

AN EXPLORATION OF TOURIST SHOPPING

A Dissertation

by

YOON-JUNG OH

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2007

Major Subject: Recreation, Park and Tourism Sciences

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Approved by:

Co-Chairs of Committee,	Joseph T. O'Leary James F. Petrick
Committee Members,	Tazim Jamal Jane Sell
Head of Department,	David Scott

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## ABSTRACT

An Exploration of Tourist Shopping. (August 2007)

Yoon-Jung Oh, B.A., Korea University, Korea

M.A., Korea University, Korea

Co-Chairs of Advisory Committee: Dr. Joseph T. O'Leary  
Dr. James F. Petrick

The purpose of this study is to develop a conceptual model to better understand tourists' shopping by investigating factors that influence this consumption activity based on existing literature. Specifically, this study explored the influences of tourist's trip activities, travel party, tourists' perceived value of destination environment and destination type, season of trips, trip type and mode of transportation on tourists' shopping expenditures. Also, this study investigated the effects of socio-demographic variables (age, education and income) on tourists' shopping expenditures.

Based on previous research in leisure/tourism and consumer studies on shopping, a conceptual framework of tourist shopping was proposed for this study. For the purpose of this study, the 2003-2004 nationwide Performance/Monitor of travel tracking system data collected by DK Shifflet and Associates (DKS & A) was utilized, and 39,410 U.S. domestic leisure trip cases were analyzed in this study.

Tourist shopping was conceptualized as a three-dimensional representation of: individual traveler characteristics, trip characteristics, and the destination environment. The first dimension included respondents' age and household income. The second

dimension included trip activity type, trip party, season of trip, trip type and transportation mode. Finally, perceived value of destination and destination type were included in the third dimension. A multiple regression analysis was used to test the conceptual model. Results of the study supported that the individual traveler characteristics of age and household income are significant predictors of tourist shopping expenditures. Also, results showed that trip related characteristics of trip party, activity type, season of trip, trip type and transportation mode are significant predictors of tourist shopping expenditures. Finally, it was shown that the dimension of perceived value of destination and destination type are significant predictors of tourist shopping expenditures. Based on the findings, a high spender group profile was provided. Results also provide important conceptual and practical implications for further development of tourism shopping research.

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## TABLE OF CONTENTS

	Page
ABSTRACT .....	iii
ACKNOWLEDGEMENTS .....	v
TABLE OF CONTENTS .....	vii
LIST OF FIGURES.....	x
LIST OF TABLES .....	xi
CHAPTER	
I INTRODUCTION .....	1
Justification for the Study .....	3
Why and How Tourist Shopping Behavior Are Unique from Everyday... Shopping.....	3
Purpose of the Study .....	6
Organization of the Study .....	7
II REVIEW OF RELEVANT LITERATURE.....	8
Perspectives on Understanding Tourist Shopping Activity .....	8
Shopping as a Leisure Activity .....	10
Motives of Recreational Shopping.....	12
Determinants of Tourist Shopping Behavior .....	15
The Link between Trip Activity, Season of Trip and Tourist Shopping	15
Heritage, Ethnic, and Cultural Tourism .....	21
Urban Entertainment Tourism.....	22
Active Outdoor Activity.....	24
Season of Trip .....	25
Section Summary .....	27
Travel Party Dynamics.....	27
Perceived Value of Environment .....	31
Section Summary .....	35
The Effect of Income, Age, and Gender on Tourist Shopping .....	38
Gender .....	38
Age .....	40
Household Income .....	43

CHAPTER	Page
Section Summary .....	45
Tourist Expenditures on Shopping.....	46
Proposed Conceptual Model .....	47
Objectives and Hypotheses .....	52
Contribution of Study .....	55
Delimitations .....	55
Limitations .....	56
 III METHODOLOGY.....	 57
Description of Data .....	57
Data Source .....	57
Data Collection Procedures.....	58
Data Analysis Procedures.....	58
Descriptive Analysis .....	62
 IV HYPOTHESIS TESTING.....	 66
Exploring Trip Activity .....	66
Exploring the Structure of Travel Activity Participation.....	66
Descriptive Analysis of Trip Activity Participation.....	66
Cluster Analysis of Trip Activity Groups .....	71
K-Means Cluster Analysis .....	72
SAS FASTCLUS Analysis .....	76
Hypothesis Testing of Trip Activity Influence .....	81
Hypothesis Testing of Trip Party Influence .....	85
Hypothesis Testing of Destination Environment Dimension.....	87
Hypothesis Testing of Trip Type and Transportation Mode.....	90
T-test on Trip Type and ANOVA on Transportation Mode .....	90
Hypothesis Testing of the Individual Traveler Characteristics.....	98
Hypothesis Testing of the Season of Trip .....	98
Testing of Full Conceptual Model .....	101
Summary of Findings .....	102
Trip Activity Type.....	102
Trip Party .....	105
Perceived Value of Destination and Destination Type .....	106
Household Income and Age.....	107
Trip Type and Transportation Mode.....	108
Season of Trip .....	108



CHAPTER	Page
V CONCLUSIONS AND IMPLICATIONS .....	113
Review of the Findings .....	113
Trip Characteristic Dimension .....	113
Trip Activity .....	114
Trip Party .....	115
Destination Environment Dimension .....	116
Individual Traveler Characteristics .....	116
Testing of Full Conceptual Model .....	117
Theoretical and Managerial Implications .....	120
Theoretical Implications .....	120
Managerial Implications .....	122
Recommendations for Future Study .....	124
Limitations of Present Study .....	124
Future Research .....	124
REFERENCES .....	127
APPENDIX A VARIABLE INFORMATION .....	135
APPENDIX B CLUSTER ANALYSIS RESULT OF ACTIVITY CENTERS .....	137
APPENDIX C RESIDUAL CHART .....	141
VITA .....	145

## LIST OF FIGURES

FIGURE	Page
2.1 A Conceptual Model of Tourists' Shopping Propensity by Mok and Lam (1997).....	14
2.2 A Conceptual Model for Perceived Value of Environment and Tourist Shopping Behavior.....	35
2.3 A Conceptual Framework of Shopping by Woodruffe-Burton, Eccles and Elliot (2001).....	48
2.4 A Conceptual Framework of Tourist Shopping.....	50
2.5 A Proposed Conceptual Model of Tourists' Shopping Expenditures.....	51
3.1 Data Analysis Procedures.....	61
3.2 Hypothesized Relationship between Variables and Tourists' Shopping Expenditures.....	63
4.1 Trip Activity Participation.....	69
4.2 Trip Activity and per Day per Person Shopping Expenditures.....	70
4.3 FASTCLUS Output of Cluster Tree and Group Types.....	82
4.4 A Plotting of the Quadratic Regression Relationship between Age and Household Income and Spending on Shopping.....	97
4.5 Travel Month and Mean Shopping Expenditures.....	99
4.6 Trip Season and Mean Shopping Expenditures.....	99
5.1 Findings of Hypothesized Relationships.....	119
5.2 A Model of Tourists' Spending on Shopping.....	120

## LIST OF TABLES

TABLE		Page
2.1	A Summary of Related Research Findings on Tourist Shopping.....	17
3.1	Shopping Expenditure Variation among Trip Purpose Groups: One-Way ANOVA Test.....	60
3.2	Student-Newman-Keuls (SNK) Post Hoc Analysis Results.....	60
3.3	Profile of the Sample 2003-2004 (N=39410).....	64
4.1	Frequency of the Number of Trip Activities.....	67
4.2	Trip Activity Participation Frequency.....	68
4.3	K-Means Cluster Analysis Result of Activity Groups.....	72
4.4	One-way ANOVA of K-Means Cluster Group on Spending on Shopping.....	75
4.5	Post Hoc Comparison of Group Types and per Day per Person Spending on Shopping.....	75
4.6	FASTCLUS Cluster Analysis Results of Activity Groups.....	77
4.7	One-way ANOVA of FASTCLUS Clusters for Shopping Expenditures.....	78
4.8	Post Hoc Comparison of Activity Groups on per Day per Person Spending on Shopping.....	79
4.9	Multiple Regression Analysis Results of Trip Party and Shopping Expenditures.....	86
4.10	Multiple Regression Analysis Results of Destination Environment on Spending on Shopping.....	89
4.11	Independent-Samples T-Test for Group Types for Spending on Shopping.....	91

	Page
4.12 One-way ANOVA of Effect of Transportation Mode on Spending on Shopping.....	92
4.13 Post Hoc Analysis of Effect of Transportation Mode on Spending on Shopping.....	92
4.14 Multiple Regression Analysis Results of Effect of Age and Household Income on Spending on Shopping.....	94
4.15 One-way ANOVA of Effect of Education Level on Shopping Expenditure.....	97
4.16 Post Hoc Analysis of Effect of Education and Shopping Expenditure..	97
4.17 One-way ANOVA of Effect of Season of Trips on Spending on Shopping.....	100
4.18 Post Hoc Analysis of Effect of Season of Trips on Shopping Expenditures.....	100
4.19 Multiple Regression Results of Full Conceptual Model.....	103
4.20 Summary of Findings.....	111

## CHAPTER I

### INTRODUCTION

Shopping is a popular and pervasive contemporary tourist activity (Ryan 1991; Timothy and Butler 1995; Turner and Reisinger 2001; Goeldner, Ritchie and McIntosh 2000; Kent, Shock and Show 1983; Timothy 2005) and a big component of travel expenditures. For instance, over 60% of domestic and 85% of international tourists participate in shopping (OTTI 2004; Moscardo 2004). Statistics show that on average, a tourist spends nearly one-third of their total tourism spending on shopping (TIAA 2005). For international tourists, shopping accounts for nearly 50% of the spending at the destination (Mak, Tsang and Cheung 1999). In addition, recent research indicates that shopping during vacations is one of the important planned activities of tourists prior to travel (Hwang 2005), and shopping is one of the top most often searched keywords for travel information seekers on destination web sites (Pan and Fesenmaier 2006). Thus, it is not surprising that tourist shopping behavior is a phenomenon of growing importance and attention to tourism scholars and the industry.

The range of goods tourists purchase is large and varied. It consists not only of souvenirs and necessary personal items purchased for the trips; but also includes items such as fashion clothes, jewelry, arts, furniture, electronic goods and duty-free products (Turner et al. 2001). In retail studies, tourism is considered important to retail trade, as shopping possibilities may well be an attraction even if it is not the primary

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This dissertation follows the style of the *Journal of Travel Research*.

motivation for visiting a particular location (Thomas and LeTourneur 2001). For this reason, shopping is described as tourism's unsung hero (Kent et al. 1983). Promoting tourism shopping is important for destinations because it is a critical force that can attract tourists and extend their stays. Thus, shopping can be considered as one of the best ways to enhance economic benefits in a local community without necessarily increasing the number of tourist arrivals (Jones 1999; WTO 2002). Despite its prevalent recognition as a popular and critical tourist activity, tourism shopping has only begun to receive serious attention as a topic of academic investigation in recent years (Moscardo 2004).

Obviously consumer shopping behavior is a complex and multi-faceted research subject that needs wide interdisciplinary theoretical engagement to foster the understanding of its phenomena and the dynamics (Jansen-Verbeke 1991; Coles 2004; Hobson, Timothy and Kim 2004). In the context of tourism, shopping behavior is even more complex and intriguing as a subject area of exploration. People shop and behave differently while on vacation compared to their normal patterns at home. Some non-enthusiastic shoppers at home have been found to invest significant amounts of time and money on shopping during vacation trips (Christiansen and Snepenger 2002).

Tourist shopping behavior, however, is still not well understood because there is a lack of fundamental knowledge of the characteristics of shoppers and their shopping behaviors (Mak et al. 1999; Yu and Littrell 2003; Coles 2004; Swanson 2004; Swanson and Horridge 2004; Timothy 2005; Rosenbaum and Spears 2006; Heung and Qu 1998; Jansen-Verbeke 1991; Lehto, Cai, O'Leary and Huan 2004; Yu et al. 2003). Broad conceptual models have been proposed to illuminate the synergy between tourism and

shopping (Jansen-Verbeke 1998; Mok and Lam 1997). However, few have been empirically tested (Lehto et al. 2004) or have comprehensively explicated tourist shopping behavior (Coles 2004; Hobson et al. 2004; Rosenbaum and Spears 2006; Moscardo 2004; Mok et al. 1997). Therefore, this research aims to identify important variables that might influence tourist shopping behavior in order to develop a comprehensive model for better understanding the dynamics of tourist shopping.

### Justification for the Study

#### Why and How Tourist Shopping Behavior Are Unique from Everyday Shopping

Tourist shopping behavior is different and unique from normal consumer shopping behavior. Vacation travel is special leisure time and an episode spent outside of a person's normal surroundings when people are not working, not responsible or not thrifty (Gordon 1986; Graburn 1989). Therefore, when traveling, an individual's shopping behavior is considerably different from the activity of shopping at home (Kent et al. 1983; Belk 1988; Butler 1991; Brown 1992; Timothy et al. 1995; Buhalis 2000). For instance, Butler (1991) notes that when traveling, money is spent more casually in shopping, and more non-essential items are bought. In fact, it is reported that while traveling, tourists spend three to four times more than the average shopper (TTIA 2005).

Christiansen et al. (2002) separated groups of travelers and residents and compared their shopping behaviors at shopping malls. They found that travelers evaluated their experiences to be more hedonic, novel, and satisfactory when compared to locals. The researchers concluded that tourists become engaged in the 'novelty' of

shopping, while residents gave greater importance than travelers to service attributes such as parking, opening hours and special events.

According to Oh, Cheng, Lehto and O'Leary (2004), tourist shopping behavior needs different approaches and research attention than ordinary consumer shopping behavior, as tourism shopping is a hedonic recreational activity encouraged by the 'consumption of place'. In this context, shopping is a way of experiencing local culture and of interacting with people at the location. As tourists, people shop, purchase and use the items bought from their trips for various meaningful social-psychological reasons (Wang 2000).

Accordingly, tourist shopping should be explored and understood through a different framework than normal consumer shopping studies. One reason is that tourism shopping is a leisure and pleasure pursuit which incorporates a different set of motives than ordinary shopping (Kinley, Josiam and Kim 2003; Ng 2003). Shopping that once was a chore becomes a pleasure on vacation trips (Buttle 1992). As a result, people exhibit different attitudes and spending behaviors while shopping on a vacation.

Another reason is that shopping is a way of exploring and seeking different places and experiences. Thus, shopping is encouraged in many tourism locations by means of the uniqueness, attractive nature of shops, settings, range of goods and the ambience of the stores (Jansen-Verbeke 1991, 1998; Timothy et al. 1995; Anderson 1993). Purpose of trip may strongly affect a person's motivation for shopping and behavior as a tourist. Tourist shopping studies should thus incorporate trip characteristics and variables that might influence and be closely associated with a person's shopping activity while a tourist.



Therefore, to better understand the shopping behaviors of tourists, it is necessary to build a comprehensive framework that incorporates the diverse factors and variables that affect behavioral patterns of tourists (Coles 2003; Hobson et al. 2004), including socio-economic and psychologically important factors that influence this tourist activity (Ng 2003; Yuksel 2007).

Prior research in tourism shopping has occasionally explored various aspects of shopping including: the role of shopping in destination choice (Moscardo 2004), the determinants of tourist shopping experience satisfaction (Reisinger 2002), motives for shopping activity engagement (Timothy 2005; Park 2000), product preferences and expenditure patterns (Mok et al. 1997; Keown 1989; Lehto et al. 2004) and a typology of shoppers (Paige and Littrell 2003). However, no conceptual model has yet been developed to inform and to better understand what the determining predictors that influence tourist shopping behaviors are. Thus, Rosenbaum and Spears (2006) remark that tourism shopping research needs pioneering work and efforts to field a comprehensive theory of tourism shopping. To this end, researchers should uncover antecedents that influence the propensity of tourists to engage in shopping (Rosenbaum et al. 2006).

It is thus important to build a theoretical framework that links multiple and fragmented shopping and tourism research strands to better explain tourists' behavioral dynamics. As Timothy (2005) points out, researchers are in the explorative stage of understanding the multitudinous phenomenon of shopping and leisure tourism, including

motivation, merchandising, socio-cultural and demographic influences on tourists' shopping expenditures.

Therefore, this study aims to identify key factors that shape tourist shopping expenditure patterns by synthesizing extant literature from various related fields. A strength of this study is that it empirically tests a proposed shopping behavior model utilizing a national-level survey.

#### Purpose of the Study

The purpose of this study is to develop a conceptual model to better understand tourist shopping behavior by investigating key factors that influence this consumption activity based on existing literature.

More specifically, the objectives of this research are:

1. To explore the linkage between tourist activities and shopping by investigating the effect of tourists' activities chosen on tourists' shopping behavior,
2. To explore the influence of the travel party on tourists' shopping behavior,
3. To explore the relationship between tourists' perceived value of environment and shopping behavior,
4. To investigate the influences of trip type and mode of transportation on tourists' shopping expenditures,
5. To investigate the effect of socio-demographic variables of income and age on tourists' shopping expenditures,
6. To investigate the relationship between the season of the trip and tourists' shopping expenditures.

## Organization of the Study

Chapter I presented an introduction to this study, and discussed the current state of tourism shopping research. The purpose and objectives of the current study were also described.

Chapter II is a review of related literature, and the theoretical underpinning of the dynamics of tourist shopping behavior are discussed. The conceptual model of this study, hypotheses, delimitations and limitations of the current study are also described in this chapter.

Chapter III discusses the methodology employed for the current study. The data collection process and methods utilized to investigate the research hypotheses are presented. Also included are the descriptive results and preliminary analyses of the data.

Chapter IV describes the procedures and results related to the hypothesis testing of the proposed model. A summary of the results of the hypotheses testing is provided. Also, the result of the hypothesized relationships of the model is presented.

Chapter V consists of three sections. The first section reviews findings reported in the previous chapter. The next section discusses the theoretical and managerial implications of the findings. Based on the findings and results of the current study, recommendations for future research are provided.

## CHAPTER II

### REVIEW OF RELEVANT LITERATURE

#### Perspectives on Understanding Tourist Shopping Activity

This chapter attempts to provide a review of literature regarding shopping, mainly from the fields of consumer research and leisure/tourism. This literature review is organized in such a way as to, first, answer the question ‘What are the motives that drive tourists to shop?’ Accordingly, shopping as a leisure activity is discussed first, and the motives that drive tourists to engage in shopping as a leisure activity follow. The second part of this section focuses on delineating important dimensions of tourists' shopping behavior suggested by previous studies. The purpose of this literature review is threefold: 1) to understand different motivational factors and trip activities for engaging in leisure shopping; 2) to find the linkages between shopping and tourists' trip characteristics; and finally, 3) to delineate key dimensions for understanding tourists' shopping behavior as suggested from the review of extant literature.

Shopping is an important leisure activity that provides economic, social, and psychological benefits to tourists (Yüksel 2007). According to Edwards (2000) and Jansen-Verbeke (1991), shopping is increasingly becoming a leisure activity. Given the large variety of products available, consumer choice is no longer a simple and rational behavior aimed at utility, but has become more of an issue of what consumers want and desire, not what they need (Edward 2000). Relatively few products being sold today have only basic human survival as their core functional value (Edward 2000).

Owing to the leisurely nature of consumption, Miller et al. (1998) denotes, shopping has become significantly more than just the activity of buying merchandise, but a hedonic experience and social activity. Similarly, Babin, Darden and Griffin (1994) noted that shopping can provide a high level of hedonic value to recreational shoppers in many ways, because seeking these experiences is often far more significant than the mere acquisition of products.

In addition, shopping and consumption are generally now seen as major influences in the creation of identity (Doorne and Ateljevic 2003; Wang 2000) and people often define themselves by certain consumption preferences and lifestyle practices, which is expressed by the products they buy (Belk 1988; Belk 1990). Thus, individuals' consumption behavior and possessions indicate their taste and position in society or the socio-economic class to which their consumptive behavior belongs (Starkey 1989; Miller 1998).

Shopping behavior has been approached and studied in various subject areas. Sociologists have attempted to identify motives of shoppers and have identified different typologies of shoppers (Hewer and Campbell 1997). Tauber (1972) first identified a range of personal and social motives for shopping, including self-gratification, learning, physical activity, sensory stimulation, social experiences with friends, and enjoying status and authority.

The examination of typologies of shoppers in retailing and marketing studies has identified two main types of shoppers: task-oriented and leisure-oriented shoppers (Ng 2003). According to Ng (2003), shoppers' orientation, whether it is task-oriented or

leisure oriented, is affected by the individual characteristics of gender, age and personality, and situational factors such as time pressure, companion, and types of products sought.

There is little research in the psychology literature about shopping, except on addiction and shoplifting studies (Ng 2003). Within this subject, research on personal traits (i.e., extro-introvert) and sensation-seeking and their influences on the motives and the types of shoppers have been identified as topics in need of further research (Ng 2003).

While research on souvenirs is relatively abundant in extant tourism research, tourist shopping behavior research is scarce. Extant research on tourism shopping has focused on souvenirs and related aspects of tourists as consumers of souvenirs. Research has explored the symbolic meanings that tourists attach to souvenirs (Belk 1988; Wallendorf and Arnould 1988; Littrell 1990; Belk 1992; Baker, Kleine and Bowen 2003), linkages of product preferences to tourism styles and trip motivations (Graburn 1989; Littrell, Baizerman, Kean, Gahring, Niemeyer, Reilly and Stout 1994; Swanson and Horridge 2006), and associations among age, gender, and souvenir consumption behaviors and preference of souvenir product and service attributes (Anderson and Littrell 1995; Selby 2004; Swanson and Horridge 2004).

#### Shopping as a Leisure Activity

One of the major characteristics that might distinguish tourist shoppers from everyday shoppers is that tourists are heavily leisure-oriented shoppers (Jansen-Verbeke 1990; Jansen-Verbeke 1998). In leisure/retailing studies, shopping as leisure, as opposed to the utility shopping out of necessity, has been investigated.

Traditionally, researchers in consumer behavior studies have focused on information processing and expectancy models (Babin et al. 1994). Models now, however, are beginning to evolve into 'more realistic representations of consumption experiences, accounting for consumers' hedonic and emotional side' of shopping behaviors (Babin et al. 1994, p. 635). Utilitarian consumer behavior has been described as a necessary, task-oriented, and rational function. Therefore, in consumer behavior studies, utilitarian value explains shopping trips as an errand or work, as described by consumers (Babin et al. 1994).

Compared to the utilitarian aspect of shopping, the playfulness and festive side of hedonic shopping value have been less studied (Babin et al. 1994). Emotional elements associated with consumer activities provide people with hedonic value, as 'emotions such as pleasure, increased sensory arousal and excitement are important components of enjoyable shopping experience and valuable time' (Babin et al. 1994, p. 651).

The recreational elements of shopping have received considerable attention in leisure and retailing studies in the last two decades (Timothy 2005). From contemporary consumer behavior perspectives, shopping is a leisure activity associated with high hedonic value with or without purchasing (Babin et al. 1994). Also, it is often associated with self-concept or self-enhancement from socio-psychological perspectives (Belk 1988; Belk 1990). Consequently, shopping as a recreational activity, including its motives and benefits, has been explored as a serious subject of study among social scientists (Timothy 2005).

Overall, shopping is now seen as an intrinsically motivated phenomenon according to scholarly views (Bloch, Ridgway and Dawson 1994). In psychology literature, shopping's hedonic characteristics suggest it is an addictive activity for many consumers, just like gambling or drugs, because of its ability to change how one feels in a powerful and quick manner (Baker 2000). Shopping as a tourist activity, however, has not received due attention in the tourism literature appropriate to its significance (Timothy 2005). The following section briefly discusses the motives of leisure shopping, and then attempts to identify important dimensions of tourists' shopping.

#### Motives of Recreational Shopping

Tourists' motivation for shopping has been explored in retail and shopping mall studies (Kinley et al. 2003; Tauber 1972; Buttle 1992). There have also been attempts to segment tourist shoppers by motivations and expenditure patterns (Mok and Iverson 2000; Kinley et al. 2003; Moscardo 2004) and Kinley et al. (2003) profiled the typology of tourist shoppers based on their motivation for patronizing malls: shopping tourists, experiential tourists and passive tourists. Moscardo (2004) explored the role of shopping in destination choice. The association between shopping satisfaction and service quality has been explored, including the effect of salesperson's selling behavior on tourists' shopping experience satisfaction and motivation (Chang, Yang and Yu 2006). According to Chang et al. (2006) the interaction between the sales person and shoppers is a vital component that influences shoppers' motivation for consumption and satisfaction.

