

**RELATIONSHIPS AMONG SERVICE QUALITY, MOTIVATIONS,  
AND REVISIT INTENTIONS FOR TAIWANESE SKIERS AND  
SNOWBOARDERS**

by

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I dedicate this dissertation to the Chinese Taipei Ski Association in Taiwan and the ski resorts in Japan. I hope this dissertation would make a great contribution to the development of ski and snowboard sport in Taiwan and Japan.

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## **ABSTRACT**

Overseas ski sport tourism is significantly growing in Taiwan. Ski population in Taiwan has increased over 10 times since 2004. Although the growth of ski population brought positive impacts to the tourism industry, it was still a challenge to develop ski sport because of the small ski population and higher temperature in Taiwan. In order to increase the ski population and interpret why people participated in overseas skiing activities, service quality, motivations and revisit intentions were important factors to explain tourists' behavior in sport tourism. Thus, based on the effective application to measure motivations and service quality, the SERVQUAL and Push Pull Motive theory were adopted to investigate the relationships among service quality, motivations and revisit intentions for Taiwanese skiers and snowboarders in this study.

An online questionnaire was designed based on the push-pull motivations and the SERVQUAL scale to collect quantitative data from two ski groups in Taiwan. The convenience sampling method was conducted in the selection of participants who were Taiwanese tourists and have experienced overseas skiing and snowboarding activities. After the data collection, a total of 207 effective questionnaires were received.

Exploratory factor analysis was employed to construct the internal structure and consistency of the questionnaire for validity and reliability. The data was analyzed by ANOVA and multiple linear regression analysis to identify the difference and the influence between independent and dependent variables. The results indicated that partial push-pull motivations and service quality dimensions differed by sex, age, household income, educational level, frequency of annual participation, skiing hours, riding style, and destination variable. Moreover, "Enjoyment ( $\beta = 0.29, t = 4.35, p < 0.01$ )", "age 26~30 ( $\beta = 0.39, t = 2.53, p < 0.05$ )", "age 31~35 ( $\beta = 0.45, t = 2.66, p < 0.01$ )", "age 36~40 ( $\beta = 0.40, t = 2.66, p < 0.01$ )", and "age > 40 ( $\beta = 0.40, t = 2.87, p < 0.01$ )" offered significant contributions to the revisit intention. The findings provided significant information to the travel agencies in Taiwan and ski resorts in Japan because they shed some light on why different groups participated in skiing and snowboarding activities and revisit the ski resorts. Further, the managers of the ski resorts could design marketing strategies according to the information to increase skiers' visits and create economic benefits.

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## **CHAPTER I: INTRODUCTION**

In the present economic structure, the tourism industry played an important role. The World Tourism Organization (2014) indicated that international tourism, fifth after fuels, chemicals, food, and automotive products, accounted for 6% of overall global exports of goods and service. Total export earnings generated by international tourism reached US\$ 1.4 trillion and tourism destinations worldwide earned around US\$ 1.16 trillion from expenditure by international visitors such as food, entertainment, shopping, accommodation, and other services in 2013. In addition, international tourism became an emerging industry in Asia. As destinations, Asia's and Pacific's earnings increased by US\$30 billion to US\$ 359 billion from 2012 to 2013, which accounted for 31% of the all international tourism receipts. That was only falling short of Europe's 42% share of the market. Asia and the Pacific (+8%) had been recorded as the largest increase in tourism receipts, followed by America (+6%) and Europe (+4%). The tourism industry was considered one of the primary revenues in most Asian countries. For a striking example, the top tourism destination by receipts in Asia was Thailand, where tourism revenue increased 23% from 2012 to 2013. This growth would bring many positive economic impacts to Thailand.

Sport tourism was an essential section of the general tourism industry. Sport tourism was defined as travel away from their environment for a limited time when sport elements (competitions, facilities, and events) were a primary or secondary purpose of their trip. Sport tourism also played an important role in international tourism and became the fastest developing market of the global tourism industry during the recent three decades (Hinch & Higham, 2001; Hritz & Ross, 2010). Based on the tourism development, sport tourism already brought substantial economic benefits that were directly from travel expenditures of sport activities or events. According to Hudson (2003), sport tourism contributed approximately 2% of the gross domestic product (GDP) in most industrialized countries, while general tourism contributed around 4-6% of GDP. Apparently, sport tourism accounted for half of GDP of the general tourism and played a critical role for domestic tourism revenue in most countries. In addition, development of sport tourism also evolved into other positive impacts for domestic economies, such as an increased mobility of sport fans, enhanced communication technology, increased media exposure of sporting events, and increased sport participation opportunities (Kurtzman & Zauhar, 2005).

### **Significance of the Study**

As the above paragraphs mention, sport tourism was a primary source of revenue in most countries. Ski sport tourism contributed a lot of benefits to Japan

because Japan was one of the countries with the largest population of skiers and highest number of ski resorts. In the 1980s, the development of ski sport was dramatic in Japan. The ski resorts offered the best and most modern facilities to attract ski tourists. At that time, skiing was the most popular sport among young adults. Nevertheless, Japan encountered a serious economic downturn. In the 1990s, skier visits were significantly decreasing, and there were nearly no foreign ski/snowboard visitors to Japan. After the 2000s, the economic situation gradually stabilized, and the ski sport industry in Japan tried to recover the ski market. Many investments focused on non-skiing activities and peripheral facilities such as ice tubing, skating, shopping, and mountain villages in order to attract new tourists. In the 2010s, most ski/snowboard tourists were from neighboring Asian countries, even some without ski cultures such as Taiwan (Vanat, 2015).

The ski market of Taiwan could not be neglected for ski/snowboard tourism in Japan. According to Xiao (2014), the population of outbound ski tourists had grown from 1,000 to over 12,000 between 2000 and 2014, which brought abundant economic revenues to travel agencies and ski resorts in Japan. For example, according to Lion travel agency (2014) in Taiwan, the average expenditure of a ski package tour, including airline tickets, transportation, accommodation, equipment rentals, ski lessons, lift tickets, and food to Japan ranged from NT\$35,000 (around US\$1,000) to

NT\$60,000 (around US\$1,800) in 2014/2015 winter season. In addition, if the travelers preferred not to use rental equipment of ski resorts, the ski/snowboard equipment would be another huge expenditure for the ski travelers. In general, the expenditure of a set of snowboard equipment including the board, bindings, boots, waterproof jacket and pants, goggles, helmet, and gloves might cost between US\$1,000 and US\$3,000, depending on the gears' quality, brand, and riding style. Thus, the value of output including the package tour, gear expenditure, and other fees would be around 50 million US dollars from Taiwanese ski market in 2014 (Lin, 2013). Although the development of ski tourism in Taiwan was still in its germination stage, the growth of ski/snowboard population, ski tourism's expenditure, and ski tourism's revenue for Japan could not be underestimated in the future.

Because of the higher expenditure of overseas travel, a problem relative to ski tourists' income was brought out. Chang and Huang (2012) indicated that sport tourism was a costly activity, and low-income earners were therefore less motivated. Only white-collar workers and middle class Taiwanese were able to bear the expenditure of overseas travel. Moreover, National Statistics Taiwan reported the average household income in 2014, which two people are employed, was only around NT\$1,158,000 each year (US\$36,000). According to the income amount, the majority of Taiwanese family generally could not burden the expense of package tours

including two adults and two kids. This income problem might be the cause of Taiwanese citizen's lack of motivation to overseas travel. Thus, to understand middle class and higher-income earners' motivation and to promote cheaper package tours would be an important issue to develop outbound ski tourism in the current stage in Taiwan.

In fact, ski sport once existed in Taiwan in the early stage, but it vanished because of many frustrations of ski sport development. Ski sport in Taiwan began in 1960. In 1968, Taiwan became a member of International Ski Federation (FIS) and established the Chinese Taipei Ski Association in 1973. During the period between 1970s and 1990s, the Chinese Taipei Ski Association devoted itself to the development of ski sport. The association and Forestry Bureau set up a ski lift 400 meters long, as well as a ski center in He-Huana mountain. This ski center was the only domestic ski training base and annually trained around 1,000 skiers in Taiwan. However, the development of domestic ski sport encountered a huge difficulty in 1996. The ski training center closed down because of many barriers such as climate, temperature, and ski/snowboard population in Taiwan (Chinese Taipei Ski Association, n.d.).

Temperature was an unavoidable obstacle to develop ski sport in Taiwan. Taiwan, an island located in the subtropics, had many mountains and steep cliffs over

3,000 meters above sea level. Although Taiwan was abundant in natural resources and mountains, the most important was to keep snow. According to World Weather Online (n. d.), the lowest average temperature in January in Taipei, Taiwan was from 57 to 66 degrees in the Fahrenheit scale. Even if the mountain areas occasionally received snow in winter seasons, the average temperature could not keep the snow for a longer time. The limited climatic and environmental factors made it a challenge to open a ski/snowboard resort, so no domestic ski resort in Taiwan was established. As a result, Taiwanese skiers or snowboarders' participation (e.g., traveling to China, Korea, or Japan) in overseas skiing/snowboarding activities became a special trend (Chinese Taipei Ski Association, n.d.). This situation was very different to comparison with American and European countries that had their own ski resorts.

