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Title: Journal of travel & tourism marketing.

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Title:

Author:

Edition:

Imprint: Binghamton, NY : Haworth, 1992-

Article: Goog Soog Hong, Jessie X. Fan, Lance Palmer,: Consumer leisure travel expenditure patterns by family life-cycle stages

Vol: 18

No.: 2

Pages: 15-30

Date: 2005

Dissertation:

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Article: Goog Soog Hong, Jessie X. Fan, Lance
Palmer,: Consumer leisure travel
expenditure patterns hv familv life-cvcle

Vol.: 18

No.: 2

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Pages: 15-30

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Leisure Travel Expenditure Patterns by Family Life Cycle Stages

Gong-Soog Hong
Jessie X. Fan
Lance Palmer
Vibha Bhargava

ABSTRACT. This study examines travel expenditure patterns by family life cycle (FLC) stages and identifies characteristics that influence the likelihood and level of travel expenditures in the U.S. The 1999-2000 Consumer Expenditure (CE) survey is used and a two-stage tobit regression analysis is performed. Across the FLC, families maximize their utility through different allocations of resources among leisure travel goods and services as shown by the results of this study. *Marrieds without children* are more likely to spend on leisure travel than *singles*, whereas *single parents* and *solitary survivors* are less likely to spend on leisure travel than *singles*. Moreover, *Marrieds without children*, *full nesters II*, and *empty nesters* spend significantly more than *singles*, whereas *solitary survivors* spend significantly less on leisure travel. Constraint factors (time and money) and various sociodemographic characteristics are significantly associated with the likelihood of spending on leisure travel and total expenditures. Based on these findings, implications for marketers are discussed. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

KEYWORDS. Family life cycle, leisure travel, travel expenditure

INTRODUCTION

Over 500 billion dollars was spent on travel in the U.S. in 1997. By 2001, travel expenditures had increased almost 10% to 545 billion dollars (Travel Industry Association of America, n.d.), with leisure trips accounting for approximately 57% of all long-distance U.S. travel (U.S. Department of Transportation, Bureaus of Transportation Statistics, n.d.). In

1995, Americans went on approximately 414 million pleasure trips, and by 1997 this number had increased to 443 million (U.S. Department of Labor, Bureau of Labor Statistics, 1999). Of the total leisure travel expenditures made in 1997, transportation and food accounted for 70% (43% and 27% respectively) followed by lodging (19%) and entertainment (11%) (U.S. Department of Labor, Bureau of Labor Statistics, 1999).

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Journal of Travel & Tourism Marketing, Vol. 18(2) 2005
<http://www.haworthpress.com/web/JTTM>
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Digital Object Identifier: 10.1300/J073v18n02_02

With such a vast market to research, an effective segmenting model needs to be developed for marketers to appropriately measure, assess, and motivate families to travel. One such model in consumer behavior theory is the family life cycle (FLC). Originally used in sociology, the model is based on the concept that roles and relationships will be altered as individuals and families progress through predictable events and life circumstances (Wilkes, 1995). Examples of these events include formation of a family, marriage, childbirth, childrearing, empty nesting, death of a spouse or dissolution of a marriage, and retirement. As families progress through these events, it is expected that their consumption patterns will change based on their altered family structure. The FLC is useful for measuring these events by creating categories for grouping families in similar stages, rather than simply by the age of the family head. The current body of leisure travel literature contains sparse application of the FLC model. This study addresses that lack of coverage and examines the relationship between FLC stages and leisure travel expenditure. The econometric modeling used here also contributes to the existing literature by providing a more in-depth analysis of decision making on travel expenditure. The specific objectives of this study are (a) to examine family travel expenditure patterns by FLC stages (i.e., *singles, marrieds without children, full nesters I, full nesters II, empty nesters, single parents, solitary survivors*), (b) to identify other family characteristics that influence the likelihood of taking a trip and the level of travel expenditures, and (c) to make recommendations for leisure-travel market segmentation.

REVIEW OF LITERATURE

Family Life Cycle Stages. Expenditure patterns of families have long been of interest to consumer researchers and marketers. Researchers have also delved into the relationship between the FLC and the expenditure patterns of families in general (Soberon-Ferrer & Dardis, 1991; Wagner & Hanna, 1983; Wilkes, 1995). Dardis, Soberon-Ferrer and Petro (1994) found that leisure expenditures are significantly associated with FLC stages.

Blundell, Browning and Meghir (1994) showed that the life cycle model plays an important role in understanding consumer behavior and family expenditures by providing a framework for analyzing the relationship between intertemporal consumption and intratemporal expenditure allocations. Wells and Gubar (1966) suggested that it would be more appropriate and gainful to use FLC stages rather than age to study the changing patterns of consumer expenditure since they found FLC variables to be better predictors of family expenditures on food, durables, housing and vacations. Social status is another area of interest that is incorporated into the FLC. Wells and Gubar (1966) hypothesized that when children are first born, and the family is young, expenditures are more utilitarian and not intended to convey a social meaning; however, as children become teenagers who socialize and have parties, the family enters a new stage in which the parents want to improve their social status. Furthermore, as the family ages, more attention can be paid to those purchases that reflect the family's affluence, well-being, and good taste since these purchases are no longer just utilitarian. Having identified these characteristics, it is useful and appropriate to use the FLC model to evaluate leisure travel expenditures.

The FLC Model and Travel Expenditures. The FLC model has seldom been used for researching leisure travel expenditure within the U.S. In a study of tourist behavior in New Zealand, Lawson (1991) showed that the type of vacation and expenditure on tourism products and services varied from one FLC stage to another. According to Lawson, these vacation expenditures should be strongly related to FLC stages due to their more discretionary nature.

Bojanic (1992) examined usefulness of segmenting the sample of residents from the United States by family life cycle stages when studying overseas travel. Three variables—age, marital status and presence/absence of children—were used to classify the sample into eight modernized FLC stages. Significant variations in trip behavior among FLC stages were found. As people age, marry and have children, nightlife and activities become less important; and towards the later stages of the

FLC, accommodations, restaurants, and shopping facilities are considered important factors in planning for vacations. The results of this study show that since preferences vary across FLC stages, it is reasonable to expect travel expenditures to vary across the FLC stages.