Trip purpose related to tourist shopping behavior has also been explored (Lehto et al. 2004; Timothy 1995; Oh, Lehto and O'Leary 2003; Lee 2002). This researcher

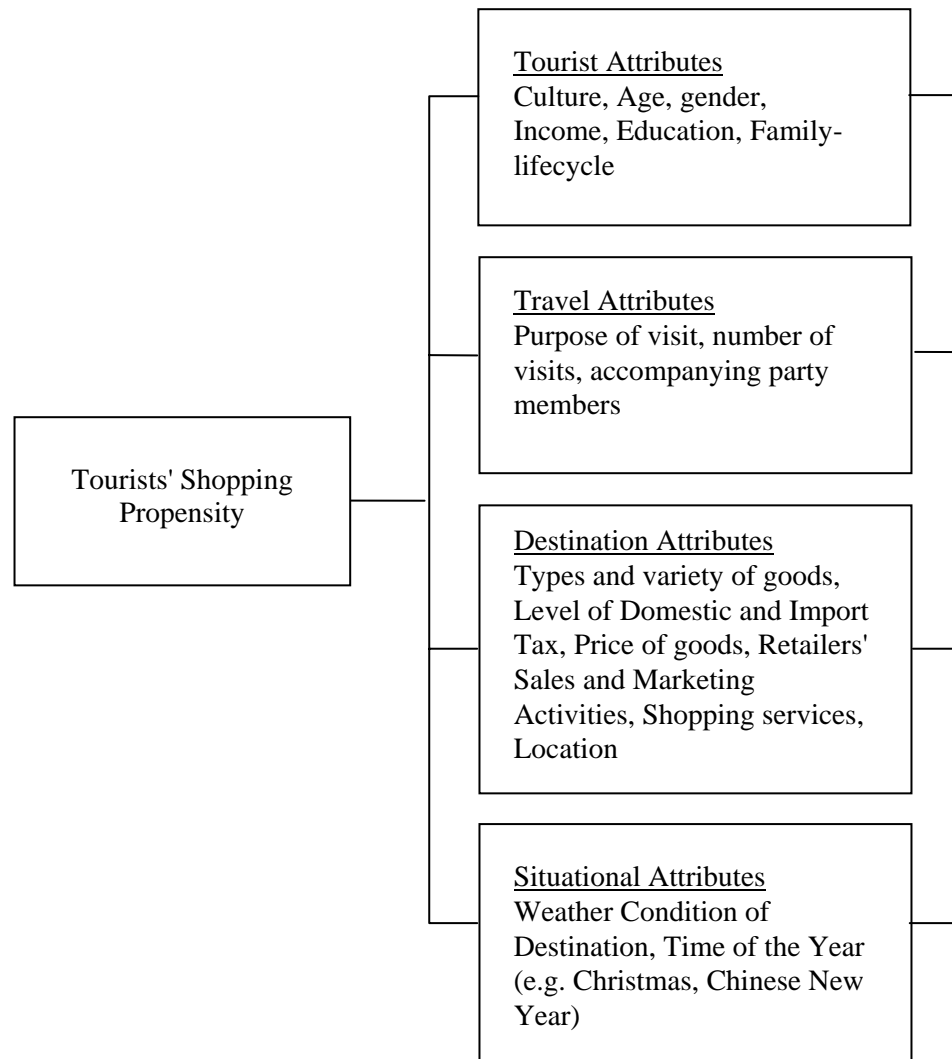


consistently indicates that tourists' trip purpose is closely associated with their behavior and shopping expenditures. Lehto et al. (2004) studied Taiwanese outbound travelers' shopping expenditure patterns, and compared three different trip purpose groups. They found that leisure travelers spent significantly more on shopping than other groups, followed by visiting friends and relatives (VFR), and business travelers. Lee (2002) observed that vacation travelers spent more on shopping than other purpose travelers, and that leisure travelers are more attracted to products that are not available at home. Similarly, Oh et al (2003) found that vacation purpose groups and VFR groups were more likely to participate in shopping than business travelers during trips.

Jansen-Verbeke (1990) suggested that indicators such as personal characteristics, trip companions, motives and time of the year might be useful in analyzing shopping as leisure activity. Keown (1989) studied Japanese travelers and proposed four purchase-specific factors: types of products available; price advantage including level of domestic tax and import duty; relative value of specific goods; and retailers' strategy. He further implied the importance of class, culture, family and individual characteristics in considering tourists' purchasing behavior.

Mok and Lam (1997) expanded Keown's model to include their studies on Taiwanese travelers' shopping behavior in Hong Kong. The model is presented in Figure 2.1. They found significant relationships between spending patterns, purpose of trip and age. They also discovered a strong relationship between income and shopping expenditures. Based on their findings, Mok and Iverson (2000) suggested that tourists' shopping behavior could be predicted from four dimensions: 1) tourist attributes such as

FIGURE 2.1  
A CONCEPTUAL MODEL OF TOURISTS' SHOPPING PROPENSITY  
BY MOK AND LAM (1997)



culture, age, gender, income, education and family life cycle; 2) travel attributes including trip purpose, trip type - i.e. package tour or independent travel, length of visit, accompanying party and number of previous visits; 3) destination attributes - types and

variety of goods, price advantage, retailers' strategy, quality, service, display and location; and 4) situational attributes such as weather condition and time of the year (e.g. Christmas, Chinese New Year).

### Determinants of Tourist Shopping Behavior

#### The Link between Trip Activity, Season of Trip and Tourist Shopping

In earlier tourism studies, Graburn (1987) and Jansen-Verbeke (1988) suggested that tourists' activity choices are critical in understanding and explaining tourist shopping behavior patterns, because tourist engagement in shopping opportunities is contingent upon tourists' use of time and space around major tourist attractions. Traveler's chosen activity is an evidence of the traveler's preference among many activity options that are offered at a destination (Morrison, Hsieh and O'Leary 1994). Previous tourism research has consistently indicated that there is a linkage between types of trip activities and shopping activity engagement and consumption behavior (Littrell et al. 1994; Moscardo 2004; Swanson and Horridge 2004).

Littrell et al. (1994) were the first to reveal that different trip activity groups exhibit different souvenir consumption patterns. Following Littrell et al. (1994), other researchers have found that shopping is prevalent in certain types of tourism (Lawson 1991; Littrell et al. 1994; Kinley et al. 2003; Paige et al. 2003; Moscardo 2004; Oh et al. 2004; Swanson et al. 2004; Swanson and Horridge 2006). Therefore, a group of research efforts has focused on developing trip typologies based on trip motivation and trip activity to explore the patterns of souvenir and shopping consumption in linkage with trip

typologies. The summary of the findings from the extant literature is described in Table 2.1.

Researchers have speculated the connection of souvenir product choice to tourism styles (Graburn 1989; Littrell et al. 1994). Littrell et al. (1994) confirmed and supported the hypothesis that souvenir consumption is highly interconnected with tourists' activities. Littrell et al. (2004) discovered four styles: ethnic-arts-and-people, history and park, urban-entertainment, and active outdoor oriented groups. In the same study, they observed that urban-entertainment tourists were active souvenir shoppers and preferred items that symbolize the destination they visited. They further found that, history and parks oriented tourists were interested in purchasing crafts, local food, postcards, books about the area, and the items were chosen as a part of their collection. Alternatively, active outdoor seekers were least interested in purchasing trip souvenirs compared to other typology groups.

Following Littrell et al. (2004), other researchers have found that the types of preferred souvenirs are associated with types of tourism, trip motivations, and destination choice (Littrell et al. 1994; Baker et al. 2004; Paige et al. 2003). Paige et al. (2003) identified three distinguished types of tourism activity groups: outdoor-oriented; cultural, historical and arts-oriented; and sports-oriented activities, and compared tourists in regard to their preferences for shopping venues, mall characteristics and product criteria. Each group was found to differ significantly in their 'importance' of shopping activity and

TABLE 2.1  
A SUMMARY OF RELATED RESEARCH FINDINGS ON TOURIST SHOPPING

Study	Variables studied/ Study Subject	Main conclusions and primary findings
Jansen-Verbeke 1987	Age and gender influences on attitude to shopping *** survey of 674 visitors to the central shopping area in a historical town in Netherlands	<ul style="list-style-type: none"> <li>• Shopping as a motive and a way of spending time and money was found to be dominant attraction for a town visit.</li> <li>• Significant differences existed between age groups and gender and in attitudes toward shopping; shopping in the city center was found to be more important for female visitors in terms of visitor numbers, time spent and the amount of money spent.</li> </ul>
Jansen-Verbeke 1990	Socio-demographic influence on attitude, frequency, pattern of shopping	<ul style="list-style-type: none"> <li>• Attitudes toward shopping, its frequency and patterns were related to consumers' personal characteristics such as age, gender and family status and socio-economic status.</li> </ul>
Littrell 1990	Profile of tourism styles and preference for souvenir craft items	<ul style="list-style-type: none"> <li>• Craft item purchases were different across four classified tourism styles: 1) Ethnic arts and people oriented, 2) History and Parks, 3) Active outdoor, and 4) Urban entertainment tourists.</li> </ul>
Lawson 1991	Traveler lifecycle and expenditure pattern	<ul style="list-style-type: none"> <li>• Age, marital status, sex, income and length of stay were factors impacting tourists' expenditures on shopping.</li> </ul>
Jansen-Verbeke 1991	Leisure shopping and tourism	<ul style="list-style-type: none"> <li>• Trip length, types of activities and expenditure patterns might account for the different behaviors of tourist shoppers.</li> </ul>
Littrell, Anderson, Brown 1993	Age and gender influences on differences in criteria for authenticity of souvenirs	<ul style="list-style-type: none"> <li>• Tourists in different stages of travel career and ages adopted different criteria for defining authenticity of souvenirs. However, there were no gender differences in defining authenticity.</li> </ul>
Anderson and Littrell 1995	Souvenir purchase behavior of women tourists of different age groups	<ul style="list-style-type: none"> <li>• Different age groups displayed different attitudes and purchasing behavior.</li> <li>• Younger female tourists (age 22- 45) tended to be impulsive shoppers, while older tourist groups (age 46-60) were likely to make planned purchases with trip companions.</li> </ul>

TABLE 2.1 (CONTINUED)

Study	Variables studied/ Study Subject	Main conclusions and primary findings
Mok and Lam 1997	The relationship between tourists' trip purpose, socio-demographics and shopping spending patterns *** Survey of 114 Taiwanese tourists	<ul style="list-style-type: none"> <li>• Significant relationships were found between shopping spending pattern and purpose of travel, age, and income.</li> </ul>
Paige and Littrell 2003	Trip activity typology and shopping motivations *** Self-administered mail surveys to 290 respondents	<ul style="list-style-type: none"> <li>• Three typology groups were identified: Outdoor; Culture, history and arts; and Sports tourists.</li> <li>• Outdoor tourists were least likely to want to shop in malls.</li> <li>• Culture, history and arts tourists looked for well-designed high quality products, and enjoyed shopping at areas with authentic appearances.</li> <li>• Sports tourists perceived malls as venues to learn about the area. They regarded having fun with family and entertainment facility available at malls the most important.</li> </ul>
Littrell, Paige and Song 2004	Senior travelers' tourism activities and shopping behaviors *** Self-administered survey of 146 U.S. respondents	<ul style="list-style-type: none"> <li>• Senior travelers aged 50 and over were profiled into three groups based on travel activities: Outdoor, Cultural, Sports and entertainment tourism.</li> <li>• Shopping was important to cultural tourists, and they spent the most on shopping among the three profiles. These cultural tourists put importance on the mall's appearance and authenticity to the tourism region.</li> <li>• The oldest group - average age of 67 years - exhibited limited interest in shopping compared to younger senior groups.</li> </ul>

TABLE 2.1 (CONTINUED)

Study	Variables studied/ Study Subject	Main conclusions and primary findings
Oh, Cheng, Lehto and O'Leary 2004	Effectiveness of age, gender and trip activity typology as predictors of travelers' shopping behavior on five shopping categories *** U.S. national survey of 5,912 travelers	<ul style="list-style-type: none"> <li>• Age and gender were found to be effective predictors for likeliness to engage in shopping. They found that female travelers were more likely to shop than males and that the travelers aged 51 to 60 were found to have the highest tendency to shop than other age groups.</li> <li>• Urban entertainment, intimacy and romance, and socializing with the family and friends typology groups were found to be effective predictors for shopping behavior. On the contrary, active outdoor people were found to be least interested in shopping, and were only interested in shopping for gourmet foods.</li> </ul>
Keown 1989	Tourists' propensity to purchase shopping products *** Self-administered questionnaire to 490 Japanese tourists to Hawaii	<ul style="list-style-type: none"> <li>• Type of products available, import duties and level of tax, relative value of goods, and retail strategy such as convenient location, promotion in media, store image and display, pricing policy and personal selling were variables important to tourists' propensity to buy goods.</li> </ul>
Timothy and Butler 1995	Cross Border shopping between Canada and the U.S.	<ul style="list-style-type: none"> <li>• Canadian cross-border shoppers to the U.S. were motivated by both economic and pleasure motivations.</li> </ul>
Dellaert, Borgers and Timmermans 1995	Urban tourists' activity choice patterns *** Dutch one-day trippers to Paris	<ul style="list-style-type: none"> <li>• Their key findings suggested that sightseeing and shopping were the most popular choices for urban tourists. Also, they found that shopping and sightseeing were the most positively evaluated components that could be used as major motivators to attract urban tourists.</li> </ul>
US department of Commerce and The Taubman Company 1999	Correlations between cultural tourism and tourists' expenditure level	<ul style="list-style-type: none"> <li>• Overseas travelers to the U.S. who visited cultural attractions (i.e. museums, national parks) tended to spend more time and money on shopping during their visit than who did not participated in this type of activity.</li> </ul>

TABLE 2.1 (CONTINUED)

Study	Variables studied/ Study Subject	Main conclusions and primary findings
Swanson and Horridge 2004	The relationship between souvenir consumption, trip activity and tourists' demographics *** Mail-out survey of 398 tourists to the U.S.Southwest region	<ul style="list-style-type: none"> <li>• They found that preferred travel activities influenced the tourists' souvenir purchase choice, decision to purchase or not to purchase, and decision to where to shop.</li> <li>• The results showed that tourists' demographics had no correlation with souvenir consumption.</li> </ul>
Kinley, Josiam and Kim 2003	Motivations of tourist shoppers and their shopping mall preferences *** Telephone surveys of 485 tourist shoppers in metropolitan areas	<ul style="list-style-type: none"> <li>• They profiled three typologies of tourist shoppers based upon their motivation for patronizing malls: shopping tourists, experiential tourists and passive tourists.</li> <li>• Reflection of local culture and attractive physical settings at destinations was an important motive for tourists' going shopping.</li> </ul>
Lehto, Cai, Huan and O'Leary 2004	Tourists' shopping expenditure and product preferences *** 1,064 Taiwanese outbound travelers to Singapore and Hong Kong	<ul style="list-style-type: none"> <li>• Tourists' trip purpose, age and gender were found to be significant factors that influence the amount of money spent on shopping and the items they preferred to buy.</li> </ul>
Swanson and Horridge 2006	Relationship between tourists' travel motivations and souvenir purchase intentions	<ul style="list-style-type: none"> <li>• Four motivations were developed: fitness and education; nature and escape; seeing the country; and leisure and romance.</li> </ul>
Yüksel 2007	The effect of shopping environment on tourists' shopping behavior *** Survey of 259 tourist shoppers in Turkey	<ul style="list-style-type: none"> <li>• The emotional state and perceived shopping value (hedonic and utilitarian) derived from the shopping environment were found to influence tourists' enjoyment of shopping, willingness to talk to salespeople, revisit intention and tendency to spend more time and money than originally planned.</li> </ul>



shopping preferences. For example, outdoor tourists wanted to shop in touristic craft and specialty stores and attached importance to aesthetic features and uniqueness of shopping facilities, and they shopped for mementos and gifts. Similarly, Culture, History and Art tourists looked to quality and artistic products at shopping venues, and sought aesthetics and differentiation of shopping malls. Sports tourists sought entertainment and educational experiences while shopping at malls. In the following section, empirical research findings about relationships between type of tourism activities taken and tourist shopping consumption behavior are discussed.

#### *Heritage, Ethnic, and Cultural Tourism*

According to Getz (1993) and Jansen-Verbeke (1988), research in different historic inner cities confirmed the hypothesis that historic settings and shopping present an inviting leisure environment. With respect to ethnic and heritage tourism, tourists seek the exotic, and heritage and ethnic tourism is normally associated with the material consumption of ethnic identity (Doorne, Ateljevic and Bai 2003). Furthermore, heritage and historic spaces, in general, represent great works of art, have architectural value, and provide attractive retail settings and atmosphere (Poria, Reichel and Biran 2006). Thus, heritage, historic and/or cultural attractions encourage visitors to shop.

In general, for heritage destinations, combining leisure with shopping creates synergy for attracting longer staying shoppers from longer distances, and generates higher per capita spending and competitive marketing images (Getz 1993). In fact, Gratton and Taylor (1987) reported that two-thirds of day visitor spending and one-third of overnight visitors' spending in the historic English towns of Winchester and Salisbury

was made on shopping. Similarly, tourists who participated in cultural and heritage tourism activities, including going to museums, ethnic and heritage sites, and national heritage parks have been found to stay longer, and spend more on shopping than general tourist shoppers (Office of Travel and Tourism Industries, 2004).

#### *Urban Entertainment Tourism*

Alternatively, in urban entertainment tourism settings, sightseeing and shopping have been found to be the most popular choices for urban tourists (Dellaert, Borgers and Timmermans 1995). Using conjoint choice experiments to model urban tourists' choice of activity packages, Dellaert et al. (1995) examined Dutch tourists' one-day trip activity patterns in Paris. They found that sightseeing and shopping were the most positively evaluated components and that they could be used as motivators to attract urban tourists. Other sets of activities included in the study were attending a show, a non-guided walk around the city, a bus tour, visiting museums, and drinking in a café. In the same study, it was observed that tourists often combine several different activities in their activity packages. Therefore, their findings also suggested some important implications for planning and marketing a city in regard to shopping activity, and that tourism activity should be efficiently communicated to potential urban tourists.

Similarly, in a study that explored and compared spending behaviors of Japanese tourists and American tourists to Hawaii, Rosenbaum and Spears (2006) found that Japanese tourists, primarily younger than age 35, were interested in engaging in a range of shopping activities at duty-free shopping, discount/outlet stores, department stores and designer boutiques. They were likely to take a boat tour during their stays, while

displaying a lack of interest in engaging in cultural activities. In contrast, the authors found that American tourists were significantly more likely than Japanese tourists to engage in cultural activities such as attending indigenous shows and fine dining. They additionally found that older Japanese tourists did not express a strong interest in shopping. They also speculated that the reason Japanese tourists were highly engaged in designer consumer merchandise was mainly fueled by desire to take advantage of good prices.

Urban tourism and heritage tourism, and the emergence of tourist retail spaces within destination cities has been another global trend (Hobson et al. 2004), and shopping has been recognized as an important instrument for promoting tourism (Jansen-Verbeke 1988; Turner et al. 2001). Shopping has drawn significant attention from retailers and inner city development planners due to its relevancy and popularity as an urban visitors' activity (Jansen-Verbeke 1988; Dellaet et al. 1995). When not the primary and sole allure to vacation destinations, shopping opportunities and availabilities are important elements in destination marketing and important appeals in combination with other attractions (Kent et al. 1983; Jansen-Verbeke 1990; Jansen-Verbeke 1998; Reisinger and Turner 2002; Moscardo 2004; Timothy 2005). Over 60% of travelers have indicated that they like to shop at malls during trips (TTIA 2005). Therefore, it is speculated that urban tourism is closely linked to tourists' engagement in shopping activities.

### *Active Outdoor Activity*

Based on the analysis of activities, active outdoor tourists have been found to be outdoor enthusiasts who enjoy activities such as hiking, backpacking, camping, sailing, fishing, golfing, and visiting nature or wilderness areas (Littrell et al. 1994; Paige et al. 2003). This activity group has shown a distinct preference pattern for souvenir purchasing and shopping from other typology groups. As indicated, shopping for souvenirs has been found to be of little importance to these active outdoor seekers (Littrell et al. 1994; Paige et al. 2003).

According to Littrell et al (2004), active outdoor tourists sought products that were functional or had country, rural, or folk art themes. They were more likely to shop at parks or recreation gift shops, convenience stores or tourism visitor centers. Oh et al (2004) observed that active outdoor seekers were mostly interested in shopping and browsing for gourmet foods in the visiting area. Paige et al. (2003) observed that outdoor tourists were less likely to want to shop in malls. These outdoor-oriented tourists favored on-site gift stores in parks, camping areas and visitor centers. These tourists were also apt to shop in stores inside airports, restaurants and hotels.

Nogawa et al. (1996) investigated Japanese sports tourism. The researchers compared cross-country skiers with walking group participants at an event traditionally viewed as for the elderly. The walking group respondents spent twice as much on souvenir shopping than those in the cross-country skiing group. The skiing group spent considerably less money on food, souvenirs and other items than did the domestic

Japanese travelers, suggesting that sports-seekers tend to spend less on shopping and food in general.

Based on extant literature, it was indicated that outdoor-oriented tourists exhibit lower interest and importance on shopping than other activity groups, in general. These tourists were also found to prefer product items and shopping venues that are different from other activity type groups. In addition, it was indicated that these active outdoor-oriented tourists may spend less on shopping.

### *Season of Trip*

This section briefly discusses time of travel as a factor that may affect tourists' shopping behavior. Based on existing literature, time of the year is speculated to influence tourist shopping behavior for two primary reasons: first, time of the year might influence tourist activity choices or options based on the temperature and weather (Jansen-Verbeke 1990; Jang, Cai, Morrison and O'Leary 2005); second, time of the year can be a situational factor that affects tourist shopping behavior on special holiday occasions (Mok et al. 1997).

In her earlier conceptual study of leisure shoppers, Jansen-Verbeke (1990) suggested that weather condition and time of the year, as well as tourists' personal characteristics, motives, and trip companions might be useful in analyzing tourist shopping behavior. Following Jansen-Verbeke (1990), Mok et al. (1997) also noted weather condition and time of the year as important. They indicated that weather conditions could influence tourists' shopping behavior by affecting their mood. In the case of Hong Kong, they noted that before and during Christmas and a few weeks before

the Chinese New Year, longer opening hours of shops and special promotions encourages tourists to shop.

On the other hand, season and temperature can affect tourists' selection of travel activities, because travelers choose activities that are specific to the season (Jang et al. 2005). Earlier, Belk (1975) defined a situation as all the factors particular to a specific time and place of observation that have an effect on current behavior. Accordingly, he classified a situation into the dimensions of time and space and stressed the importance of the seasonal or temporal perspective in consumer behavior. Following Belk (1975), Calatone and Johar (1984) found that tourists seek different benefits and choose different travel activities over different seasons. Owens (1994) also noted that many travel activities are season-specific, based on the observation that down-hill skiing and beach activities are more popular among resort vacationers in Canada during the winter and the summer, respectively. Thus, tourists are likely to choose beach activities during summer because summer is the most likely season for such family vacations (Jang et al. 2005). During winter seasons, tourists would mostly likely prefer skiing at a resort or indoor recreational activities. Timothy (2005) also noted that people might choose indoor shopping as a preferred activity during bad weather or in case other outdoor or tourist activities are not available at the destinations.

Despite the indications, the influence of season or time of the year on tourists' trip activity choices and shopping behaviors has not yet been fully explored. Thus, Mok and Lam (1997) recommended tourism researchers to quantify and test the variable of season of trip as a situational attribute utilizing a large sample. Moreover, considering the link

between the season of trip and tourists' trip activity preferences and expenditures (Snepenger, Houser and Snepenger 1990; Uysal, Fesenmaire and O'Leary 1994; Jang et al. 2005), it seems reasonable to investigate the impact of season of trip on tourists' shopping behavior. Therefore, the proposed conceptual model will incorporate the effects of season on tourists' shopping behavior.

### *Section Summary*

A review of the literature revealed an association between shopping behavior and trip activity patterns. The hypothesis that souvenir buying and tourism styles are interconnected has been proposed and supported by a group of researchers in souvenir shopping literature (Graburn 1989; Littrell et al. 1994; Swanson et al. 2004). Additionally, an understanding of a typology link with tourism activities seems essential to the explanation and prediction of consumer behavior within tourism consumption (Cohen 1979; Sharpley 1994). From the literature, three main types of tourist orientations: cultural-heritage, active outdoor and urban-entertainment have been reviewed. It was observed that each tourism type is associated with a different set of motivations and preferences for a trip, which may lead to different motivations for shopping.

### *Travel Party Dynamics*

Tourist shoppers may be motivated to shop for various reasons. Among them, social affiliation and the need for bonding have been identified as important motives for going shopping in retailing and consumer behavior (Tauber 1972; Ng 2003; Snepenger, Murphy, O'Connell and Gregg 2003). Previous findings in tourism research also imply

that trip companion is a key factor in understanding tourists' shopping behavior (Mok et al. 1997; Jang et al. 2004).

The motives identified in the sociology and consumer behavior literature are consistent in that shopping is a highly preferred social activity. Crick-Furman and Prentice (2000) found that leisure shopping was closely associated with travel motives of 'fun' and 'spending quality time with family and friends.' Earlier, Tauber (1972) identified social experiences with friends as one of the social motives that cause people to engage in shopping. Tauber, a sociologist, first identified a range of personal and social motives for shopping, including social experiences with friends, enjoying status and authority, diversion from routine daily life, physical activity, and sensory stimulation (1972). Buttle (1992) replicated Tauber's study of motivation for shopping, in an attempt to find the reason for shopping in a context specific to travel. In this study, the families interviewed cited that shopping while on a vacation was very different than shopping at home, and that the reasons for going shopping during vacation were: more time to browse, more relaxed social interaction with family and friends, and money set aside for spending.

In a similar vein, Eastlick and Feinberg (1999) proposed that shopping motives include functional and non-functional motives. Functional motives refer to tangible attributes such as convenience, variety and quality of merchandise. On the other hand, non-functional motives include social needs for interaction with other people. Eastlick et al. (1999) found that shoppers' satisfaction hinged on the enjoyment that customers experienced from shopping and that satisfaction reinforced their positive attitudes toward greater likelihood of repeat patronage.



Similarly, Christiansen and Snepenger (2002) investigated tourists' motivations for shopping activity engagement at malls. They discovered two key motives for tourists shopping at malls; one was that purchasing items not available at home can enhance an individual's desire for uniqueness, and the other was shopping as a social activity to spend time with friend and relatives.

Research in retailing studies has consistently regarded having a shopping companion as an element that has a considerable impact on people's shopping behavior (Jones 1999; Uzzell 1995; Sommer, Wynes and Brinkley 1992; Ng 2003). Ng (2003) identified the need for social affiliation and interaction as one of the key motivations that drive people to engage in shopping. There is evidence in retailing studies that groups stay longer and consume more food and beverages than lone customers in public pubs (Sommer et al.1992). It has also been found that groups spend more time per visit and buy larger loads at retail markets. For this reason, shopping malls and public markets have been designed to promote social interaction among shoppers, and between shoppers and vendors, because the design and atmosphere can facilitate or hinder social interactions among people (Ng 2003). These environments are likely to support the needs of leisure-oriented shoppers' social interaction and bonding needs than task-oriented shoppers (Uzzell 1995).