The second problem was the relatively small ski/snowboard population in Taiwan. After 1996, the ski sport development and skier visits to overseas ski resorts did not make any progress. The number of ski visits was around 1,000 in the 2000s. The ski/snowboard population only accounted for 0.007% of the Taiwanese population, which was inadequate to develop ski sport in Taiwan (Chinese Taipei Ski Association, n.d.). Vanat (2015) indicated that the size of ski/snowboard population was a fundamental element to develop ski/snowboard sport because a big ski population would establish a great ski/snowboard market, cause the increase of ski

infrastructure, and provide more opportunities to cultivate ski/snowboard athletes. For example, the USA was one of the well developed countries in ski/snowboard sport that had over ten million skiers/snowboarders in 2014. Because of the size of the ski/snowboard population in the USA, 470 ski resorts were offered to attract around 50 million skier visits internationally. Moreover, some of the best skiing/snowboarding athletes were certainly from the ski/snowboard population of the USA, such as Shaun White who won gold medals twice in the 2006 and 2010 Winter Olympics, Danny Kass who held two Olympic silver medals, and so on (Collins, 2012; Statista, 2016; Vanat, 2015). Although the failure of the ski center partially influenced the interest of ski sport in Taiwan, the Chinese Taipei Ski Association still actively develops interest in ski sport. In the recent decade, the Chinese Taipei Ski Association cooperated with travel agencies and ski resorts of Japan to hold ski expositions and design package tours in order to encourage overseas participation in skiing and snowboarding activities. Based on these strategies, the resorts of Japan would receive substantial benefits from Taiwan. In return, the association expected the ski/snowboard population might be increased to around 100,000 in 2022, so that the association would be able to select potential skiers/snowboarders and train them in Japan to attend international competitions and the Winter Olympic program in the future (Yahoo News, 2015).

Because of the above problems and barriers, it was a big challenge to develop ski sport, increase the number of ski population in Taiwan, and create more skier visits to Japan. In order to solve this issue, previous studies mentioned that it was necessary to explore the participants' motivation because a destination perceived to meet people's motivations was more likely to be chosen by the potential guests and would increase the visits (Matzler & Siller, 2003; Meng, Tepanon, & Uysal, 2008; Mook, 1996). Further, if more and more guests autonomously chose a destination and involved in a certain activity, the marketing costs might be minimized for the destination (Park & Yoon, 2009). In a previous study, motivation was defined as an internal condition that drove an individual toward an action or behavior (Mook, 1996). In other words, internal conditions such as personal desires or needs could make people interested in an activity and then motivate them to participate in the activity. Of the many motivation theories that have been applied to the tourism domain and explained travelers' behaviors, the push-pull motive theory was especially useful. 'Push factors' referred to an individual's internal cognitive or emotional aspects that would increase the desire to travel, while 'pull factors' were related to external or situational aspects on performance of a destination that influenced where people would travel (Crompton, 1979; Dann, 1977). Another important factor that influenced behavioral intentions and helped to improve performances of ski resorts was service

quality measured by the SERVQUAL scale. Service quality was defined as customers' subjective judgment for services through comparing their expectation with actual experience that satisfied their needs (Garvin, 1984; Parasuraman, Zeithaml, & Berry, 1985). Many researchers applied push-pull motive theory and the SERVQUAL scale to various types of tourism and effectively identified specific push-pull and service quality factors that were able to influence travelers' behaviors in some particular tourism areas. The results of the previous studies allowed destinations to know what the market orientation was and how to make marketing strategies (Alexandris, Kouthouris, & Girgolas, 2007; Chang & Huang, 2012; Crompton, 1979; Huang, 2012; Iso-Ahola, 1982; Ma, 2009; Pratminingsih, Rudatin, & Rimenta, 2014; Rittichainuwat, Qu, & Mongkhonvanit, 2008; Yu, Chang, & Huang, 2006). Thus, studying motivations, service quality, and revisit intentions not only helped to understand why people traveled, improve service quality of ski resorts, and design package tours to attract more outbound skiers, but also helped to promote skiing tourism and develop a possibility of ski sport in Taiwan.

### **Research Questions**

To better understand the Taiwanese skiers/snowboarders' desires and promote ski sport in Taiwan, the purpose of this study was to identify motivations for Taiwanese participating in ski and snowboard activities, to measure service quality of

ski resorts, and to investigate relationships among demographics, service quality, Taiwanese tourists' motivations, and intentions to revisit ski/snowboard resorts. Moreover, the identification of Taiwanese skiers' motivations, the improvement of service quality, as well as demographic characteristics of Taiwanese tourists should provide the evidence to understand the explosive growth of Taiwanese ski/snowboard population, and offer a pattern to overseas ski tourism.

Therefore, this study attempted to answer the following research questions:

- (1) What are the primary push and pull motivations for Taiwanese skiers and snowboarders?
- (2) What are the primary performances of service quality provided by ski resorts?
- (3) Are the internal structure and consistency of the questionnaire (push-pull and service quality subscales) well constructed?
- (4) Is there any significant difference between the demographic characteristics on the push and pull motive factors?
- (5) Is there any significant difference between the demographic characteristics on the service quality dimensions?
- (6) Is there any significant difference between the demographic characteristics on the Taiwanese skiers' revisit intention?

(7) Are the demographic characteristics, service quality dimensions, and push-pull motivations the main predictors of the Taiwanese tourists' intention to revisit ski resorts?

To answer the research questions, a questionnaire designed by the investigator was administered to participants who were Taiwanese and traveled to participate in overseas skiing/snowboarding activities. The questionnaire of this study was derived from subscales of several sport and tourism studies. Further, the formal survey with a good level of content validity was given to members of private and public ski associations by convenience sampling in Taiwan. After the data collection, the data was analyzed by *Statistical Package for the Social Sciences* program to interpret the research questions. In the chapter five, the result of analyses attempted to illustrate the application of push pull motivation theory and the SERVQUAL scale, the pattern and trend of winter sport tourism in Taiwan, and the relationships between travelers' motivations, service quality, and intentions for Taiwanese skiers and snowboarder, so that a fundamental framework of this study could be constructed and winter tourism industry of Taiwan would be able to target a market orientation and to design marketing strategies.

## **CHAPTER II: REVIEW OF LITERATURE**

The purpose of this study was to understand why Taiwanese people traveled to participate in overseas skiing and snowboarding activities and to investigate the relationships among demographic characteristics, service quality dimensions, tourists' push-pull motivations, and revisit intentions. In order to interpret the connection among the four sets of variables in winter sport tourism, the literature review was divided into five sections: 1) concepts of sport tourism, 2) needs and motivation theories, 3) relationships between motivations and revisit intentions, 4) measurement of service quality, and 5) relationships between service quality and revisit intentions. Finally, a summary stated how this study applied the concepts to construct the framework and research design.

### **Concepts of Sport Tourism**

The development of sport tourism had become an important issue in the last few decades because of the growth of tourism revenue. For example, Asia's and Pacific's tourism earnings increased by US\$30 billion to US\$359 billion from 2012 to 2013 (World Tourism Organization, 2014). The increase was the largest increase in the international tourism receipts. Moreover, sport tourism in most countries became a main development in the tourism area because the gross domestic product of sport

tourism accounted for half of GDP of general tourism (Hudson, 2003). Due to the benefits from the sport tourism, experts and academics of sport and tourism field began to discuss some particular issues in the sport tourism area. The most important issue was to define sport tourism. However, the definition of sport tourism was difficult to address. According to Hinch and Higham (2001), sport was defined as an individual or group activity organized by rules that related to discipline, space, and time, and that often took a competitive form. Tourism was defined as an activity for which individuals traveled away from home for at least 24 hours but less than one year, during which individuals spent money at a destination (Hinch & Higham, 2001). Although sport and tourism were treated as separate domains of activity by academics, sport was an important attraction within tourism, and the phenomena of sport and tourism partially overlapped. Some studies pointed out that sport was often considered as a main purpose of a trip, and it was a vital factor when tourists made decisions related to travel (Gibson, 1998; Skoric, 2005). Thus, sport tourism was defined as “sport-based travel away from the home environment for a limited time, where sport is characterized by unique rule sets, competition related to physical prowess, and a playful nature” (Hinch & Higham, 2001, p. 56).

Gibson (1998) categorized sport tourism using three different characteristics of traveler’s behavior. The first was event sport tourism which referred to travel

motivated by the desire to experience sport events, and in which the sport events were the main attraction for spectators. The second was active sport tourism which required tourists to pursue physical involvement in competitive or non-competitive sport activities while traveling. Finally, with nostalgic sport tourism, tourists only visited or experienced sport's historical phenomena, such as popular stadiums or museums related to sports.

The concept of classification, active tourism versus passive tourism, was considered most useful to study sport tourism. Many researchers had adopted this sport tourism concept to investigate sport tourist's motivation such as travel motivations to Thailand (general tourism), motivations to participate in paragliding (active sport tourism), and motivations to watch professional soccer games (event sport tourism) (Chang & Huang, 2012; Funk, Filo, Beaton, & Pritchard, 2009; Rittichainuwat, Qu, & Mongkhonvanit, 2008). In addition, winter sport tourism also fitted into this classification. For example, people who watched the Winter X Games such as ski, snowboard, or snowmobile competitions at ski resorts were event sport tourists. People who participated in or competed in skiing activities with others at ski resorts were classified as active sport tourists. Finally, people who traveled to Sochi, Russia to visit the indoor stadiums, outdoor slopes, and sites of 2014 Winter Olympics were nostalgic sport tourists. Thus, the classification clearly separated winter sport

tourism into three sections based on the characteristics and could be applied to motivation's studies of winter sport tourism.