Dardis, Soberon-Ferrer, and Petro (1994) used the 1988-1989 Consumer Expenditure Survey (CES) to examine the influence of income; FLC variables; education and race of the household head; and the location of household on expenditures for active, passive and social leisure. The FLC variables included age and marital status of the household head and number of adults and children in the household. Age was negatively associated with leisure expenditures. The number of adults had a positive relationship with leisure expenditures for all three types of leisure whereas number of children in the household was negatively related with passive leisure expenditures. Marital status of the household head was not a significant predictor of leisure expenditures.

Cai, Hong, and Morrison (1995) studied the effect of various demographic, socioeconomic and cultural factors on family leisure expenditure patterns for tourism products. Expenditures for food, lodging, transportation and sightseeing were examined. The age of the family head was used as a proxy for family life-cycle stages. The results of tobit analysis indicate that those in the 25-34 age group spent less on food and lodging compared to those 65 and over. Compared to unmarried families, married families spent more on food, lodging and transportation. The number of children was inversely related to tourism expenditures for all product groups whereas the number of adults in a family had a negative impact on food and lodging expenditures. Education and income had a positive effect on expenditures for all travel products and services. Compared to other races, Whites spent more on food, sightseeing and entertainment.

The review of the literature indicates that a limited number of studies have explored the significance of FLC stages in explaining leisure travel expenditures. In this study, however, an attempt has been made to capture the variations in leisure travel expenditures across FLC stages.

METHODS

Conceptual Framework

The Family Life Cycle. The FLC explains variations in individuals' behavior at different stages of family life (Opperman, 1995). The FLC has been used previously in some travel and tourism studies and has proven to be a useful way to segment markets (Bojanic, 1992; Lawson, 1991; Oppermann, 1995). Lawson (1991) found that "the patterns of vacation taken accord well with the results of the expenditure analysis and support the financial cycles aspect of FLC theory" (p. 17). Bojanic (1992) arrived at similar conclusions. Based on these conclusions and the preceding discussion, the following conceptual model was developed.

As individuals progress through the FLC, the presence or absence of a spouse, children, and their age will affect their preferences and the demands placed on their resources. Although constraints and preferences can be proxied through variables other than the FLC, incorporation of the FLC stages into our model captures some of the interactions of these factors that will also affect leisure travel expenditures.

Time Constraints. Time constraints change across the FLC. Young couples with young children have greater time constraints than singles; and full-nesters in the middle stage of the FLC have more time constraints than either singles or retired empty nesters. These life cycle aspects partially capture the time constraints of family.

Although the FLC proxies time constraints associated with family obligations, it does not fully proxy time constraints associated with employment in the labor market. According to Becker's (1965) time-allocation theory, as wages increase, the value, or opportunity cost, of leisure time becomes more expensive relative to the cost of market goods and services. In view of these factors, the individual will seek to substitute the consumption of goods and services for leisure time. In contrast, as wage rates increase, the individual's ability to purchase market goods and services also increases, thereby motivating the individual to work more hours in order to raise consump-

tion levels. The net change in leisure time will depend on whether the income or consumption substitution effect is dominant (Bryant, 1990).

Income Constraints. Leisure travel is conceptualized as a normal good (Bryant, 1990; Fish & Waggle, 1996), an item that people consume more abundantly as income increases; therefore, as income increases demand for leisure travel, leisure expenditures should increase.

Preferences. The FLC accounts for variations in spending patterns across various stages; however, allocation of resources among heterogeneous families in similar life-cycle stages may differ based on the tastes and preferences. For example, rural families may incur greater transportation expenditures than urban families when traveling by air simply due to the relative accessibility of major airports and tourist destinations. Accordingly, tastes and preferences of the families to be included in the model will be proxied using the sociodemographic characteristics of the family.

Data and Sample

The data for this study are from the 1999 and 2000 Consumer Expenditure (CE) Surveys conducted by the Bureau of Labor Statistics (BLS). The CE data provide detailed information on household expenditures including leisure travel expenditures. In addition, data are collected on demographic characteristics for households as a whole (such as family size and geographic region) and for individual members of the household (such as age and ethnicity) as well as other socioeconomic characteristics, including income, assets and liabilities. The unit of analysis for the CE Survey is the consumer unit, consisting of all members of a particular household who are related by blood, marriage, adoption or some other legal arrangement. The composition of the interview survey sample is determined by a national probability sample, and data were collected in each quarter for four consecutive quarters. During each quarter, 20% of the interviewees were replaced by a newly recruited 20% (U.S. Department of Labor, Bureau of Labor Statistics, 2001, 2002). For this study, only those families that participated in four consecutive quar-

ters of the survey were included. The sample consists of 8,334 families. For research purposes, consumer units were segmented into appropriate FLC stages; however, 2,219 of 8,334 consumer units could not be classified. Consumer units that were successfully classified are referred to as "families," except for those denoted as "singles."

The CE has data on family travel expenditures and they are categorized into expenditures on food, lodging, entertainment, transportation and others. The families are sorted into eight FLC stages to study their leisure travel expenditure patterns. A detailed explanation of these stages is provided in the variables and hypotheses section.

Variables and Hypotheses

Variables. The total expenditure on leisure travel is a sum of expenditures for transportation, lodging, food, and entertainment. Transportation expenses include airfare, local transportation, tolls and parking fees, and car rentals. Food expenditures include both restaurant food as well as meals prepared by the family. Lodging expenditures include rent for vacation homes, hotels and motels. Entertainment expenditures include sporting events, movies and recreational vehicle rentals.

In order to gain insights on travel spending behavior, total leisure expenditure is investigated, as well as four subcategories (i.e., transportation, food, lodging, and entertainment). The probability of spending money on leisure travel and the amount actually spent are analyzed. In addition, the budget share of the total expenditure on leisure travel is examined.

Guided by the conceptual framework, independent variables are categorized into three groups: FLC stages, constraint factors and sociodemographic variables. The FLC is composed of eight dummy stage variables: *singles* under age 55, *unmarrieds* without children; *marrieds* under 55 without children; *full nesters I* under 40, married with at least one child under 18; *full nesters II* age 40 or over, married with at least one child; *empty nesters* age 55 and over, married with no children; *single parents* with children of any age; *solitary survivors* age 55 and over with no children; and others who cannot be categorized into any of

the stages described above. These FLC stages, identified on the basis of Bojanic's (1992) study, are based on the age and marital status of the reference person and the presence of children under 18.