In general, people perceive a shopping mall as more of a social environment than other types of retail environments, as it fosters social behavior of larger groups and also attracts single people of both genders and of all age groups (Uzzell 1995). It has been shown that 30% of shoppers visit shopping malls for non-shopping purposes. From

Jones's (1999) study of leisure shoppers, social aspects of socializing with family and friends emerged as the highest reported factor of entertaining shopping experiences at malls. In the study, he utilized critical incident technique and investigated factors and characteristics of entertaining shopping experiences from 724 incidents collected. According to his study, over one-third (36%) of the respondents mentioned the social aspects of a shopping experience specifically referring to the people with whom they were shopping. This finding is also consistent with McGrath and Otnes (1995) who inspected social interactions of shoppers.

According to March and Woodside (2005), in the general marketing environment, social factors include the presence or absence of others that tend to influence consumer behavior. Especially in leisure settings, the behavior of travelers is heavily influenced by the composition of trip party, because leisure travel is a product that is jointly consumed, and the activities usually taken reflect the influence of all those traveling together (March and Woodside 2005). This is particularly observed when children are present, as travel groups with children require greater planning and forethoughts than couples or lone tourists. Therefore, groups with children are likely to plan ahead and stick to their itinerary compared to other groups of tourists (March et al. 2005). It is speculated that parents with young children would prefer combined shopping environments that are located near entertainment facilities and/or attractions for family. Shopping has also been found to be a highly preferred activity among friends and relative groups (Snepenger 2003). Similarly, Jones (1991) held that shopping company is an important influential factor for shaping planning and inclination for shopping behavior. With respect to

spending patterns, Hsieh et al. (1997) suggested that travel party size is one of the most important factors that positively affect the level of travel expenditures. He also indicated that the number of children in the travel party had a negative impact on total trip expenditures for French and German travelers to the States.

Overall, there are indications from the review of previous studies in tourism and consumer behavior that trip company may be an important factor in understanding tourists' consumption and expenditure patterns (Mok et al. 1997; Jang et al. 2004; March et al. 2005; Miller 1998; Ng 2003). However, there is no empirical study that has investigated shopping as a social activity in a tourism context and the effect of trip company.

#### Perceived Value of Environment

The previous sections have identified two central dimensions of tourists' shopping behavior based on review of literature. According to previous research, it was found that tourist shoppers ascribe great importance to unique architecture, reflection of local culture and attractive physical settings at destinations as an important motive for going shopping (Kinley et al. 2003; Mayo and Jarvis 1981). Recently, it has been suggested that there are strong relationships between the overall perceived value of the environment, and the emotional state and purchase behaviors of tourist shoppers (Yüksel 2007). These findings highlight the significance of destination environments in understanding tourists' shopping behavior.

In retailing and shopping mall studies, the question of 'why people residing in large urban areas with multiple shopping centers shop in a similar center while traveling

in another place?' has been an intriguing subject of research inquiry (Kinley et al. 2003 p. 7). It has been found that unique architecture and the atmosphere of shopping settings are important factors that motivate people to engage in shopping during travel (Kinley et al. 2003). This finding validates the importance of the 'shopping environment' as a dimension in the exploration of leisure shopping behavior. Jansen-Verbeke (1998) highlighted the importance of an environmental dimension in studying tourist shopping behavior, along with two other dimensions of travel characteristics and individual characteristics. She claimed that environmental quality of architectural design, uniqueness, sense of place, and diversity of shops may all affect tourists' shopping activity engagement (Jansen-Verbeke 1998).

Jones (1999) recognized shopping as more of a leisurely and pleasurable pursuit than merely a functional need, even in an everyday shopping context. Thus, the element of aesthetic and excitement provided by a pleasant shopping environment takes on an even more critical role as a leisurely pursuit. Similarly, tourist shopping has been found to be a hedonic activity which is encouraged by uniqueness, attractive nature and architecture, and inviting atmosphere provided by the local environment and the shops (Kinley et al. 2003).

It has been consistently argued in environmental-behavior research that positive value perception evoked by an appealing and pleasing shopping environment is an important element that positively influences tourist consumption behavior (Jones 1999; Ng 2003; Yüksel 2007). Ko (1999) supported this hypothesis. He examined the relationship between shopping expenditures and travelers' overall shopping experience

satisfaction. The findings of his study show that there is a positive correlation between expenditures and level of satisfaction regarding perceived value and services.

Consumer-environment interaction is an area that has attracted relatively less research attention, but is an important area with growing interest for exploration of theoretical development in marketing and retailing studies (Ng 2003). According to Ng, shoppers have certain needs, motives, and goals in mind and seek out a shopping environment to maximize their needs and goals (Ng 2003). Further, the shoppers' orientation, whether they are task-oriented or leisure-oriented, is moderated by individual characteristics and situational factors. According to this perspective, individual characteristics include gender, age, and personality, and situational factors of time pressure, companion, and type of product (Ng 2003).

According to Jones (1999), the positive emotions and value created by a shopping environment have been argued to induce several important behavioral outcomes of shoppers: increased time spent in the store, increased spending, increased unplanned purchasing and more time spent than originally planned. Positive emotional state and shopping value created by the shopping environment were also found to positively influence the enjoyment of shopping, willingness to talk to a sales person, revisit intention and willingness to recommend to others. These elements have been found to influence shoppers' behavior by altering their feelings (Babin et al. 1994). These findings are also consistent with evidence found from general retail literature and environmental psychology studies (Babin et al. 1994; Ng 2003; Yüksel 2007; Yüksel and Yüksel 2007; Woodruffe-Burton, Eccles and Elliot 2001).

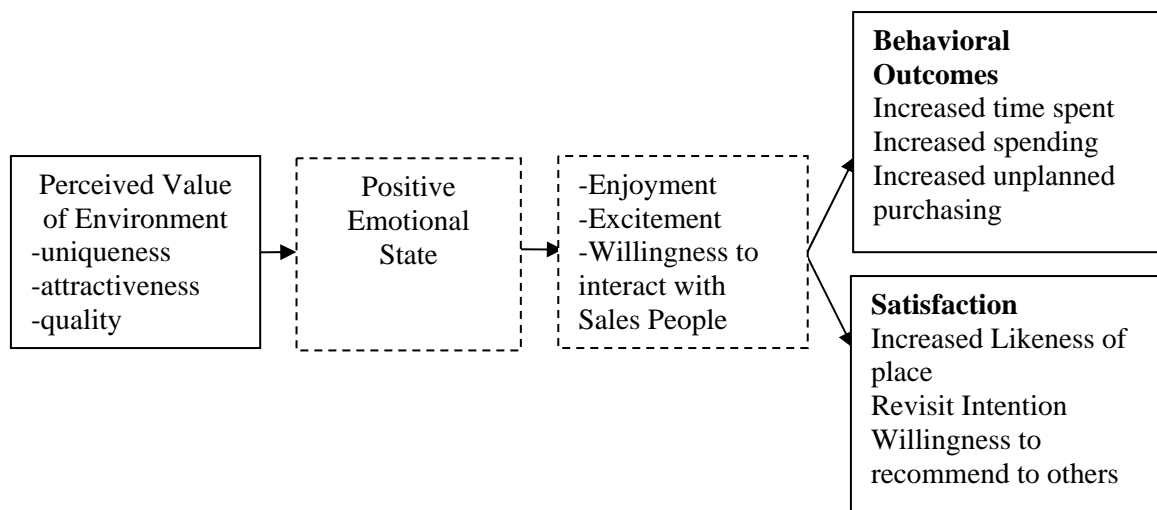
The effect of value perception on shopping behaviors, however, has been rarely explored in tourism shopping research (Ng 2003; Yüksel 2007). In the same light, Getz (1993) argues that extant tourism research has not explored the relative value of environmental attractiveness and perceptions of the environment in explaining tourists' shopping behavior. According to Hsieh and Chang (2004), shopping at night markets in Taiwan was considered the most effective way for tourists to experience an authentic lifestyle of the local culture. Additionally, perceived diversity, liveliness and friendly atmosphere were found to be the main factors luring tourists. Similarly, Lee (2002) investigated the determinants of visitor expenditures on a local festival setting. He discovered that satisfaction from overall festival experiences positively influences tourists' expenditures on food and beverage consumption and shopping for souvenirs and local specialty products. Therefore, for both domestic and international tourists, perceived value in regard to uniqueness and novelty, and attractiveness of environment seems to be an important dimension that motivates shoppers (Jansen-Verbeke 1988; Turner et al. 2001; Lee 2002).

Thus, adapting the previous research findings from Jones (1999) and Yüksel (2007), a conceptual framework that illustrates the effects of perceived value of environment to tourist shopping behavior is described in Figure 2.2, and will be incorporated as a part of the conceptual model proposed in this study.

This model illustrates that tourists' perceived value of uniqueness, attractiveness, and quality of destination environment will enhance the emotional states of tourists. Positive emotion triggered by positive value will increase tourist shoppers' enjoyment and

excitement for shopping, and increase their willingness to interact with both accompanying people and sales people. The positive emotion will influence tourists to spend more time and money on shopping. Also, positive emotion will positively affect satisfaction of tourist shoppers.

FIGURE 2.2  
A CONCEPTUAL MODEL FOR PERCEIVED VALUE OF ENVIRONMENT  
AND TOURIST SHOPPING BEHAVIOR



### *Section Summary*

Overall, a review of extant literature revealed that perceived value of environment, including uniqueness, reflection of local culture, novelty, liveliness and attractiveness is an important dimension that motivates shoppers to engage in shopping and spend more time and money than they planned (Jansen-Verbeke 1988; Turner et al. 2001; Lee 2002). Additionally, in the leisure/tourism research, perceived value of environment has been

indicated as an important construct for both domestic and international tourists' shopping behaviors (Lee 2002; Hsieh and Chang 2004).

#### Trip Type, Mode of Transportation and Tourist Shopping

This section discusses chosen trip type and the mode of transportation as trip attributes and their influences on tourists' shopping behavior. While these factors have been rarely investigated in relation to travelers' shopping behavior, recent research in retail and tourism studies seem to offer ample indications that these factors are related to tourists' shopping behavior.

Lehto et al. (2004) studied Taiwanese overseas travelers' shopping behavior and investigated the influence of the choice of trip type on their shopping expenditures. They found that the trip type chosen affected the travelers' shopping expenditures. They observed that respondents who joined guided tour groups spent significantly more than respondents who took independent trips. It has been suggested that this was probably due to the availability of more information and opportunities offered to tourists by tour guides (Lehto et al. 2004; Ko 1999).

There are indications that transport choices and transport infrastructure of destinations are important factors that influence visitors' shopping behavior (Ibrahim and McGoldrick 2003). Ibrahim and McGoldrick (2003) found that the choice of transportation significantly affects shoppers' choices of shopping venues. The mode of transportation available for shoppers and its subsequent impact on their shopping behavior, however, has been neglected in previous retail studies (Wagner 2004). Retail researchers have considered time, cost and distance of shopping trips as factors that



discourage people from visiting shopping centers and outlets (Ibrahim et al. 2003). The Office of Travel & Tourism Industries (2004) has investigated shopping behaviors of international tourists to the U.S. This research found that active tourist shoppers tend to utilize more transportation options offered at a destination, i.e. a combination of city subways, trains and buses, than other tourists. Active tourist shoppers were also found to be very active in utilizing cab, taxi and limousine services while traveling within the destination cities.

While it may seem obvious, research has indicated that the mode of transportation chosen for trips influences tourists' shopping behavior, because it limits travelers' ability to carry products around and back home. Gee (1987) found that travelers are consciously seeking unique gifts and products to take home and are concerned about brand names, logos, and sizes of products and packages. Reisinger and Turner (2002) confirmed Gee's finding. They investigated Japanese tourists' purchasing behavior regarding product attributes and shopping preferences in Hawaii and the Gold Coast. The most significant concern the tourist shoppers expressed was the size and weight of products, as well as design, durability, and quality of goods. In the same light, Lee (2002) observed that auto travelers spent more on shopping compared to visitors who used other means of transportation such as airplanes, trains, subways or buses. Pysarchik (1989) also indicated that air travelers may have limited ability to carry items back home due to the size, fragility, and manageability of products. His findings indicate that the transport option taken for trips is a factor that influences tourists' spending on shopping.

## The Effect of Income, Age, and Gender on Tourist Shopping

Tourists' shopping behavior may also differ among travelers of different age, gender, and household income (Anderson 1993; Littrell et al. 1994; Anderson et al. 1995; 1996; Lehto et al. 2004; Oh et al. 2004). Findings from Mok et al. (1997) and other researchers (Keown 1989; Jansen-Verbeke 1991) suggest that personal characteristics of the traveler (i.e., age, gender, income, education and family life cycle) influence purchasing behavior and shopping propensity. Thus, this section is dedicated to a review of extant literature regarding the impacts of gender, age and household income on tourists' shopping behavior, mainly from consumer research and leisure/tourism studies. First, genders influence on shopping behavior is discussed, followed by a review on the associations between age, income and tourists' spending on shopping.

### *Gender*

In her study that explored recreational shoppers, Jansen-Verbeke (1987) concluded that significant differences may exist between male and female attitudes toward shopping. These differences seemed to follow traditional gender stereotyping. She observed that shopping was found to be a more important motive and concern for women than sightseeing and walking around the visiting area or eating and drinking. On the other hand, males emphasized strolling around the area and patronizing pubs or restaurants as more important than shopping. Further, she found that women are more critical and concerned about lack of shopping facilities at destinations. This is consistent with the common notion in consumer research that, in general, men are more likely to be

convenience shoppers while women are more likely to be recreational shoppers (Ng 2003).

Research in shopping and consumer behavior has been traditionally gendered. In the tourism literature, most research has focused on women as buyers of souvenirs and tourist merchandise (Jansen-Verbeke 1988; Anderson 1993; Anderson et al. 1995). Dholakia (1999) and Moscardo (2004), however, noted that consumer behavior and retail researchers should be cautious against the assumption that gender is a key variable in shopping behavior, considering that many of the published studies had either all-female or female dominant samples.

McCormick (2001) and Mintel International (1996) found that while women are still the primary shoppers on vacation trips, interest among men for shopping while on holiday is on the rise. Thus, while research on genders' effect on shopping has been inclusive, it is most likely important to include gender as a possible factor and further explore its dynamics in tourism shopping using a study sample that has an appropriate distribution of gender (Moscardo 2004).

It also has been suggested to be more meaningful to explore how gender dynamics in a trip party influence tourists' shopping behavior rather than investigating gender as a separate factor (Timothy 2005). The statement below sentiments why this has been proposed.

...Some women indicated that it was unusual for their husbands to go shopping with them at home, but their husbands would be shopping companions on trips. Several women smiled and recalled singular moments when their husbands purchased 'special' souvenirs for them when shopping together. (Anderson and Littrell 1995)

In addition, it has also been indicated that shopping companion, e.g. the annoyance of shopping with preschool children, may influence shopper's orientation either to task or to leisure experience (Ng 2003). Therefore, in this study, it is hypothesized that gender make-ups, family or friend members and/or young household members in trip party would affect the groups' shopping behavior in different ways.

### *Age*

Jansen-Verbeke (1987) observed that differences exist between age groups regarding attitudes toward shopping. The most positive attitudes toward shopping were found in younger female respondents under age 35, followed by middle age groups of females aged 45-55. In tourism literature, Anderson (1993) and Littrell et al. (1994) observed that consumers at different ages prefer souvenirs of different attributes. According to Littrell et al. (1990; 1993), younger tourists often valued crafts that reminded them of exciting shopping encounters and active tourism experiences. Meanwhile, older tourists preferred craft items that would bring aesthetic pleasure through their contemplation at home. There exist, however, no gender differences in defining authenticity. For both genders, authenticity is derived from uniqueness, workmanship, aesthetics, usage, cultural integrity, craftsperson, shopping experience, and genuineness of souvenirs (Littrell et al 1993).

In a subsequent study, Anderson and Littrell (1995) investigated souvenir purchase behavior of women tourists of different age groups. They found differences in souvenir purchasing behavior and definition of authenticity between early adulthood (age of 22-45) women and middle adulthood women (age of 43-60). Younger female tourists

(age of 22-45) were likely to make most unplanned purchases in malls with their children, while older females (age of 43-60) made planned purchases in specialty stores and tourist shops with friends or husbands (Anderson et al. 1995).

Following this line of research, a group of researchers have investigated tourists' shopping preferences and expenditure patterns using age as a descriptor variable (Lehto et al. 2004; Oh et al. 2004). Findings, however, have been somewhat inconsistent. Both Anderson and Littrell (1995, 1996) and Jansen-Verbeke (1994) observed that the mature travel market - people aged 50 and older - was the most important segment because they spent the most on shopping. Similarly, Oh et al (2004) found that travelers aged 51-60 showed the highest tendency to shop or browse across all categories of products except for clothes, shoes and jewelry items. Overall, the youngest group (aged 18-30) showed the lowest tendency to shop or browse. However, this group displayed a relatively higher tendency to shop for books, music, clothes, shoes and jewelry compared to other age groups.

In contrast, in a study of Japanese tourists' expenditure patterns, Rosenbaum and Spears (2006) found that older tourists did not express a strong interest in shopping, while tourists younger than 35 were found to be the most active shoppers with the highest interest in shopping activities. Similarly, in a study of Taiwanese outbound tourists, Lehto et al. (2004) found that respondents in the 20 - 29 year old category spent significantly more than other age groups. In the same study, respondents older than age 60 were found to spend the least on shopping while on trips. Based on their finding,

Lehto et al. (2004) described an enthusiastic tourist shopper as a "female in her 20s who joined a packaged tour for leisure purpose and traveled with some company" (p. 328).

Lee (2002) surveyed tourists attending a festival, and observed that age, along with travel distance and purpose of trips, were found to be important determinants of tourists' shopping expenditures. In the study, age positively influenced expenditures on purchasing souvenirs and local specialty products. Similarly, as a result of general linear modeling, Lehto et al (2004) concluded that trip purpose, age, and gender were significant factors that affected the amount of money tourists spent on shopping, while income was found to be insignificant.

Overall, age and trip purpose have been found to be significant predictors of a person's consumption behavior. As shown above, however, the findings regarding age and expenditures have been somewhat inconsistent. For this reason, Timothy (2005) noted that age is still not well understood in tourist shopping behavior. He added that investigating how age affects shopping behavior during holiday trips would provide valuable knowledge to tourism shopping research (Timothy 2005).

Literature suggests that preferences for souvenirs and objects change throughout the life cycles of individuals and through their trip career, which is described as development of travel sophistication based on their trip experiences (Smith and Olson 2001). This is mainly explained by the changes of consumption needs and experience patterns of an individual consumer/traveler. There is an indication that as individuals age, they invest in objects with different meanings and purposes (Belk 1986; McCracken 1986). Maynard (1990) observed that, in general, people get less interested in buying

material items and are more inclined to spend money on family relationships and quality experiences as they age. A study of tourists' holiday expenditure patterns supported this proposition. Lawson (1991) investigated tourist expenditures across different family life cycles using a large international traveler population to New Zealand. As a result, three groups were highlighted for their high per capita spending on shopping: young singles, young couples and solitary survivors. The most remarkable shopping figure was found from solitary survivors, who spent 41.4% of their total trip expenditures on shopping. This result reflects many elderly tourists' behavior, who spend a lot on their grandchildren when spending time with families on vacations (Lawson 1991).

Another perspective regarding the impact of age on shopping behavior can be derived from the travel career sophistication concept. In an ethnographic approach to tourist shopping behavior, Smith and Olsen (2001) suggested that tourists' shopping activity is an evolving process in that it advances along with their travel sophistication. According to this perspective, tourists' shopping behavior progresses as their travel skill develops and advances. In this way, tourists in different stages of their travel career would adopt different criteria for consumption of tourist goods (Littrell et al. 1990, 1993; Smith et al. 2001), and age might be closely associated with travel career development.

### *Household Income*

In the recreation and leisure/tourism fields, researchers have analyzed income as one of the most significant household characteristics that determine expenditure patterns for recreation and tourism activities (Cai et al. 1995; Jang et al. 2004; 2005). There have

been indications that household income, along with education level positively influences frequency of taking vacations and spending during the trips.

Dardis, Soberon-Ferrer and Patro (1981) examined the impacts of various household characteristics on recreation expenditures. They found that household income plays a major role in determining household expenditures on recreation, and that recreation expenditures were positively related to income. Dardis et al. (1994) also reported that income influences variations in household expenditures in three leisure activity categories including visiting museums, attending sports events and other recreation and entertainment. Based on the 1990 Consumer Expenditure Survey, Cai et al. (1995) examined leisure trip expenditure patterns of US households in the categories of food, lodging, transportation and entertainment. Results indicated that income has a significant and positive effect on all four expenditure categories. Using the 1995 Consumer Expenditure Survey, Sung, Morrison, Hong and O'Leary (2001) examined travel expenditures of elderly households. They found that income was significant in explaining the travel expenditures of the elderly. Agarwal and Yochum (1999) studied expenditure patterns of overnight visitors visiting Virginia Beach during the summer. Income, length of stay, party size and number of children in the trip party were found to be significant determinants of visitors' expenditures, while spending patterns varied depending on where they stayed. The researcher concluded that one of the most important determinants of tourists spending is visitor income.

While little research has investigated the impact of income on tourists' shopping behavior, Lee (2002) and Lehto et al. (2004) presented somewhat different results



regarding the influence of household income on tourists' shopping expenditures. In a festival tourism setting, Lee (2002) investigated domestic tourists' trip expenditure patterns across five different categories including lodging, food and beverage, shopping, transportation and other entertainment expenses. Among the socio-demographic variables investigated, Lee (2002) observed that only household income was a useful determinant that positively influenced tourists' spending on shopping for souvenirs and local specialty products. However, it was observed that income did not affect other expenditure categories. Lehto et al. (2004) investigated shopping expenditure behaviors of Taiwanese tourists to Hong Kong and Singapore. They employed general linear modeling (GLM) and included shopping expenditures as the dependent variable. The GLM results indicated that income was not a significant factor that affected the amount of money Taiwanese tourists spent on shopping, while trip purpose, age, and gender were found to be significant.

As indicated, extant literature suggests that income is a key determinant of number of leisure trips taken and trip expenditures. However, it is less clear how household income affects tourists' shopping behavior. Thus, the current study will explore whether household income is a significant factor that can serve as a predictor variable for tourists' shopping behavior.

### *Section Summary*

In summary, this section reviewed extant literature related to age, income and tourists' shopping behavior. Overall, there seems to be an agreement among researchers that age is a significant descriptor of tourists' shopping behavior. While the results

obtained have been somewhat different among researchers, in general, two different age groups, young tourists (under age 30) and elderly tourists (age 60 and older) have been highlighted for their high expenditure patterns. Researchers have also examined the impacts of household characteristics on recreation expenditures. Income has been found to play a major role in determining household expenditures on recreation. Likewise, it has been found to be a significant factor that positively affects domestic tourists' shopping expenditures, while it has been found to be insignificant as a predictor of international tourists' shopping behavior.

#### Tourist Expenditures on Shopping

This section discusses the usefulness of shopping expenditures as an indicator of shopping behavior. According to the Tourism Shopping Implementation Committee (1990), tourist shopping expenditure is defined as the expenses on tangible goods by tourists either for consumption in the destination or for export to their home regions/countries. According to consumer demand theory, expenditure is a core indicator of demand for goods and services (Jang et al. 2005). Thus, expenditures have been used as an important measure of demand in the recreation and leisure/tourism fields (Dardis et al. 1994; Cai et al. 1995; Jang et al. 2005).

According to researchers, the outcomes of shopping experiences include amount of money spent on shopping, time spent shopping, satisfaction and intention to revisit or to recommend to others (Jones 1999; Ng 2003). Among these variables, expenditures have been suggested to be the most useful and practical measure for tourists' shopping activity demand (Ko 1999; Mok et al. 2000). Several indications suggest that time spent

shopping is not necessarily congruent with satisfactory experiences related to shopping or the amount of money spent (Ko 1999). Ko, however, discovered that there was a positive correlation between shopping expenditures and travelers' satisfaction with their shopping experiences.

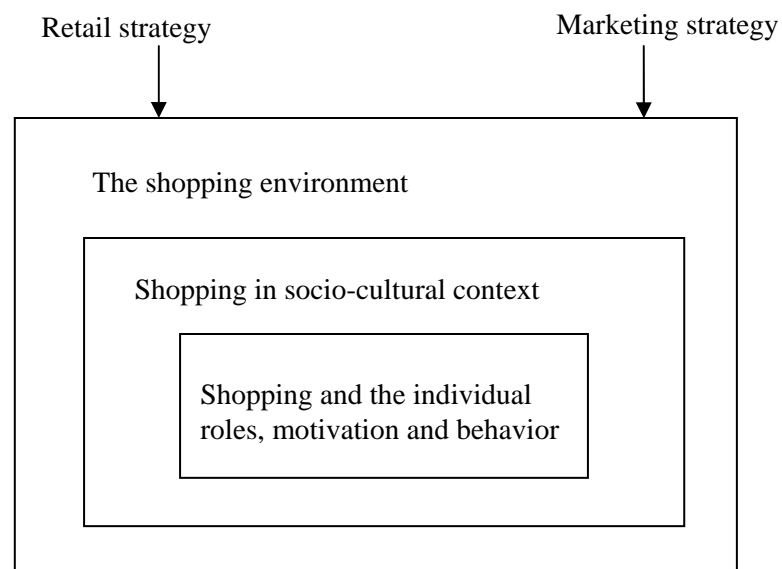
Another reason that highlights the usefulness of expenditure as an indicator is found from a typical pattern of tourists' shopping behavior. Shopping is often not reported as a very important or intended activity prior to taking trips (March and Woodside 2005). Typically, however, travelers report sharply different results regarding actual participation and the amount of money they spent on shopping when trips are completed (March et al. 2005). March et al. (2005) compared and analyzed tourists' planned trip activities versus actualized trip activities. They investigated holiday visitors to Prince Edward Island in Canada utilizing face-to-face entry and exit interview surveys. Among the 12 activities analyzed in the study, shopping was found to exhibit the sharpest contrast of planned versus realized behaviors of the tourists. Only 21 % and 16% of tourists, respectively, indicated that they planned on going 'general shopping' and 'antiques and handcraft shopping.' After the trip, however, 58% and 54%, respectively, of tourists reported they went shopping.

