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COMPARISON AND CONTRAST OF PUSH AND PULL MOTIVATIONAL EFFECTS ON TRIP BEHAVIOR: AN APPLICATION OF A MULTINOMIAL LOGISTIC REGRESSION MODEL[1]

GYEHEE LEE,* JOSEPH T. O'LEARY,† SUN HEE LEE,‡ and ALASTAIR MORRISON*

*Purdue University
†Texas A & M University
‡Kyunggi University

Within the context of the multidestinations and multiactivities, the present study focused on the comparison between the push and pull motives in terms of the influences on destination choice and vacation activity of German pleasure travelers to the US, Canada, and Asia. Employing a multinomial logistic regression and OLS regression techniques, this study assessed the effect of each motivational factor on destination choice and vacation activity participation. The effect of other independent variables, such as length of stay, travel budget, travel mode, and sociodemographics, was also investigated. The results of this study indicated that: (1) in general, pull factors exerted more influence on destination choice than push factors, and different pull factors motivated travelers to select different destinations, (2) motivational factors were the most significant determinants among others, and (3) a typology of vacation activity patterns based on need-satisfying property of motivation may exist.

Motivation Push factor Pull factor Multinomial logistic regression
OLS regression Destination choice Vacation activity

As international tourism continues to be a major economic force in the global economy, competition for markets has also become fierce. In addition, advanced information technology has produced consumers who have sophisticated tastes and are able to shop intelligently. Furthermore, today's tourists are better educated and wealthier than ever before. Thus, the tourists have more product information and choices, and bargaining power seems to fall on the consumers' side rather than on the marketers' side. Thus, it takes enormous marketing effort and resources for tourism marketers to develop a new

Address correspondence to Dr. Ghyehee Lee at his present address: Department of Hotel, Restaurant and Tourism Management, Columbia Coliseum, University of South Carolina, Columbia, SC 29208. Tel: (803) 777-6665; E-mail: lee68@gwm.sc.edu
[1]The data utilized in this study were made available by the Canadian Tourism Commission. The data were originally prepared by Coopers and Lybrand Consulting. Neither the preparer of the original data nor the Canadian Tourism Commission bear any responsibility for the analysis or interpretations presented in the current article.

market or to maintain a current market share. From the marketers' perspective, understanding the potential travelers' motivation is the hallmark in assuring benefits and satisfaction are delivered. Researchers and practitioners have long been searching for the answer to the fundamental question, "Why do people travel?" by identifying the various needs and motives that compel travelers to seek out specific leisure activities and experiences. Simply observing travelers' behavior is not sufficient to detect their motives. Instead, tourism marketers need to measure the motives that are operating with respect to a particular trip behavior, including destination choice and the activities pursued in vacation places.

The objective of this study was to investigate how individual tourist motivation influences two of the most important travel decisions: destination choice and vacation activities pursuit in a visited destination. The research used data collected in 1996 from German households, in which members had taken long-haul international leisure trips in the last 3 years. German travelers are by and large the highest tourism spenders and rank number one in terms of visitor arrivals at all destinations (World Tourism Organization [WTO], 1999).

Understanding the distinctive characteristics of vacation activity pursuits also involves a consideration of individual traveler's psychological factors, such as motivation, attitude, preference, learning, and beliefs, along with their unique cultural–social orientation (Kotler, 1984; Moutinho, 1987). Iso-Ahola (1982, 1983) concluded that motivation is a more important determinant of travel than other psychological factors. While a large variance is not expected to be explained only by motivation, the variables related to motivation are keys to a deeper level of understanding of the German travelers' enthusiasm for overseas pleasure travel. Thus, as Crompton (1995) notes, even though motivation is not expected to explain a large portion of variance in trip behaviors, it is a critical variable in predicting and explaining behavior.

Literature Review

Theoretical Approach to Motivation

Murray (1964) defines motivation as "an internal factor that arouses, directs, and integrates a person's behavior." Motivation (i.e., manifested and/or latent needs) is related to behavior or activity and leads to goals or satisfactions (Mannell & Kleiber, 1997). This mechanism is well depicted in Figure 1. Motivation to travel refers to the "set of needs which predispose a person to participate in a touristic activity" (Pizam, Neumann, & Reichel, 1979). Maslow's (1954) hierarchy of needs provides a plausible theoretical framework for tourism motivation. A significant implication derived from his theory is that motivation is based on hierarchical needs. In searching for motivation in tourism, MacCannel (1976) and Cohen (1978, 1979) explored the sociological background of tourist behavior, while Crompton (1979) defined sociopsychological and cultural motives for travel derived from the push and pull framework. Dann (1977) described seven approaches towards motivation in terms of individuals and their cultural conditioning. Mayo and Jarvis (1981), in explaining travel motivation, posit the need for consistency and complexity in which people seek harmony and balance.

But a review of the literature also shows that there exists no unilateral motivation theory involving tourism among theorists and researchers, partially owing to the interdisciplinary nature of the area and the fact that the description of motivation permits a multiplicity of models within a given theory (Dann, 1981). Nevertheless, theorists and researchers are primarily concerned with the individuals' needs that arouse, dispose, and activate trip behaviors. Subsequently, they tackle the actual behavior of travel (i.e., destination choice behavior and other trip related acts in a flow of decision-making process), and destination area in response to such needs (Dann, 1981). Those theorists and researchers who take a stance on viewing travelers' motivation from sociopsychological motives focus on the "why" question (e.g., Calanton & Johar, 1984; Dann, 1977, 1981; Etzel & Woodside, 1982; Goodrich, 1977; Iso-Ahola, 1980, 1982, 1983; Tinsely & Kass, 1978,

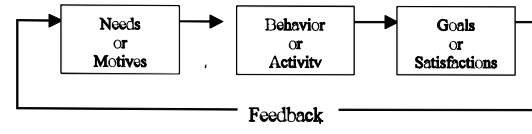

Figure 1. Motivation model. Source: Mannell & Kleiber (1997).