Constraint factors consist of financial, health and time factors. Financial constraint variables include after-tax income, financial assets and homeownership. The health expenditure variable which proxies health status in this study, includes health insurance premiums, expenses on medical services, prescription drugs and medical supplies. The occupation variable proxies the opportunity cost of time and reflects the time constraint for the consumer unit.

Sociodemographic characteristics include family size, race/ethnicity, education, region and population size. Table 1 summarizes the measurement of all variables used in this study.

Hypotheses. Previous research suggests that consumer expenditures vary among family life cycle stages (Hong & Kim, 2000; Lawson, 1991; Wagner & Hanna, 1983; Wells & Gubar, 1966; Wilkes, 1995;). In this study, the following is hypothesized.

H1: The likelihood of spending money on leisure travel and actual travel expenditures will vary among the life cycle stages.

Using *singles* as the reference group, H1 is further detailed as follows:

H1a: *Marrieds without children and empty nesters* are expected to be more likely to spend money on leisure travel and to spend more when they travel, due to fewer competing demands on their resources.

H1b: Households in the *Full nester I* stage are less likely to spend money on leisure travel and have less actual travel expenditures when they do travel. This is because having young children makes travel difficult.

H1c: Households in the *Full nester II* stage are more likely to spend money on

leisure travel and spend more because of the relative ease of traveling with older children.

H1d: It is expected that *single parent* families are less likely to spend money on leisure travel and spend less as a result of greater competing demands for their resources.

H1e: *Solitary survivors* are expected to be less likely to spend money for leisure travel and spend less when they travel because of aging and relatively more health concerns.

The level of resources is expected to be positively associated with the likelihood of spending on leisure travel, actual travel expenditure and travel budget share. After-tax income, financial assets, homeownership, health expenditure and occupation are indicators of well-being and time constraints of a family. Assuming that leisure travel is a normal good, the higher availability of resources—as indicated by after-tax income, financial assets, and homeownership—is expected to positively influence the likelihood of leisure travel and actual travel expenditures. Therefore,

H2a: The level of financial resources is expected to be positively associated with the likelihood of spending on leisure travel and actual travel expenditures.

In this study, health expenditures proxy health status (i.e., the lower the health expenditures, the better the health status and vice versa). Poor health not only increases health care expenditures but also affects the willingness and ability to travel. According to Zimmer, Brayley and Searle (1995), the tendency to travel is reduced as health deteriorates. Those in a better state of health, with lower health expenditures, are likely to spend more on leisure travel. Therefore,

H2b: A higher level of health expenditures is expected to be negatively associated with the likelihood of spending on leisure travel and actual travel expenditures.

TABLE 1. Measurement of Variables

Variable	Measurement
Life Cycle Stages:	
Married without children	Age <55, married and no children
Full nest I	Age <40, married and children present
Full nest II	Age > 40, married and children present
Empty nest	Age > 55, married and no children
Single parents	All ages, unmarried and children present
Solitary	Age > 55, unmarried and children absent
Others	All others
(Single) ^a	Age <55, unmarried and no children
Constraint Factors:	
After-tax income	Amount of consumer unit income after taxes in past 12 months in 10,000
Incomplete income reporters	1, if Incomplete income respondent, 0, otherwise
Financial assets	Total assets owned by the consumer unit in 10,000
Homeowner	1, if owns home (with or without mortgage), 0, otherwise
Health expenditure	Health care expenditures in 100 (Health insurance premiums, medical services, prescription drugs and medical supplies)
Occupation:	
Administrative	1, if in administrative occupations, 0, otherwise
Other white collar	1, if in other white collar occupations, 0, otherwise
Blue collar	1, if in blue collar occupations, 0, otherwise
Retired	1, if retired, 0, otherwise
(Not employed)	1, if not employed, 0, otherwise
Sociodemographic Characteristics:	
Family size	Total number of family members in consumer unit
Race/ethnicity:	
African American	1, if African American, 0, otherwise
Hispanic American	1, if Hispanic American, 0, otherwise
Others	1, if other than African American, Hispanic American, and White, 0, otherwise
(White)	1, if White, 0, otherwise
Education:	
Less than high school	1, if less than 12 years of formal education, 0, otherwise
College or more	1, if 15 or more years of formal education, 0, otherwise
(High School)	1, if 12 to 14 years of formal education, 0, otherwise
Region:	
Urban South	1, if reside in Urban South, 0, otherwise
Rural	1, if reside in Rural area, 0, otherwise
(Urban non-South)	1, if reside in Urban non-South, 0, otherwise
Population size:	
1.20-4 million	1, if population size is 1.20-4 million, 0, otherwise
330,000-1.19 million	1, if population size is 330,000-1.19 million, 0, otherwise
75,000-329,900	1, if population size is 75,000-329,900, 0, otherwise
Less than 75,000	1, if population size is less than 75,000, 0, otherwise
(> 4 million)	1, if population size is more than 4 million, 0, otherwise

Note: ^a The reference category is presented in parenthesis.

Based on time-allocation theory, it is expected that those individuals who work in professions with long hours and high pay would spend more money on leisure travel than other groups of employed individuals. Therefore,

H2c: Those individuals who work in professions with long hours and high pay are likely to spend money on leisure travel and spend more when they travel than the unemployed.

Ketkar and Ketkar (1987) found that demographic characteristics such as family size, race, region of residence and education are significantly associated with consumer unit expenditures on transportation and recreation. In a study of the travel expenditure patterns of elderly families, Hong, Kim, and Lee (1999) found that race and education are significant determinants of whether the elderly travel. Previous research has shown that expenditure patterns vary across races (Fan, 1997, 1998). Race variables are likely to capture the cultural differences in leisure travel expenditure patterns. Cai et al. (1995) found that compared to African-Americans and other ethnic groups such as Asian-Americans and Hispanic-Americans, Whites spend more on food, sightseeing and entertainment during leisure travel. According to Dardis et al. (1981), education enhances an individual's access to information and knowledge and also participation in recreational activities such as leisure travel. Cai et al. (1995) concluded that family size has a negative effect on tourism spending because of increased time pressure on parents by a greater number of dependents. Based on Cai et al. (1995), regional differences are predicted to have an association with leisure travel expenditures. Therefore,

H3a: Whites are expected to spend more on leisure travel and have higher actual expenditures compared to other ethnic groups.