#### Proposed Conceptual Model

As indicated, consumer shopping behavior in a tourism context encompasses a body of literature from various subjects including retailing, consumer research, environmental psychology and leisure/tourism studies. Taking into account the complexity of shopping research, researchers in consumer behavior have attempted to

formulate a theory of shopping that incorporates diverse perspectives from different research fields (Miller 1998; Woodruffe-Burton et al. 2001). In this attempt, Woodruffe-Burton et al. (2001) suggested a framework for conceptualizing shopping (Figure 2.3).

FIGURE 2.3  
A CONCEPTUAL FRAMEWORK OF SHOPPING  
BY WOODRUFFE-BURTON, ECCLES AND ELLIOT (2001)

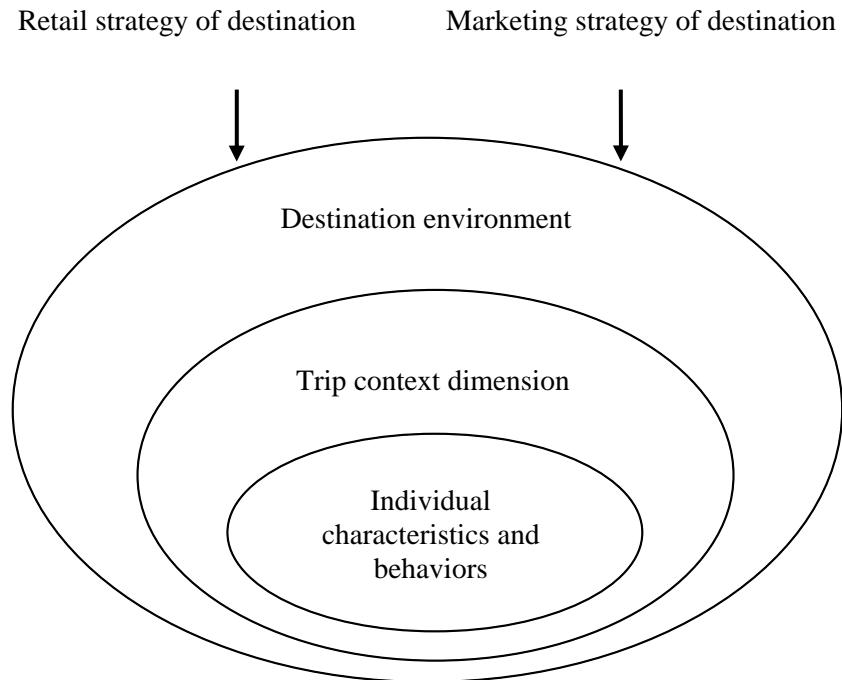


In their conceptual framework, they identified and highlighted three main dimensions of shopping: individual motivations and roles; socio-cultural contexts such as gender issues and leisure shopping; and shopping environment. According to this framework, individuals' characteristics, behaviors, and motivations for shopping are situated within and influenced by a broader socio-cultural context of shopping (i.e.,

leisure shopping, culture or gender roles). Further, individuals' shopping behaviors are influenced by and interact with the context of the shopping environment. They also suggested that retailing and marketing strategy rest outside this conceptual framework as shown, because they are regarded as external influences which impact shopping behavior. The framework proposed in the current study takes a similar perspective as the suggested conceptual model by Woodruffe-Burton et al. (2001) in this study. Therefore, a broader conceptual framework of this study can be described as a three-dimensional representation as shown in Figure 2.4. According to this framework, individual behaviors, characteristics and motivations for shopping are affected by trip related attributes in a broader context of vacation leisure shopping, and further influenced by the destination shopping environment context.

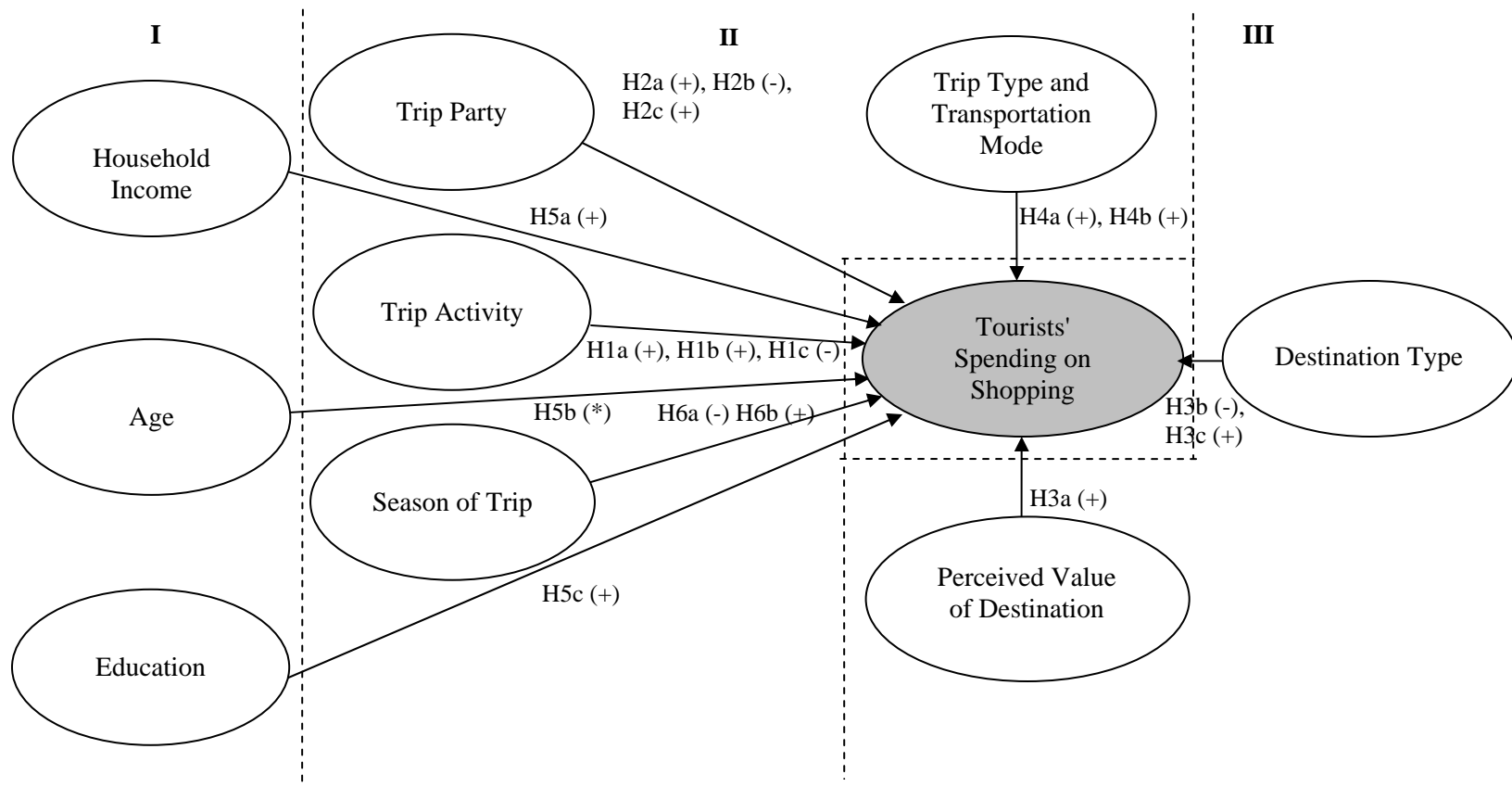
Based on the discussion in this chapter, the proposed conceptual model of tourist shopping behavior is described in Figure 2.5. Largely, the proposed model can be viewed as a three dimensional framework of: 1) individual characteristics; 2) trip related dimensions of trip activity and trip party, including situational attributes of season of trip, trip type, and mode of transportation; and 3) the shopping environment. This conceptual framework includes individual tourist's characteristics of household income and age in the tourist attribute dimension.

FIGURE 2.4  
A CONCEPTUAL FRAMEWORK OF TOURIST SHOPPING



The second dimension in the model encompasses trip attributes and other situational attributes pertinent to the trip. Specifically, the focus of this study is set on exploring how trip activities and trip party would influence tourists' shopping behavior. Also considered are the season of trip, trip type and the mode of transportation.

FIGURE 2.5  
A PROPOSED CONCEPTUAL MODEL OF TOURISTS' SHOPPING EXPENDITURE



Finally, it is expected that perceived value of destination environment would positively affect tourists' expenditure on shopping. As indicated, it is hypothesized that higher perceived value of shopping environment would positively influence tourists' emotional states and enjoyment of shopping, which would lead to higher spending on shopping at the destination.

### Objectives and Hypotheses

The objectives of this study are six-fold:

Objective One is to explore the linkage between tourist activities and shopping by investigating the effect of tourists' chosen activities on tourists' spending on shopping.

Based on previous research that has explored trip typology as a useful indicator for shopping behavior (Littrell et al. 1994; Kinley et al. 2003; Oh et al. 2004), it is proposed that:

*Proposition 1:* Trip typology is a significant predictor that explains tourists' shopping expenditure, and type of activities chosen influences tourists' spending on shopping.

Specifically, it is hypothesized that:

*H1a:* History-heritage-cultural tourists will spend more on shopping than other activity groups.

*H1b:* Active outdoor tourists will spend less on shopping than other activity groups.

*H1c:* Urban Entertainment tourists will spend more on shopping than other activity groups.



Objective Two of this dissertation is to explore the influence of trip party on tourists' spending on shopping. It is proposed that:

*Proposition 2:* Trip party is a significant factor that influences tourists' spending on shopping.

Specifically, based on extant literature (Jansen-Verbeke 1990; Crick-Furman et al. 2000), it is hypothesized that:

*H2a:* The number of women in the trip party will positively influence tourists' spending on shopping.

*H2b:* The number of men in the trip party will negatively influence tourists' spending on shopping.

*H2c:* The presence of children in the trip party will negatively influence tourists' spending on shopping.

Objective Three of this dissertation is to explore the relationship between tourists' perceived value of environment and their spending on shopping. Specifically, based on extant literature (Yüksel 2007; Kinley et al. 2003; Ko 1999), it is proposed that:

*Proposition 3:* Destination environment is a significant factor that influences tourists' spending on shopping.

Specifically, it is hypothesized that:

*H3a:* Perceived value of the destination will positively influence tourists' spending on shopping.

*H3b:* Urban destination environment will positively influence tourists' spending on shopping.

*H3c*: Rural destination environment will negatively influence tourists' spending on shopping.

Objective Four of this dissertation is to investigate the influences of trip type and the mode of transportation on tourists' spending on shopping activity. In this study, trip type refers to group tour or non-group tour.

Based on extant literature, it is hypothesized that

*H4a*: Trip type will influence tourists' expenditure on shopping. More specifically, based on literature (Lehto et al. 2004; Ko 1999), it is hypothesized that travelers who take group tours will spend more on shopping than independent travelers.

Also, based on literature (Reisinger et al. 2002; Gee 1987; Pysarchik 1989; Lee 2002), it is hypothesized that:

*H4b*: Travelers who travel by cars will spend more on shopping than tourists who use other types of transportation.

Objective Five of this dissertation is to investigate the effect of the socio-demographic variables of income, age and education level on tourists' spending on shopping. Specifically, based on existing literature (Jansen-Verbeke 1987; Anderson 1993; Littrell et al. 1994; Anderson et al. 1995; Lehto, Cai et al. 2004; Oh et al. 2004; Dardis et al. 1981; Lee 2002; Lehto et al. 2004), it is hypothesized that:

*H5a*: Household income will positively influence tourists' spending on shopping.

*H5b*: Age is associated with tourists' spending on shopping.

In addition, it is hypothesized that

*H5c*: Education level is not associated with tourists' spending on shopping.

Objective Six of this dissertation is to investigate the relationship between the season of the trip and tourists' spending on shopping.

Specifically, based on existing literature (Jansen-Verbeke 1990; Jang et al. 2005;

Mok et al. 1997), it is hypothesized that:

*H6a*: Summer season will negatively influence tourists' spending on shopping.

*H6b*: Winter season will positively influence tourists' spending on shopping.

#### Contribution of Study

This study should contribute to the knowledge of tourist shopping by identifying important dimensions and factors that influence tourists' shopping expenditures.

Conceptually, this study will contribute to tourism research by providing a framework to better understand tourist shopping expenditures. In addition to the conceptual contributions, the findings of this study could reveal how tourists' shopping expenditure patterns would change in response to trip activity preferences and travel party. The exploration of relationships between shopping, trip companions and various specialized forms of tourism will hopefully provide important theoretical knowledge and managerial implications.

#### Delimitations

The study is subject to the following delimitations:

- (1) The study findings will be delimited to U.S. domestic vacation leisure travelers, as utilized in the current research;

- (2) Specific destination factors (such as availability and scale of retail facilities, price advantage, product type and availability, promotion and marketing strategy of destinations) will not be considered.

#### Limitations

The findings of this study are limited to American domestic travelers. In addition, the expenditure information in the data set may have been underestimated due to an inherent bias of expenditure data (Frechtling 1987). Another limitation is that this study does not consider ethnicity, nationality or race as factors that may influence an individual tourist's shopping behavior. In addition, as the current study utilized a secondary data, some limitations exist in investigating the relationships of variables in the conceptual models, due to the way and the types of the variables that were collected and utilized.

## CHAPTER III

### METHODOLOGY

This chapter describes the data and the statistical methods utilized for this study. The first section describes the data used for this study. Then the data analysis procedures and an explanation of the statistical techniques used for the data analysis are described. A profile of the data and descriptive analysis of the data are presented at the end of this chapter.

#### Description of Data

##### Data Source

For the purpose of this study, the 2003-2004 nationwide Performance/Monitor of travel tracking system data collected by DK Shifflet and Associates (DKS & A) was utilized. This mail-out survey was designed and collected by DKS & A, using a quota representative sample of an average of 45,000 U.S. households monthly. More than 75,000 traveling households respond to the survey each year, resulting in more than 154,000 trip cases collected each year throughout U.S. destinations. Total trip cases of 278,487 observations were included in the two years of data utilized (2003 - 2004).

This survey was developed to assist various sectors of the travel industry and government organizations, including the U.S. Bureau of Economic Analysis and the Commerce Department in obtaining nationally projectable travel market analysis and economic impact assessment. The data includes travelers' demographics, spending, and activity profiles in detail, including visitors' origin and destination information.

### Data Collection Procedures

DKS & A used household panels for the data collection. The panel consists of households who have agreed in advance to participate in mail and phone surveys. DKS & A obtained extensive information about the households and their members, including residency and socio-demographic information at the time of household recruitment. Then the surveys were sent to the household panels. The key advantage of the panel method is higher response rates to surveys, typically 2 to 3 times higher (DKS & A 2005). The survey is designed to collect detailed trip information from respondents about their trips taken within the past three months. Trip information includes trip purpose, the number of trips taken in the past three months, the date and month of trips, trip type (i.e., group tour or individual trip), trip party, trip activities, and main transportation. Trip expenditure information includes the amount spent on lodging, transportation, entertainment, shopping, food and beverage and other expense categories. The data also contains destination information, including city, state, and the zip code of the destination visited. The survey also provides detailed household socio-demographic information of the respondent's age, gender, household size, household income, occupations, education, residency information and zip codes.

### Data Analysis Procedures

The data analysis procedures included multiple steps from descriptive analysis to hypotheses testing. Eight major steps of the data analysis processes are described in

Figure 3.1. For the data analysis, the Statistical Package for the Social Sciences 14.0 (SPSS) is utilized.

Prior to the descriptive analysis, the data were screened and statistical testing was done to compare different trip purpose groups in their spending on shopping. Among the 278,487 trip cases that were collected in the year 2003-2004, 256,949 trip incidents were found to be U.S. domestic trips. For the purpose of this study, only domestic leisure vacation trips were selected. As a result, for the two year period of 2003-2004, 39,410 trip cases were included in the analysis.

The leisure vacation travelers were compared with four other trip purpose segments: business travelers, visiting friends and relatives (VFR) travelers, other personal related trips, and special events trip groups. A One-Way ANOVA was used to examine the differences between each group's spending patterns on shopping. The result indicated that the five groups significantly differed in regard to their expenditures on shopping (Table 3.1 and Table 3.2). It was shown that except for other personal related travel groups, leisure travelers spent the most (on average, \$24.90 per person per day) on shopping during their trips. VFR travelers spent an average \$18 on shopping per person per day, followed by business travelers, who spent \$16.80 on shopping during the trips.

TABLE 3.1  
SHOPPING EXPENDITURE VARIATION AMONG TRIP PURPOSE GROUPS:  
ONE-WAY ANOVA TEST

	<i>N</i>	<i>Mean*</i> ( <i>U.S.\$</i> )	<i>F value</i>	<i>P value</i>	<i>SNK</i>
Trip Purpose			768.011	<.000	OP>L>SE>V>B
Business (B)	45,804	18.93			
Leisure (L)	41,413	25.13			
VFR (V)	42,719	20.09			
Special event (SE)	22,792	22.17			
Other Personal (OP)	22,660	36.02			

\*Expenditure on shopping per person per day

TABLE 3.2  
STUDENT-NEWMAN-KEULS (SNK) POST HOC ANALYSIS RESULTS

Trip Purposes	N	Subset for alpha = .05				
		1	2	3	4	5
Business	45,804	18.9266				
VFR	42,719		20.0909			
Special Event	22,792			22.1680		
Leisure	41,413				25.1259	
Other Personal	22,660					36.0174



FIGURE 3.1  
DATA ANALYSIS PROCEDURES

<b>Analysis</b>	<b>Purpose</b>
<i>Step 1</i>	
Descriptive Statistics, ANOVA analysis	Describe sample profile; Compare shopping behavior among different trip purpose groups
<i>Step 2</i>	
Cluster Analysis, T-Test and Multiple Regression Analysis	Identify trip activity groups, and examine activity dimension impact Testing H1a, H1b and H1c
<i>Step 3</i>	
Multiple Regression Analysis	Examine travel party dynamics impact on shopping spending Testing H2a, H2b and H2c
<i>Step 4</i>	
T-Test, Regression Analysis	Investigate the effect of environment dimension on tourist shopping Testing H3a, H3b and H3c
<i>Step 5</i>	
T-Test, ANOVA analysis	Investigating influence of trip type and transportation mode Testing H4a and H4b
<i>Step 6</i>	
ANOVA, Regression Analysis	Investigate influence of tourists' income, age, and education Testing H5a, H5b, and H5c
<i>Step 7</i>	
T-Test	Examine the effect of season of trip on tourists shopping Testing H6a and H6b
<i>Step 8</i>	
Multiple Regression Analysis	Testing the dimensional effects of H1, H2, H3, H4, H5, H6 on tourists shopping

## Descriptive Analysis

Descriptive statistics were developed in order to identify sample profiles and distributions of the variables. Respondents' socio-demographic characteristics of age, income, gender and household member distributions are reported. Trip information included number of nights stayed, travel month, destination state, trip party information, travel mode, the mode of transportation, trip activities and trip spending information. The profile of the sample is developed and presented in Table 3.3.

Cluster analysis was employed to identify trip activity groups. The respondents were asked to indicate primary trip activities they did during their trips from a list of twenty activities, including eco-travel, visiting historic sites, visiting theme/amusement part, visiting national parks, attending festivals, hiking/biking, and beach/waterfront activities. Because participation in those activities was asked by dichotomous answers, a binary cluster analysis was used to identify related grouping of trip activity variables.

The main part of data analysis focused on hypothesis testing. Multiple Regression Analysis and Regression analysis were employed to test hypotheses. T-test and ANOVA were also used when comparing group differences. The variables of this study and their dimensional representations are presented in Figure 3.2.

FIGURE 3.2  
HYPOTHESIZED RELATIONSHIP BETWEEN VARIABLES AND TOURISTS'  
SHOPPING EXPENDITURES

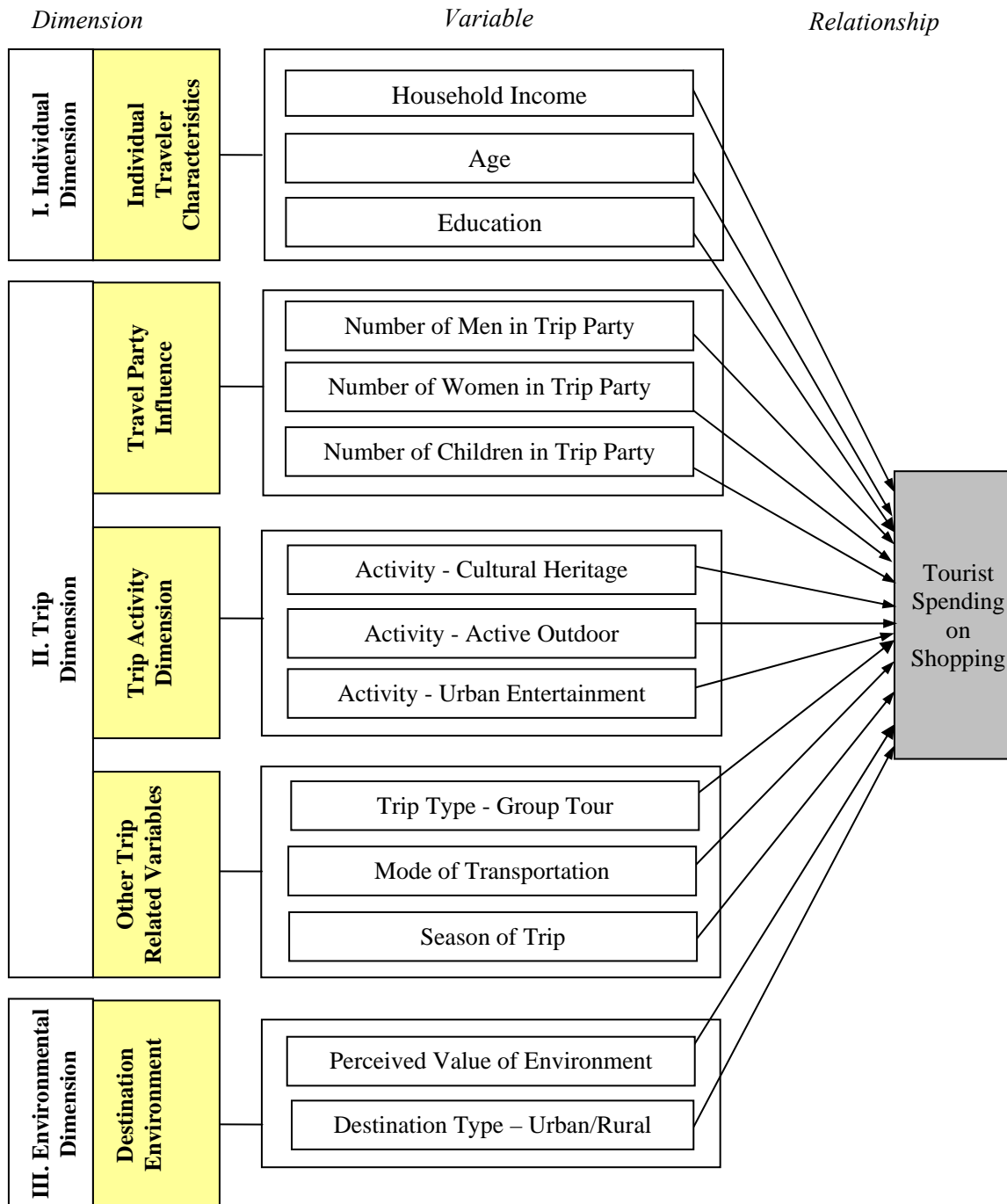


TABLE 3.3  
PROFILE OF THE SAMPLE 2003-2004 (N=39410)

<b>Variable</b>	<b>Category</b>	<b>Percent(%) / Mean</b>
Year	2003 2004	53.0% 47.0% 100%
Gender	Male Female	(%) 30.7% 69.3% 100%
Age	18 – 30 31 – 40 41 – 50 51 – 60 61 – 70 71 – 80 81 and over	(%) 10.8% 22.0% 23.3% 22.4% 14.8% 0.7% 5.9% Mean 48.5
Income	less than 19,999 20,000 – 49,999 50,000 – 99,999 100,000 – 174,999 175,000 and over	(%) 6.6% 31.1% 42.2% 16.8% 3.3% 100%
Education	Up to high school Some college (1-3 yrs) At least a Bachelor degree	(%) 17.1% 35.5% 47.5% 100%
Travel Mode	Group tour Non-group tour	(%) 6.0% 94.0% 100%
Destination City Value	Rating based on scale 1-10	Mean 5.32
Destination City Type	Urban Rural	(%) 92% 8% 100%

TABLE 3.3 (CONTINUED)

<b>Variable</b>	<b>Category</b>	<b>Percent(%) / Mean</b>
Number of nights		3.1 nights
Trip company	Size of trip company	Mean 2.25
	Number of Adult Males in Room	0.93
	Number of Adult Females in Room	1.15
	Number of 0-17 Year Olds in Room	0.46
Transportation	Airplane	(%) 18.0%
	Train/Bus/public	3.5%
	Car/Camper/RV	74.1%
	Ship/Other	1.4%
		100%
Trip Activity Participated	Snow Ski	(%) 2.0
	Play Golf	3.8
	Boat/Sail	3.7
	Beach/Waterfront	19.1
	Hike, Bike	7.4
	Hunt Fish	4.5
	Watch Sports Event	3.2
	Gamble	15.7
	Visit Historic Site	12.3
	Theme/Amusement Park	13.4
	Parks: national, state	13.9
	Shows: boat, auto, antique	0.9
	Festival, Craft Fair	5.1
	Museum, art exhibit	8.6
	Sightseeing	46.1
	Night Life	12.1
	Nature/ Eco-Travel	5.1
	Concert, Play, Dance	6.3
Adventure Sports	2.3	
Other	2.3	
Trip Expenditure: Per person per day (\$)	Total trip spending (excluding lodging)	(\$) \$116.77
	Lodging spending	\$ 42.58
	Food Spending	\$ 32.70
	Shopping Spending	\$ 24.96
	Transportation	\$ 27.19
	Entertainment	\$ 25.30
	Other	\$ 6.61

## CHAPTER IV

### HYPOTHESIS TESTING

This chapter reports the procedures and results related to the hypothesis testing of the proposed model. First, the hypothesized relationships between the variables of interest and spending on shopping are investigated within each dimension conceptualized in this study. In the first section, the hypotheses related to the link between the trip activity and travelers spending on shopping (H1a, H1b, and H1c) are investigated. Following that, hypotheses testing of trip party, destination environment, individual traveler's characteristics and other trip related variables follow. Finally, a summary of the results of hypotheses testing is provided. In addition, the result of the hypothesized relationships of the model is presented.