1979; Woodside & Jacobs, 1985). Most of them proposed idea-typical typologies to explain travelers' motivation, contributing to an understanding of what makes people travel. In his earlier study, Dann (1977) suggested that travel motivation consists primarily of the sociopsychological concepts of "anomie" and "ego enhancement." A vacation is viewed as alleviating these and an opportunity to boost self-esteem and a chance for exploration of one's self (Dann 1981). Mannell and Iso-Ahola (1987; see also Iso-Ahola, 1989) suggested a parsimonious theoretical model of motivation based on bidimensionality in a social psychological context of leisure/tourism. According to their model, two motivational forces simultaneously influence an individual's leisure or tourism behavior. The psychological benefits from leisure travel stem from the relationship between these two forces: (1) escaping routine and stressful situations, and (2) seeking recreation for intrinsic rewards. In exploring motivation and satisfaction dimensions, Dunn Ross and Iso-Ahola (1991) theorized that the seeking would be of greater importance to sightseeing tourists than the escape component. They found that even though the escape dimension is present, the seeking dimension was rated of higher importance.

To date, in spite of the striving for a concrete conclusion about trip motivation (Dann, 1981), the "sheer complexity of motivation" makes it extremely difficulty to derive a firm conclusion.

Motivational Push and Pull Framework

Studies linking the "why" question to destination attributes are well documented in the literature. One of the key characteristics of consumer motivation is that consumers are motivated by both internal and external forces (Wilkie, 1994). An internal force is sociopsychological impetus, while an external force comprises marketing stimuli and product attributes. The former concept is also known as "primary motives" and the latter as "selective motives" (Wilkie, 1994). The former is believed to be related to an individual's intention to use or not to use the entire class of products (e.g., in tourism, to take a trip or to do an alternative leisure activity). The latter, on the other hand, refers to consumer decisions related to particular alternatives from a product class (e.g., take a vacation trip either to Alaska or to Fiji). Jamrozy and Uysal (1994) called the pull factors a "secondary motive." Dann (1977) made a significant contribution to motivation by framing it in a two-tiered framework, "push" and "pull" domains, where the "why" question (sociopsychological predisposition to travel) and "where to"(destination choice decision) issues are addressed in a single schema. This approach stretched the research domain into the relationship between motivation and trip behaviors such as destination choice. Pull factors relate to attributes of a travel destination, while push factors are internal to the individual and deal with tourist motivation (Dann, 1981). Pull factors emerge or are aroused as a result of attractions at the destination: "pull motives reflect the influence of destination in arousing the tourists to act"(Crompton, 1995, p. 22). Pull components are a "package of satisfaction" that a destination can offer travelers to satisfy their unmet needs by responding to and reinforcing the initial push motives. Push factors are thought to predispose individuals to travel, while pull factors help explain destination selection decision. Logically, and often temporally, the push components are antecedent to the pull factors.

A growing body of literature in tourism motivation, addressing the link between the motivation and destination area, has explored and confirmed the role of motivation in trip behaviors by connecting the travelers' sociopsychological motivation to destination attributes with respect to the destination choice decision process (Huan, O'Leary, Beaman, & You, 1999; Jamrozy & Uysal, 1994; Murry & Nakajima, 1999; Pizam & Jeong, 1996; Pyo, Mihalik, & Uysal, 1989; You, O'Leary, Morrison, & Hong, 2000). This research shows that knowledge about the tourists' motivation constitutes the cornerstone that a sound marketing strategy is based upon. Thus, this knowledge may furnish the marketers' and planners' insight about market needs and wants to further assist them in strategy development and service delivery.

These studies further triggered an investigation on underlying relationships between motivation and more specific travel behaviors. Another fundamental but neglected question arises from there: How are motivations related to activity pursuit in a destination once the destination is selected and visited? Provided that the opportunity of diverse vacation activities (e.g., sightseeing, shopping, visiting attractions, participating in sports/culture/nature-based activities, entertainment, etc.) is a core

destination product mix and central component of tourists' destination experiences, the role of motivation on activity participation becomes a critical concern for destination marketing organizations (DMO). From a theoretical perspective, given that motivation is eventually related to satisfying needs, what is actually happening in the middle of the temporal and sequential process of a trip to reach the end goal of satisfaction? Thus far, this question is largely left as a conundrum in tourism context. The researchers of this study suggest the relationship between motivational push and pull factors and activity participation pattern be a key to the question. Therefore, in reducing the gap in the tourism literature, empirical tests purporting to answer two research questions are proposed in the current study: First, how do motivational pull and push factors contrast in terms of magnitude of effects on individual tourist's destination choice? Second, do different motivational push and pull factors lead individual tourists toward different vacation activities pursuit? In other words, are there any systematic links between motivational factors and vacation activity participation patterns?

Motivational Taxonomy in Leisure Pursuit

In leisure studies, researchers have attempted to identify the need-satisfying properties of leisure activities and settings that lead people into action or participation (Pierce, 1980; Tinsley & Johnson, 1984; Tinsley & Kass, 1979). These studies insinuate that motivation and satisfaction are inextricably related, albeit theoretically separate constructs. For example, Tinsley and Johnson (1984) suggested taxonomy of nine activity types based on the activities' need-satisfying properties. For example, activities such as doing crossword puzzles, going to the movies, and reading fiction are related to "intellectual aestheticism." Stewart and Carpenter (1989) found that the greater the need for solitude among hikers in the Grand Canyon, the more likely they were to engage in their recreation in low-use zones. In another study by Manfredo, Driver, and Brown (1983) on wilderness users, those who seek to satisfy the need for risk and achievement tend to seek satisfaction in more rugged, undeveloped areas, rather than those among the same wilderness users who seek the "solitude need." These studies imply that motivation is an antecedent to the pursuit of different thematic sets of activities. These research efforts, however, were limited to the sociopsychological components of motivation in explaining diverse leisure activity pursuits.

