals: A do-it-yourself kit. *Journal of Travel Research, 43*, 360–367.

Jang, S., Bai, B., Hong, G., & O'Leary, J. (2004). Understanding travel expenditure patterns: A study of Japanese pleasure travelers to the United States by income level. *Tourism Management, 25*(3), 331–341.

Jeong, G. (1998). Residents' perceptions toward the tourism impacts of the '93 EXPO development on the city of Taejon. *Journal of Tourism Studies, 18*(1), 153–173.

Kim, S. S., & Petrick, J. (2005). Residents' perceptions on impacts of the FIFA 2002 World Cup: The case of Seoul as a host city. *Tourism Management, 26*(1), 25–38.

Lee, C., Lee, Y., & Wicks, B. E. (2004). Segmenting of festival motivation by nationality and satisfaction. *Tourism Management, 25*(1), 61–70.

Lee, H. (2001). Determinants of recreational boater expenditures on trips. *Tourism Management, 22*: 659–667.

Leones, J., Colby, B., & Crandall, K. (1998). Tracking expenditures of the elusive nature tourists of Southeastern Arizona. *Journal of Travel Research, 36*, 56–64.

Long, P. T., & Perdue, R. (1990). The economic impact of rural festivals and special events: Assessing the spatial distribution of expenditures. *Journal of Travel Research, 28*(4), 10–14.

Maddala, G. S. (1983). *Limited-dependent and qualitative variables in econometrics*. Cambridge, UK: Cambridge University Press.

Mak, J., Moncur, J., & Yonamine, D. (1977). How or how not to measure visitor expenditure. *Journal of Travel Research, 16*, 56–64.

McNamara, J. F. (1994). *Surveys and experiments in education research*. Lancaster, PA: Technomic Publishing Co.

Mihalik, B. J., & Simonetta, L. (1998). Host perceptions of the 1996 Summer Olympic Games-Year II. *Festival Management & Event Tourism, 5*, 9–19.

Mohr, K., Backman, K. F., Gahan, L. W., & Backman, S. J. (1993). An investigation of festival motivations

and event satisfaction by visitor type. *Festival Management & Event Tourism, 1*(3), 89–97.

Mules, T. (1998). Decomposition of Australian tourist expenditure. *Tourism Management, 19*(3), 267–271.

Pearce, P. (1993). An examination of event motivations: A case study. *Festival Management & Event Tourism, 1*: 5–10.

Pizam, A., & Reichel, A. (1979). Big spenders and little spenders in U.S. tourism. *Journal of Travel Research, 18*(1), 42–43.

Prentice, R., & Andersen, V. (2003). Festival as creative destination. *Annals of Tourism Research, 30*(1), 7–30.

Rao, V. (2001). Celebrations as social investments: Festival expenditures, unit price variation and social status in rural India. *The Journal of Development Studies, 38*(1)\, 71–97.

Ritchie, J. R. B., & Aitken, C. E. (1985). Olympus II-Evolving resident attitudes towards it's the 1988 Olympic Winter Games. *Journal of Travel Research, 23*, 28–33.

Ritchie, J. R. B., & Lyons, M. M. (1987). Olympics III/ Olympuse IV: A mid-term report on resident attitudes concerning the XV Olympic Winter Games. *Journal of Travel Research, 26*(1), 18–26.

Schneider, I., & Backman, S. (1996). Cross-cultural equivalence of festival motivations: AsStudy in Jordan. *Festival Management & Event Tourism, 4*(3/4), 139–144.

Scott, D. (1996). A comparison of visitors' motivations to attend three urban festivals. *Festival Management & Event Tourism, 3*(3), 121–128.

Soutar, G., & McLeod, P. B. (1993). Residents' perceptions on impact of the America's Cup. *Annals of Tourism Research, 20*(3), 571–582.

Spotts, D. M., & Mahoney, E. M. (1991). Segmenting visitors to a destination region based on the volume of their expenditures. *Journal of Travel Research, 29*(4), 24–31.

Suh, Y., & Gartner, W. C. (2004). Preferences and trip expenditures: A conjoint analysis of visitors to Seoul, Korea. *Tourism Management, 25*(1), 127–137.

Thrane, C. (2002). Jazz festival visitors and their expenditures: Linking spending patterns to musical interest. *Journal of Travel Research, 40*(3), 281–286.

Tobin, J. (1958). Estimation of relationships for limited dependent variables. *Econometrica, 26*, 24–36.

Tyrrell, T. J., & Johnston, R. J. (2003). Assessing expenditure changes related to welcome center visits. *Journal of Travel Research, 42*(1), 100–106.

Uysal, M., & Gitelson, R. (1994). Assessment of economic impacts: Festivals and special events. *Festival Management & Event Tourism, 2*, 3–9.

Uysal, M., Gahan, L., & Martin, B. (1993). An examination of event motivations: A case study. *Festival Management & Event Tourism, 2*(1), 3–10.

Waitt, G. (2003). Social impacts of the Sydney Olympics. *Annals of Tourism Research, 30*(1), 194–215.