#### Exploring Trip Activity

##### Exploring the Structure of Travel Activity Participation

##### *Descriptive Analysis of Trip Activity Participation*

In this section, first, the pattern of trip activity participation of the sample was analyzed. As the respondents were asked to list up to four trip activities they participated in during the trips, a frequency analysis was conducted based on the multiple responses. The frequency analysis showed that approximately almost one-half of the respondents (42%) participated in one type of trip activity during vacation trips, while more than half (56%) of the leisure travelers combined more than one trip activity during the trips (Table 4.1); it was found that one quarter of the leisure travelers combined two types of leisure

activities and that three out of ten leisure travelers participated in more than three types of leisure activities during their vacation trips.

TABLE 4.1  
FREQUENCY OF THE NUMBER OF TRIP ACTIVITIES

Number of Activities Participated	Frequency	Percent
1	15321	42%
2	9142	25%
3	6303	17%
4	5193	14%
Total	36084	100%

A descriptive analysis of each trip activity participation pattern is presented in Table 4.2. It was found that approximately half of the leisure travelers indicated that they went sightseeing, followed by going to beach/waterfront activities (19.1%). Following that, gambling was found to be a popular trip activity, with approximately 16 percent of the respondents participating during vacation trips.

Also closely followed was visiting national/state park activity, with 14 percent of the sample visiting national/state parks during their vacation trips. Going to theme/amusement parks followed, with 13.4 percent of the sample participating in this type of trip activity. Visiting historic sites and night life activities were also found to be popular leisure trip activities, with 12.3 percent and 12.2 percent of the leisure travelers participating in these activities respectively.

TABLE 4.2  
TRIP ACTIVITY PARTICIPATION FREQUENCY

Trip Activities participated	Activity Counts**	%	Per person per day Shopping Expenditure (Mean)
<b>Sightseeing</b>	18149	46.1	28.62*
<b>Beach/Waterfront</b>	7517	19.1	23.00
<b>Gamble</b>	6170	15.7	20.95
<b>Parks: national, state</b>	5493	13.9	21.01
<b>Theme/Amusement Park</b>	5270	13.4	25.72*
<b>Visit Historic Site</b>	4834	12.3	26.72*
<b>Night Life</b>	4795	12.2	29.66*
<b>Museum, Art exhibit</b>	3404	8.6	28.73*
<b>Hike, Bike</b>	2913	7.4	17.99
<b>Concert, Play, Dance</b>	2483	6.3	30.57*
<b>Festival, Craft Fair</b>	2006	5.1	38.46*
<b>Nature/Eco-Travel</b>	1994	5.1	22.75
<b>Hunt Fish</b>	1778	4.5	15.84
<b>Play Golf</b>	1500	3.8	24.35
<b>Boat/Sail</b>	1456	3.7	18.78
<b>Watch Sports Event</b>	1270	3.2	24.01
<b>Adventure Sports</b>	897	2.3	19.42
<b>Other</b>	892	2.3	24.71
<b>Snow Ski</b>	770	2.0	18.49
<b>Shows: boat, auto, antique</b>	370	0.9	33.91*
			M=24.68

\*>M=\$24.68, \*\*Based on multiple responses

A frequency chart of the trip activity participation pattern is provided in Figure 4.1. A visualization chart of trip activity and per day per person shopping expenditure is presented in Figure 4.2. In the following section, hypothesis testing on the trip activity types and spending on shopping is presented.



FIGURE 4.1  
TRIP ACTIVITY PARTICIPATION

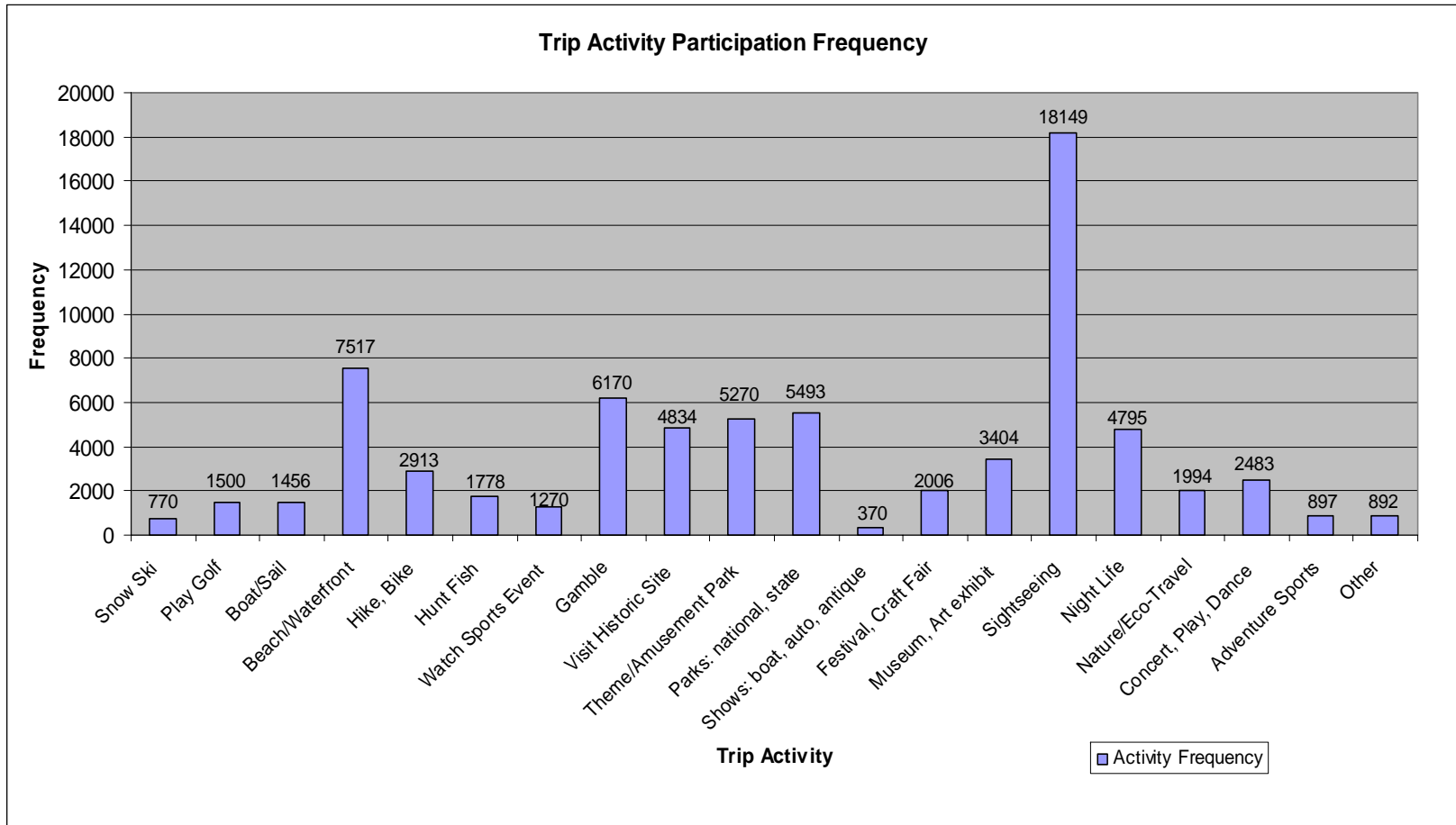
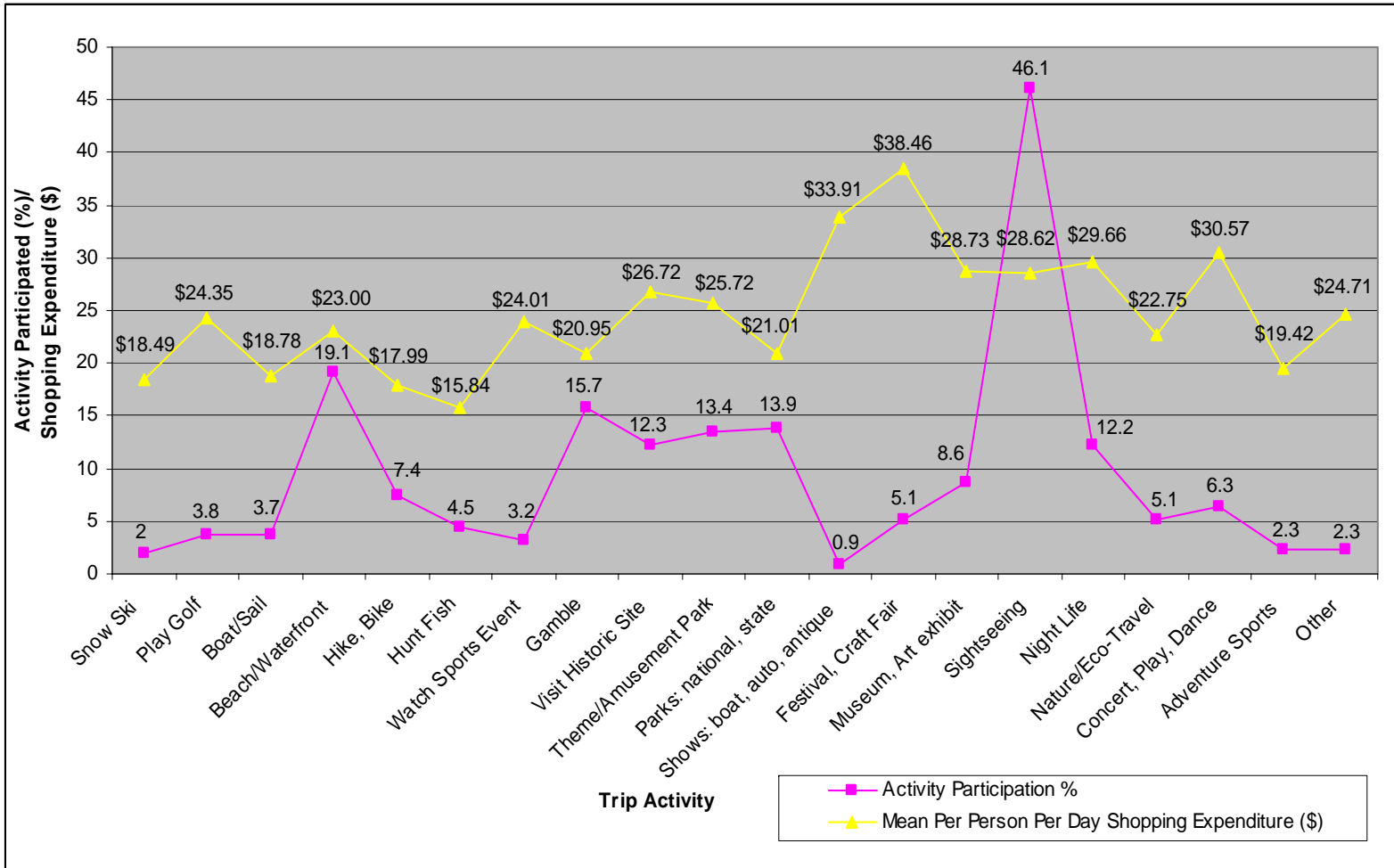


FIGURE 4.2  
TRIP ACTIVITY AND PER DAY PER PERSON SHOPPING EXPENDITURES



## Cluster Analysis of Trip Activity Groups

A cluster analysis was conducted in order to delineate homogeneous trip activity groups for hypothesis testing of the linkage between trip typology and spending on shopping. Cluster analysis is a technique for grouping individuals or objects, and is usually done in an attempt to combine cases into homogeneous groups when the group membership is not known prior to the analysis (Afifi, Clark & May, 2004). K-means is a widely used nonhierarchical analytic technique which is gaining acceptability in the literature over the hierarchical approach (Afifi et al. 2004). According to Afifi et al. (2004), the algorithm of K-means clustering proceeds as: 1) divide the data into K initial clusters, with the number of the clusters specified arbitrarily by the user; 2) calculate the means or centroids of the K clusters; 3) for a given case, calculate its distance to each centroid. If the case is closest to the centroid of its own cluster, the case stays in that cluster; otherwise, it is reassigned to the cluster whose centroid is closest to it. In this way, the process is repeated until no cases are reassigned. In SAS, FASTCLUS is used to perform K-means clustering, and the SAS procedure FASTCLUS is recommended especially for large data sets, as utilized in this study (Afifi et al. 2004). The SPSS K-Means Cluster program can cluster a large number of cases. Afifi et al. (2004) also remarked that the results of any clustering procedure are often not definitive, and that it is advisable to perform more than one cluster analysis, when possible, and compare and collate the results. Thus, in this section, following Afifi et al's (2004) recommendation, both SAS FASTCLUS and SPSS K-Means Cluster analyses were conducted and the results were compared to generate a more reliable result.

### *K-Means Cluster Analysis*

A K-Means cluster analysis was conducted to delineate homogeneous groups, using the variable trip activity participation, with SPSS 14.0. As a result, an eight cluster solution was found to be the most appropriate. From the result, the convergence was achieved on the thirteenth iteration when there was no change in the cluster centers, and the final cluster centers of the K-means cluster analysis were generated (Appendix page 143, 144 and 145). The result is presented in Table 4.3.

TABLE 4.3  
K-MEANS CLUSTER ANALYSIS RESULT OF ACTIVITY GROUPS

Cluster ID	Activity Center	Group Type	%	N	Mean (\$) Per day per person
Clus1	Beach/waterfront	Beach/waterfront Recreation	14.3%	5654	23.23
Clus2	National/State Park	National/State Park Recreation	8.2%	3249	20.81
Clus3	Sightseeing	Tour and Sightseeing	19.7%	7779	29.70
Clus4	Gambling Night Life	Gamble and Entertainment	9.4%	3689	28.97
Clus5	Visit Historic Site	Heritage and Culture	6.2%	2459	30.31
Clus6	Visit Historic Site	Heritage and Park Recreation	4.7%	1868	22.94
Clus7	National/State Park (no center)	Mixed Activity	33.6%	13251	22.65
Clus8	Hike/Bike National/State Park	Sports Outdoor Recreation	3.7%	1461	19.93

As a result, eight distinct activity clusters were generated. They were: going to beach/waterfront activity-oriented cluster (14.3%); visiting national/state park-oriented cluster (8.2%); sightseeing-oriented group cluster (19.7%); gambling and night life-oriented cluster (9.4%); visiting historic site-oriented cluster (6.2%); visiting historic site and national/state park-oriented cluster (4.7%); and hike/bike and visiting national/state park oriented cluster groups (3.7%). One cluster group (33.6%) did not display any distinct activity center, and was classified as a mixed activity group. According to the identified activity centers of each group, they were also named as beach/waterfront recreation, national/state park recreation, tour and sightseeing, gamble and entertainment, heritage and culture, heritage and park recreation, sports outdoor recreation, and mixed activity groups.

Further, among the eight clusters, three groups of beach/waterfront recreation, national/state park recreation, and sports outdoor recreation groups (Cluster 1, Cluster 2 and Cluster 8) showed outdoor recreational oriented characteristics. These three groups accounted for slightly over one-quarter (26.2%) of the total activity clusters. Gamble and entertainment cluster was identified as travelers who enjoyed activities such as gambling, night life, and sightseeing, and consisted of 9.4% of total leisure vacationers. Heritage and culture cluster group consisted of travelers who visited historic sites with 6.2% of leisure travelers grouped into this activity cluster. 19.7% of travelers were clustered into a sightseeing activity group, and 33.6% of leisure travelers were found in a cluster group where travelers combined various types of activities including sightseeing, outdoor recreation and heritage/cultural activities.

A one-way between-groups analysis of variance was conducted to investigate the relationship between trip activity and spending on shopping (Table 4.4). The result showed that there was a statistically significant difference in spending level on shopping for the eight cluster groups ( $F=48.395$ ,  $p<.001$ ). National/state park recreation and sports outdoor recreation groups spent the least on shopping, respectively spending \$20.81 and \$19.93 on shopping. Heritage and park recreation cluster, mixed activity cluster, and beach/waterfront recreation groups followed by \$22.94, \$22.65, and \$23.23. Heritage and culture activity group was found to spend the most on shopping by \$30.31 per day per person. Tour and sightseeing group and gamble and entertainment group followed closely by \$29.70 and \$28.97, respectively.

Tukey's post hoc analysis (Table 4.5) indicated that the mean spending on shopping for the three cluster groups of tour and sightseeing (Clus3), gamble and entertainment (Clus4), and heritage and culture group (Clus5) were significantly different from national/state park recreation group (Clus2), sports outdoor recreation group (Clus8), beach/waterfront recreation group (Clus1), heritage and park recreation cluster (Clus6), and mixed activity cluster (Clus7). However, no significant difference in spending on shopping was found between tour and sightseeing, gamble and entertainment, and heritage and culture groups.

TABLE 4.4  
ONE-WAY ANOVA OF K-MEANS CLUSTER GROUP ON SPENDING ON SHOPPING

Cluster ID	Activity Group Type	Mean (\$)	df	F	p value
Clus1	Beach/waterfront Recreation	23.23	7	48.395	<.001
Clus2	National/State Park Recreation	20.81			
Clus3	Tour and Sightseeing	29.70			
Clus4	Gamble and Entertainment	28.97			
Clus5	Heritage and Culture	30.31			
Clus6	Heritage and Park Recreation	22.94			
Clus7	Mixed Activity	22.65			
Clus8	Sports Outdoor Recreation	19.93			

TABLE 4.5  
POST HOC COMPARISON OF GROUP TYPES AND PER DAY PER PERSON SPENDING ON SHOPPING

K-Means Cluster Homogeneous Subsets		
1	2	3
<i>Clus8:</i> Sports Outdoor Recreation <i>Clus2:</i> National/State Park Recreation <i>Clus7:</i> Mixed Activity	<i>Clus2:</i> National/State Park Recreation <i>Clus7:</i> Mixed Activity <i>Clus6:</i> Heritage and Park Recreation <i>Clus1:</i> Beach/waterfront Recreation	<i>Clus4:</i> Gamble and Entertainment <i>Clus3:</i> Tour and Sightseeing <i>Clus5:</i> Heritage and Culture

*SAS FASTCLUS Analysis*

In this section, a FASTCLUS using SAS 9.1 was conducted to explore trip activity participation structures and the result was presented. The FASTCLUS result was then compared with the K-Means clustering solution at the end of this section. In SAS FASTCLUS cluster analysis procedure, different numbers of cluster solutions from two to nine, were generated and evaluated for its appropriateness. An eight-cluster solution was found to be the most appropriate, in agreement with the eight-cluster solution generated from K-Means clustering using SPSS, thus giving credence to this conclusion (Afifi et al. 2004). The profile of FASTCLUS cluster solutions is presented in Table 4.6.

Based on the analysis of the activity centers (Appendix page 145), the eight cluster groups were named as: adventure sports recreation group (Clus1); hunting and fishing recreation group (Clus2); gamble and entertainment group (Clus3); theme park entertainment group (Clus4); heritage and culture group (Clus5); waterfront recreation group (Clus6); festival and culture seekers group (Clus7); and golf, sail, and nature recreation group (Clus8).

By group sizes, the single largest group was found to be a theme park entertainment group (Clus4, N=10836), accounting for approximately three out of ten (27.5%) leisure travelers. The second largest group was adventure sports recreation group (Clus1, N=10024), who participated in hiking/biking, visiting national/state parks, snow skiing, and/or other adventure sports activities. Following the two activity clusters was hunting and fishing recreation group (Clus2).



TABLE 4.6  
FASTCLUS CLUSTER ANALYSIS RESULTS OF ACTIVITY GROUPS

Cluster	Activity Centers	Activity Group Type	N	%	Mean (\$) Spending on Shopping
Clus1	Hike/Bike National/State Park Snow Ski Adventure Sports	Adventure Sports Recreation	10024	25.4%	\$23.99
Clus2	Hunt/Fish Beach/Waterfront	Hunting and Fishing Recreation	6101	15.5%	\$16.81
Clus3	Gamble Night Life Concert	Gamble and Entertainment	1973	5.0%	\$24.80
Clus4	Theme/Amusement Park	Theme Park Entertainment	10836	27.5%	\$28.21
Clus5	Visiting Historic Site Museums/Art Exhibitions Sightseeing	Heritage and Culture	3977	10.1%	\$28.00
Clus6	Beach/Waterfront National/State Park	Waterfront Recreation	1083	2.8%	\$21.85
Clus7	Festival, Craft Fair Visiting Historic Site Sightseeing	Festival and Culture Seekers	3072	7.8%	\$31.51
Clus8	Golf Boat/Sail Nature/Eco-Travel	Golf, Sail and Nature Recreation	2344	6.0%	\$23.05

A one-way between-group analysis of variance was conducted to explore the differences in spending on shopping between the eight activity type groups. The result showed that there was a statistically significant difference in spending on shopping between the eight activity groups, at the  $p < .001$  level (Table 4.7). Further, a Tukey's Post Hoc test was conducted, and the result was presented in Table 4.8.

From the result of post hoc analysis of homogeneous subsets, it was found that the festival and culture seekers group (CLUS7) was significantly different from all other groups, displaying the highest mean per day per person spending ( $M=31.51$ ) on shopping. This cluster group was characterized as going to festival/craft fairs, visiting historic sites, and sightseeing activities.

TABLE 4.7  
ONE-WAY ANOVA OF FASTCLUS CLUSTERS FOR SHOPPING EXPENDITURES

Cluster	Group Type	Mean (\$)	df	F	<i>p</i> value
Clus1	Adventure Sports Recreation	\$23.99	7	70.757	<.001
Clus2	Hunting and Fishing Recreation	\$16.81			
Clus3	Gamble and Entertainment	\$24.80			
Clus4	Theme Park Entertainment	\$28.21			
Clus5	Heritage and Culture	\$28.00			
Clus6	Waterfront Recreation	\$21.85			
Clus7	Festival and Culture Seekers	\$31.51			
Clus8	Golf, Sail and Nature Recreation	\$23.05			

TABLE 4.8  
POST HOC COMPARISON OF ACTIVITY GROUPS ON PER DAY PER PERSON  
SPENDING ON SHOPPING

SAS FASTCLUS Cluster Membership Subsets*			
1	2	3	4
<b>CLUS2 (N=6101)</b> <i>Hunting and Fishing  Recreation</i> M=16.8	<b>CLUS6 (N=1083)</b> <i>Waterfront Recreation</i> M=21.84 <b>CLUS8 (N=2344)</b> <i>Golf, Sail and Nature  Recreation</i> M=23.04 <b>CLUS1 (N=10024)</b> <i>Adventure Sports  Recreation</i> M=23.99 <b>CLUS3 (N=1973)</b> <i>Gamble and  Entertainment</i> M=24.79	<b>CLUS5 (N=3977)</b> <i>Heritage and Culture</i> M=27.99 <b>CLUS4 (N=10836)</b> <i>Theme Park  Entertainment</i> M=28.21	<b>CLUS7 (N=3072)</b> <i>Festival and Culture  Seekers</i> M=31.51
N=6101	N=15,424	N=14,813	N=3072

\*Means for groups in homogeneous subsets are displayed.

The next homogenous cluster subset consisted of a heritage and culture group (CLUS5, N=3977) and a theme park entertainment group (CLUS4, N=10836). The mean spending for these groups was, respectively, \$27.99 and \$28.21. This heritage and culture group was characterized as visiting historic sites, going to museums/art exhibits, and sightseeing. It was observed that this heritage and culture group was similar with the festival and culture seekers group (CLUS7). However, the most distinct characteristic that differentiated these two clusters was that Clusr7 group participated in festivals, fairs, and went to shows (autos, boats, and antiques). This festival and culture seekers group and spent significantly more on shopping than the other general heritage and culture group, who visited historic sites and going to museums/art exhibits.

The SAS FASTCLUS analysis procedure also generated a tree-dendrogram provided in Figure 4.3. The tree output for the cluster solution result displayed the distances between each cluster group identified using trip activity patterns in the analysis. From the dendrogram, it was observed that the distances between adventure sports recreation group (Clus1), golf, sail and nature recreation (Clus8), and hunting and fishing recreation group (Clus2) were very close to each other. It was also observed that the distances between the gamble and entertainment group (Clus3), theme park entertainment group (Clus4), and heritage and culture group (Clus5) were found to be close to each other.

As the final phase, the two cluster solutions of K-Means clustering and SAS FASTCLUS results were compared. In doing so, the cluster distinctiveness and the practical significance of the clusters were considered as criteria (Hair, Block et al. 2006).

As a result, the FASTCLUS cluster solution was found to be more appropriate, and selected for hypothesis testing. In the following section of this chapter, the hypothesis testing results of the linkage between trip activity and spending on shopping are summarized.