To date, except for a very few research examples, there exist limited empirical studies that investigate the relationship in a tourism context. For example, Gomez-Jacinto, Martin-Garcia, and Huyze (1999) presented more direct empirical support in their study about the relationships among tourism motivation, satisfaction, and tourist activities. In their research, path analysis manifested a strong link between cultural motivation and tourist destination activities: the cultural motivation increased the quantity of activities that the respondents engaged in while on the trip. The results of the study implied that a considerable amount of variance in activity pursuit can be explained by motivational factors. These findings not only support the existing theories around tourism motivation, but also suggest a possibility to develop a motivation–activity typology.

Developing a Conceptual Framework

In assessing a structure in the pleasure trip planning process, Fesenmaier and Jeng (2000) delineated that the travel decision-making/planning process can be decomposed into a number of temporal/sequential "subdecisions." They further categorized the decision process as: (1) core decisions, related to primary destination choice, time, trip party, accommodation, and travel budget; (2) secondary decisions, which include secondary destinations, activities to participate in, and attractions to visit; and (3) en route decisions, including stops on the road, food stops, shopping stops, shopping items, and budget for gifts and souvenirs. They also concluded that the decisions at early stages tend to condition the later decisions. However, a practical argument may emerge in that the decision regarding activity in which to participate on the trip in a given destination may be considered prior to a selection of a primary destination in some cases. Furthermore, the motivational push and pull constructs embrace activities as important components. As mentioned earlier, the main focus of the current study is not on the decision-making flow itself, but rather on the relationship between motivational factors and con-

sequent decisions in separate models without taking the sequence of decisions into account. Again, the conceptual sequence of decision flow is not necessarily central for the tests of the relationships.

Tourists are motivated individuals in search of their goal. Once they recognize that a need exists (the disequilibrium stage), they try to alleviate disequilibrium and/or escape from that stage to regain an equilibrium stage (Crompton, 1979). Dann (1977) and Crompton's (1979) push–pull schema and the decision-flow framework suggested by Fesenmaier and Jeng (2000) provided the basis for the conceptual framework for this study (see Fig. 2). Also, it is noteworthy that the push and pull domains were conceptualized to share commonality, even though no empirical consideration was given to test this in this study. The overlapping area has not been revealed in the previous research in spite of the clearly expressed suspicion of interface between these two domains (Crompton, 1979; Dann, 1981; Jamrozy & Uysal, 1994; Pyo et al., 1989).

In empirically testing the link between tourist motivation and travel-related behaviors, the proposed framework provides justification of two test sets on the influence of motivations on destination choice and vacation activity participation. More specifically, this study focuses on:

1. Determination of the relative importance of the motivational push and pull components in destination choice among German long-haul pleasure travelers.

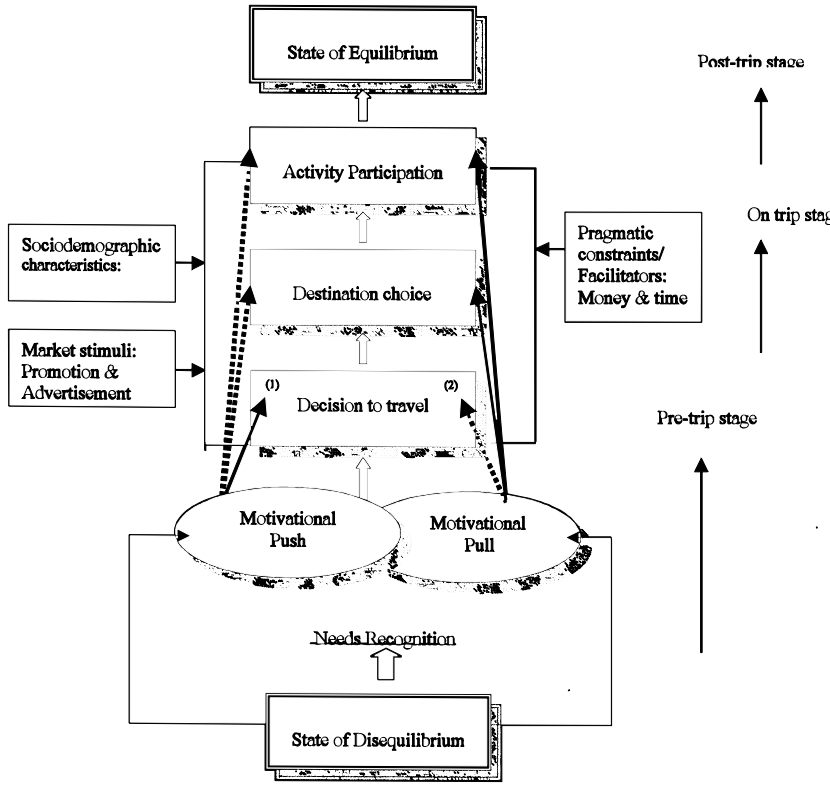

Figure 2. The need-satisfier property of motivation and its role on trip decision flow. A solid arrow shows strong, direct relationship, while a dotted arrow indicates weaker and indirect relationship. The relationship indicated by solid and dotted arrows (1) and (2) from motivation to decision to travel is only a conceptual proposal and not included in the empirical test in the current study.

2. Assessment of the relative magnitude of motivational effects on the pursuit of different thematic sets of vacation activities.

Thus, the empirical test of the proposed framework, albeit partial (i.e., no empirical consideration was given to marketing stimuli), may reduce the gap in the literature and also facilitate future researchers to develop a typology of motivation–activity participation.

Methodology

Data and Sample

The data used for the study are the 1996 German Pleasure Travel Market Surveys collected under the sponsorship of the Canadian Tourism Commission (formerly Tourism Canada) and International Trade Administration-Tourism Industries (formerly the United States Travel and Tourism Administration). The sample was collected using a random probability sampling procedure. A total of 1201 interpersonal in-home interviews were conducted with international travelers who were: (1) 18 years of age or over; and (2) who took a vacation trip of 4 nights or longer by plane outside of Europe and the Mediterranean (defined as long-haul pleasure trip) in the past 3 years or intended to take such a trip in the next 2 years. The questionnaire collected information on sociodemographic and behavioral characteristics related to the travel of respondents, along with rich information on psychographics of German travelers, including travel philosophy, destination image, travel motivation, and product preferences. For this study, a subset of the data ($n = 708$) was selected among actual travelers who took a trip for pleasure to one of three destinations, including the US, Canada, and Asian countries, in the last 3 years.