### **Needs and Motivation Theories**

People worked, excised, and did various activities, but why they routinely participated in the same activities. In most cases, motivation was the key point to explain human's behaviors. Motivation could be defined as an internal state or condition including needs or desires that drove or activated an individual toward certain types of actions or behaviors (Kleinginna & Kleinginna, 1981; Mook, 1996).

An understanding of individuals' motivations was important because of several reasons. First of all, motivation was a fundamental driver for human behavior, such that it aroused, directed, and integrated individuals' behavior. Secondly, motivation influenced individuals' choice and could interpret their preference for choosing an activity or a destination. Thirdly, individuals had various desires that were related to customer's satisfaction and loyalty (Crompton, 1979; Radder, Mulder, & Han, 2013).

For example, people desired a cell phone not only to communicate with others but also to take pictures, watch videos, and play online games. Based on the desires, telecommunication industry designed a smart phone including those elements as well as the Internet to satisfy customers' desires and create customers' loyalty. Thus, to better understand the desires and needs, the following theories would provide

sociological and psychological perspectives about human's needs, motivations, and behaviors.

### ***Maslow's Hierarchical Theory of Needs***

The theoretical frameworks of motivation primarily derived from sociology and social psychology and were based on the concept of needs (Huang & Hsu, 2009; Pearce, 1982). Needs were considered to be the force that aroused human behaviors. Maslow (1943) attempted to interpret what needs people had and how they could be fulfilled to continue an action with his needs hierarchy theory. In the hierarchy, all human needs could be arranged in five categories: physiological, safety, belonging and love, esteem, and self-actualization (Figure 1). He also claimed that once a lower level need has been satisfied, people would try to fulfill the next higher need.

Need Dimensions	Examples
Needs for self-actualization	Self-fulfillment, realization of self-potential
Esteem needs	Self-respect, self-confidence, achievement, reputation, recognition, and prestige
Belonging and love needs	Feeling of belonging and affection from friends, family, or colleagues
Safety needs	Personal security, financial security, health, and well-being
Physiological needs	Air, water, food, sex, sleep, etc

Figure 1: Maslow's Hierarchy of Needs (Maslow, 1943)

Maslow's theory was originally developed in the field of clinical psychology, and became widely applied in other areas. Some tourism researchers explained travelers' motivations based on this hierarchy of needs. Mill and Morison (1985) pointed out how Maslow's hierarchy tied with travel motivations, and identified travel as a need to fit the five categories. However, travel and leisure participation as a physiological need for survival was still questionable. For example, in the first need of Maslow's hierarchy, people would die without eating food, breathing air, and sleeping, but people still had energy to keep themselves alive without traveling if their physical needs were satisfied. Thus, Pearce and Lee (2005) had a better application of Maslow's hierarchical theory to tourist's motivation and behavior. The data collected from tourists who traveled to Bird's Nest Beijing National Stadium in China was analyzed in the study. Based on Maslow's hierarchy, Pearce and Lee developed their own conceptual frameworks of tourist's motivation and focused on the importance of belonging needs, esteem needs, and needs for self-actualization. In this particular example, the more experienced travelers preferred to be close to nature and different cultures, while the motivations of less experienced travelers were personal development (self-actualization), relationship enhancement (belonging), romance (love), and recognition (esteem).

### *Self-Determination Theory*

After recognizing the concept of needs, a theory was able to illustrate the relation between needs and motivations. Self-determination theory (SDT) was a useful framework for understanding people's need, motivation, and behavior (Figure 2).

Motivation was important because it was stimulated by needs and desires in people to be continually interested to do an action or achieve a goal. Ryan and Deci (2000) stated "SDT is an approach to human motivation and personality that uses traditional empirical methods while employing an organismic meta-theory that highlights the importance of humans' evolved inner resources for personality development and behavioral self-regulation" (p. 68). In other words, SDT was a comprehensive idea that was developed via several motivational concepts of empirical studies to explain the interaction of human's inner needs, and behaviors.

The SDT included two categories of intrinsic and extrinsic motivation. The intrinsic motivation, more self-determined, referred to doing something because it was inherently interesting or enjoyable, while extrinsic motivation, less self-determined, referred to doing something because it led to a separate desirable outcome. Both motivations played very important roles in humans' behavior (Deci & Ryan, 1985; Ryan & Deci, 2000). For instance, children who played basketball because they enjoyed teamwork were intrinsically motivated, while children who participated in

basketball games in order to gain rewards or recognitions were extrinsically motivated.

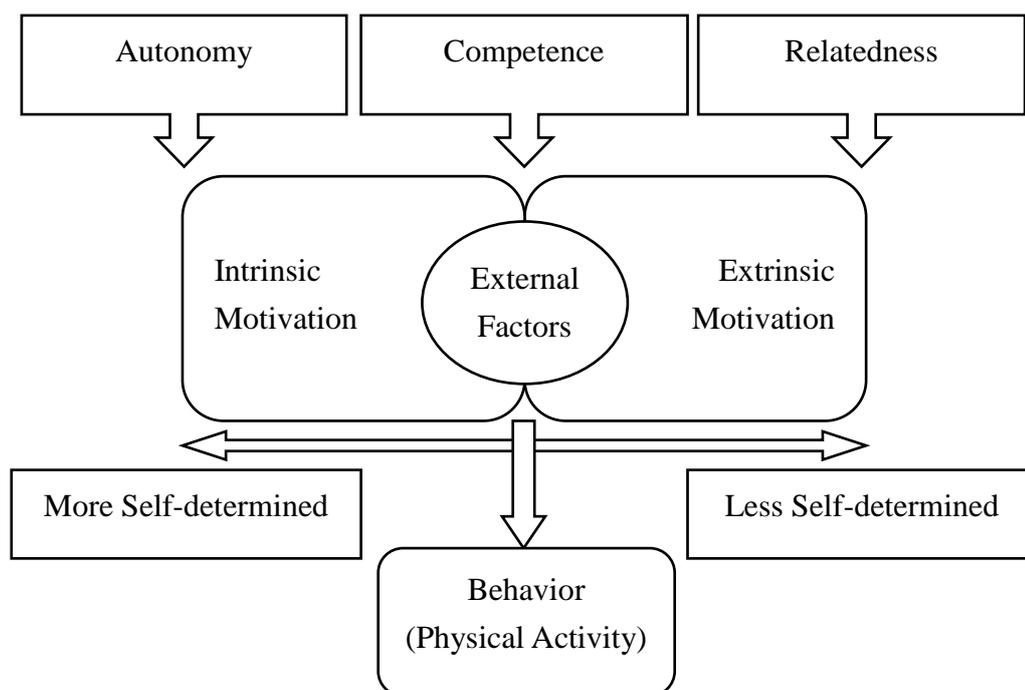


Figure 2: Self-Determination Theory (Deci & Ryan, 1985)

In the SDT model, humans' behavior was intrinsically motivated by the three main psychological needs: autonomy, competence, and relatedness. Autonomy involved freedom of personal choice and control to participate in activities without the presence of external pressures. Competence involved developing personal skills and confidence to overcome some difficult challenges, while relatedness reflected a person's desires to be loved by and to associate with others. Moreover, extrinsic motivation also could be influenced by the three needs with external factors. For

example, people who desired to participate in an activity because they wanted to improve their skills to win prizes and rewards, or their friends ask for were extrinsically motivated.

McDonough, Sabiston, Sedgwick, and Crocker (2010) examined the changes of intrinsic and extrinsic motivation with the autonomy, competence, and relatedness scales by administering dragon boating, which was a Chinese traditional and challenging physical activity in Dagon Boat Festival that required a flag taker, a drummer, and 22 rowers to compete against other dragon boats. The investigators divided participants, overweight women, into control (exercising in a gym) and dragon boat group (dragon boating as an external factor). The results showed that the participants increased their autonomy and competence needs in the dragon boat group. The dragon boat group more enjoyed dragon boating and continued to improve their dragon boating skills after the experiment, but the participants in the control group only exercised in order to lose weight (no changes about the motivation). Thus, when people satisfied with the three needs, they might increase either intrinsic or extrinsic motivation to participate in an activity or to act out a behavior. (Deci & Ryan, 1985; McDonough, Sabiston, Sedgwick, & Crocker, 2010; Ryan & Deci, 2000).

Furthermore, another model that also examined motivations was push-pull motive theory. To compare with SDT, push-pull motive theory not only considered

self-determination but also focused on destination performance. In most studies, push-pull motive theory effectively demonstrated the push-pull factors to a destination in tourism area.

### ***Push-Pull Motive Theory***

Push-pull motive theory that defined travel motivation was based on the existence of push and pull factors had been extensively adopted and discussed in the tourism field. 'Push factors' referred to an individual's internal cognitive or emotional aspects that would increase the desire to travel, while 'Pull factors' were related to external, situational, or cognitive aspects on software and hardware of a destination that influenced where people would travel (Crompton, 1979; Dann, 1977). Crompton (1979) first applied the push-pull theory to tourism and identified nine motives for vacationers. The 'push motives' included seven components: escape from a mundane environment, exploration and evaluation of self, relaxation, prestige, regression, enhancement of kinship relationships, and facilitation of social interaction. The 'pull motives' consisted of two factors: novelty and education. Since Crompton's initial empirical efforts, many tourism researchers attempted to identify push and pull motivations in different settings.