H3b: Education is expected to be positively related to the likelihood of spending on leisure travel and actual expenditures.

H3c: Family size is hypothesized to be negatively associated with the likelihood of spending on leisure travel and the amount of actual expenditures.

H3d: Residents of urban regions are more likely to spend on leisure travel and spend more compared to those living in rural areas.

Empirical Model and Analysis

In this study, a two-stage tobit model (Blaylock & Blisard, 1991; Fan, 1997; Greene, 1997; Maddala, 1983) is used to estimate the factors associated with probable and actual spending respectively. The equations used in this estimation are as follows:

$$Y_i \beta_{0i} + \beta_{1i} X_1 + \beta_{2i} X_2 + \beta_{3i} X_3 + \varepsilon_{1i} \quad (1)$$

where $i = 1-5$

$$E_i = \delta_{0i} + \delta_{1i} X_1 + \delta_{2i} X_2 + \delta_{3i} X_3 + (\varepsilon_{2i} + T_i) \quad (2)$$

where $i = 1-5$

$$W_i = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + (\varepsilon_3 + T_i) \quad (3)$$

In Equation 1, the dependent variable (Y_i) represents the probability of spending a non-zero amount on total leisure travel, and on each of the four subcategories of leisure travel: transportation, food, lodging and entertainment. β_{1i} , β_{2i} , and β_{3i} are vectors of coefficients representing the effect of FLC stages (vector X_1), constraint factors (vector X_2), and sociodemographic variables (vector X_3), respectively, on the likelihood of spending on leisure travel and on subcategories of leisure travel.

Equation 2 is used to estimate the actual dollar amount spent on leisure travel and its subcategories, taking into consideration their probability of non-zero spending as estimated in Equation 1. δ_{1i} , δ_{2i} , and δ_{3i} are vectors of coefficients representing the effect of FLC stages (vector X_1), constraint factors (vector X_2), and sociodemographic variables (vector X_3), respectively, on the total travel expenditures, and expenditure on transportation, food, lodg-

ing, and entertainment, respectively. T_i is the sample selection bias correction term computed from estimates obtained from Equation (1) with γ_i as its coefficient. ϵ_{2i} are the error terms for each equation. As the error terms are likely to be correlated among expenditures of the four subcategories of leisure travel, seemingly unrelated regression (SUR) was used to estimate the equations for the four as a group.

Equation 3 is used to estimate the budget share of the total expenditure allocated for leisure travel. W_1 (budget share) is the dependent variable. α_1 , α_2 , and α_3 are vectors of coefficients representing the effect of FLC stages (vector X_1), constraint factors (vector X_2) and sociodemographic variables (vector X_3) respectively, on the budget share. T_1 is the sample selection bias correction term computed from estimates obtained from Equation (1) with γ_1 as its coefficient. ϵ_3 is the error term.

RESULTS

Sample characteristics. As shown in Table 2, the number of families in each FLC stage ranges from 423 *single parents* to 1,220 *empty nesters*. The mean annual income of all consumer units was \$36,855. On average, they had financial assets worth \$38,097 and spent \$2,088 for health care. Seventy-four percent of the sample were homeowners. Over 45% of the sample held employment in either administrative or other white-collar jobs.

In terms of demographics, approximately 11% of the sample was African-American, and 8% were Hispanic-Americans. A majority of the respondents were White (77.53%). More than a half of the sample had at least a high school education (56.08%) and nearly one-third had a college or higher education (31.27%). More than a half of the sample resided in urban non-South (57.95%).

Transportation, lodging, food, entertainment, and total travel expenditures by family life cycle. The mean expenditures on transportation, lodging, food, entertainment, and mean total travel expenditures of the consumer unit are presented in Table 3 and Figure 1. The mean expenditures on transportation were the highest for *marrieds without children*, *full nesters II* and *the empty nesters* (\$129 each).

TABLE 2. Descriptive Statistics of the Sample (n = 8334)

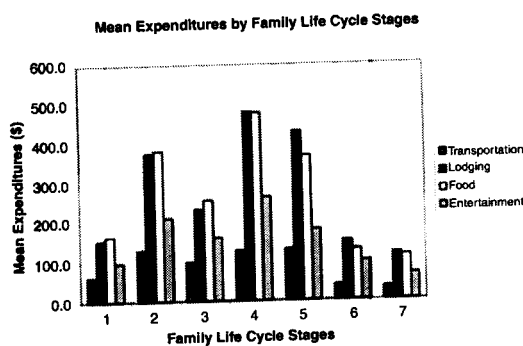
Variable	Mean	Standard Deviation	Frequency %
Life Cycle Stages:			
Married without children			8.84
Full nest I			11.54
Full nest II			8.26
Empty nest			14.17
Single parents			4.99
Solitary			14.52
Others			25.84
(Single) ^a			11.84
Constraint Factors:			
After-tax income in \$10,000	3.685	4.04	
Incomplete income reporters			23.01
Financial assets in \$10,000	3.810	17.75	
Homeowner			74.34
Health expenditure in \$100	20.88	26.41	
Occupation:			
Administrative			9.61
Other white collar			36.41
Blue collar			23.11
Retired			20.58
(Not employed)			10.29
Sociodemographic Characteristics:			
Family size	2.59	1.49	
Race/ethnicity:			
African American			10.95
Hispanic American			7.96
Others			3.56
(White)			77.53
Education:			
Less than high school			12.65
College or more			31.27
(High School)			56.08
Region:			
Urban South			28.70
Rural			13.35
(Urban non-South)			57.95
Population size:			
1.20-4 million			20.23
330,000-1.19 million			16.17
75,000-329,900			11.92
Less than 75,000			24.86
(> 4 million)			26.82

Note: ^a the reference category is presented in parenthesis.