Data Analysis and Variables

Multinomial Logistic Regression—Destination Choice Model. Two types of regression models were specified in the study. In assessing the magnitude of influence of push and pull factors on destination choice, a multinomial logistic regression model for a polytomous dependent variable (one of three exclusive destination choices) was specified. The three most popular destinations for German travelers were the US ($n = 349$), Canada ($n = 247$), and Asian countries ($n = 112$). These were the categorical dependent variable in a multinomial logistic regression model, where the estimated probability (converted to odds) of each choice made by the respondents, predicted by traveler's characteristics, is the outcome of maximum likelihood function (Kennedy, 1998). In other words, the respondents' choice of overseas destination was considered as a function of motivational push and pull factors, length of trip, travel budget, mode of travel, and sociodemographic variables such as age, income, education, gender, and marital status.

Multinomial logistic regression is an appropriate technique for classification when the dependent variables are more than two choices. This application is a generalization of the binary logistic regression (Aldrich & Nelson, 1984; Hosmer & Lemeshow, 2000). In this model, the utility an individual would derive from multiple options is a linear function of his/her motivation factors, and behavioral and personal characteristics. The model can be expressed in the following equation: The probability of P_{ij} is associated with the choice of the jth alternative (one of three destinations) by the ith individual, where x_{ij} is the set of predictor variables and β is the unknown parameter (Kennedy, 1998), or

$$P_{ij} = \frac{\exp\left(x_i \beta_j\right)}{1 + \sum_{I=2}^{J} \exp\left(x_i \beta_j\right)} \tag{1}$$

The model is based on the log Weibull distribution, also known as the type I extreme-value distribution. It has the convenient property that the cumulative density of the difference between any two random variables with this distribution is given by the logistic function (Kennedy, 1998, p. 244). For example, an individual chooses destination A option if,

$$x_0 \beta_B + \varepsilon_B < x_0 \beta_A + \varepsilon_A \tag{2}$$

or alternatively, if

$$\varepsilon_B - \varepsilon_A < x_0 (\beta_A - \beta_B) \tag{3}$$

where x_0 is row vector of individual i's characteristics, then $(x_0 \beta_A + \varepsilon_A)$ is his/her utility of option A

and $(x_0\beta_B + \varepsilon_B)$ is for option B. In this case, ε_A and ε_B are independently drawn from a log Weibull distribution. Given an individual traveler's motivation factors, length of stay, travel budget, age, gender, income, and marital status, the probabilities of that individual choosing one of three different destinations can be calculated as follows:

$$\frac{\text{prob(A)}}{\text{prob(B)}} = e^{x\beta A} \text{ and } \frac{\text{prob(B)}}{\text{prob(C)}} = e^{x\beta B} \quad (4)$$

The multinomial regression model has been proved to be useful in numerous disciplines, including economics (Amemiya, 1981; Maddala, 1993; Winkelmann & Zimmermann, 1995), environmental economics (Akabua, Adamowicz, Phillips, & Trelawny, 1999; Schwabe, Schuhmann, Boyd, & Doroodian, 2001), social sciences (De Jong, Richter, & Isarabhakdi, 1996; Eggleston, 1999), and health and life sciences (Gilbert, Self, & Ashby, 1998; Lantz et al., 2001). Recently, this technique has provided the researcher in leisure and tourism studies with useful analytical frameworks (Eymann & Ronning, 1992; Lin, Peterson, & Rogerson, 1988; Luzar, Diagne, Gan, & Henning, 1998; Middelkoop, Borgers, Arentze, Timmermans, & Middelkoop, 2001; Oum & Lemire, 1991;).

There were two major reasons that the multinomial logistic regression was applied here. First, as explained earlier, the dependent variable (destination choice) was a qualitative (i.e., discrete or categorical) choice and the choice was exclusive—that is, an individual can only choose one destination at a time. Traditional ordinary least square (OLS) regression is not an appropriate technique in this kind of situation. In the OLS regression model, the error terms are assumed to be normally distributed, whereas in the multinomial logistic regression model, the assumption for the normal distribution of error term is no longer valid (Hosmer & Lemeshow, 2000). In contrast to the OLS regression model, the stochastic ingredient of the multinomial logistic regression model is no longer represented by an error term. Also, the multinomial logistic regression uses maximum likelihood method, and accordingly is distinguished from its traditional counterpart (OLS regression), where least square method is usually applied in estimating unknown parameters (Kennedy, 1998). Second, most studies, such as Press and Wilson (1978), have concluded that a logit model is superior to discriminant analysis for classification, primarily because discriminant analysis is based on the strict assumption of multivariate normal distribution. The assumption, however, is unreasonable characteristics, especially for a qualitative variable (Kennedy, 1998).

OLS Regression—Vacation Activity Participation Model. For the second objective—to test the relationship between motivation and vacation activity participation and to develop typology—three OLS regression models were specified, with the amount of activity participation as the dependent variable and motivation push and pull factors as independent variables. In-depth exploration of the relationship between motivational push and pull factors and vacation activity participation calls for multiple sets of OLS models for different sets of activities as dependent variables. Therefore, the amount of participation in each of three distinctive thematic sets of vacation activities (interval variable; min. 0–max. 4) is a function of motivational push and pull factors, and behavioral and personal characteristics (same set of independent variables as in destination choice model, except for two variables, travel mode and budget).