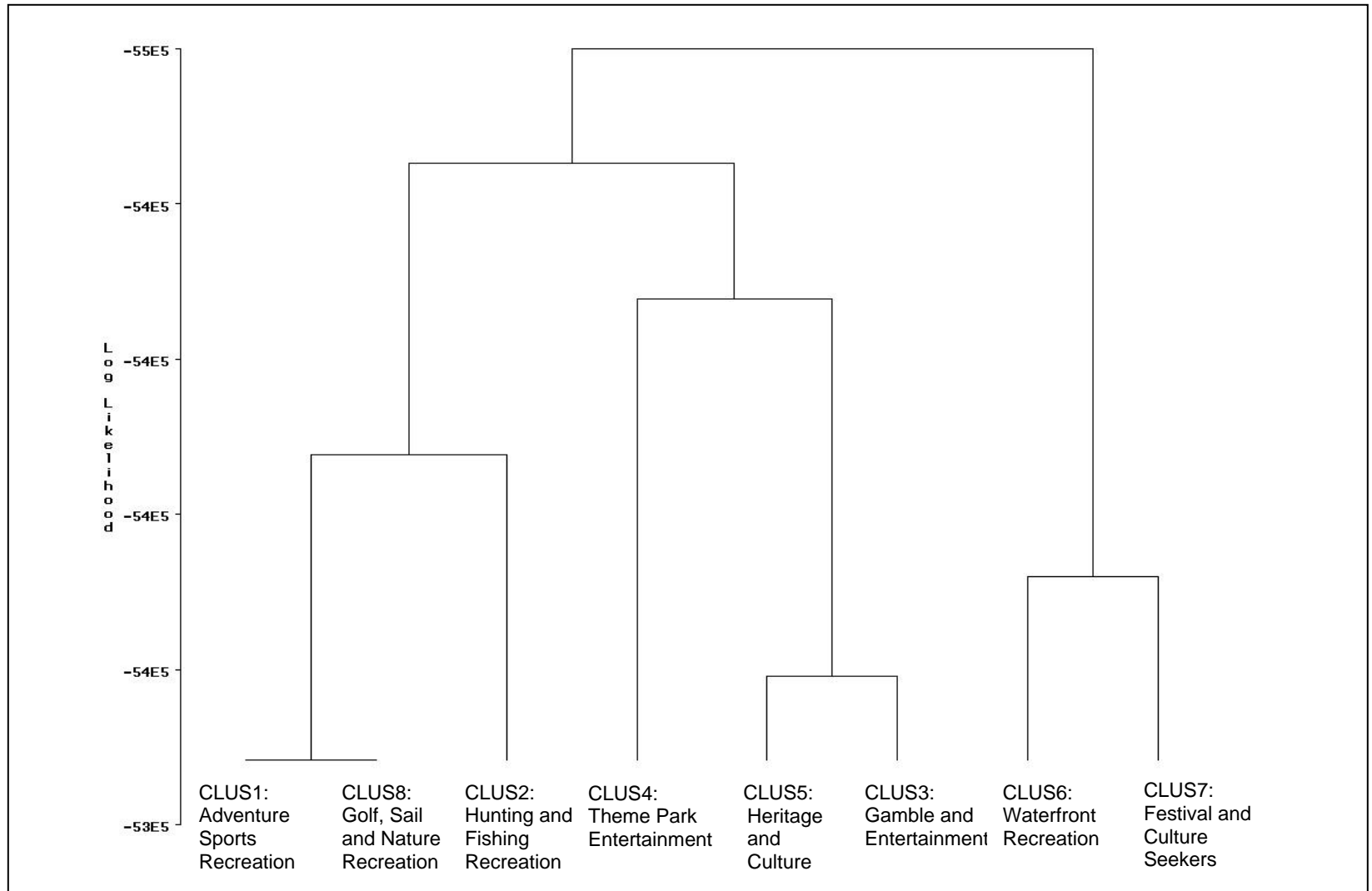
#### Hypothesis Testing of Trip Activity Influence

For hypothesis testing of the relationship between trip activity type and spending on shopping, one-way ANOVA was conducted. In this section, the summary of ANOVA result (Table 4.7 and 4.8 in the previous section) was used for hypothesis testing.

First, Hypothesis 1a, which states that a heritage-cultural tourist will spend more on shopping than other activity groups, was tested using ANOVA analysis of the homogeneous trip activity groups, which were delineated from SAS cluster analysis.

Among the eight distinct activity clusters, two clusters of heritage and culture group (Clus5) and festival and culture seekers group (Clus7) were identified as heritage-culture activity-oriented centered groups. ANOVA result revealed that there was a statistically significant difference at the  $p < .001$  level between the trip activity groups. A Tukey's post hoc analysis was also conducted. It was found that the two cluster groups (Clus5 and Clus7) were among the three groups who spent the most on shopping [(M=27.99, SD=37.27) and (M=31.51, SD=42.29), respectively]. It was observed

FIGURE 4.3  
FASTCLUS OUTPUT OF CLUSTER TREE AND GROUP TYPES



that festival and culture seekers group (Clus7) spent significantly more on shopping (\$31.51 per day per person) than all other groups, followed by general heritage and culture group (Clus5), who spent about \$28 per day per person, and theme park entertainment group (Clus4), spending \$28.21 per day per person. In addition, these three activity type groups were found to be clearly distinctive from the rest of the activity groups, in their shopping expenditures. Therefore, from the findings, Hypothesis 1a, which hypothesized that heritage-cultural tourists will spend more on shopping than other activity groups, is supported.

Next, Hypothesis 1b, which states that active outdoor tourists will spend less on shopping than other activity groups, was also tested from the ANOVA. Among the eight activity clusters, waterfront recreation (Clus6), golf, sail and nature recreation (Clus8), adventure sports recreation (Clus1), and hunting and fishing recreation (Clus2) groups were identified as active outdoor recreation activity-oriented groups. From the result, it was observed that these four active outdoor recreation-oriented groups spent significantly less on shopping than the two heritage and culture groups (Clus7 and Clus5) and the theme park entertainment group (Clus4). Further, it was observed that hunting and fishing recreation group (Clus2) was very distinct among all groups, spending significantly less on shopping (\$16.80 per day per person) than any other groups. This amount was only approximately one half of per person per day spending of festival and culture seekers group (Clus7, \$31.51), who spent significantly the most on shopping. However, no significant differences were found between the three outdoor recreation-oriented groups of waterfront recreation (Clus1), golf, sail and nature recreation (Clus6),

and adventure sports recreation (Clus8) groups and gamble and entertainment (Clus3) group. Therefore, from the findings, Hypothesis 1b, which states that outdoor recreation tourists will spend less on shopping than other activity groups was supported.

In the same way, Hypothesis 1c, which hypothesized that urban-entertainment tourists will spend more on shopping than other activity groups, was tested using ANOVA. From the cluster analysis, two unique entertainment activity groups were identified: theme park entertainment (Clus4), and gamble and entertainment (Clus3) groups. The ANOVA result showed somewhat mixed results. For the two entertainment activity groups, it was found that theme park entertainment group spent significantly more on shopping (\$28.21 per day per person) than all other outdoor recreation groups and gamble and entertainment group (\$24.79 per day per person). However, no significant differences were found between the gambling and entertainment group and three of the outdoor recreation groups. Therefore, Hypothesis 1c, which states that urban-entertainment tourists will spend more on shopping than other activity groups, was supported for theme park entertainment group. However, it was not supported for gamble and entertainment group. Thus, Hypothesis 1c was partially supported from the results. Based on the findings, it is also suggested that gambling-oriented vacationers are different in that they do not spend much on shopping compared to other activity type groups such as theme park entertainment group or heritage and cultural activity groups. Based on the finding, it is also suggested that there exist distinct activity groups within entertainment seeking activities, and that, thus, they need to be treated uniquely.



In summary, Hypothesis 1a and Hypotheses 1b were supported. Hypothesis 1c was partially supported, explained by heterogeneous characteristics exist between gamble and entertainment group and theme park entertainment group. However, overall, from the results, the proposition 1 of this study, which states that trip typology is a significant predictor of tourists' spending on shopping, was supported.

#### Hypothesis Testing of Trip Party Influence

In this section, a hypothesized relationship between the trip party and the spending on shopping was tested using a multiple regression analysis. In this model, three independent variables of number of adult males; number of adult females; and number of aged 0-17 were used as predictors for spending on shopping, and the model was formulated as shown below.

$$E(y) = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3$$

Where  $y$  = spending on shopping,

$x_1$  = number of adult male,  $x_2$  = number of adult female, and

$x_3$  = number of aged 0-17 in the trip party

First, the normality of the distributions of the variables in the model was assessed and the assumptions were checked. As a result, the independent variable of spending on shopping was log-transformed using logarithm to improve analysis, following recommendations of Tabachnick and Fidell (2007). The result of the multiple regression analysis is presented in Table 4.9.

The overall model was found to be significant ( $F=397.289$ ,  $p<.001$ ). It was further found that the model explained 5.6 percent of variance changes ( $R^2 = .056$ , adj.

$R^2=.056$ ). The  $R^2$  values were found to be very similar, indicating that the cross-validity of this model is very good (Field 2003). Durbin-Watson statistic (=1.589) informed that the assumption of independent errors had been met. All VIF values were found to be very close to 1, confirming that the assumption of no multicollinearity was also met. The assumptions on normality, linearity, and homoscedasticity of residuals were all tested, and the results indicated no violation of the assumptions (Appendix C).

For the model parameters, the result was interpreted as log transformed values. Thus, it was predicted that the dependent variable would change  $100 \times (\text{Beta coefficient})$  percent for one unit increase in the independent variables in the model. The results are provided in Table 4.9.

TABLE 4.9  
MULTIPLE REGRESSION ANALYSIS RESULTS OF TRIP PARTY AND  
SHOPPING EXPENDITURES

Model*	B	SE	$\beta$	F	$R^2$	$R_{\text{adj}}^2$
	1.372	.009	.009***	152.378	.056	.056
Number of Adult Males	-.040	.005	-.056***	-7.771		
Number of Adult Females	.031	.004	.051***	6.983		
Number of aged 0-17	-.107	.003	-.221***	-32.142		

Note. \*Dependent variable was log-transformed.

\*\*\* $p < .001$

The result showed that the number of children aged 0-17 in the trip party made the strongest unique contribution to the predictability of the model, followed by the number of male adults and the number of female adults in the trip party. It was demonstrated that an increase of one child aged 0-17 in the trip party would result in an approximately 11 percent decrease in spending on shopping, when other independent variables are held constant. In the same way, it was predicted that an increase of one adult male in the trip party would result in a 4 percent decrease in spending on shopping, while an increase of one adult female in the trip party was predicted to result in a 3.1 percent increase in spending on shopping.

Hypothesis 2a, which states that the number of adult females in the trip party will positively influence tourists' spending on shopping was supported. Hypothesis 2b, which states that the number of males in the trip party will negatively influence tourists' spending on shopping was also supported. Likewise, Hypothesis 2c, which states that the presence of children in the trip party will negatively influence tourists' spending on shopping was supported. In summary, it was found that the number of adult males, females, and children in a trip party is a significant predictor that affects tourists' spending on shopping, though it explains about 6 percent of the variances in shopping expenditures.

#### Hypothesis Testing of Destination Environment Dimension

In this section, the hypothesized relationship between the perceived value of a destination, destination type, and tourist spending on shopping was tested using multiple regression analysis. In the questionnaire, the respondents were asked to rate the

perceived value of destination on a scale from 1 to 10. The responses were then interpreted as the 'perceived value for money spent at the destination' (DKS & A 2005). A descriptive statistic showed that the mean value for perceived value of the destination was 7.57 (SD=2.06). In this study destination types were categorized into either an urban or rural destination environment according to the definition of the Census Bureau (2000). The Census Bureau defined urban areas as 'territories, population, and housing units located within census blocks that have a population density of at least 1,000 people per square mile and its surrounding areas, that have an overall density of at least 500 people per square mile (Census Bureau 2000). The rural area was defined as 'units located outside of urban areas' (Census Bureau 2000). For the classification of destination types, the data was processed using SAS 9.1 package to classify each destination's zip code into either urban or rural areas. From the result, a descriptive statistic showed that 7.1 percent of the destinations visited by the respondents were classified as rural destination areas, and 85.1 percent of the destinations were categorized into urban destination areas.

To test the hypothesized relationship between the destination environment and spending on shopping, a multiple regression model that included both quantitative and categorical independent variables was formulated as shown below.

$$E(y) = \beta_0 + \beta_1 x_1 + \beta_2 C_1$$

Where  $y$  = spending on shopping

$x_1$  = perceived value rating of destination, and

$C_1$  = destination type (where 1= urban, 0=rural)

Results of the multiple regression analysis are presented in Table 4.10. For the model fitness, it was found that the model explained 0.2 percent of variance change in the dependent variable. The overall relationship was found to be significant ( $p < .001$ ). Durbin-Watson statistic ( $=1.563$ ) informed that the assumption of independent errors had been met, and VIF values confirmed that the assumption of no multicollinearity was met. Also, the assumptions on normality, linearity, and homoscedasticity of residuals were all met (Appendix C).

The result showed that both perceived value of the destination and destination type uniquely contributed to the model's predictability of spending on shopping. Among the two predictors, it was found that the destination type made a large contribution to the model's predictability than the perceived value rating. It was found that one rating unit increase in the perceived value of destination would result in a 0.8 percent increase in spending on shopping. Also, it was predicted that if it is an urban destination, spending on shopping would be increased by 4.7 percent over a rural destination.

TABLE 4.10  
MULTIPLE REGRESSION ANALYSIS RESULTS OF DESTINATION  
ENVIRONMENT ON SPENDING ON SHOPPING

Model*	B	SE	$\beta$	F	$R^2$	$R_{adj}^2$
	1.226	.018		24.692**	.002	.002
Perceived Value of Destination	.008	.002	.037***			
Urban	.047	.013	.025***			

Note. \*Dependent variable was log-transformed. \*\*\* $p < .001$

Hypothesis 3a, which states that perceived value of the destination will positively influence tourists' spending on shopping, was supported. Also, hypothesis 3b, which states that urban destination type will positively influence tourists' spending on shopping was supported. Likewise, Hypothesis 3c, which states that rural destination type will negatively influence tourists' spending on shopping was supported, though it explains about .2 percent of the variables in trip expenditures.

#### Hypothesis Testing of Trip Type and Transportation Mode

##### T-test on Trip Type and ANOVA on Transportation Mode

In this section, the influence of trip type and transportation mode on spending on shopping was investigated. In this study, trip type indicates whether the trip was a group tour or a non group tour. Transportation was classified into four categories car, airplane, public transportation (e.g., train, bus, and etc), and other modes. For hypothesis testing, t-test and one-way ANOVA analysis were used.

First, an independent-samples t-test was conducted to compare the spending on shopping between the respondents who participated in a group tour and those who participated in a non-group tour. Descriptive statistics revealed that 6.0 percent of the respondents took group tours, while 94.0 percent of the respondents took non group tours for their leisure trips. The t-test result is provided in Table 4.11. An independent-samples t-test result showed that there was a statistically significant difference ( $t(2437.8) = -2.312$ , Sig. = .021) in spending on shopping between the leisure travelers

who chose a group tour (M=21.87, SD=33.43) and those who took independent trips (M=23.61, SD=35.94) at  $p < .05$  level.

TABLE 4.11  
INDEPENDENT-SAMPLES T-TEST FOR GROUP TYPES FOR SPENDING ON SHOPPING

Trip Type	N	Mean	Std. Deviation	t	df	Sig.
Group Tour Participants	2118	21.87	33.43	-2.312	2437.8	.021**
Non group Tour Participants	3339	23.16	35.94			
	5					

Note: \*\* $p < .05$

Therefore, Hypothesis 4a, which states that trip type will influence tourists' spending on shopping was supported. It was found that leisure travelers who take independent trips would spend more (M=23.16) on shopping than travelers who participate in group tours (M=21.87).

Next, a one-way between-group ANOVA was conducted to explore the differences in spending on shopping between the leisure travelers who used four different modes of transportation. The frequency result showed that 76.5 percent of the respondent used cars, including campers and RVs, followed by airplanes (18.5%), public transportations (3.6%), and other transportation modes (1.5%). The one-way ANOVA result showed that there was a statistically significant difference (F=25.970, Sig.=.000) in spending on shopping between the four groups of different transportation modes (Table

4.12). Tukey's post hoc analysis revealed that leisure travelers who chose airplanes (M=28.20) as their mode of transportation spent significantly more on shopping ( $p<.05$ ) than the travelers who used other types of transportation: cars (M=24.32) and public transportation (M=21.00) (Table 4.13).

TABLE 4.12  
ONE-WAY ANOVA OF EFFECT OF TRANSPORTATION MODE ON SPENDING  
ON SHOPPING

Transportation Mode	Mean (\$)	df	F	<i>p</i> value
Public transportation	\$21.00	3	25.970	<.05*
Other	\$21.38			
Car	\$24.32			
Air	\$28.20			

Note: \* $p<.05$

TABLE 4.13  
POST HOC ANALYSIS OF EFFECT OF TRANSPORTATION MODE ON  
SPENDING ON SHOPPING

Transportation Mode	N	Homogeneous subset	
		1	2
Public transportation	1364	M=21.00	
Other	561	M=21.38	
Car	29204	M=24.32	
Air	7059		M=28.20

Note: Sig.<.05



Hypothesis 4b which states that the mode of transportation will influence tourists' spending on shopping, was supported indicating that leisure travelers who used airplanes as their transportation mode spent significantly more on shopping, than leisure travelers who used other types of transportation.

#### Hypothesis Testing of the Individual Traveler Characteristics

This section examined the influence of individual traveler's characteristics of household income and age on spending on shopping. A multiple regression analysis was used for hypothesis testing. In the model, age of the respondents and five household income groups were included and analyzed together as independent variables to investigate how well they predict dependent variable of spending on shopping. In addition, ANOVA test was employed to investigate mean differences in shopping expenditure between the three education groups.

First, a non-linear relationship between age and spending on shopping was hypothesized, based on the literature review. Therefore, a curve fitting test using SPSS 14.0 was conducted and the result was assessed for inclusion of a quadratic term for this variable (Mendenhall & Sincich 2003). As a result, a curvilinear relationship between age and spending on shopping was detected, and a quadratic term for age was included as an independent variable in this model. Thus, the second-order regression equation model was formulated as shown below.

$$E(y) = \beta_0 + \beta_1 x_1 + \beta_2 x_1^2 + \beta_3 C_1 + \beta_4 C_2 + \beta_5 C_3 + \beta_6 C_4$$

Where  $y$  = spending on shopping (log)

$x_1$  = age of the respondent     $x_1^2$  = age of the respondent squared

C<sub>0</sub>= income group1, reference group (less than \$19,999)

C<sub>1</sub>= income group2 (between \$20,000 and \$49,999)

C<sub>2</sub>= income group3 (between \$50,000 and \$99,999)

C<sub>3</sub>= income group4 (between 100,000 and 174,999)

C<sub>4</sub>= income group5 (175,000 and over)

Results of multiple regression analysis are presented in Table 4.14. For the model fitness, it was found that 0.7 percent of the variance in the dependent variable is explained by the model ( $R^2 = .007$ , adj.  $R^2 = .007$ ). Durbin-Watson statistic (=1.544) informed that the assumption of the independent errors had been met. The test for assumptions on normality, linearity, and homoscedasticity of residuals indicated no violation of the assumptions.

TABLE 4.14  
MULTIPLE REGRESSION ANALYSIS RESULT OF AGE AND HOUSEHOLD  
INCOME ON SPENDING ON SHOPPING

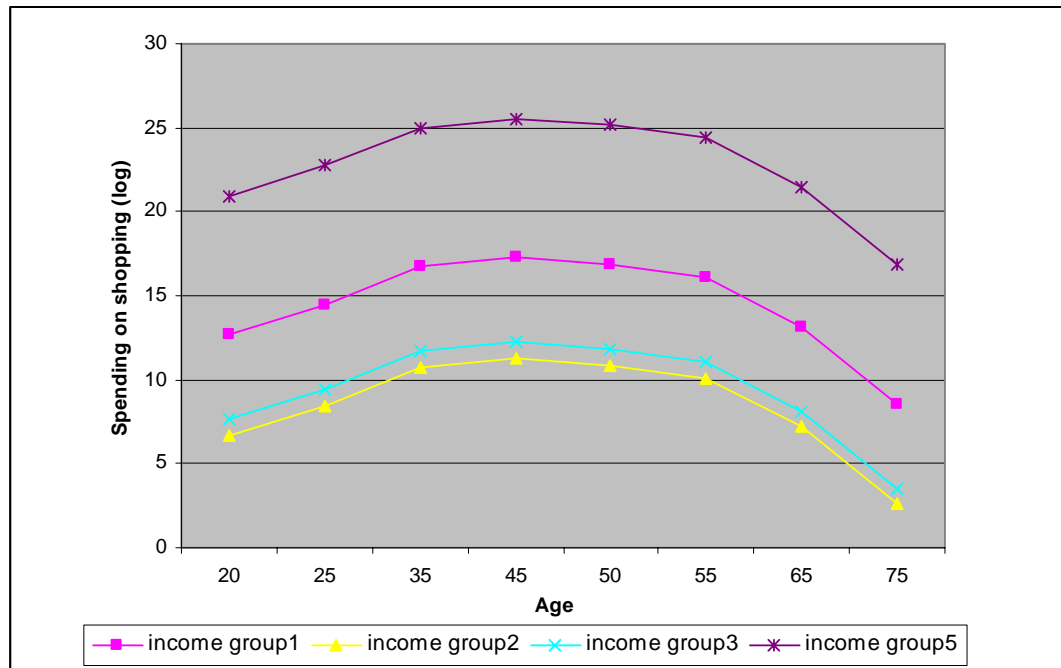
Model*	B	SE	$\beta$	F	$R^2$	$R_{adj}^2$
	1.256	.035		29.133*	.007	.007
Age	.007	.001	.216***			
Age squared	-8.6E-005	.000	-.251***			
Income group2	-.060	.013	-.058***			
Income group3	-.050	.013	-.053***			
Income group4	-.008	.014	-.006			
Income group5	.083	.020	.032***			

Note. \*Dependent variable was log-transformed. \*\*\*p<.001

For the model parameters, it was found that all of the independent variables, except the income group4 (between 100,000 and 174,999), made a significant ( $p < .001$ ) unique contribution to the predictability of spending on shopping. Because the range of the independent variable of age did not include 0, the estimated coefficients did not have a meaningful interpretation in this quadratic model (Mendenhall and Sincich 2003). The sign of the coefficient of the quadratic term of age indicated a concave downward curve for this model. To further investigate the relationship pattern between ages and spending on shopping, the model was plotted in a graph and presented in Figure 4.4. It revealed that spending on shopping would increase as one unit of the independent variable (1 year) increases, and then would show a downward trend past the data point between age 45 and 55.

From the result, household income was also found to be a useful predictor for leisure travelers' spending on shopping. It was found that the highest household income group would spend 8.29 percent more on shopping than the lowest income group. Also, it was found that the highest income groups spent, respectively, 5.9 percent and 5.0 percent more on shopping, than the second and the third lowest income groups. However, interestingly, it was found that the lowest income group spent more on shopping than income group 2 and income group 3. Except for the result found between the lowest income group and higher income groups 2 and 3, results indicated that household income level positively influences the spending level on shopping during leisure trips.

FIGURE 4.4  
A PLOTTING OF THE QUADRATIC REGRESSION RELATIONSHIP BETWEEN  
AGE AND HOUSEHOLD INCOME AND SPENDING ON SHOPPING



Next, one-way ANOVA analysis was used to test if there exist differences in spending on shopping between the three education groups: up to high school (17.1%); some college level (35.5%); and at least a bachelor degree (47.5%). Among the three groups, the highest education group (with at least a bachelor degree) spent slightly more on shopping (\$25.82) than the other two groups (up to high school,  $M = \$24.56$  and some college level (1-3 years),  $M = \$24.67$ ) (Table 4.15). ANOVA result showed a difference between the groups at  $p < .05$  level, however, Tukey's post hoc analysis revealed no statistically significant difference between the groups ( $p > .05$ ) (Table 4.16).

TABLE 4.15  
ONE-WAY ANOVA OF EFFECT OF EDUCATION LEVEL ON SHOPPING  
EXPENDITURE

Education	Frequency (%)	Mean (\$)	df	F	<i>p</i> value
Up to High School	17.1	\$24.56	2	3.962	<.05*
Some College (1-3 years)	35.5	\$24.67			
At least a Bachelor Degree	47.5	\$25.82			

Note: \* $p < .05$

TABLE 4.16  
POST HOC ANALYSIS OF EFFECT OF EDUCATION ON SHOPPING  
EXPENDITURE

Education	N	Homogeneous subset
		1
Up to High School	6160	M=24.56
Some College (1-3 years)	17125	M=24.67
At least a Bachelor Degree	12802	M=25.82

Note: Sig.<.05

Therefore, Hypothesis 5a, which states that household income will positively influence tourists' spending on shopping, was supported. It was predicted that household income level would positively influence leisure travelers' spending on shopping. Also, hypothesis 5b, which states that age is associated with tourists' spending on shopping, was supported. A curvilinear relationship was found between ages and spending on shopping, and it was found that age positively influences spending on shopping for

leisure travelers between the ages of 20 and 45. However, it was found that the curve would show a downward pattern on the spending on shopping, for travelers aged over 50. In addition, it was found that education level is not associated with leisure traveler's spending on shopping. In the following section, the relationship between season of trip and spending on shopping is tested.

#### Hypothesis Testing of the Season of Trip

This section explored the relationship between season of trip and spending on shopping. A Chart of travel months and per day per person shopping expenditures is presented in Figure 4.5. In this study, spring, summer, winter, and fall seasons were compared; summer season included June, July, and August; winter season included November, December, and January; spring included February, March, April, and May; and fall included September and October. A Chart of trip seasons and per day per person shopping expenditure is also presented in Figure 4.6.