TABLE 3. Transportation, Lodging, Food, Entertainment, and Total Travel Expenditure by Family Life Cycle

Life Cycle Stages	Single n = 937	Married without children n = 695	Full nest I n = 971	Full nest II n = 686	Empty nest n = 1220	Single parents n = 423	Solitary n = 1183	Others n = 2219
Total transportation expenditure (\$):								
Mean expenditure (\$)	62.1	129.0	99.9	128.3	129.3	39.1	33.3	90.3
% non-zero expenditure	51.4	72.2	66.1	69.2	62.5	43.3	32.3	54.0
Conditional mean expenditure (\$)	120.8	178.8	151.0	185.3	206.8	90.2	103.2	167.3
Total lodging expenditure (\$):								
Mean expenditure (\$)	154.7	376.2	235.4	482.1	430.4	150.8	117.8	233.8
% non-zero expenditure	38.5	61.4	51.0	62.1	52.2	30.7	24.9	43.4
Conditional mean expenditure (\$)	401.9	612.7	461.3	776.0	824.7	491.2	474.0	538.4
Total food expenditure (\$):								
Mean expenditure (\$)	164.6	383.0	257.2	479.2	368.7	129.1	112.5	267.4
% non-zero expenditure	61.1	78.7	68.7	75.9	68.2	49.6	41.7	60.4
Conditional mean expenditure (\$)	269.2	486.4	374.4	631.8	540.8	260.2	269.5	442.9
Total entertainment expenditure (\$):								
Mean expenditure (\$)	97.8	210.9	161.1	264.5	180.5	99.4	64.9	147.0
% non-zero expenditure	41.4	59.4	51.3	60.7	44.2	35.7	24.3	41.9
Conditional mean expenditure (\$)	236.1	355.0	313.9	435.4	408.8	278.8	266.4	350.7
Total travel expenditure (\$):								
Mean expenditure (\$)	511.7	1155.0	777.7	1403.4	1152.6	430.6	345.2	767.0
% non-zero expenditure	65.4	80.9	71.9	77.5	70.9	52.5	46.3	63.6
Conditional mean expenditure (\$)	782.2	1427.4	1082.3	1810.5	1625.9	819.8	745.1	1205.3
Mean budget share (of total expenditure)	1.7	2.4	1.5	2.1	2.7	1.1	1.3	1.5

FIGURE 1. Transportation, Lodging, Food, and Entertainment Expenditures by FLC



Solitary survivors had the lowest mean transportation expenditure (\$33.3). Mean expenditures on lodging were the highest for the *full nesters II*, followed by *empty nesters* and *marrieds without children*. *Full nesters II* spent the most on food and entertainment. They also had the highest mean total travel expenditures (\$1,403). *Marrieds without children* and *empty nesters* had almost equal mean total travel expenditures. The budget share for leisure travel was the highest for *empty nesters* at 2.7%, followed by *marrieds without children* at 2.4%. *Single parents* spent the smallest share of their budget (1.1%) on leisure travel among all groups.

Regression results for total travel expenditure and budget share. The results of the logit and two-stage tobit analysis for total travel expenditures and budget share are presented in Table 4. The results show that the likelihood of spending and expenditures varied by FLC stages and other factors. Compared to *singles*, *marrieds without children* were significantly more likely to spend, while *single parents* and *solitary survivors* were less likely to spend on leisure travel. Economic constraint factors significantly affect the likelihood of traveling. As hypothesized, after-tax income, financial assets, and homeownership positively influenced the probability of spending on leisure travel. Contradicting expectations, however, health expenditures were positively related to the probability of spending on leisure travel, possibly because health-care expenditure was not a good proxy for health condition but, instead, reflects the level of financial resources. It was hypothesized that individuals who spend more hours at work and are paid more will spend more on leisure travel. Consistent with the hypothesis, and compared to the unemployed, those in administrative, other white-collar and blue-collar occupations were more likely to spend on leisure travel. On the other hand, the likelihood of retiree leisure travel did not differ from the unemployed.

Compared to Whites, African-Americans, Hispanic-Americans and respondents from other races were less likely to spend on travel. This finding is consistent with the hypothesis. As education increased, the likelihood of spending on leisure travel increased: those with less than a high school education were less likely to travel, and those with a college education were more likely to spend on leisure travel compared with those with a high school education. Residents of the urban South were less likely to travel than urban dwellers from other regions, and those from large metropolitan areas (greater than 4 million inhabitants) were less likely to travel than were residents from areas with 75,000 to 329,900 inhabitants.

As for the actual dollar amounts spent on leisure travel, compared to *singles*, *marrieds without children*, *full nesters II*, and *empty nesters* spent significantly more on leisure travel, while *solitary survivors* spent less than *singles*. Those who had higher after-tax in-

come, financial assets, and owned a home spent more on leisure travel. Respondents in administrative, other white-collar and blue-collar occupations, and retirees spent more on leisure travel as compared with the unemployed. Family size was a significant and positively related to total leisure travel expenditures. Whites spent less than respondents of other races/ethnicities.

Education positively affected spending for leisure travel. Those with a high school education were likely to spend more than those with less than high school education but likely to spend less than those with a college education. Those residing in the urban South or rural areas spent less on leisure travel expenditures than those living in urban non-South. Those who lived in less densely populated areas (0.33-1.19 million or less than 75,000 inhabitants) spent less on leisure travel compared to those living in densely populated urban areas (over 4 million inhabitants). In addition, respondents who were more likely to spend on leisure travel also had higher expenditures for leisure travel.

Full nesters II and *empty nesters* were no more likely to spend on leisure travel than *singles*, although they spent significantly more than *singles* when they did travel. On the other hand, *single parents* were less likely to spend on leisure travel than *singles*, but their expenditure patterns were similar to those of *singles*. Also notable are retirees who were not more likely to spend on leisure travel than the unemployed but spent significantly more than the unemployed when they did travel. Rural families' likelihood of spending on leisure travel was not different from urban non-South families, yet rural families spent significantly less when they traveled. Families from communities with between 75,000 to 329,900 residents were more likely to spend money for leisure travel than those living in large metropolitan areas (greater than 4 million residents), but their expenditures were similar. Residents of the least populated areas spent significantly less than residents of large metropolitan areas while exhibiting similar likelihoods for leisure travel expenditures.