Factor Analysis for Creation of Independent Variables. In creating the motivation variables for the multivariate analysis suggested above, two sets of motivational push and pull scales were factor analyzed. The principle component method was used for initial factor extraction and varimax rotation was applied to determine the final sets of factors. These two scales addressed psychological motivation of the respondents in such dimensions as "escape," "novelty seeking," "family togetherness," and "learning & experiencing new things"; a pull scale measured the respondents' perceived importance of various destination attributes derived from a diverse destination mix (e.g., attractions & events, facilities, transportation & infrastructure, hospitality resources, etc.). The factors extracted via these methods are uncorrelated and are arranged in an order of decreasing variances (Norusis, 1997). Through factor analysis, the motivation items are grouped according to their factor loadings (≥0.5). Eigenvalue (≥1.0) and subscale internal consistency measured by reliability alpha (≥0.7) criteria were applied for number of

factor solution. Items with communality lower than 0.5 were eliminated from the scale. In general, a reliability alpha larger than 0.7 is acceptable in social science research (Hair, Anderson, Tatham, & Black, 1995). Other controlling variables were also included in both the destination choice model and the activity participation model. They are length of stay, travel budget, and sociodemographic variables that include age, gender, education, income, and marital status. The literature suggests that these variables may influence destination choice and/or activity participation (Um & Crompton, 1992, 1999; You et al., 2000).

Results

General Profile of the Respondents

The average age of the respondents in the sample was 43.5 years, and there were an equal number of male and female travelers. The majority of respondents were married (56%), with monthly household incomes of more than DM 4,501, and were high school graduates. The average length of their trip was 21.7 nights in the destinations (Table 1). There was no statistically significant difference across three destination groups, except for education ($p = 0.007$), travel mode ($p = 0.020$), and length of stay ($p = 0.033$). German travelers to Asian countries tended to be more educated, take more package tours, and stay longer than other destination groups.

Motivational Push and Pull Factors for Destination Choice

Through factor analysis, six push factors and seven pull factors were extracted. The push factors contain psychological motivation, intrinsic to individual tourists, such as escape, novelty, relax, travel brag, hedonism, and family. Total variance explained by those six push factors was 65% and the reliability alpha test for internal consistency of the scale was 0.813. One item, opportunity to increase one's knowledge, was excluded due to a low loading of less than 0.4 (0.376) (Table 2). The pull factors, on the other hand, include attributes of diverse destination mix. Seven pull factors emerged as a result of factor analysis. They are environmental quality, natural/ecology, ease and value, art and culture, atmosphere and weather, unique and different people, and outdoor activities (Table 3). The pull scale had high reliability, showing a Chronbach alpha of 0.924. Those seven factors explained 60.64% of the total variance. One push item, namely "doing and seeing things which represent a

Table 1
Demographic and Behavioral Profile of German Travelers

Variables	Visitors to Asia ($N = 112$)	Visitors to the US ($N = 349$)	Visitors to Canada ($N = 248$)	All Visitors ($N = 708$)	Test Statistic	Significance
Age (mean/SD)	44.23/14.81	42.27/16.42	44.89/15.41	43.49/15.85	$F = 2.12$	$p = 0.121$
Length of trip (mean/SD)	25.09/2278	21.82/18.34	19.96/12.05	21.68/17.33	$F = 3.45$	$p = 0.033$
Travel budget (DM) (mean/SD)	9,294/10,583	8,064/5,852	8,113/4,843	9,277/6,547	$F = 1.61$	$p = 0.132$
Travel mode (package—yes)	47.3%	27.7%	33.2%	32.7%	$\chi^2 = 14.9$	$p = 0.020$
Gender						
Male	50%	45.8%	55.9%	50%	$\chi^2 = 5.81$	$p = 0.055$
Female	50%	54.2%	44.1%	50%		
Marital status						
Married	53.6%	56.7%	55.9%	55.9%	$\chi^2 = 0.34$	$p = 0.842$
Single	46.4%	43.3%	44.1%	44.1%		
Monthly household income						
DM <2,500	15.7%	14.5%	13.2%	14.2%	$\chi^2 = 2.68$	$p = 0.845$
DM 2,501–3,500	21.6%	20.9%	26.4%	23.0%		
DM 3,501–4,500	23.5%	23.5%	23.0%	23.3%		
DM >4,501	39.2%	41.2%	37.4%	39.5%		
Education						
Primary school	13.4%	15.9%	10.9%	13.7%	$\chi^2 = 21.1$	$p = 0.007$
Middle school	32.1%	22.5%	31.2%	27.1%		
Trade school	7.1%	9.2%	12.6%	10.1%		
High school	23.2%	36.3%	25.9%	30.6%		
University	24.1%	16.1%	19.4%	18.6%		

Table 2
Factor Analysis of Motivational Push Factors for German Pleasure Travelers to the US, Canada, and Asia

Factors and Items	Loading	Eigenvalue	Variable Explained
Factor 1: Escape and Getaway		3.84	21.38%
Getting away from the demands of home	0.865		
Getting a chance from a busy job	0.844		
Escaping from the ordinary	0.731		
Factor 2: Novelty Seeking		2.47	13.70%
Experiencing a new and different lifestyle	0.826		
Meeting new and different people	0.784		
Experience a simpler life	0.638		
Meeting people with similar interest	0.527		
Factor 3: Relaxing		1.79	9.93%
Just relaxing	0.830		
Doing nothing at all	0.804		
Indulging in luxury	0.487		
Factor 4: Bragging About Trip		1.44	8.02%
Visiting a place I can talk about when I get back home	0.825		
Going places I have not visited before	0.795		
Going places my friends have not been	0.557		
Factor 5: Hedonism		1.12	6.21%
Having fun, being entertained	0.778		
Finding thrills and excitement	0.568		
Factor 6: Family Togetherness		1.06	5.89%
Being together as a family	0.822		
Visiting friends & relatives	0.706		

Extraction method: Principal Component analysis. Rotation method: Varimax with Kaiser Normalization. Total variance explained: 65.1%. Cronbach alpha for the overall scale: 0.813.

destination's unique identity," was eliminated from the final factor solution due to a low loading of less than 0.4. Table 4 shows the most important motivation factors for each destination group. Across three destination groups the most important motivation was to increase one's knowledge (mean = 3.44), followed by outstanding scenery (mean = 3.41), and going places not visited before (mean = 3.36). Four factors turned out to be significantly different (at $\alpha = 0.05$ level) across the destination groups: outstanding scenery ($p = 0.000$), standard of hygiene ($p = 0.009$), opportunity to visit natural/ecological site ($p = 0.000$), and interesting rural countryside ($p = 0.000$). For example, US visitors seemed to be pushed by the desire to visit to natural and ecological sites more strongly than the other two groups; visitors to Canada were pulled by the outstanding scenery of Canada.