Iso-Ahola (1982) identified two basic push motivations of tourists: seeking (intrinsic rewards) and escaping (routine environments). Both motivations had a

personal (psychological) and interpersonal (social) component. For instance, people were motivated to travel and leave behind the personal and interpersonal problems of their routine environments to obtain personal or interpersonal rewards. The personal rewards might be a sense of competence, challenge, learning, or relaxation, while the interpersonal rewards were recognition of others or interaction with others.

Rittichainuwat, Qu, and Mongkhonvanit (2008) altered some pull factors to better fit Thailand tourism and indicated the importance of pull motivations for international travelers. The pull factors were “special interests”, “cultural attractions”, “deals on tour promotion”, “good food, shopping, things to do”, “Buddhism”, and “natural attractions.” The international travelers were classified as repeat and first-time travelers. The authors concluded that the travelers revisit Thailand because of Thai food and deals on promotion, while the first-time travelers to Thailand were because they would like to experience different cultures. In addition, other studies attempted to determine the interaction of push and pull factors.

A few findings suggested that the push factors were related to the pull factors (Baloglu & Uysal, 1996; Pratminingsih, Rudatin, & Rimenta, 2014). Pratminingsih, Rudatin, and Rimenta (2014) pointed out that pull factors such as destination image was positively correlated to travelers’ intrinsic motivations (push factors). The positive correlation meant better image of a destination would influence travelers’

emotions and expectations that were important elements to drive travelers' intrinsic motivation to travel to specific destinations. The interaction of pull and push factors would lead travelers to react with either negative or positive behaviors, such as to revisit or not revisit the destinations. However, a number of studies claimed that push and pull factors of motivations were two separate decisions made at different points in time (Dann, 1981; Meng, Tepanon, & Uysal, 2008; Radder, Mulder, & Han, 2013). For example, Radder, Mulder, and Han (2013) investigated travel motivations of safari hunters to South Africa using push and pull motive theory. The authors attempted to interpret the relationship between push (such as self-awareness, excitement, challenge, and social interaction) and pull factors (such as attributes, features, and novelty), but there was a poor correlation between the two sets of factors (Pearson's  $r$  value is from 0.1 to 0.3). The authors concluded that although there was a lower correlation between push and pull factors, push and pull factors respectively influenced hunters' intention to South Africa. Thus, to better understand the influence of push-pull factors, push-pull factors would be set as two separate independent variables in order to interpret the relationship between travelers' motivations and decisions.

Although the self-determination theory (SDT) and push-pull motive theory had been respectively adopted in the sport and tourism area, the push-pull motive

theory was more appropriate to deal with various characteristics of sport tourism for outbound tourists. One of the major differences between the push-pull motive theory and the SDT was that the push-pull theory proposed the importance of pull factors, where pull factors such as attributes of a destination were not considered a main factor for people to participate in an activity or travel to a destination in the SDT (Crompton, 1979; Ryan & Deci, 2000).

In brief, push motives included the concepts of self-determination theory that tourists wanted to seek pleasures, to escape from their routine environments, to relax themselves, to facilitate social interaction, to pursue challenges and skills, and have new experiences. Alternatively, pull motives were the travelers' desires to visit a place or participate in an activity because of its infrastructure, culture, natural amenities, convenience, service, and accessibility. In other words, pull factors were the performance, features, attractions, and attributes of the destination (Crompton, 1979; Meng, Tepanon, & Uysal, 2008; Radder, Mulder, & Han, 2013; Rittichainuwat, Qu, & Mongkhonvanit, 2008).

Many researchers had asserted that travel motivations should be more complex and the travel motivations were not only from self-determination (push factors) (Crompton, 1979; Dann, 1977; Witt & Wright, 1992). For example, Dann (1977) argued that the 'push factors' such as physiological and psychological needs were not

the only motivations in the tourism area. People might travel to a destination because of 'pull factors' such as the affordability of travel expenditure, the quality of services, or the attractiveness of facilities. Push and pull factors were both essential ideas, but were also two independent factors for tourists to make a decision to travel. The next section would address relationships between people's push-pull motivations and revisit intentions in tourism and sport domain.

### **Relationships between Motivations and Revisit Intention**

The concept of travelers' motivation and behavioral intention had been used to explain the process of determining the final choice that was a crucial investigation in many tourism studies (Lau & McKercher, 2004; Meng, Tepanon, & Uysal, 2008; Oppermann, 1997; Petrick, 2004; Quintal & Polczynski, 2010). Matzler and Siller (2003) indicated behavioral intention was a key in the decision making process based on consumers' motivations and perception of a destination. If a destination was perceived to meet the motivations, it would satisfy customers' needs and would be chosen by the potential customers. Thus, the understanding of motivations and behavioral intention could be deemed as a competitive advantage in keeping and attracting its customers to repurchase a product or revisit a particular destination (Correia & Pintassilgo, 2006; Zeithaml, Berry, & Parasuraman, 1996).

The concept of revisit intention was recently developed in the tourism area from the studies of behavioral intention. Behavioral intention was the behavioral tendency of an individual before a particular behavior was adopted and referred to the expression induced during the decision process (Fishbein & Ajzen, 1975). Ryan and Glendon (1998) defined behavioral intention as a thought or perception that led people to plan and perform a certain behavior. Kozak (2001) mentioned that the concept of behavioral intention was generally used in the retail industry to measure customers' repurchase intentions. While repurchase intentions only concentrated on recognition of a product or brand, it was difficult to measure people's intentions to revisit a destination. Therefore, some research applied the concept of behavioral intention and developed revisit intention in the tourism sector (Anwar & Sohail, 2004; Hughes & Morrison-Saunders, 2002; Kemperman, Joh, & Timmermans, 2003; Shanka & Taylor, 2004). Chen and Tsai (2007) defined revisit intention as the "visitor's judgment about the likeliness to revisit the same destination" (p. 1116). For example, tourists in their vacation, if the tour services or destination performances satisfied tourists' various needs such as relaxation or enjoyment, they might revisit the same destination and participate in the same activities.

Identification of revisit intention was one of the fundamental issues in the tourism industry because repeat visitors could provide more revenue and minimize

marketing costs for the destination (Ajzen, 2002; Lin, 2011; Kozak, 2001; Park & Yoon, 2009). Because of the positive impact, the studies below tried to discern why people traveled and revisited a destination. Rittichainuwat, Qu, and Mongkhonvanit (2008) stressed the importance of self-determination and used push-pull theory to study the motivation of travelers on revisit intention to Thailand. The target population was the international travelers who were checking in for departure flights to 13 inbound tourist markets at the Bangkok International Airport in Thailand. The motivations of travelers to visit Thailand were special interests, cultural attractions, deals on tour promotion, good food, shopping, things to do, Buddhism, and natural attractions. However, only two pull factors (good food, shopping, things to do and cultural attractions) could predict the tourists' revisit intentions. For example, the repeat tourists would revisit Thailand because of Thai food, while the first time travelers would revisit Thailand in order to see people from different cultures. The results also indicated that a demographic characteristic played an important role in travelers' motivations. For example, Asians were less motivated by cultural attractions than Europeans and North Americans. More Europeans and North Americans liked traveling to experience different cultures.

According to Pratminingsih, Rudatin, and Rimenta (2014), the concept of push and pull factors was adopted to investigate the roles of motivation and destination

image in predicting tourists' revisit intention to Bandung, West Java, Indonesia. The results expressed that the three primary motivations (push factors) for the tourists visiting Bandung were “relaxation”, “learning experiences”, and “social interaction” factor. Moreover, the interaction of the three push motivations and destination image (pull factors) between tourists' satisfaction and revisit intention were all positively related to one another, which meant the three push motive factors, destination image, and tourists' satisfaction were critical variables for the tourists to revisit Bandung, West Java, Indonesia.

Chang and Huang (2012) analyzed the relationship between participants' motivations, enduring involvement, and involved behavior in paragliding adventure recreation. The subjects were people who engaged in the paragliding activity in Taiwan, but professional players and coaches were not in the scope of this study. The authors concluded that paragliding was a dangerous and costly activity, so women, familial, and low-income travelers were less motivated. Moreover, the motivations of the participants to paraglide were body health, relax stress, adventure and challenge, social interaction, and nature orientation. The results displayed that the correlation was from moderate to strong among participants' motivations, enduring involvement, and involved behavior, which meant people with higher participating motivation reflected more enduring involvement and involved in more positive behaviors. Thus,

the study provided evidences that push and pull factors were both important for tourists participating in sport tourism.

Funk, Filo, Beaton, and Pritchard (2009) researched the motives of sport event attendance by concepts of Maslow's hierarchy of needs and push-pull motive theory. A questionnaire that contained push and pull factors was administrated to participants. The participants were spectators attending professional soccer games at three locations in Australia. The results indicated that push factors included socialization, esteem, and diversion, while pull factors included performance and excitement. The linear regression reported that the three dimensions: excitement of games, player and facility's performance, and increased esteem explained 30% of the variance in game attendance, which meant spectators with those three motivation types would be more likely to participate in the sport events again. Also, excitement of games, player and facility's performance, increased esteem (when the team wins games), and escaping daily routines explained 75% of the variance in team commitment, which meant the four motivation dimensions increased the probability for spectators becoming loyal fans.