Regression results by expenditure subcategory. The regression results for each subcategory, which are presented in Table 5, shed

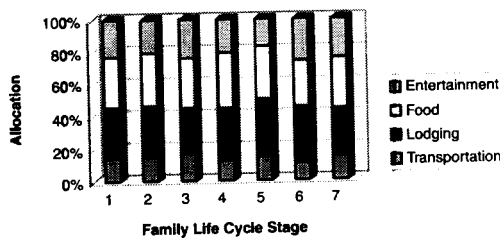
TABLE 4. Two-Stage Tobit Regression Results for Total Travel Expenditure and Budget Share Model (Weighted)

Variable	Logit Model		Tobit Regression Results			
	Coefficient	χ^2	Total Expenditures		Budget Share	
			Coefficient	t value	Coefficient	t value
Life Cycle Stages:						
Married without children	0.239	10.24**	301.4	4.50***	0.31	2.28*
Full nest I	-0.032	0.16	-62.1	-0.82	-0.32	-2.1*
Full nest II	0.001	0.00	293.5	3.72***	0.08	-0.4
Empty nest	0.078	1.24	357.4	5.53***	0.66	5.01***
Single parents	-0.191	5.11*	-29.5	-0.35	-0.12	-0.72
Solitary	-0.278	18.27***	-232.4	-3.36***	-0.19	-1.33
Others	-0.051	0.53	77.6	-1.19	-0.06	-0.44
(Single) ^a						
Constraint Factors:						
After-tax income in \$10,000	0.042	35.25***	86.2	19.07**	0.02	2.39*
Incomplete income reporters	-0.278	45.39***	45.8	0.95	-0.01	-0.07
Financial assets in \$10,000	0.006	12.97***	12.6	15.01***	0.01	7.49***
Homeowner	0.217	33.11***	249.8	5.91***	0.19	2.19*
Health expenditure in \$100	0.005	35.45***	4.4	7.16***	0.00	-1.38
Occupation:						
Administrative	0.420	33.11***	340.7	4.44***	0.08	-0.5
Other white collar	0.438	63.50***	254.7	3.85***	0.07	-0.5
Blue collar	0.264	22.69***	127.2	2.08*	0.03	-0.22
Retired	0.064	1.08	133.3	2.24*	0.46	3.84***
(Not employed)						
Sociodemographic Characteristics:						
Family size	0.024	1.97	38.7	2.45*	-0.01	-0.22
Race/ethnicity:						
African American	-0.422	69.73***	-526.7	-7.74***	-0.55	-3.97***
Hispanic American	-0.131	4.97*	-215.1	-3.8***	-0.23	-2.03*
Others	-0.277	11.50***	-476.0	-5.98***	-0.58	-3.57***
(White)						
Education:						
Less than high school	-0.406	71.32***	-392.8	-5.22***	-0.43	-2.81**
College or more	0.408	107.60***	536.7	12.7***	0.61	7.19***
(High School)						
Region:						
Urban South	-0.164	19.68***	-176.6	-4.88***	-0.19	-2.59**
Rural	-0.105	3.12	-215.6	-3.85***	-0.26	-2.33*
(Urban non-South)						
Population size:						
1.20-4 million	0.045	0.92	-53.1	-1.25	-0.02	-0.21
330,000-1.19 million	0.067	1.74	-141.9	-3.06**	-0.06	-0.59
75,000-329,900	0.175	9.70**	-94.4	-1.83	-0.07	-0.63
Less than 75,000	-0.005	0.01	-165.1	-3.33***	-0.11	-1.11
(> 4 million)						
Intercept	-0.183	5.88*	-345.0	-2.89**	1.80	7.44**
Correction for sample selection bias			974.0	4.4***	-1.1	-2.39*
F-Statistic				89.39***		35.39***
Adjusted R-Squared			0.24		0.11	
-2 (log likelihood)	9058.524					
Chi-square		1385.34***				

Note: ^a The reference category is presented in parenthesis

*p < 0.05 **p < 0.01 ***p < 0.001

FIGURE 2. Predicted Travel Expenditure Allocation by FLC Stage



greater light on leisure travel expenditures. The corresponding subcategory results for the logit model are found in Appendix 1.

The coefficient for sample selection bias in each model is significant at the 99% level, indicating that the use of the two-stage tobit model was appropriate. Those families in the *married without children*, *full nest II*, and *empty nest* stages of the FLC spent significantly more than *singles* for transportation, lodging, and food. The *marrieds without children* and *full nesters II* also spent significantly more on entertainment than *singles*. *Solitary survivors* exhibited the opposite pattern, spending significantly less than *singles* on all subcategories. *Single parents* spent significantly less than *singles* on transportation, while *full nesters I* spent significantly more; however—other than transportation expenditures—there is no significant difference between the expenditures of *singles*, *full nesters I*, and *single parents* for lodging, food or entertainment.

The results for the financial constraint factors indicate that there is a significant positive relationship between income and assets and leisure travel spending for all subcategories. This finding is consistent with the hypothesized effect of resources on leisure travel expenditures. The proxy used for time constraint was "occupation status." Those with administrative, other white-collar and blue-collar occupations spent significantly more than unemployed families for transportation, lodging, food, and entertainment. Retired families spent the same as unemployed families for transportation, but significantly more for lodging.

Preferences, as measured by sociodemographic characteristics, significantly influence leisure travel expenditures. Contradicting the hypothesis, family size exhibits a positive rela-

tionship with expenditures for all subcategories. African-Americans, Hispanic-Americans, and others spent significantly less than White families on all four categories. African-Americans and others exhibit the greatest magnitude in the level of decreased expenditures for all subcategories. Those with a college education spent significantly more in all categories than those with only a high school education, while those with a less than high school education spent significantly less than high school graduates. The magnitude of impact on expenditures was roughly equal but opposite for those with a college education compared to those without a high school education. Region and population size of the community where the family resided also affected travel expenditures with those in the urban South and rural areas spending significantly less than those in urban non-South areas. Those families located in areas with populations less than 4 million spent significantly more on transportation than those families residing in areas with populations of more than four million. For expenditures other than transportation, families from smaller communities spent significantly less than families from communities with more than four million residents.

In summary, variables that were associated with higher spending in one subcategory were consistently associated with higher spending in other subcategories, except for FLC variables. FLC variables showed the greatest variation in spending among subcategories. Of particular interest, *full nesters I* spent significantly more than *singles* for transportation, but their expenditures on lodging, food, and entertainment were similar to *singles*. *Empty nesters* spent more than *singles* in all subcategories except for entertainment. *Single parents* only differed from *singles* in transportation expenditures. Retirees spent more on food, entertainment, and lodging, but similar amounts on transportation to those not employed. Families residing in areas with populations of 1.2 to 4 million people spent more on transportation, yet less on food than those in the most populated areas.