Results of Destination Choice Model

The empirical results suggested that the tourists' motivation is the most significant predictor explaining destination choice compared with other variables, including travel facilitator/constraints, and sociodemographic factors. The results suggest that different motivational factors are significantly related to destination choice behavior. Some push factors, such as novelty, bragging about travel, and hedonism, seem to explain the travel destination choice as their maximum likelihood parameter estimates and corresponding tests of significance ($\alpha = 0.05$ level) showed (Table 6). Meanwhile, pull factors exerted more influence on destination choice: except for the first factor, environment and safety, all factors turned out to be significantly related to the destination choice. Compared with the respondents who visited Asian countries, visitors to the US were motivated by hedonism (push), ease and value (pull), and outdoor activities (pull), whereas German travelers to Asian destinations were significantly motivated by art and culture, unique, atmosphere and weather, and different people pull factors. In other words, people with hedonic pull motivation are more likely to choose the US against Asian destinations.

Table 3
Factor Analysis of Motivational Pull Factors for German Pleasure Travelers to the US, Canada, and Asia

Dimensions and Items	Loading	Eigenvalue	Variance Explained
Factor 1: Environment and Safety		4.933	21.44%
High standards of hygiene and cleanliness	0.798		
Personal safety even when traveling alone	0.756		
Environmental quality of air, water, and soil	0.751		
Factor 2: Natural/Ecological Sites		2.504	10.89%
Visits to appreciate natural ecological sites	0.783		
Interesting rural countryside	0.726		
Outstanding scenery	0.664		
Historical buildings and archeological sites	0.499		
Factor 3: Ease and Value		1.675	7.28%
Ease of driving on my own in the destination	0.700		
Destination that provides value for my holiday money	0.592		
Availability of comprehensive tourist information	0.589		
The best deal I could get	0.530		
Good public transportation	0.490		
Factor 4: Art/Culture and Shopping		1.383	6.01%
Arts and cultural attractions	0.740		
Shopping	0.709		
Trying new food	0.608		
Factor 5: Climate		1.318	5.73%
Nice weather	0.714		
Exotic atmosphere	0.653		
Factor 6: Unique People		1.130	4.91%
Unique culture or different aboriginal or indigenous peoples	0.778		
See people from different ethnic backgrounds or nationalities	0.753		
Factor 7: Outdoor Activity for Family		1.004	4.37%
Outdoor activities such as hiking, climbing	0.775		
Primative camping	0.764		
Activities for the entire family	0.447		

Extraction method: Principal Component analysis. Rotation method: Varimax with Kaiser Normalization. Total variance explained: 60.64%. Cronbach alpha for the overall scale: 0.924.

Table 4
Mean Value for the Most Important Motivations for the Three Destination Groups

Motivational Items	Visitors to Asia ($N = 112$)	Visitors to the US ($N = 349$)	Visitors to Canada ($N = 248$)	All Visitors ($N = 708$)	Test Significance
Opportunity to increase knowledge	3.44 (0.68)	3.39 (0.69)	3.50 (0.62)	3.44 (0.68)	0.186
Outstanding scenery	3.44 (0.65)	3.29 (0.73)	3.57 (0.61)	3.41 (0.69)	0.000
Going places I have not visited before	3.39 (0.73)	3.30 (0.81)	3.43 (0.76)	3.36 (0.78)	0.109
Personal safety	3.23 (0.77)	3.32 (0.82)	3.37 (0.79)	3.32 (0.80)	0.308
Destination that provides value for holiday money	3.28 (0.80)	3.23 (0.80)	3.36 (0.80)	3.28 (0.79)	0.159
Standards of hygiene and cleanliness	3.12 (0.80)	3.24 (0.79)	3.37 (0.73)	3.27 (0.77)	0.009
Meeting new and different people	3.17 (0.73)	3.23 (0.78)	3.23 (0.69)	3.22 (0.74)	0.723
Visits to appreciate natural ecological sites	3.05 (0.89)	3.41 (0.85)	3.03 (0.74)	3.17 (0.89)	0.000
Interesting rural countryside	3.11 (0.75)	2.92 (0.83)	3.34 (0.70)	3.09 (0.79)	0.000
Escape from the ordinary	2.95 (0.89)	3.09 (0.86)	3.14 (0.84)	3.08 (0.86)	0.136

Each item was measured on 4-point rating scale: 1 as not important at all, 2 as not important, 3 as important, and 4 as very important. Numbers in parentheses are standard deviation.

Table 5
Results of Multinomial Logistic Regression Analysis for Destination Choice Model

Independent Variables	Visitors to the US vs. Asia[a] [Exp (β)]	Prob.	Visitors to Canada vs. Asia [Exp (β)]	Prob.	Visitors to US vs. Canada [Exp (β)]	Prob.
Push Motivational Factors						
Escape	1.059		1.226		0.864	
Novelty	1.156		1.526	0.044	0.758	0.040
Relax	0.891		0.925		0.963	
Travel brag	0.929		1.152	0.001	0.807	
Hedonism	1.955	0.000	1.676		1.167	
Family	1.140		1.421		0.802	
Pull Motivational Factors						
Environment and safety	1.160		1.369		0.847	
Nature/ecology	0.926		1.851	0.001	0.500	0.000
Ease and value	1.638	0.003	1.832	0.001	0.894	
Art and culture	0.706	0.042	0.480	0.000	1.470	0.002
Atmosphere and weather	0.470	0.000	0.344	0.000	1.366	0.009
Unique and different people	0.566	0.002	0.502	0.001	1.127	
Outdoor activities	1.458	0.027	2.051	0.000	0.711	0.004
Trip Facilitator/Constraint						
Length of stay	0.982	0.016	0.966	0.001	1.016	
Travel budget	1.000		1.000		1.000	
Travel mode (package)	0.332	0.002	0.527		0.630	
Sociodemographic Factors						
Age	0.994		0.997		0.997	
Income	1.195		1.128		1.060	
Education	0.992		1.092		0.908	
Gender (male)	0.620		0.994		0.624	0.029
Marital status (married)	0.845		0.598		1.414	
Intercept		0.001		0.019		

$N = 574$; model $\chi^2(42) = 247.11$, significant at $p = 0.000$; –2 log likelihood = –918.30. Pseudo R^2 (Nagelkerke) = 0.403.
[a]Asia is omitted category for US vs. Asia and Canada vs. Asia, and Canada is omitted category for US vs. Canada. Blanks indicate that the coefficients were not statistically significant at $\alpha = 0.05$ level.