Alexandris, Kouthouris, and Girgolas (2007) investigated the relationships among motivation, negotiation, and alpine skiing participation at a ski resort located in northern Greece. The results displayed that negotiation items (improve skiing

knowledge, to adjust lifestyle, to acquire information regarding resorts, to manage time, to find partners) were the strategies people use them to eliminate constraints to participate in skiing and snowboarding activities. For example, people who were not available in the daytime might arrange their skiing activities at midnight, or people who were beginners and knowledgeable about skiing might take ski lessons to improve their skill rapidly. For the Skiers' motivations, they were divided into intrinsic motivation and extrinsic motivation. The regression analysis revealed that intrinsic (push), extrinsic (pull) motivation, and negotiation strategies predicted 49% of the variance in skiers' revisit intentions. The negotiation dimensions partially mediated the relationship between the skiers' intrinsic motivation and intention, but the negotiation dimensions did not mediate the relationship between the skiers' extrinsic motivation and intentions. In other words, skiers, who were intrinsically motivated, were more likely to use negotiation strategies to overcome constraints such as managing their time effectively and improving their knowledge regarding skiing. In this case, intrinsic (push) motivation was more important for skiers to continue their participation.

The ski tourism industry in Taiwan was an emerging trend in the recent years, so the studies about Taiwanese skiers' motivations were extremely rare. Lin's thesis in 2011 was one of the rare studies about the relationship between Taiwanese skiers'

motivation and intention to participate in skiing activities. The results of this study indicated that push factors were self-determination, social interaction, novelty, and enjoyment, while pull factors included nature, culture, peripheral facilities, and services. Moreover, the push factors predicted 56% of the variance in travelers' intention to continue participating in skiing activities, while the pull factors only explained 26% of the variance in the revisit intention. As a result, the push factors were more important for Taiwanese skiers' motivations in this case. However, this study did not consider the ski facilities as the pull factors such as lessons at a ski school, a variety of trails, terrain parks, and quality of lifts, which might be considered the most important features of a ski resort. The lack of these items might be why the pull factors were not strong predictors of the revisit intention for Taiwanese ski tourists.

Most of the above studies proved that tourists' push and pull motivations had a positive influence on tourists' intentions to revisit a destination. The important elements were identified to relate to revisit intention such as push factors including excitement, enjoyment, relaxation, novelty, and social interaction, while pull factors were natural resources and cultures (Chang & Huang, 2012; Funk et al., 2009; Pratminingsih, Rudatin, & Rimenta, 2014). However, few studies argued that tourists' extrinsic (pull) motivations did not predict tourists' intentions. For example, extrinsic

motivations and pull factors such as tour promotions, natural attractions, and religions were not primary factors to influence tourists to revisit a destination (Alexandris, Kouthouris, & Girgolas, 2007; Rittichainuwat, Qu, & Mongkhonvanit, 2008). Thus, the influence of push and pull factors on revisit intention and travelers' behavior should be further identified in specific types of tourism.

In addition, most studies did not set demographic characteristics as independent variables to measure the differences on tourists' motivations and intentions. Even if several studies had already investigated the influence of demographic characteristics on tourists' motivations and intentions, the relationship among them was still indefinite based on different identities and populations. For instance, Ma (2009) indicated that age had no influence on motivations for Chinese outbound tourists, but income did. However, Ting, Wang, and Chou's (2014) study on tourists' motivations in Taiwan's balloon festival, had the opposite results. Because of the uncertain influences, demographic characteristics still needed to be identified as variables related to tourists' motivations and intentions in sport tourism. The following section would address the concept and measurement of service quality that was also an important factor to influence customer's intention and behavior.

## Measurement of Service Quality

In the twentieth century, the concept of quality focused on controlling the physical production of goods and the internal measurements of the production process (Garvin, 1983). The quality of goods could be measured objectively by some elements such as durability and defects. However, to identify the characteristics and the measurement of service quality were considered to be more difficult (Garvin, 1984; Parasuraman, Zeithaml, & Berry, 1985). Parasuraman, Zeithaml, and Berry (1988) stated that "service quality was an abstract and elusive construct because of three features unique to services: intangibility, heterogeneity, and inseparability of production and consumption" (p. 13). First of all, there was no any manual to judge the quality while customers pursued intangible services such as the experience in a hotel, amusement park, or ski resort. Secondly, employees' service often varied based on training, individual attitude, and daily performance. Lastly, service quality was seen during and after service delivery rather than at the manufacturing process (Zeithaml, Parasuraman, & Berry, 1990). Despite of the difficulty to measure service quality, the definition of service quality in many studies commonly had the same outline. Bei and Chiao (2001) defined that service quality was a sort of attitude and judgment related to experiences of customers during a purchase process. Zeithaml, Parasuraman, and Berry (1990) indicated service quality was dominated by customer's

experiences and service attributes that could be significantly evaluated only from production to consumption and after purchase. Chelladurai and Chang (2000) mentioned service quality had to conform to specified requirements, satisfy customers' needs, and exceed customers' expectations. Thus, service quality was not an objective appraisal and was defined as customers' subjective judgment for services through comparing their expectation with actual experience that satisfied their needs (Garvin, 1984; Parasuraman, Zeithaml, & Berry, 1985).

Many previous studies began to investigate the measurement and the influence of service quality that had been proved to relate to customer's behavior and loyalty. Thus, service quality was considered as a most powerful factor to develop marketing strategies in leisure industry (Huang, 2012; Yu, Chang, & Huang, 2006). In order to identify adequate dimensions for a specific service, Parasuraman, Zeithaml, and Bery (1988) created a questionnaire, called the SERVQUAL scale, based on the extraction of service items in several service industries. The investigators conducted an exploratory factor analysis that purified ten into five service dimensions. In the process of factor analysis, the principal axis factoring procedure was used. The data was analyzed to obtain Cronbach's alpha values and factor-loading matrix by following oblique rotation of ten-factor solution. After that, some items were deleted because of the lower factor loading and alpha values. Finally, 22 items were

developed and spread among five dimensions: tangibles, reliability, responsiveness, assurance, empathy that constructed internal structure and internal consistency. The five dimensions of service quality and their definitions were illustrated in Figure 3. These five dimensions (tangibles, reliability, responsiveness, assurance, and empathy) were the most widely accepted factors in various service settings. The application of the SERVQUAL scale would address in the next section.

Service Quality Dimensions	Definitions
Tangibles	Physical facilities, equipment, and appearance of personnel
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy	Caring, individualized attention the firm provides its customers

Figure 3: Service Quality Dimensions (Parasuraman, Zeithaml, & Bery, 1988, p. 23)

### **Relationships between Service Quality and Revisit Intention**

Many studies declared that the SERVQUAL scale had been extensively employed to measure service quality in sport and tourism domain. Han and Radder (2011) utilized the SERVQUAL scale to measure service quality for American tourists participating in a hunting safari in South African. The results showed that most

American tourists satisfied with the services in the South African hunting safari.

Canny (2013) adopted the SERVQUAL scale to investigate relationships between the five service dimensions (tangibles, reliability, responsiveness, assurance, and empathy) and behavioral intentions for tourists visiting Borobudur Temple, Indonesia. The author concluded that Borobudur Temple authority should focus on improvement of some particular services such as employees and tour guides' performance because they might influence the future behavioral intentions. Kim, LaVetter, and Lee (2006) applied the five service dimensions (tangible, responsiveness, empathy, reliability, and assurance) to examine service quality for spectators in attendance at Korean professional basketball league as well as to predict customers' repurchase intention. The result indicated that 42% of overall repurchase intention was explained by the five dimensions.

Some previous studies suggested that investigators should modify service items of the SERVQUAL scale because the original subscales might not able to predict revisit intentions in sport tourism. According to Alexandris and Kouthouris's study (2005) to explore service quality of sport tourism in Greece such as canoeing, orienteering, and archery program, the original service subscales offered very low contribution (2%) to the prediction of tourist's behavioral intentions. The investigators argued that the SERVQUAL questionnaire was not sufficient to measure service

quality in sport tourism because this scale was developed in some particular service industries such as banks, hotels, restaurants, and health centers.

Nevertheless, some aspects in sport tourism industry seemed very different to general service industries. For example, the tangible dimension in sport tourism was more complex than just equipment and facilities. The actual physical factors such as lake condition and mountain scenery might be involved in tangibility, while the SERVQUAL scale did not consider this factor. Thus, Alexandris, Kouthouris, and Meligdis (2006) applied attributes of the SERVQUAL scale and adjusted the service items to the three dimensions: interaction quality (e.g., interaction with staffs), environment quality (e.g., facilities, equipment, and natural resources), and outcome quality (e.g., skiing helps me to relax or have fun), to investigate the influence of service quality on customer's loyalty to a ski resort of Greece. The results presented that the three dimensions had a significant effect (56% of the variance) on place dependence (e.g., I would not substitute any other ski resort). As compared to the study of Alexandris and Kouthouris (2005), only explained 2% of the variance on tourist's intentions, this service scale was more reliable and valid to measure service quality in predicting intentions to revisit a ski resort.