DISCUSSION AND IMPLICATIONS

There are several interesting and useful findings in this study. *Marrieds with no children* ap-

TABLE 5. Two-Stage Tobit Regression Results for Expenditure Subcategories: Transportation, Lodging, Food, and Entertainment (*Weighted*)^b

Variable	Transportation		Lodging		Food		Entertainment	
	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Life Cycle Stages:								
Married without children	54.7	6.25***	149.49	4.90***	124.65	5.37***	63.47	3.11**
Full nest I	22.4	2.35***	-9.86	-0.31	-19.62	-0.75	0.04	0.00
Full nest II	33.0	3.33***	152.04	4.44***	122.85	4.51***	60.70	2.61**
Empty nest	62.8	7.45***	194.02	6.80***	134.65	6.01***	19.92	1.07
Single parents	-21.2	-2.10*	10.13	0.29	-30.26	-1.06	23.48	1.00
Solitary	-35.1	-3.86***	-133.04	-4.38***	-88.48	-3.73***	-72.81	-3.35***
Others	25.7	3.16**	37.95	1.36	43.21	1.92	9.54	0.50
(Single) ^a								
Constraint Factors:								
After-tax income in \$10,000	4.8	8.47***	36.04	17.92***	29.52	18.87***	16.55	12.26***
Incomplete income reporters	-0.3	-4.92***	62.52	3.75***	-10.33	-0.65	-15.90	-1.05
Financial assets in \$10,000	0.9	8.55***	5.63	15.31***	3.99	13.70***	2.41	9.55***
Homeowner	21.3	3.93	167.64	7.70***	87.31	6.00***	72.91	5.64***
Health expenditure in \$100	0.4	4.71***	2.23	8.28***	1.63	7.62***	0.88	4.57***
Occupation:								
Administrative	40.4	4.22***	195.52	5.59***	137.42	5.26***	95.21	3.96***
Other white collar	36.3	4.53***	135.65	4.60***	116.32	5.35***	70.78	3.41***
Blue collar	15.7	2.08*	94.64	3.43***	69.11	3.35***	38.84	2.10*
Retired	-0.1	-0.02	101.64	3.82***	41.30	2.03*	36.02	2.06*
(Not employed)								
Sociodemographic Characteristics:								
Family size	5.0	2.55*	19.52	2.87**	17.60	3.20**	13.92	2.93**
Race/ethnicity:								
African American	-53.9	-5.84***	-250.23	-7.98***	-220.94	-9.76***	-155.14	-5.91***
Hispanic American	-19.0	-2.68**	-193.06	-6.66***	-72.31	-3.67***	-54.33	-3.09**
Others	-55.7	-5.36***	-261.41	-7.18***	-173.32	-6.28***	-79.52	-3.35***
(White)								
Education:								
Less than high school	-62.9	-6.04***	-281.77	-6.80***	-175.99	-7.06***	-117.30	-4.12***
College or more	44.5	8.01***	246.90	12.46***	195.91	13.63***	128.71	8.64***
(High School)								
Region:								
Urban South	-17.8	-4.07***	-92.13	-5.49***	-59.03	-4.71***	-57.51	-4.99***
Rural	-14.9	-2.16*	-89.74	-3.75***	-81.98	-4.20***	-66.64	-3.86***
(Urban non-South)								
Population size:								
1.20-4 million	32.7	6.06***	-26.54	-1.47	-28.94	-1.97*	-18.99	-1.53
330,000-1.19 million	24.3	4.12***	-50.61	-2.58**	-68.79	-4.29***	-45.05	-3.15**
75,000-329,900	64.4	9.35***	-72.93	-3.40***	-30.14	-1.70	-50.00	-3.33***
Less than 75,000	39.7	6.25***	-92.45	-4.38***	-61.44	-3.60***	-51.16	-3.41***
(> 4 million)								
Intercept	-61.9	-3.26**	-481.72	-6.06***	-197.37	-4.81***	-169.32	-3.35***
Correction for sample selection bias	107.0	4.18***	527.39	6.56***	457.86	6.95***	241.00	4.04***
Adjusted R-Squared	0.12		0.20		0.22		0.11	

Note: ^a the reference category is presented in parenthesis^b the logistic results for each subcategory can be found in the appendix

* p < 0.05 ** p < 0.01 *** p < 0.001

pear to be the most active leisure travel group. They are the only group that is more likely than *singles* to have non-zero expenditure on leisure travel. They spend significantly more than *singles* in all subcategories of travel expenditures including transportation, lodging, food, and entertainment; they also allocate significantly more of their family budget to travel expenditures than *singles*. Although *empty nesters* are no more likely to incur leisure travel expenses than are *singles*, when they do incur expenses, they spend significantly more for transportation, lodging, and food, as well as allocating significantly more of their family budget to leisure travel than *singles*. These findings agree with Lawson's (1991) findings that *marrieds without children* and *empty nesters* tend to travel more than those in other FLC stages and have similar expenditure patterns for transportation, lodging, and food.

Full nesters I and *singles* exhibit similar travel and expenditure patterns except for transportation, for which *full nesters I* spend more. These differences may indicate that full nest I consumer units have greater demands placed on their resources than have single families, as Wells and Gubar (1966) pointed out. *Full nesters II* are no more likely to spend on leisure travel than *singles*; however, they spend significantly more than *singles* for all leisure travel services.

Single parents and *solitary survivors*, on the other hand, are less likely to travel than *singles*; and *solitary survivors* spend significantly less than *singles* when traveling. This result indicates the FLC stage of *single parents* with greater demands on their time due to child rearing. Bojanic (1992) found that when *single parents* do travel, their travel patterns are not affected by the presence of children, who are often left with the other parent or grandparents. This is consistent with our findings that *single parents* do not spend statistically different amounts for transportation, lodging, food, and entertainment.

As expected, leisure travel expenditures increase with income, which is consistent with Fish and Waggle's (1996) findings supporting the notion that leisure travel is a normal good. The other set of constraint variables is occupation status, which was used to proxy time constraint. Our results are consistent with Becker's (1965) theory and Bryant's (1990) discussion of time allocation. Those who work (and thus have higher opportunity cost of time than those who don't work) spend more on all categories of lei-

sure travel, possibly indicating a greater income effects compared to substitution effect.