Overall, in the destination choice response for either the US or Asian destinations, push factors were a more significant motivational force than psychological pull motives.

Similar results were derived from the second set of choice: the likelihood of German travelers to travel to Canada rather than Asian destinations was influenced most by three pull factors, namely "nature & ecology," "ease & value," and "opportunity for outdoor activity" (the odds are 1.851, 1.832, and 2.051, respectively, significant at $p < 0.05$, almost twice in favor of Canada). On the other hand, two push factors, "novelty" and "bragging about travel," turned out to significantly discriminate those travelers to Canada from those to Asian destinations (the odds are 1.526 and 1.152, respectively, in favor of Canada). A verse relationship was found in three push factors: the odds for those pull factors including "art & culture," "atmosphere & weather," and "unique and different people" were approximately 2 in favor of the choice response to Asian destinations. Do German long-haul travelers to the most similar North American destinations, the US and Canada, have different motivation reflected in their destination choice behavior? The empirical results of this study provided interesting answers to this question. Travelers to the US were discriminated from those who chose Canada by art and culture and atmosphere and weather motivational pull factors (the odds are 1.470 and 1.366, respectively). However, travelers to Canada were motivated to choose Canada over the US by novelty (push), nature and ecology, and outdoor activity (the odds of these factors were less than 1, meaning the likelihood of the respondents to choose Canada over the US is higher).

Table 6
The Results of OLS Regression Analysis for Vacation Activity Participation Among German Pleasure Travelers to the US, Canada, and Asian Destinations

Models	Cultural Activity[a]		Nature/Ecological Experience[b]		Involvement With Locality[c]	
Variables	Coefficient[d]	Sig.	Coefficient	Sig.	Coefficient	Sig.
Escape	–0.014		0.001		–0.012	
Novelty	0.185	0.000	0.038		0.231	0.000
Relax	–0.001		–0.117	0.005	–0.090	0.032
Travel brag	–0.071		0.055		0.130	0.005
Hedonism	0.072	0.060	0.088		0.091	0.021
Family	0.013		0.012		0.117	0.006
Environmental quality	0.054		0.058		–0.102	0.022
Nature/ecology	0.200	0.000	0.357	0.000	0.099	0.030
Ease and value	–0.072		–0.023		–0.043	
Art and culture	0.305	0.000	–0.110	0.007	–0.050	
Atmosphere and weather	–0.121	0.003	0.012		0.070	
Unique and different people	0.181	0.000	–0.022		0.176	0.000
Outdoor activities	–0.011		0.153	0.000	0.023	
Destination[e]						
US	–0.167	0.003	0.193	0.001	–0.142	0.014
Canada	–0.279	0.000	0.240	0.000	–0.124	0.041
Length of stay	0.076	0.048	0.122	0.002	0.147	0.000
Age	0.056		0.026		–0.050	
Income	0.027		0.000		0.052	
Education	0.006		0.005		–0.074	
Marital status	–0.041		0.021		0.061	
Intercept	2.044	0.000	1.397	0.001	2.434	0.000
Model Goodness of Fit	$R^2 = 0.317$		$R^2 = 0.303$		$R^2 = 0.277$	

[a]Total number of activities (0–4) participated in cultural activity category related to enjoying ethnic culture/events, arts and cultural attractions, visiting museums, and local crafts and handiworks.
[b]Total number of activities (0–4) participated in relation to nature/ecological experience such as observing wildlife/bird watching, visiting national parks or forests, visiting to appreciate natural ecological sites, and visiting protected lands.
[c]Total number of activities (0–4) participated in the sampling local foods, getting to know local people, experience people from different ethnic backgrounds or nationalities, and see or experience unique and different native groups.
[d]Parameter estimates coefficients are standardized and are significant at $p = 0.05$.
[e]Asia is omitted category for the dummy variables.

As for the pragmatic facilitator/constraint variables explaining destination choice behavior, only time was significantly related to destination choice. None of the sociodemographic variables turned out to be a significant determinant in destination choice model, except gender (Table 5). One plausible explanation of the results is that the respondents are somewhat homogeneous in terms of sociodemographic characteristics, since the majority of the sample (about 80%) had overseas long-haul travel in last 3 years.

Generally, consistent with literature on leisure/tourism motivation, the empirical results of the study suggest that the pull factors based on destination attributes exert stronger influence on destination choice than psychological/social push factors inherent to individual travelers. Therefore, this study indicates that those motivation factors are more direct and stronger determinants of destination choice than trip length and budget, and the sociodemographic characteristics such as age, education, income, and marital status.

Results of Vacation Activity Pursuit

In assessing the magnitude of effect of push and pull motivational factors on the three most popular vacation activity sets among German long-haul pleasure travelers to the US, Canada, and Asian destina-

tions, three OLS regression models were specified. The amount of activity participation in each set is the dependent variable, explained by push and pull motivational factors along with sociodemographic variables, including age, income, education, marital status, and dummy variables of destination choice (US coded 1, Canada coded 2, and Asia as reference category), and length of stay controlled. The dependent variable in the first model is the total number of activities (0–4) participated in a cultural activity category, including enjoying ethnic culture/events, arts and cultural attractions, visiting museums, and local crafts and handiworks. The second activity set is the total number of activities (0–4) participated in relation to nature/ecological experiences, such as observing wildlife/bird watching, visiting national parks or forests, visiting natural ecological sites, and visiting protected lands. The third category of activity includes four activities, such as sampling local foods, getting to know local people, experiencing people from different ethnic backgrounds or nationalities, and seeing or experiencing unique/different native groups.