According to the suggestions of the above studies, the SERVQUAL scale that mostly applied in service industries had to be altered because it might be not suitable

for ski sport tourism (Alexandris & Kouthouris, 2005; Alexandris, Kouthouris, & Meligdis, 2006; Kim, LaVetter, & Lee, 2006). In this study, the SERVQUAL scale would be utilized, but the investigator would also consider the dimensions of Alexandris, Kouthouris, and Meligdis's study (2006) and adjust the service items to fit characteristics of ski tourism. Therefore, the interaction of service quality at ski resorts and revisit intentions for tourists would be constructed.

### **Summary**

The purpose of this study was to identify the relationship among demographic characteristics, service quality, motivations, and revisit intentions for Taiwanese skiers and snowboarders. Although several studies indicated that a few factors of pull motives and service quality such as tour promotions, natural environments, the experience of other religions, and employee's reliability did not influence tourists' revisit intentions (Alexandris, Kouthouris, & Girgolas, 2007; Kim, LaVetter, & Lee, 2006; Rittichainuwat, Qu, & Mongkhonvanit, 2008), pull motives and reliability dimension still played important roles in most cases (Canny, 2013; Chang & Huang, 2012; Funk, Filo, Beaton, & Pritchard, 2009; Pratminingsih, Rudatin, & Rimenta, 2014). According to the results of the above relative studies, push-pull motive theory and the SERVQUAL scale were effectively adopted for measuring tourists' motivations and service quality in tourism domain. However, it was necessary to

identify particular pull-push factors and service quality dimensions in different settings, especially in sport tourism, because of contextual influence of certain pull factors and service quality dimensions. Therefore, this study would develop a reliable questionnaire including push-pull factors and service quality dimensions to suit the characteristics of ski motivations and ski resorts' service, and further investigate the influence of outbound tourists' motivations and services provided by ski resorts on revisit intentions in winter sport tourism in Taiwan.

In addition, although most studies declared that demographic characteristics played important roles in service quality, tourists' motivations and intentions to revisit a destination in some types of tourism (Kim, LaVetter, & Lee, 2006; Ma, 2009; Rittichainuwat, Qu, & Mongkhonvanit, 2008; Ting, Wang, & Chou, 2014), it was still necessary to identify the relationship between specific demographic variables for a given population and a particular type of sport tourism. For example, household income might be a main factor to influence traveler's revisit intentions (Chang & Huang, 2012) because the winter sport tourism in Taiwan required a large expense such airline tickets, lodging, and equipment. Therefore, if the demographic profile, service quality, and tourists' motivations were ascertained, the winter tourism industry of Taiwan would be able to target a market orientation and design marketing strategies.

### **CHAPTER III: METHODOLOGY**

The purpose of this study was to investigate the relationships among demographic characteristics, service quality dimensions, tourists' push-pull motivations, and revisit intentions for Taiwanese tourists' participation in overseas skiing and snowboarding activities. This chapter described the procedure and methodology utilized in pursuing the research questions including 1) research model of the study, 2) selection of participants, 3) instrumentation, 4) procedures, and 5) data analysis methods. In addition to demonstrate the research questions, this study used the quantitative design. Quantitative data related to service quality dimensions, push-pull motivations, and revisit intentions have been effectively examined and analyzed according to the outcomes of many studies in sport and tourism field (Alexandris, Funk, & Pritchard, 2011; Alexandris & Kouthouris, 2005; Alexandris, Kouthouris, & Girgolas, 2007; Alexandris, Kouthouris, & Meligdis, 2006; Pratminingsih, Rudatin, & Rimenta, 2014). Thus, a survey design with a Likert scale was used to collect quantitative data and measure service quality of ski resorts, skiers' motivations and revisit intentions.

### Research Model of the Study

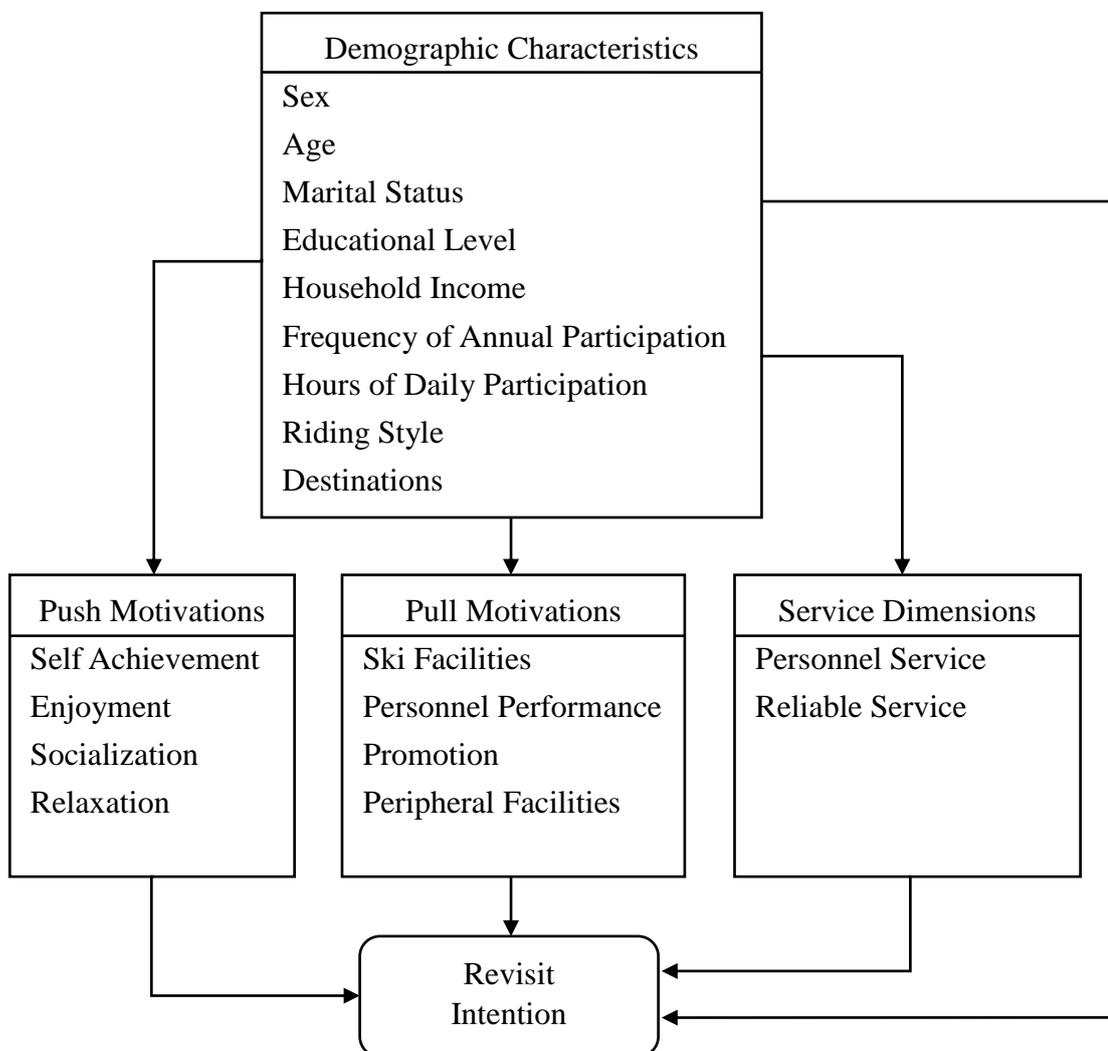


Figure 4: Research Model of the Study

For the purpose of this study and based on the literature review, the investigator developed a research model to illustrate relationships among service quality of ski resorts, Taiwanese skiers' motivations, and intentions to participate in overseas skiing/snowboarding activities. The research model was comprised of

demographic characteristics, push motive factors, pull motive factors, service quality dimensions, and revisit intentions. The push-pull and service quality subscales were identified after Exploratory Factor Analysis. In the model, the investigator assumed that the four push-pull factors, two service quality dimensions, and nine demographic characteristics were independent variables that would influence the dependent variable: revisit intention. The relationships between the dependent and independent variables would be presented in Figure 4.

### **Selection of Participants**

The target population of this study was Taiwanese adult tourists (18+ years old) who had participated in skiing/snowboarding activities. Participants were recruited from the website and Facebook page of the Chinese Taipei Ski Association and a reputed private ski group in Taiwan via a convenience sampling method. Convenience sampling was a non-probability sampling method that selected participants because of their accessibility. This study employed this sampling technique because of the large population and wide distribution of the population, and the investigator expected to obtain a higher response rate (Hair, Rolph, & Tatham, 1987; Pratminingsih, Rudatin, & Rimenta, 2014).

For the sample size of this study, a wide range of recommendation regarding sample size in factor analysis was proposed in the study of MacCallum, Widaman,

Zhang, & Hong (1999). The guideline basically depended on the ratio of the minimum necessary sample size and the number of variables. Scholarship on the topic indicated that the appropriate ratio for factor analysis might range between five and ten, while a larger size might be more sufficient to achieve an adequate match to the entire population. Thus, according to the ratio, the sample size in this study would be between 175 (35 motive items  $\times$  5) and 350 (35 motive items  $\times$  10). One hundred seventy five surveys would be the minimum sample size, and ideally, 350 surveys would be the goal.