A one-way ANOVA was conducted to explore the influence of season on spending on shopping. Results of the one-way ANOVA are presented in Table 4.17. A statistically significant difference ( $F=71.251$ ,  $\text{Sig.}=.000$ ) was found in spending on shopping between the four groups of seasons ( $p<.001$ ). Results of the Tukey's post hoc test revealed that leisure travelers spent significantly more on shopping during winter season ( $M=30.54$ ), than during spring ( $M=24.27$ ), fall ( $M=26.38$ ), and summer ( $M=22.34$ ) seasons (Table 4.18). Differences ( $p<.001$ ) were also found between spring ( $M=24.27$ ), fall ( $M=26.38$ ), and summer ( $M=22.34$ ) seasons.

FIGURE 4.5  
TRAVEL MONTH AND MEAN SHOPPING EXPENDITURES

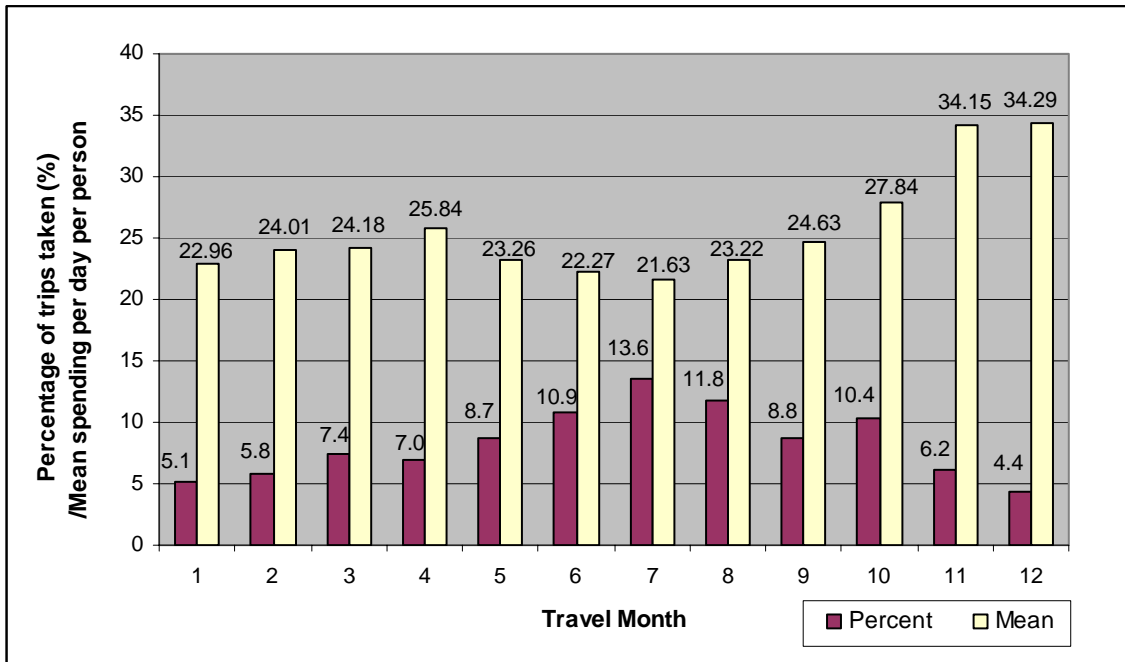


FIGURE 4.6  
TRIP SEASON AND MEAN SHOPPING EXPENDITURES

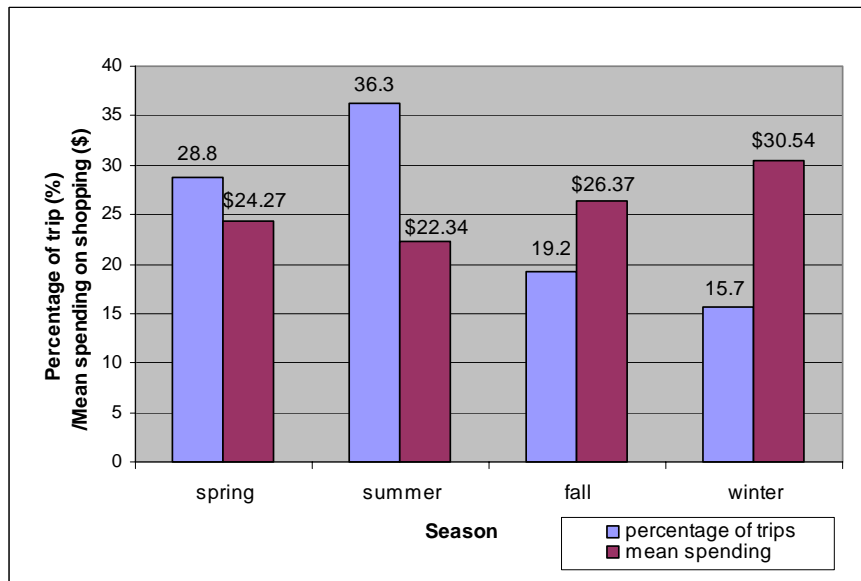


TABLE 4.17  
ONE-WAY ANOVA OF EFFECT OF SEASON OF TRIPS ON SPENDING ON SHOPPING

Season of Trip	Mean (\$)	df	F	Sig.
Spring	\$24.27	3	71.251	.000***
Summer	\$22.34			
Fall	\$26.38			
Winter	\$30.54			

Note: \*\*\*p<.001

TABLE 4.18  
POST HOC ANALYSIS OF EFFECT OF SEASON OF TRIPS ON SHOPPING EXPENDITURES

Season of Trip	N	Homogeneous subset			
		1	2	3	4
Spring	11369	M=22.33			
Summer	14305		M=24.27		
Fall	7551			M=26.37	
Winter	6185				M=30.54

Note: Sig.=.05

Therefore, Hypothesis 6a, which states that summer season will negatively influence tourists' spending on shopping, was supported. Likewise, Hypothesis 6b, which states that winter season will positively influence tourists' spending on shopping, was



supported. In summary, it was found that season of trip is a significant predictor that explains tourists' spending on shopping.

#### Testing of Full Conceptual Model

Finally, in this section, all the independent variables that were found to be statistically significant in the previous sections were included to test the proposed full conceptual model. To do this, all the independent variables except for education level were utilized to predict tourists' shopping expenditures. Multiple regression analysis was employed, and the results are presented in Table 4.19. For the overall model fitness, it was found that approximately 10% of the variance in the dependent variable was explained by the model ( $R^2 = .094$ , adj.  $R^2 = .093$ ). Durbin-Watson statistic ( $= 1.624$ ) informed that the assumption of the independent errors had been met. The assumptions for normality, linearity, and homoscedasticity of residuals were checked using residuals plots, and the results indicated no violation of the assumptions. The standardized residual plots for normality, normal p-p plot for linearity, and homoscedasticity showed very good fit for the normality, linearity, and homoscedasticity tests (Appendix C).

For the individual model parameters, it was found that age of the respondent and the number of children in the trip party made the most significant unique contributions to the predictability of the model. Also, the number of males and females in the trip party, season of travel, trip activity types and household income made the second most significant contribution in predicting the dependent variable in this model, followed by perceived value of destination and destination type.

In addition, by dimensions, the result showed that trip related characteristics, which included trip party, season of travel, and trip activity type combined made the most significant contribution in explaining the variance of the dependent variable ( $R^2$  changed=.071). Individual travelers' characteristics of age, and household income combined explained 2.1% of the variance ( $R^2$  changed =.021), and the destination environment dimension was found to made the smallest contribution in the overall predictability of the model ( $R^2$  changed=.001).

### Summary of Findings

#### Trip Activity Type

This study hypothesized that trip activity is closely associated with leisure travelers' spending on shopping. Specifically, Hypothesis 1a stated that heritage and cultural activity is positively associated with tourists spending on shopping. Hypothesis 1b predicted that outdoor activity is negatively associated with leisure travelers' spending on shopping. Lastly, Hypothesis 1c stated that urban-entertainment activity is positively associated with leisure travelers' spending on shopping. To empirically examine the hypotheses, cluster analysis of trip activities was employed to generate similar trip activity groups. Cluster analysis using SPSS K-Means and SAS FASTCLUS was conducted and the results were compared. Results generated eight distinct activity groups: adventure sports recreation; hunting and fishing recreation; gambling and entertainment; theme park entertainment; heritage and culture; waterfront recreation; festival and culture seekers; and golf, sail, and nature recreation.

TABLE 4.19  
 MULTIPLE REGRESSION RESULTS OF FULL CONCEPTUAL MODEL

Model	B	SE	$\beta$	t	R <sup>2</sup> changed	R <sup>2</sup>	R <sub>adj</sub> <sup>2</sup>
Constant	1.297	.047		26.876		.094	.093
Adventure Sports and Park Recreation <sup>1</sup>	-.048	.013	-.043***	-3.683	.010		
Hunt/Fish and Water Recreation	-.073	.015	-.046***	-4.866			
Gamble Entertainment	.028	.019	.016	1.816			
Theme/Amusement Park Entertainment	.006	.013	.007	.596			
Heritage and Culture Activity	-.053	.014	-.039***	-3.687			
Waterfront and Park Recreation	-.097	.023	-.037***	-4.301			
Golf, Sail, and Nature Recreation	-.031	.018	-.011	-1.676			
Spring <sup>2</sup>	-.078	.011	-.073***	-8.187	.013		
Summer	-.112	.011	-.116***	-10.486			
Fall	-.061	.012	-.050***	-5.085			
Number of Adult Males in Trip Party	-.0486	.006	-.063***	-8.187	.048		
Number of Adult Females in Trip Party	.031	.005	.054***	6.261			
Number of Children (aged 0-17)	-.120	.004	-.249***	-30.228			

TABLE 4.19 (CONTINUED)

Model	B	SE	$\beta$	t	R <sup>2</sup> changed	R <sup>2</sup>	R <sub>adj</sub> <sup>2</sup>
Perceived Value of Destination	.007	.002	.030***	4.291	.001		
Rural Destination <sup>3</sup>	-.037	.014	-.020**	-2.581			
Age	.010	.002	.280***	5.893	.016		
Age Squared	.000	.000	-.395***	-8.222			
Income group 2 (20,000-49,999) <sup>4</sup>	-.024	.017	-.024	-1.604	.005		
Income group 3 (50,000-99,999)	.017	.017	.019	1.038			
Income group 4 (100,000-174,999)	.065	.018	.037*	3.524			
Income group 5 (175,000 and over)	.153	.025	.049***	6.105			
Public transportation (train, bus etc.) <sup>5</sup>	-.027	.023	-.019*	-1.158	.001		
Cars (auto, RV, camper)	.011	.008	.003	1.274			
Other transportation (ship etc.) <sup>6</sup>	-.074	.030	-.024**	-2.450			
Group tour	-.034	.017	-.016*	-2.054	.000		

Note: For categorical variables in the model, 1 Festival and Culture Seekers; 2 Winter; 3 Urban destination; 4 Income group; 1 (less than 19,999); 5 Air; and 6 Non-group tour were used as reference groups

Dependent variable was log-transformed

\*\*\*p<.001, \*\*p<.01, \*p<.05

Further, ANOVA was employed to examine the mean differences in shopping expenditures between the eight activity groups. As a result, Hypothesis 1a, which predicted that heritage-cultural tourists will spend more on shopping than other activity groups, was supported. Also, Hypothesis 1b, which predicted that active outdoor tourists will spend less on shopping than other activity groups, was supported. However, Hypothesis 1c, which predicted that urban-entertainment tourists would spend more on shopping than other activity groups, was only partially supported. More specifically, from the cluster analysis, two unique entertainment groups were identified; theme park entertainment and gambling and entertainment. ANOVA results revealed that the theme park entertainment group spent significantly more on shopping than all the groups that were characterized as outdoor recreation groups and the gambling and entertainment group. Meanwhile, the results showed that there was no significant difference in spending on shopping between the gambling and entertainment group and all outdoor recreation groups. This finding indicated that there exist two distinct types of entertainment groups and that they are very different in their spending behavior on shopping.

#### Trip Party

This study postulated that trip party is a significant factor that influences tourists' spending on shopping, based on the literature from sociology and consumer behavior studies (Tauber 1972; Ng 2003; Snepenger, Murphy, O'Connell & Gregg 2003). Specifically, this study hypothesized that the number of adult females in the trip party would positively influence tourists' spending on shopping. Meanwhile, this study

hypothesized that the number of adult males in the trip party, and the presence of children (aged 0-17) in the trip party would negatively influence tourists' spending on shopping.

To empirically examine this, a multiple regression analysis was conducted to examine the associations between number of adult females, adult males, and the presence of children in the trip party and tourists spending on shopping. Results supported these hypotheses. Therefore, it was concluded that the number of female adults in the trip party positively influences spending on shopping. Conversely, it was found that the number of male adults and the presence of children in a trip party negatively influence spending on shopping. In summary, trip party was found to be a significant predictor that influences leisure traveler's spending on shopping.

#### Perceived Value of Destination and Destination Type

This study postulated that destination environment is an important factor that influences tourists' spending behavior on shopping. Specifically, this study hypothesized that perceived value of a destination positively influences tourists' spending on shopping. Also, this study hypothesized that urban destination environment positively influences tourists' spending on shopping. Alternatively, it was predicted that rural destinations negatively influence tourists' spending on shopping.

To empirically examine this, multiple regression was employed. The result supported Hypothesis 3a, which predicted that the perceived value of a destination would positively influence tourists' spending on shopping. It was concluded that the higher the perceived value rating of a destination, the more tourists will spend on shopping.

Hypothesis 3b, which posited that urban destination type would positively influence

tourists' spending on shopping, and Hypothesis 3c, which predicted that rural destination type would negatively influence tourists' spending on shopping were also supported.

From the findings, it is concluded that the destination environment is a significant predictor of leisure traveler's spending behavior on shopping.

#### Household Income and Age

This study hypothesized that household income and age are associated with tourists' spending on shopping. Specifically, this study hypothesized that household income positively influences tourists' spending on shopping. Also, this study speculated that age is associated with tourists' spending on shopping. To empirically examine this, a multiple regression analysis was conducted.

From the results, Hypothesis 5a, which predicted that household income would positively influence tourists' spending on shopping was partially supported. Interestingly, it was found that the lowest income group (less than \$19,999) spent significantly more on shopping than all other income groups, except for the highest income groups (\$175,000 and over). Except for the lowest income group, results supported Hypothesis 5a, that household income would positively influences tourists spending on shopping.

Meanwhile, Hypothesis 5b, which posited that age is associated with tourists' spending on shopping was supported. From the results, a curvilinear relationship between age and spending on shopping was found. It was found that spending on shopping increases as age increases for those aged 18 to 45, however, spending on shopping decreases as age increases from age 50 to older.

In summary, it was concluded that, household income positively influences leisure travelers' spending on shopping. Also, it was concluded that age is associated with leisure travelers spending behavior on shopping.

#### Trip Type and Transportation Mode

In this study, it was speculated that trip type (group tour versus non-group tour) and transportation mode influence tourists' spending on shopping. Specifically, this study hypothesized that trip type influences tourists' spending on shopping. Also, this study hypothesized that transportation mode influences tourists' spending on shopping.

To empirically test this, a t-test and one way ANOVA were conducted. The t-test revealed that leisure travelers who took a non-group tour spent significantly more on shopping than travelers who took a group tour. Thus, Hypothesis 4a which predicted that trip type influences tourists' spending on shopping was supported. The ANOVA result supported Hypothesis 4b, which predicted that transportation mode influences tourists' spending on shopping. The results further showed that leisure travelers who traveled by air spent significantly more on shopping, than travelers who used other types of transportation. In summary, therefore, it is concluded that trip type and transportation mode influence leisure tourists' spending behavior on shopping.

#### Season of Trip

This study further hypothesized that season of trip influences tourists' spending on shopping. Specifically, Hypothesis 6a predicted that summer would negatively influence tourists spending on shopping. Alternatively, Hypothesis 6b predicted that winter would positively influence tourists' spending on shopping. To empirically test this, one-way



ANOVA was conducted to compare the influence of each of the four seasons on tourists' spending on shopping. In this study, June, July, and August were categorized as summer, and November, December, and January were categorized as winter season. Also, February, March, April, and May were categorized as spring, and September and October were categorized as fall.

Results revealed that hypothesis 6a and hypothesis 6b were supported. It was found that leisure travelers spent significantly more on shopping during winter season than all other seasons. Conversely, it was found that leisure travelers spend significantly less on shopping during the summer season than all other seasons. It was also reveal that the four seasons were significantly different in spending on shopping, and that the fall trip group spent more than the spring trip group.

Finally, all the independent variables were included to test the full conceptual model using a multiple regression analysis. For the individual model parameters, it was found that age of the respondent and the number of children in the trip party made the most significant unique contributions to the predictability of the model. Also, the number of males and females in the trip party, season of travel, trip activity type and household income made the second most significant contribution in predicting the dependent variable in this model, followed by perceived value of the destination and destination type. By dimensions, trip related characteristics which included trip party, season of travel, activity type made the most significant contribution to the predictability of shopping expenditures, followed by individual travelers' characteristics of age and

household income, and the destination environment dimension. The findings from the hypotheses testing are summarized and presented in Table 4.20.

TABLE 4.20  
SUMMARY OF FINDINGS

Hypothesized Relationship	Results
<p>H1a: Heritage culture activity tourists will spend more on shopping than other activity groups.</p> <p>H1b: Active outdoor tourists will spend less on shopping than other activity groups.</p> <p>H1c*: Urban-entertainment tourists will spend more on shopping than other activity groups.</p>	<p><b>8 distinct Activity groups were found</b></p> <p><b>All Supported</b> (with *H1c partially supported, due to two types of unique entertainment groups were found)</p> <p>Consistent with literature, overall, trip activity typologies were found to significant predictors that influence tourists' spending on shopping.</p>
<p>H2a: The number of female adults in the trip party will positively influence tourists' spending on shopping</p> <p>H2b: The number of males in the trip party will negatively influence tourists' spending on shopping</p> <p>H2c: The presence of children in the trip party will negatively influence tourists' spending on shopping</p>	<p><b>All supported</b></p> <p>Trip party was found to be a significant predictor that influences tourists' spending on shopping.</p>
<p>H3a: Perceived value of the destination will positively influence tourists' spending on shopping</p> <p>H3b: Rural destination type will negatively influence tourists' spending on shopping</p> <p>H3c: Urban destination type will positively influence tourists' spending on shopping</p>	<p><b>All supported</b></p> <p>Perceived value of destination and destination type (urban versus rural) were found to be significant predictors that influence tourists' spending on shopping.</p>

TABLE 4.20 (CONTINUED)

Hypothesized Relationship	Results
<p>H4: Trip type will influence tourists' spending on shopping was supported.</p> <p>H4b: Mode of transportation will influence tourists' spending on shopping</p>	<p><b>All supported</b> It was found that non-group travelers and air travelers would spend more on shopping, than travelers who chose a group tour/other types of transportation modes.</p>
<p>H5a: household income will positively influence tourists' spending on shopping</p> <p>H5b: Age is associated with tourists' spending on shopping</p> <p>H5c: Education is associated with tourists' spending on shopping</p>	<p><b>Partially Supported</b> Interestingly, it was found that the lowest income category group would spend more on shopping than higher income groups, except for the highest income group.</p> <p><b>Supported</b> A curvilinear relationship was found between ages and spending on shopping.</p> <p><b>Not supported</b> No statistically significant difference was found among the three education groups.</p>
<p>H6a: summer season will negatively influence tourists' spending on shopping</p> <p>H6b: winter season will positively influence tourists' spending on shopping</p>	<p><b>All supported</b> Season of trip was found to be a significant predictor that influences tourists' spending on shopping. It was found that all four seasons were significantly different from each other in shopping expenditures.</p>

## CHAPTER V

### CONCLUSIONS AND IMPLICATIONS

This final chapter consists of three sections. The first section reviews findings reported in Chapter IV. The next section discusses the theoretical and managerial implications of the findings. Finally, based on the findings and results of the current study, the limitations of this study are discussed and recommendations for future research are provided.

#### Review of the Findings

The purpose of this study was to increase knowledge of tourist shopping by identifying key factors related to tourist shopping and to provide a conceptual model of tourists' shopping expenditures. In so doing, this study explored the influence of three types of variables; individual traveler characteristics; trip characteristics; and the destination environment on tourists' spending on shopping. Based on the literature review, in each variable, subsets of the variables such as, trip activity type, the number of adult males, adult females, and children in the trip party, the season of trips, destination types, a perceived value of destination, and household income and age were included to be investigated for their influence on spending on shopping. A conceptual model of tourists' shopping expenditure was developed and the hypothesized relationships were empirically tested. In this chapter, the findings from the hypothesis testing are discussed.

#### Trip Characteristic Dimension

This study attempted to explore the dimensional influence of trip related characteristics on leisure travelers' spending on shopping. In the current study, the trip

characteristic dimension was comprised of trip activity dimension, trip party, and other trip related factors, including season of trip, trip type and transportation mode.

### *Trip Activity*

Based on previous research that has explored trip typology as a useful indicator for shopping behavior (Littrell, Baizerman et al. 1994; Kinley et al. 2003; Oh et al. 2004), this study postulated that trip activity is a significant predictor that explains tourists' spending on shopping. The present study focused on the three trip types of; heritage-cultural; outdoor recreation; and urban-entertainment activity.

Results of cluster analyses generated eight distinct activity cluster groups. Further, empirical finding of this study found significant differences in shopping expenditure between the three activity types. Consistent with previous findings in tourism literature, the heritage and cultural activity groups were found to be positively associated with spending on shopping. Also congruent with literature in tourism, outdoor recreation activity groups were found to be negatively associated with spending on shopping. That is, active outdoor tourists were found to spend significantly less on shopping during their leisure trips than heritage and cultural activity groups and theme park entertainment groups. Further, it was found that two entertainment groups were different in their spending on shopping. Theme park entertainment group was found to be positively associated with spending on shopping, meanwhile, gamble and entertainment group was found to be negatively associated with spending on shopping. It was found that there was no significant difference in spending on shopping between this group and all for types of outdoor recreation-oriented groups identified in this study.

In summary, the empirical findings of this study indicate there is a close association between trip activity and leisure travelers' spending behavior on shopping. Further, it is supported that heritage, cultural, and theme park oriented urban-entertainment activities are associated with higher spending on shopping. Conversely, it was found that active outdoor recreational and gambling oriented entertainment activity types are associated with comparatively lower spending on shopping.

#### *Trip Party*

Based on extant literature (Jansen-Verbeke 1990; Crick-Furman et al. 2000), this study speculated that trip party is a significant factor that influences tourists' shopping behavior. Specifically, consistent with literature, the empirical findings of this study indicate that the number of adult females in the trip party positively influences tourists' spending on shopping. Also, congruent with the predictions, it supported that the number of adult males and the presence of children in the trip party negatively influence tourists' spending on shopping. Collectively, this finding confirmed that trip party is a factor that shapes tourists' behaviors at destinations. In summary, the findings of the current study suggest that trip party is a significant factor in understanding tourists' consumption and expenditure patterns at their destination.

### Destination Environment Dimension

Based on review of literature, this study further postulated that destination environment is an important construct that influences tourists' shopping behavior (Jansen-Verbeke 1988; Turner et al. 2001; Lee 2002). Consistent with the prediction, findings revealed that the perceived value of a destination is positively associated with tourists' spending on shopping. Also, it was found that an urban destination environment positively influences tourists' spending on shopping, while rural destination environments negatively influence tourists' spending on shopping. Collectively, the empirical findings of this study validate the shopping environment as an important factor in exploration of tourists' leisure shopping behavior.

### Individual Traveler Characteristics

Based on the literature review, the current study postulated that the age and household income of an individual traveler are significant predictors of a person's consumption behavior at destinations. In addition, association between the level of education and shopping expenditure was also investigated. As noted earlier in this study, investigating how age affects shopping behavior during vacation trips would provide valuable knowledge to tourism shopping research (Timothy 2005). Consistent with prediction, results showed that age is associated with tourists' spending on shopping. A curvilinear relationship was found between the ages and spending on shopping. Specifically, a positive association between age and spending on shopping was found for leisure travelers aged 18 to 45. Meanwhile, a moderately negative association was found between age and spending on shopping for persons aged 50 and over. Congruent with



predictions, it was found that household income is positively associated with tourists' spending on shopping. However, no statistically significant difference in shopping expenditure was found between the three education groups.

Interestingly, from the result, it was found that the lowest income group (less than \$19,999) spent significantly more on shopping than higher income groups, except for the highest income group (\$175,000 and over). Other than the lowest income group, it is supported that household income is positively associated with tourists spending on shopping. More interestingly, this finding is somewhat consistent with the research finding of Lehto et al (2004). In their study, the researchers investigated Taiwanese outbound travelers' expenditures on shopping, and found a reverse relationship between one's monthly income and the amount spent on shopping on trips; according to their finding, lower income groups spend more than the higher income groups. The authors explained the result as the lower income group's tendency to seek bargain prices and savings at destinations, which offer good value for money for retail shopping. In summary, the finding of the current study also seems to postulate the need for further investigation of income and tourists' spending on shopping in various tourism context, in both domestic and international settings.