Demographic variables used to proxy preferences of the consumer unit are found to be related to the likelihood of spending money and leisure travel as well as the amount of money spent. Family size was positively associated with leisure travel expenditure. Consistent with Ketkar and Ketkar (1987), those with a college education spend significantly more than others without college education in all categories and are also more likely to spend money on leisure travel. The region and the population size of the family's community affect leisure travel since those from less populated areas are more likely to travel than those from densely populated areas. Families traveling from less populated areas incur significantly larger expenses related to transportation; however, they spend significantly less than those families from densely populated areas. This may be a result of greater price sensitivity among those families traveling from less populated areas to larger cities and resorts.

The usefulness of the FLC for market segmentation is apparent in expenditure subcategories. Of the seven FLC stage variables, three showed variability among transportation, lodging, food, and entertainment whereas only two of the remaining 27 variables showed any variability across subcategory expenditures. The three FLC stages that exhibited the variations are *full nesters I*, *single parents*, and *empty nesters*. *Single parents* are less likely to spend on travel, but when they do travel, the only expenditure subcategory that makes them different from *singles* is transportation, with expenditures on all other subcategories approximately equal. Marketers can therefore treat the *single parents* segment and the *singles* segment similarly with regard to their allocation patterns for lodging, food, and entertainment. The FLC variables also provide additional explanation of expenditure variance between the subcategories.

In future studies, it would be insightful to use panel data on leisure expenditures and examine how the expenditures change as the family transitions from one life cycle stage to another. Also, the FLC model used in this study does not capture other living arrangements such as cohabiting couples, and never-married couples with children. These living

arrangements have become increasingly visible in society. Further research should use an extended model of the FLC to reflect these demographic changes.

In conclusion, the FLC model is effective market segmentation tool to show significant variations among FLC stages regarding spending on leisure travel and how much to allocate to different subcategories. Marketers should consider designing travel packages for families by FLC stages based on the preferences for leisure travel shown in the results of this study. Furthermore, marketers can use the FLC model as a useful market segmentation tool for differentiating family expenditure patterns for leisure travel.

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SUBMITTED: June 19, 2003

REVISED: August 9, 2004

ACCEPTED: August 31, 2004

REFEREED ANONYMOUSLY

APPENDIX 1

Logistic Regression Results for Likelihood to Spend for Leisure Travel (*Weighted*)

Variable	Transportation		Lodging		Food		Entertainment	
	Coefficient	2	Coefficient	2	Coefficient	2	Coefficient	2
Life Cycle Stages:								
Married without children	0.328	22.22***	0.303	19.63***	0.2611	12.77***	0.230	11.34***
Full nest I	0.193	6.02*	0.075	0.9	-0.043	0.29	0.033	0.17
Full nest II	0.139	2.82	0.203	6*	0.032	0.13	0.135	2.66
Empty nest	0.230	11.6***	0.181	7.18**	0.108	2.42	-0.033	0.24
Single parents	-0.071	0.72	-0.087	1.02	-0.163	3.77	-0.002	0
Solitary	-0.278	18.76***	-0.257	15.04***	-0.279	18.65***	-0.286	18.7***
Others (Single) ^a	0.076	1.26	0.069	1.02	-0.0513	0.56	-0.022	0.1
Constraint Factors:								
After-tax income in \$10,000	0.032	28.55***	0.040	48.83***	0.042	37.36***	0.034	37.62***
Incomplete income reporters	-0.246	37.59***	-0.060	2.18	-0.260	40.32***	-0.232	32.37***
Financial assets in \$10,000	0.004	10.08**	0.008	31.3***	0.007	15.76***	0.005	19.85***
Homeowner	0.207	31.19***	0.279	53.39***	0.230	37.66***	0.184	23.52***
Health expenditure in \$100	0.004	36.64***	0.004	26.84***	0.005	38.3***	0.004	30.77***
Occupation:								
Administrative	0.394	31.98***	0.408	33.81***	0.447	38.59***	0.372	2841.82***
Other white collar	0.361	44.12***	0.360	40.51***	0.401	53.61***	0.359	40.93***
Blue collar	0.243	19.19***	0.271	21.48***	0.256	21.31***	0.224	14.86***
Retired (Not employed)	-0.024	0.15	0.147	5.14*	0.034	0.31	0.085	1.71
Sociodemographic Characteristics:								
Family size	0.023	1.92	0.035	4.39*	0.036	4.64*	0.038	5.23*
Race/ethnicity:								
African American	-0.443	74.46***	-0.411	58.61***	-0.420	68.7***	-0.517	89.55***
Hispanic American	-0.135	5.5*	-0.335	30.64***	-0.156	7.15**	-0.200	11.51***
Others (White)	-0.352	19.65***	-0.362	19.86***	-0.301	13.84***	-0.243	9.17**
Education:								
Less than high school	-0.452	81.01***	-0.525	89.25***	-0.410	70.93***	-0.484	76.8***
College or more (High School)	0.364	98.61***	0.336	89.07***	0.400	108.66***	0.365	106.11***
Region:								
Urban South	-0.109	9.17**	-0.195	28.94***	-0.178	23.22***	-0.176	23.6***
Rural (Urban non-South)	-0.049	0.71	-0.105	3.23	-0.152	6.66**	-0.180	9.3**
Population size:								
1.20-4 million	0.109	5.93*	0.042	0.86	0.034	0.54	0.009	0.04
330,000-1.19 million	0.136	7.79**	0.048	0.96	0.062	1.56	-0.129	7**
75,000-329,900	0.291	29.24***	0.055	1.07	0.171	9.61**	-0.059	1.23
Less than 75,000 (> 4 million)	0.176	11.44***	-0.034	0.42	0.031	0.35	-0.102	3.82
Intercept								
-2 (log likelihood)	-0.583	82.17***	-0.911	141.67***	-0.314	17.57***	-0.667	77.63***
Chi-square	9770.988		9716.798		9293.660		9751.100	
		1423.31***		1409.68***		1438.54***		1380.92***

Note: ^a the reference category is presented in parenthesis

* p < 0.05 ** p < 0.01 *** p < 0.001