### **Instrumentation**

The questionnaire consisted of three parts in order to examine the relationship among demographics, service quality, motivations, and revisit intentions for Taiwanese skiers and snowboarders. The participants' basic information was the first part for descriptive analysis. The second part was service quality measurement with 11 items based on attributes of the SERVQUAL scale. The third part was a motivation scale with 17 push and 18 pull items that adopted the concept of push-pull motive theory framework because this study would examine both Taiwanese intrinsic motivations and the performance of a destination. The final three questions were applied to measure Taiwanese tourists' intentions to participate in skiing and snowboarding activities and revisit a ski resort.

### ***Demographic Information***

For the part of demographic information in the survey, the questions were about each Taiwanese skier/snowboarder's sex, age, marital status, educational level, household income, frequency of annual participation, hours of daily participation, riding style, and destinations. The demographic information in this study focused on the characteristics of ski tourism population and traveling pattern by descriptive analysis. After the analysis, the distribution of demographics would be clearly presented.

### ***Service Quality Scale***

Service quality was defined as customer's subjective judgment through actual experience of services provided by industries (Garvin, 1984; Parasuraman, Zeithaml, & Berry, 1985). To measure service quality, a scale modified from several items of six studies was employed in this study (Alexandris, Kouthouris, & Meligdis, 2006; Canny, 2013; Frochot & Kreziak, 2008; Han & Radder, 2011; Neuvonen, Pouta, & Sievanen, 2010; Shahin & Janatyan, 2011). The original questionnaires of the six studies that adopted dimensions of the SERVQUAL scale were designed to measure the perception of the tourists in sport or tourism areas. However, those questionnaires might not reflect the same performance in this study. Thus, the investigator adjusted the service items to fit attributes of ski sport tourism according to the above studies.

The service quality scale was finally developed and contained 11 items (see Appendix C). The service questionnaire adopted a 4-point Likert scale ranging from 1) not at all, 2) slightly, 3) moderately, 4) very much. For example, if the scores of environmental service were much higher than personnel service, that would indicate that ski resorts considered facilities (e.g., lifts and slopes) were more important, while employees' services were not considered an important factor in the ski resorts.

### ***Push-Pull Motivation Scale***

Motivation was defined as an internal condition related needs or desires that drove an individual toward certain types of actions or behaviors (Kleinginna, P. & Kleinginna, A., 1981; Mook, 1996). To measure Taiwanese skiers/snowboarders' motivation, a push-pull motivation scale was adopted and modified through scales of several tourism and sport studies (Alexandris, Kouthouris, & Meligdis, 2006; Carr, 2006; Chang & Huang, 2012; Chen & Wu, 2009; Dotson, Clark, & Dave, 2008; Filo, Funk, & O'Brien, 2011; Kim, Oh, & Jogaratnam, 2007; Lee & Chen, 2005; Little & Needham, 2011; Ma, 2009; Meng, Tepanon, & Uysal, 2008; Neuvonen, Pouta, & Sievanen, 2010; Prayag & Grivel, 2014; Radder, Mulder, & Han, 2013; Rittichainuwat, Qu, & Mongkhonvanit, 2008; Wilson, Rodgers, & Fraser, 2002; Won & Kitamura, 2007; Wong, Cheung, & Wan, 2013). The original questionnaires that adopted concepts of push-pull motive theory were designed to measure participants'

motivations in the sport and tourism areas. Thus, the investigator modified the push items in order to fit characteristics of ski sport tourism, which consisted of challenging myself, gaining confidence, learning new skills, having fun, liking excitement, being with friends, meeting new people, relaxing physically, reducing stress, visiting new resorts, having new experience, and so forth (see Appendix A). In addition, the pull items included high mountains, snow powder, gear rentals, chairlifts, employee's attitude, employee's ability to solve problems, affordability of ski tour, advertisements of resorts, hotels, restaurants, convenience of transportation, and so on (see Appendix B). The ski/snowboard motivation scale totally contained 35 push-pull items that used a 4-point Likert scale ranging from 1) not at all, 2) slightly, 3) moderately, 4) very much. Higher motivation scores meant the tourists were more motivated to participate in skiing/snowboarding activities. For example, if the mean of the socialization motivation was higher, it meant enjoying friends or relatives' interaction would be skiers and snowboarders' primary motivation.

### ***Revisit Intention Scale***

Revisit intention in tourism was defined as tourists' willingness to repurchase a tourism service or revisit a destination because their needs were satisfied. For measuring tourists' intentions to participate in skiing/snowboarding activities, the scale of Alexandris, Kouthouris, and Girgolas (2007) and Alexandris, Funk, and

Pritchard (2011) was adopted in this study. The original scale was comprised of three items to examine people's intention to continue participating in skiing activities (Appendix D). The three intention questions in this study used a 4-point Likert scale ranging from 1) not at all, 2) slightly, 3) moderately, 4) very much. If the intention scores were higher, the participants would be more willing to revisit ski resorts.

### **Procedures**

As discussed in Chapter Two about the effectiveness of the SERVQUAL scale and push-pull motive scale's application, the investigator utilized both scales to interpret the relationship among demographic characteristics, service quality, motivations, and revisit intentions. The questionnaire in this study was derived from the scales of several studies that adopted concepts of service quality, push-pull motive theory, and behavioral intention (see Appendix A, B, C, and D). For the data collection, the convenience sampling method was conducted, and the participants were recruited to voluntarily participate in this study. Firstly, the investigator contacted with the Facebook manager of the Chinese Taipei Ski Association and the private ski group to get the permission. Secondly, the investigator described the purpose of this study to the managers, and the purpose of this study was also stated on the survey to Taiwanese participants. Thirdly, the investigator recruited the participants via online survey posted on the Facebook or websites of the associations

between December 1st, 2015 and January 31st, 2016. The participants were required to click the link of the questionnaire and completed the survey online via the web-based survey tool, Google Drive.

A questionnaire in Traditional Chinese was the formal online survey for Taiwanese participants. The process to develop the Traditional Chinese version of the survey was: 1) the investigator translated the original English survey into the first Traditional Chinese version; 2) two interpreters, the first one a Taiwanese doctoral student in Education and the second one with a master's degree in English as a second language, interpreted the Traditional Chinese translation back to English that there were two English versions; 3) the investigator checked the differences between the original and the two English versions and edited errors to create a second Traditional Chinese translation; 4) Taiwanese international students of a private skiing/snowboarding group at Indiana State University filled out the survey of the second Traditional Chinese translation and marked terms and sentences they did not understand; 5) finally, the investigator double checked the second edited Traditional Chinese translation and revised it into the third Traditional Chinese translation according to the Taiwanese students' feedback that was the final survey administered to Taiwanese participants from Chinese Taipei Ski Association and a private ski group (Appendix G).

## **Data Analysis Methods**

After data collection, a Statistical Package for the Social Sciences program (SPSS) 22 for Windows 7 was utilized to analyze the data. The following statistical analysis methods were implemented to illustrate the research questions:

### ***Descriptive Statistical Analysis***

Frequency distribution and percentages were used to describe the characteristics of the demographic data for Taiwanese skiers and snowboarders, such as sex, age, marital status, household income, educational level, frequency of annual participation, skiing hours, riding style, and destination of participation.

### ***Exploratory Factor Analysis***

This study offered significant theoretical and practical contributions for the ski tourism in Taiwan. However, very few previous studies investigated service quality of ski resorts and Taiwanese push-pull motivations regarding overseas skiing and snowboarding activities. In order to effectively measure the service quality and motivations, Exploratory Factor Analysis (EFA) was applied in this study. EFA was a variable reduction technique that identified the number of latent factors and built the factor structure via a set of variables (Hair, Rolph, & Tatham, 1987; Kline, 1994). To identify the latent factors and build the structure in this study, EFA was utilized to extract push-pull motive factors and service quality dimensions to construct the

structure of the questionnaire. Schumacker and Lomax (2004) mentioned that EFA should be conducted in multi-purpose research because it determined which items were appropriate to a particular latent factor, helped developing new measurement tools, ascertained the effectiveness of subscales in instruments, and examined the validity and reliability of a construct. In the analytic process, the Kaiser Meyer Olkin (KMO) and Bartlett's test of sphericity displayed whether both values were suitable for the factor analysis (Kaiser, 1974). The Principal Components, a linear combination of weighted observed variables, and Varimax, a strategy to clearly mark maximum loadings for some variables and low loadings for others, were utilized in the extraction and rotation stage to compute factor loadings (Kaiser, 1958). Factor loadings above 0.4 were preferable, while the other loadings lower than 0.4 and double loadings could be ignored (Kline, 1994). This study also examined Cronbach's Alpha Coefficient to check the internal consistency degree of the subscales. The alpha values should preferably range between 0.70 and 0.99, while 0.60 might be acceptable (Bland & Altman, 1997; Malhotra, 1993). Therefore, the items of motivation and service quality with factor loading lower than 0.4 or double loadings would be eliminated from this study to improve internal structure and consistency.

### ***T-Test and Analysis of Variance (ANOVA)***

This study used t-test and ANOVA to investigate the difference of demographic characteristics (sex, age, marital status, educational level, household income, frequency of annual participation, hours of daily participation, and riding style) on the push-pull motivations, service quality dimensions, and skiers' revisit intentions. The statistical significance for all items was defined as  $p < .05$ . The purpose of ANOVA and t-test was to help travel agencies and ski resort understanding the interaction between variables and the ski market orientation in Taiwan.