As the results of the analysis show (Table 6), the motivation factors had more explanatory power than sociodemographic variables. Standardized coefficients allow a direct comparison of the magnitude of the effect from individual push and pull factors exerted on the amount of activity participation. For example, participation in cultural activity is significantly related to two push factors, novelty and hedonism, and four pull factors. Most of all, the art and culture pull factor exerted the largest influence (beta coefficient = 0.305) among all push and pull factors. As expected, destination choice was a significant determinant for activity participation. Compared with their US and Canada visiting counterparts, tourists to Asian countries had a stronger tendency to be more involved with cultural activities. When two dummy variables were created with Asian destinations as an omitted category, the beta coefficients for both the US and Canada were negative, meaning that compared with Asian destination visitors, the US and Canada visitors participated in the cultural activities less. For the nature/ecological experience, such as observing wildlife and bird watching, visiting national parks, forests, ecological sites, and protected lands, the nature/ecology pull factor of a destination showed the strongest positive association, while relaxing (push) and art and culture (pull) were found to be negatively associated with a nature/ecological experience pursuit.

Compared with Asian destinations, both US and Canada seem to pull the German pleasure travelers more to the nature and ecological experience. Interesting results also came up for the third type of destination activity, involvement with locality, such as sampling local food, getting to know local people, experiencing people from different ethnic backgrounds, and experiencing unique and different native groups (i.e., Eskimos and Native Indians), which seemed to be motivated mostly by psychological push factors rather than destination attribute-based pull factors. With respect to the activity participation in involvement with locality, push factors were significant predictors either positively or negatively related, except the "escape" factor. Consistent with the theory, involvement with locality is inextricably related to the "novelty" seeking motive (B.E. = 0.231) and also strongly associated with the destination pull factor, unique and different people (B.E. = 0.176). However, it was negatively influenced by "relaxing" and "environmental quality" (water, air, hygiene, etc.). As it was found in the cultural activity model, Asian destinations pulled their visitors more strongly toward involvement with locality than did the US and Canada. Across the three models, length of stay was a significant predictor of the amount of vacation activity participation, especially for involvement with locality.

Conclusions

The empirical results of this study showed strong consistency with tourism motivation theory and the empirical results disclosed in previous research (Bello & Etzel, 1985; Cha, McCleary, & Uysal, 1995; Crompton, 1979; Dann, 1977; Huan et al., 1999; You et al., 2000; Yuan & McDonald, 1990). First of all, destination attribute-based pull factors exerted a stronger influence on destination choice, in comparison with those factors intrinsic to individual psychological motivations. In concordance with theory, different push and pull motives are evidently tied to different destinations. Furthermore, motivation factors were more significant determi-

nants in destination choice than demographic variables and budget. Interestingly, trip length was a significant variable in destination selection (i.e., visitors to Asian countries tended to be longer-haul travelers). The first research question of the study thus underscored the existing theory of travel motivation and empirically tested it in multiple destination choices.

This study also contributed to the scholarship in its investigation of the relationship between motivational push and pull factors and vacation activity pursuit in a chosen destination once travelers visited the place in a *multiple activity–multiple destination* context. There seems to be an underlying linkage between individual motivational factors (psychological push and destination pull motives) and pursuit of different thematic sets of vacation activities. This study thus investigated a not often tapped area of tourism motivation in the context of long-haul pleasure travel: exploring the possibility to develop a motivation and activity participation typology in pleasure travel settings. The study mainly aimed to test and advance the theory involving tourist motivation in conjunction with trip behavior. It empirically looked at the magnitude of push and pull motivation factors in the context of overseas pleasure travel with empirical data from multiple destinations in parallel with activity participation. Another outcome of the study stems from the nature of the data. Given that the data utilized in the study were based on probability sampling techniques, which covered all regions in Germany, the generalizability of the results may be accentuated.

With respect to the methodological specification, multinomial logistic regression seems to be a suitable technique in a study setting with a qualitative dependent variable of more than two categories explained by a set of multiple predictors. As discussed earlier, multinomial logistic regression models can be applied to a situation where the traditional regression model generates biased and inefficient coefficients of the independent variables, which are usually not interpretable because of the nature of the qualitative (discrete or categorical) dependent variable (Kennedy, 1998). In multinomial logistic regression, the dependent variable (predicted by observed sets of independent variables) is the probability converted to odds for each event. Two different techniques appropriately were applied here in two sets of touristic behavioral models—namely, the destination choice model and the activity participation model.

As for the classification purpose, the multinomial logistic regression provides a better solution compared to discriminant analysis. First, this model does not require as strict an assumption of multinomial normal distribution as discriminant analysis does. Second, it allows a straightforward interpretation of the beta coefficients and easy assessment of the relative magnitude of several variables (Press & Wilson, 1978).

By applying a useful analytical framework in destination choice, one of the key areas of research interest, this study contributed to the methodological advance in the context of international pleasure travel. Therefore, further empirical replication of this model using different data set across domestic and international tourism settings is recommended.

There are also limitations to the study. First, the parallel models for destination choice and activity participation were based on the assumption that the destination choice precedes vacation activity participation once the decision regarding destination choice is made. The current study did not take that into account as part of the empirical analysis. However, in some cases, activity per se becomes a major motive to visit specific destinations. Some other techniques, which utilize multiple equations such as path analysis or LISREL, can take the sequence of decisions into account and facilitate more powerful interpretations. Further empirical and theoretical attempts are needed to delineate the sequence of the decision-making process (Fesenmaier & Jeng, 2000). On the other hand, in order to disclose the deeper level of psychological dynamics and mechanism of information and decision-making processing operated in reference to pleasure travel, it is desirable to combine qualitative techniques such as ethnography or case study with quantitative methodology.

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