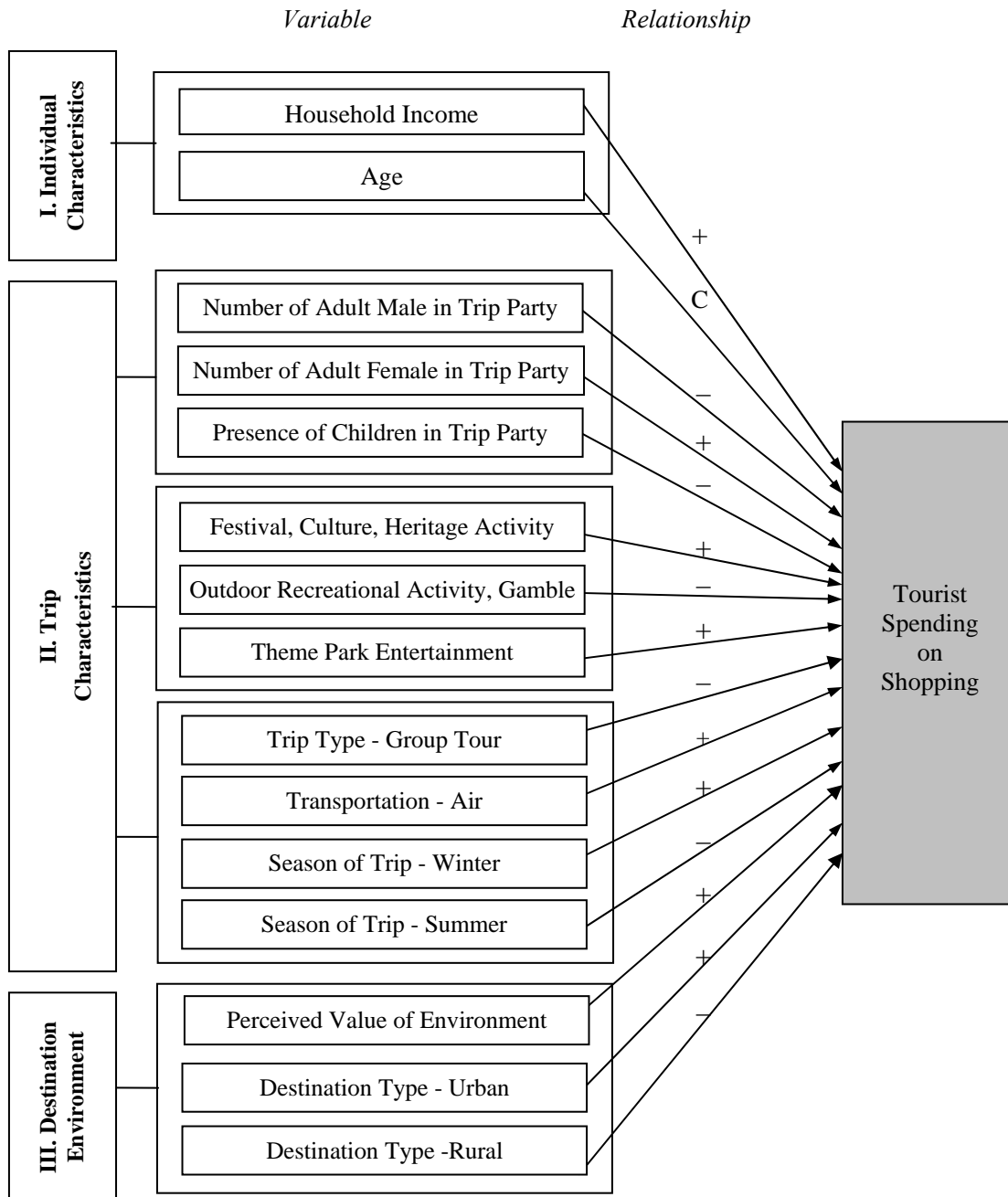
#### Testing of Full Conceptual Model

A multiple regression analysis was used to test the full conceptual model of this study. Results showed that the model accounted for approximately 10% of the variance in the dependent variable. From the evaluation of individual model parameters, it was found that age of the respondents and the number of children in the trip party made the

most significant unique contributions to the predictability of the model. By dimensions, results showed that trip characteristics dimension, which included trip party, season of trip, activity type, and trip type and transportation mode made the most contribution to the model, followed by individual traveler characteristic, and the destination environment dimension.

Therefore, the empirical testing of this study showed that tourist shopping is affected by various factors encompassing individual traveler characteristic, various trip related factors, and destination environment, as conceptualized in the framework of this study. In the current study, tourist shopping is conceptualized as a three-layered dimensional representation of individual traveler characteristics, trip characteristic, and destination environment dimensions. As a result, the empirical testing of the model showed that the proposed conceptual model is useful in understanding tourist shopping expenditures. The finding of the hypothesized relationships of this study and the conceptual model is summarized and provided in Figure 5.1. In the following sections, conceptual and practical implications of the study are discussed. Based on the findings, a profile of high spender group is provided, and limitation of the current study and direction for future research is suggested.

FIGURE 5.1  
FINDINGS OF HYPOTHESIZED RELATIONSHIPS



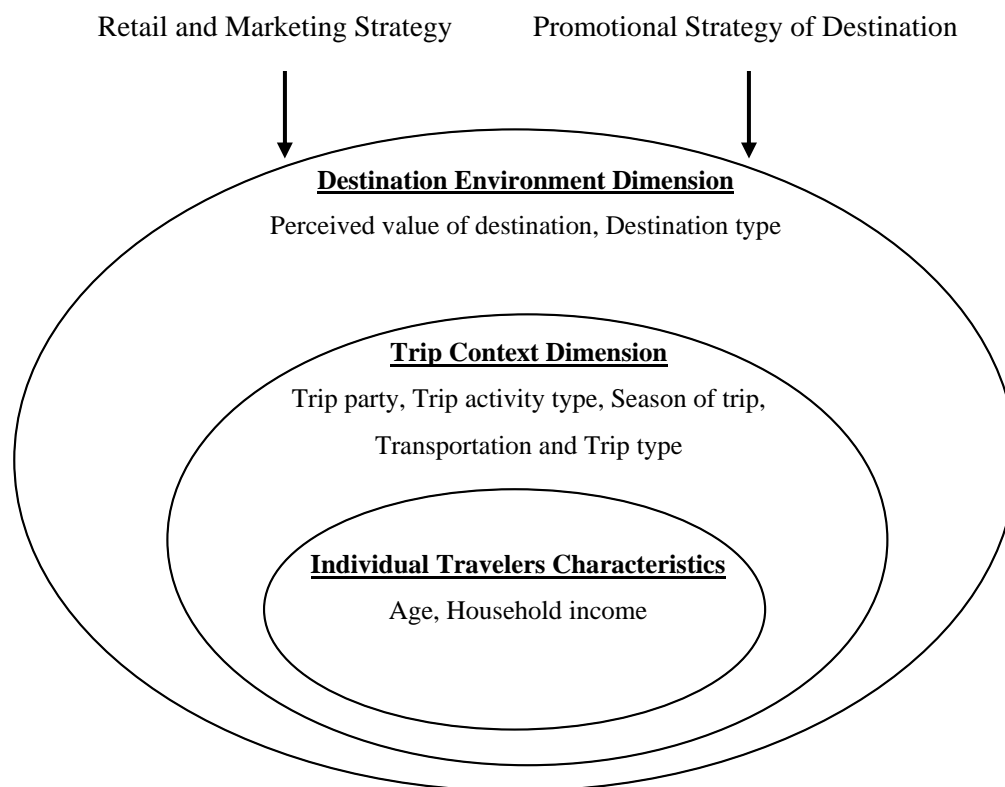
C: Curvilinear Relationship

## Theoretical and Managerial Implications

### Theoretical Implications

The current study was based on the conceptual framework presented in Chapter II (see Figure 2.4). Based on the review (Chapter II) of consumer behavior studies and tourism research, this study proposed a framework of tourist shopping as a three dimensional representation of: individual traveler characteristics, trip context, and destination environment (Figure 5.2).

FIGURE 5.2  
A MODEL OF TOURISTS' SPENDING ON SHOPPING



The first dimension included respondents' age and household income. The second dimension included trip activity type, trip party, season of trip, trip type and transportation mode. Finally, perceived value of destination and destination type were included in the third dimension of destination environment in this study.

Based on empirical findings of the current study, the framework was found to be useful in understanding leisure travelers' spending behavior on shopping. In addition, it was found that eight unique trip activity groups exist. These eight activity groups also exhibited distinct patterns in their spending on shopping, and were found to be significant predictors for leisure travelers' shopping expenditures. Therefore, based on the findings, it is suggested that these distinctive activity groups need to be considered and treated differently for investigating tourist shopping behavior.

In the current study, trip party was also found to be a significant predictor in understanding tourist shopping expenditures. It was found that increases in the number of children and the number of adult males in a trip party negatively influences tourists shopping expenditures, while increases in the number of adult females in a trip party positively influences tourists spending on shopping. These findings echo and strengthen the findings from consumer behavior studies (Jones 1999; Uzzell 1995; Sommer, Wynes and Brinkley 1992; Ng 2003).

In addition, a curvilinear relationship was found between age and shopping expenditures. This finding is meaningful, because age has not been well understood in the tourist shopping behavior literature, and how age affects shopping behavior during

holiday trips has been suggested to provide valuable knowledge in tourism research (Timothy 2005).

#### Managerial Implications

Based on the empirical findings and the added insight from the present study, managerial implications for destinations are suggested. First, the findings indicated that trip activity type is a significant predictor of tourist shopping expenditures. Therefore, for destinations, development of activity type-specific retailing strategy is recommended. For instance, for destinations that offer festivals or fairs, cultural and heritage activities, and theme or amusement parks, proactive development and promotion of retailing opportunities are recommended.

Alternatively, it is recommended that destinations that offer water recreation activities, outdoor sports, and national/state parks need to actively develop, promote, and communicate retail opportunities targeting these large activity segments that consist approximately 60 percent of leisure vacation travelers. For example, using magazines in promoting retail opportunities for some specialized forms of leisure activities such as fishing and hunting, rock-climbing, and wildlife and nature observation is recommended. These activity seekers are also likely to invest in gear that is needed for these activities. In addition, development of products and retail shops that are desired by these types of active seekers are also recommended. For example, craft, symbolic markers or objects that are unique products that originate from the area is suggested.

The findings from destination environment also put forward some important implications for destination management and suggest that destinations need to

incorporate efforts to create a pleasurable, unique, and satisfying destination environment to promoting tourist shopping.

Also, importantly, it is suggested that destinations may need to cater to groups with male travelers and with young children by providing activities and facilities designed for adult males and children at shopping venues. For example, daycare facilities, playground, and activity programs for kids at shopping venues or accommodations are recommended. Also, movie theaters, specialty shops attractive to male travelers, book stores with booths with wireless access for male travelers are suggested. In addition, providing extra shopping opportunities for female tourists are recommended as they were found to be more likely a good target market. Examples of extra opportunities would include: offering extra opening hours at retail venues and a ladies night out program.

Finally, based on the findings of the current study, high spender groups can be profiled as a leisure traveler group of adult females, between aged 30 to 50, with a high income profile or the lowest income profile, who are traveling to urban destinations, on an independent trip, traveling by air, for the purpose of participating in festivals, cultural and heritage, or theme park entertainment type activities, during the winter season. Therefore, it is recommended that destinations actively promote retail opportunities specifically targeting these leisure traveler segments.

## Recommendations for Future Study

### Limitations of Present Study

The finding of this study is limited to American domestic leisure travelers. In addition, the expenditure information in the data set may have been under or over-estimated due to an inherent bias of expenditure data (Frechtling 1987). Also, specific destination factors such as scale and availability of retail facilities, promotional, and marketing strategies were not considered.

Another limitation of this study is that the independent variables in the study explained a low amount of variance in shopping expenditures. This study is also limited in that it only looked at the economic meanings of shopping, while not examining social or cultural aspects. Thus, this study is limited in that this study does not include the influence of culture, or an individual's psychographic factors or attitude toward shopping that may influence an individual tourist's shopping behavior. It is believed that the inclusion of these variables could greatly enhance the predictability of the proposed model.

### Future Research

Therefore, for future research, as commented in the previous section, it is suggested that future studies need to look at more variables, such as role of culture, personal consumer psychographics and attitudes related to shopping behavior, such as shopping enthusiasts versus apathetic shoppers. Inclusion of more of variables related to shopping environment such as perceived safety is also recommended.



Secondly, exploration of non-shoppers versus shoppers might be worth further investigation. Results showed that 35% of the total sample was non-shoppers, who are zero-spenders on shopping while on vacation trips. Conversely, 6% of the total sample was found to be serious shoppers who spent over \$100 on shopping per day per person. These two groups show very distinct trip activity patterns.

Next, further investigation of age and tourist shopping behavior is suggested for theoretical development. There is an indication that as individuals age, they invest in objects with different meanings and purposes (Belk 1986; McCracken 1988), and in general, people get less interested in buying material items and are more inclined to spend money on family relationships and quality experiences as they age (Maynard 1990). Additionally, incorporating a concept of travel career sophistication (Smith and Olsen 2001) might be appropriate for further theoretical development in understanding the tourist shopping consumption behaviors.

In addition, the type of shopping, that is the kind of goods that are purchased and socio-cultural meaning of consumption is suggested for future research. It is also imperative that future studies more precisely define and operationalize what shopping is, and isn't (i.e., is browsing considered shopping, if there is no purchase?). The utilization of time diary method and perceived experience as defined by respondents are recommended to examine this phenomena.

Finally, utilizing theories such as Theory of Reasoned Action or Theory of Planned Behavior is suggested for future research to understand this critical tourist activity as they could greatly enhance the understanding of the determinants of tourist

shopping behavior. In particular, the roles of attitudes, normative behavior and perceived behavioral control could be quite useful in predicting intended and actual shopping behaviors. It is hoped that the empirical findings of the present study serve as a useful ground for further theoretical development and understanding of tourists' shopping and serve as a catalyst for future studies and understanding of the constructs examined.

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APPENDIX A  
VARIABLE INFORMATION

## VARIABLE INFORMATION

	<b>Variable</b>	<b>Measurement</b>
DV	Shopping Expenditure (\$)	Amount spent on shopping per day per person
IVs	Trip Activity	20 Trip activities (categorical)
	Trip Party	Number of adult female in the trip party Number of adult male in the trip party Number of children (0-17) in the trip party
	Season of Trip	Travel Month
	Trip Type	Group/Non group
	Transportation Mode	Air Car Public Other
	Age	Year
	Income	5 Income Groups (Annual household income)
	Group1	less than \$19,999
	Group2	between \$20,000 and \$49,999
	Group3	between \$50,000 and \$99,999
	Group4	between 100,000 and 174,999
	Group5	175,000 and over
	Perceived Value of Destination	Scale 1-10
	Destination Type	Urban/Rural

APPENDIX B

CLUSTER ANALYSIS RESULT OF ACTIVITY CENTERS

### K-Means Cluster Analysis Iteration History

Iteration	Change in Cluster Centers							
	1	2	3	4	5	6	7	8
1	1.526	1.542	1.505	1.685	1.588	1.259	1.363	1.183
2	.272	.458	.183	.541	.427	.265	.113	.291
3	.043	.063	.104	.192	.375	.344	.014	.158
4	.027	.058	.055	.102	.147	.108	.019	.339
5	.014	.017	.012	.051	.059	.106	.009	.074
6	.042	.079	.038	.089	.052	.083	.000	.031
7	.022	.040	.031	.064	.130	.168	.000	.001
8	.002	.005	.000	.004	.011	.059	.007	.015
9	.023	.041	.000	.002	.002	.006	.001	.003
10	.013	.023	.000	.000	.015	.000	.000	.024
11	.006	.011	.000	.005	.002	.000	.000	.013
12	.001	.001	.000	.000	.001	.000	.000	.001
13	.000	.000	.000	.000	.000	.000	.000	.000

a Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 13.

K-Means Cluster Analysis Result of Final Cluster Centers

	Cluster							
	1	2	3	4	5	6	7	8
Snow Ski	0	0	0	0	0	0	0	0
Play Golf	0	0	0	0	0	0	0	0
Boat/Sail	0	0	0	0	0	0	0	0
Beach/Waterfront	1	0	0	0	0	0	0	0
Hike, Bike	0	0	0	0	0	0	0	1
Hunt Fish	0	0	0	0	0	0	0	0
Watch Sports Event	0	0	0	0	0	0	0	0
Gamble	0	0	0	1	0	0	0	0
Visit Historic Site	0	0	0	0	1	1	0	0
Theme/Amusement Parks	0	0	0	0	0	0	0	0
National, State Parks	0	1	0	0	0	1	0	1
Shows: boat, auto, antique	0	0	0	0	0	0	0	0
Festival, Craft Fair	0	0	0	0	0	0	0	0
Museum, art exhibit	0	0	0	0	0	0	0	0
Sightseeing	0	1	1	0	1	1	0	1
Night Life	0	0	0	1	0	0	0	0
Nature & Eco-Travel	0	0	0	0	0	0	0	0
Concert, Play, Dance	0	0	0	0	0	0	0	0
Other Adventure Sports	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0

### SAS Cluster Analysis Result of Final Cluster Centers

The FASTCLUS Procedure : Replace=FULL Radius=0 Maxclusters=8 Maxiter=1

Cluster	Cluster Means						
	ski	gol f	boat	beach	hi kebi ke	huntfi sh	waterspt
1	0.0596568236	0.0090782123	0.0147645650	0.0000000000	0.1616121309	0.0358140463	0.0420989625
2	0.0052450418	0.0165546632	0.0708080643	0.4840190133	0.0304868054	0.1440747418	0.0198328143
3	0.0070957932	0.0228079067	0.0060821085	0.0223010644	0.0086163203	0.0055752661	0.0978205778
4	0.0058139535	0.0217792543	0.0155038760	0.0297157623	0.0299003322	0.0173495755	0.0280546327
5	0.0030173498	0.0349509681	0.0671360322	0.6351521247	0.1169223032	0.0316821725	0.0105607242
6	0.0000000000	0.0637119114	0.0840258541	0.9224376731	0.1172668513	0.0812557710	0.0166204986
7	0.0058593750	0.0240885417	0.0123697917	0.0738932292	0.0305989583	0.0149739583	0.0354817708
8	0.0140784983	0.3178327645	0.1279863481	0.1902730375	0.0341296928	0.0345563140	0.0260238908

Cluster	Cluster Means						
	gambl e	hi stori c	thempark	parks	show	festi val	museumat
1	0.0033918595	0.1642059058	0.0096767757	0.3794892259	0.0104748603	0.0726256983	0.1021548284
2	0.4905753155	0.0073758400	0.0480249139	0.0045894116	0.0060645796	0.0244222259	0.0118013440
3	0.6533198175	0.0207805373	0.0273694881	0.0228079067	0.0076026356	0.0369994932	0.0527116067
4	0.0046142488	0.0254706534	0.4052233296	0.0158730159	0.0090439276	0.0456810631	0.0805647841
5	0.0045260246	0.5328136787	0.0135780739	0.0553180790	0.0065375911	0.0404827760	0.1996479759
6	0.0092336103	0.0590951062	0.1597414589	0.8439519852	0.0120036934	0.0406278855	0.1154201293
7	0.5768229167	0.1917317708	0.0169270833	0.0973307292	0.0159505208	0.0807291667	0.1103515625
8	0.0017064846	0.0230375427	0.0665529010	0.0046928328	0.0115187713	0.0460750853	0.0311433447

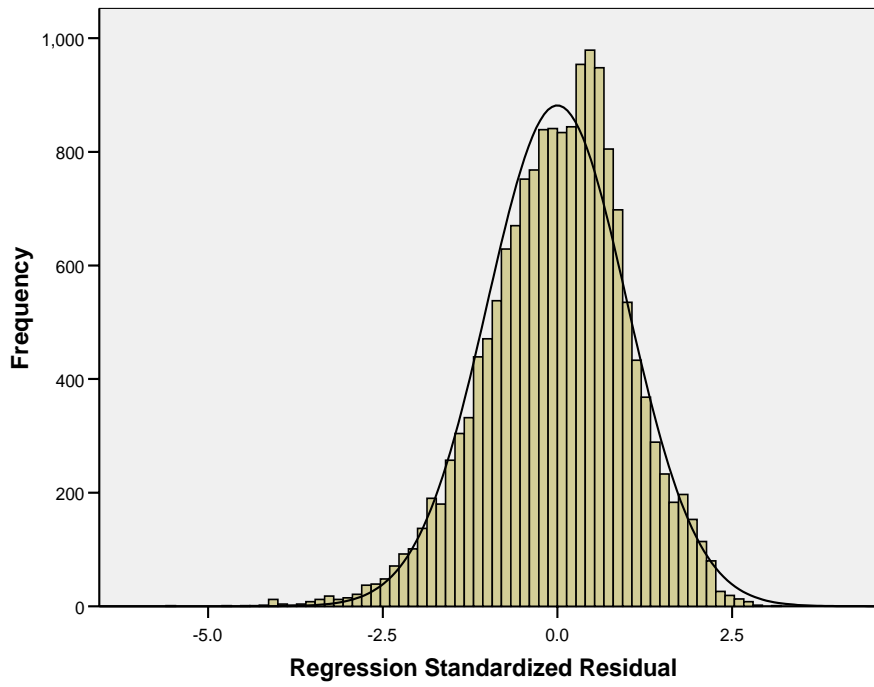
Cluster	Cluster Means					
	si ghtsee	ni ghtl i f	nature	concert	adventur	other
1	0.2381284916	0.0048882682	0.0524740623	0.0167597765	0.0389066241	0.0192537909
2	0.0131126045	0.0167185707	0.0088510080	0.0036059662	0.0121291592	0.0178659236
3	0.0826153066	0.6953877344	0.0096300051	0.5717181956	0.0096300051	0.0283831728
4	0.7490771502	0.0132890365	0.0290697674	0.0460502030	0.0154115910	0.0209486896
5	0.9658033694	0.0321850641	0.0681418154	0.0326879557	0.0296706060	0.0359567513
6	0.4598337950	0.0360110803	0.1846722068	0.1098799631	0.0350877193	0.0323176362
7	0.9915364583	0.6223958333	0.0292968750	0.1298828125	0.0117187500	0.0244140625
8	0.0072525597	0.4475255973	0.2214163823	0.0076791809	0.0234641638	0.0230375427



APPENDIX C  
RESIDUAL CHART

### Histogram

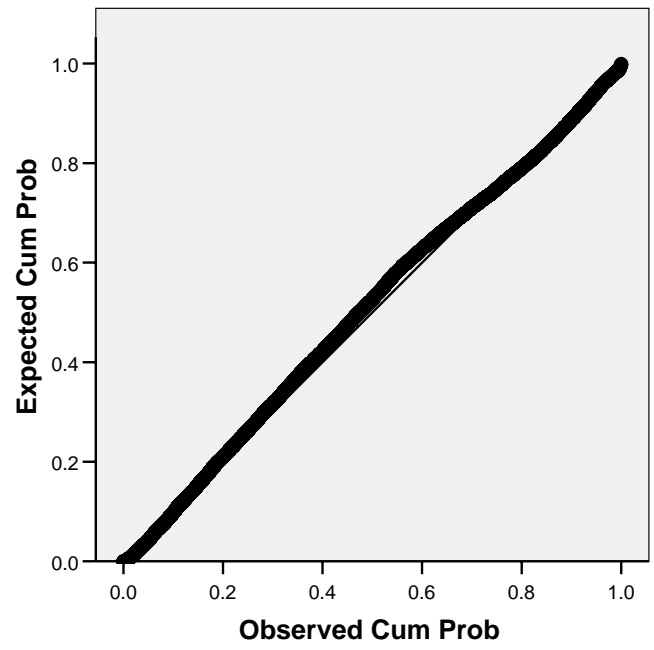
Dependent Variable: log10 ashopexpn



Mean =6.15E-15  
Std. Dev. =0.999  
N =16,565

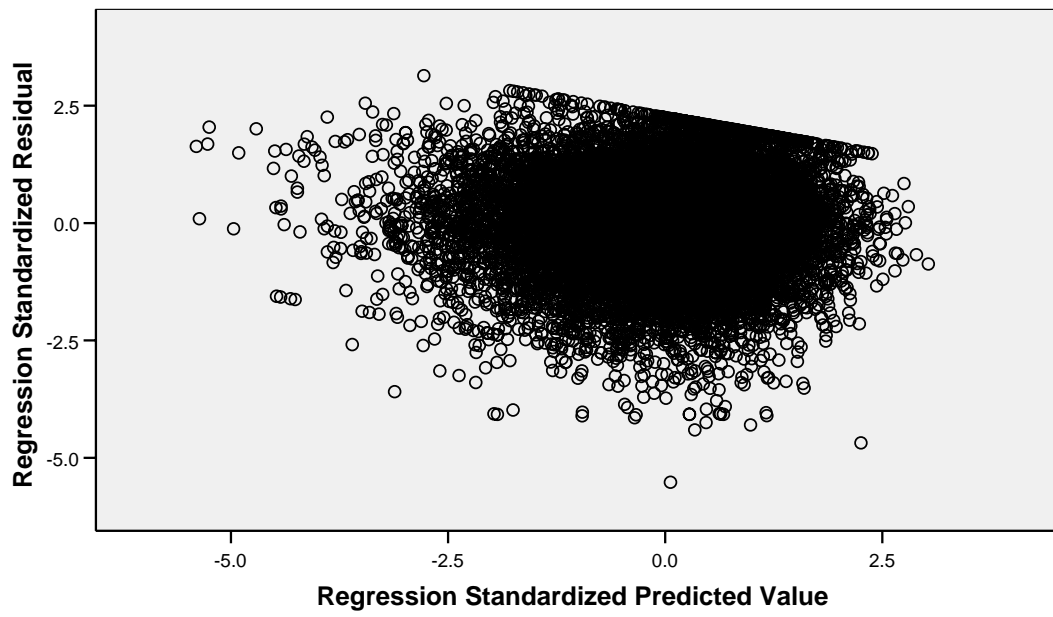
**Normal P-P Plot of Regression Standardized Residual**

**Dependent Variable: log10 ashopexpn**



### Scatterplot

Dependent Variable: log10 ashopexpn



## VITA

Name: Yoon-Jung (Joanne) Oh

Address: Department of Recreation, Park and Tourism Sciences, c/o Dr. James Petrick, 2261 TAMU, Texas A&M University

Email Address: yjoh@tamu.edu

Education: B.A., English, Economics, Korea University, Seoul, Korea, 1994.  
M.A., English Literature, Korea University, Seoul, Korea, 1998.  
In Master of Hospitality Management Program, University of Houston, TX, 1999-2000.