### ***Pearson Correlation Analysis***

The Pearson Correlation Coefficient, also known as  $r$ , was a measure of strength and direction of the linear relationship between two variables. If  $r$  value was a higher positive value, it meant two variables had a strong positive relationship, whereas  $r$  with a negative value meant two variables had a negative relationship (Wang, 2005). The Pearson correlation analysis was employed to examine the correlation, positive or negative (the statistical significance for all items was defined as  $p < .05$ ), between service quality dimensions, skier's motivations, and revisit intentions. Further, if the relationship was identified, linear regression analysis would interpret whether or not the motivations and service quality dimensions were the main predictors of the revisit intentions.

### ***Multiple Linear Regression Analysis***

Multiple linear regression analysis ( $R$ ) was a technique used for predicting a dependent variable from two or more independent variables (predictors). When the regression equation was constructed (statistical significance for all items was defined as  $p < .05$ ), the independent variables could be checked for how well they predicted the dependent variable by examining the coefficient of determination ( $R$ -square) (Wang, 2005). Thus, in the data analysis, the backward regression procedure was utilized to analyze the influence of independent variables on dependent variable. The results of this study would indicate which demographic characteristics, push-pull motivations and service quality dimensions could explain the variance of revisit intentions ( $R$ -square always lies between 0 and 1) and to identify which independent variables might be able to predict the dependent variable: revisit intention.

## CHAPTER IV: RESULTS

The purpose of this study was to investigate the relationships among demographic characteristics, tourists' push-pull motivations, service quality dimensions, and revisit intentions. In this chapter, the results were described in the following sections: 1) percentage and means to describe demographic characteristics, service quality, push-pull motivation, and revisit intention items, 2) exploratory factor analysis and Cronbach's alpha coefficient to check internal structure and consistency of push-pull motivation and service quality subscales, 3) t-test and ANOVA analysis to investigate the significant differences between demographic characteristics on service quality dimensions, push-pull motivations and revisit intentions, 4) Pearson correlation analysis to measure whether tourists' push-pull motivations and service quality dimensions are related to revisit intentions, 5) multiple linear regression analysis to understand what demographic characteristics, push-pull motivations, and service quality dimensions could be able to predict tourists' intention to participate in skiing/snowboarding activities.

In addition, the data were collected between December 1st, 2015 and January 31st, 2016. A total of 210 participants accessed the online survey via the link of Facebook of the Chinese Taipei Ski Association and a private skiing/snowboarding

group in Taiwan. Three of received surveys were not completed by the Taiwanese participants. After eliminating the ineffective responses, a total of 207 completed questionnaires were keyed in the database of SPSS 22 and analyzed to answer the research questions.

### **Descriptive Statistics**

This section primarily described the percentage of demographic characteristics and means of motivation, service quality, and revisit intention items. The results provided a basic picture for Taiwan's ski/snowboard market, as well as identified main motivations for Taiwanese skiers/snowboarders, services' performance of ski resorts, and intentions to revisit ski resorts.

#### ***Demographic Characteristics***

The first part of the questionnaire was concerned with participants' characteristics. Table 1 presented the description of the Taiwanese skiers' demographic background and travel information such as sex, age, marital status, household income per month, educational level, frequency of annual participation, skiing hours per day, riding style, and destination of participation.

Table 1: Demographic Characteristics for Skiing/Snowboarding

Demographics	Label	Frequency	Percentage
Sex	Male	112	54.11
	Female	95	45.89
Age	18~25	8	3.86
	26~30	49	23.67
	31~35	70	33.82
	36~40	46	22.22
	>40	34	16.43
Marital Status	Single	145	70.05
	Married	62	29.95
Household Income	NT\$0~NT\$80,000	84	40.58
	NT\$80,001~NT\$150,000	95	45.89
	>NT\$150,000	28	13.53
Educational Level	High school	7	3.38
	Undergraduate school	117	56.52
	Graduate school	83	40.10
Frequency of Annual Participation	0~2 days	40	19.32
	3~5 days	83	40.10
	6~8 days	38	18.36
	>8 days	46	22.22
Skiing Hours per Day	1~4 hours	30	14.49
	5~8 hours	159	76.81
	>8 hours	18	8.70
Riding Style	Skier	53	25.60
	Snowboarder	128	61.84
	Both	26	12.56
Destination of Participation	Japan	177	85.51
	Korea	9	4.35
	USA	9	4.35
	China	4	1.93
	Canada	3	1.45
	Oceania	4	1.93
	France	1	0.48
Each total		207	

### Sex

Male participants were 112 (54.11%) and female participants were 95 (45.89%).

### Age

Eight of the participants were 18 to 25 years old (3.86%). Forty nine of the participants were 26 to 30 years old (23.67%). Seventy of the participants were 31 to 35 years old (33.82%). Forty six of the participants were 36 to 40 years old (22.22%). Moreover, 34 of the participants were older than 40 years old (16.43%).

### Marital Status

One hundred forty five participants were single (70.05%) and 62 participants were married (29.95%).

### Household Income

Eighty four participants' household income per month were less than NT\$80,000 (US\$2,500) (40.58%). Ninety five participants' household income per month were between NT\$80,001 and NT\$150,000 (US\$2,500~US\$4,700) (45.89%). Twenty eight participants' household income per month were more than NT\$150,000 (US\$4,700) (13.53%).

### Educational Level

Seven participants received no education beyond high school (3.38%). One hundred seventeen participants completed an undergraduate degree (56.52%). Eighty three participants completed graduate degree (40.10%).

### Frequency of Annual Participation

Forty participants went skiing/snowboarding less than two days in the last year (19.32%). Eighty three participants went skiing/snowboarding between three and five days in the last year (40.10%). Thirty eight participants went skiing/snowboarding between six and eight days in the last year (18.36%). Moreover, 46 participants went skiing and snowboarding more than eight days in the last year (22.22%).

### Skiing Hours per Day

Thirty participants skied/snowboarded between one and four hours per day (14.49%). One hundred fifty nine participants skied/snowboarded between five and eight hours per day (76.81%). Eighteen participants skied/snowboarded more than eight hours per day (8.70%)

### Riding Style

Fifty three of the participants were skiers (25.60%). One hundred twenty eight of the participants were snowboarders (61.84%). Twenty six of the participants attended both activities (12.56%).

### Destination of Participation

One hundred seventy seven participants previously attended ski/snowboard activities in Japan (85.51%). Nine participants previously attended ski/snowboard activities in Korea (4.35%). Nine participants previously attended ski/snowboard activities in the United States (4.35%). Four participants previously attended ski/snowboard activities in China (1.93%). Three participants previously attended ski/snowboard activities in Canada (1.45%). Two participants previously attended ski/snowboard activities in New Zealand (0.97%). Two participants previously attended ski/snowboard activities in Australia (0.97%). Moreover, only one participant previously attended ski/snowboard activities in France (0.48%).

### ***The Mean, SD, and Rank of Push Motivations***

The push-pull motivation scale was used to understand why Taiwanese people participated in skiing/snowboarding activities and what the main motivations were for Taiwanese skiers/snowboarders. Table 2 displayed the mean ( $M$ ), standard deviation ( $SD$ ), and rank on the push motivation items. The results found that the three top-ranking items were "I have a lot of fun in the process ( $M = 3.85$ ), I enjoy skiing/snowboarding ( $M = 3.82$ ), and I like the excitement of participation ( $M = 3.78$ )." The push item that made Taiwanese skiers and snowboarders least motivated was "my friends invite me to participate ( $M = 3.21$ )."

Table 2: Mean, SD, and Rank of Push Motivation

<b>I participate in ski/snowboard activities because:</b>	<i>Mean</i>	<i>SD</i>	Rank
I want to improve existing skills.	3.52	0.64	10
I like to challenge myself.	3.54	0.65	9
I want to learn new skills.	3.48	0.68	11
I gain confidence each time.	3.38	0.69	12
I have a lot of fun in the process.	3.85	0.39	1
I like the excitement of participation.	3.78	0.46	3
I enjoy skiing/snowboarding.	3.82	0.42	2
I want to be with friends or relatives.	3.73	0.54	6
I want to meet new people.	3.24	0.84	14
I enjoy the interaction with others.	3.48	0.73	11
My friends invite me to participate	3.21	0.89	15
I relax physically and mentally.	3.62	0.63	8
I reduce the stress of my daily life.	3.62	0.63	8
I temporarily break away the pressure of routine.	3.71	0.62	7
I want to try different types of skiing/snowboarding.	3.37	0.75	13
I want to go to a ski resort where I have never been.	3.77	0.50	4
I want to have a new or different experience.	3.76	0.48	5
<i>N</i> = 207			

### ***The Mean, SD, and Rank of Pull Motivations***

Table 3 displayed the mean, standard deviation (*SD*), and rank on the pull motivation items. The results indicated that the three top-ranking items were "affordable travel expenditures ( $M = 3.71$ ), variety of different trails and slopes ( $M = 3.56$ ), and snow powder ( $M = 3.55$ ).\" The pull item that made Taiwanese skiers and snowboarders least motivated was "terrain parks ( $M = 2.41$ ).\"

Table 3: Mean, SD, and Rank of Pull Motivation

<b>I visit a ski resort because of:</b>	<i>Mean</i>	<i>SD</i>	Rank
Snow powder.	3.55	0.59	3
High alpine areas.	2.68	0.73	15
Natural scenery.	3.44	0.68	4
Gear rentals of ski resorts.	3.04	0.81	11
Variety of different trails and slopes.	3.56	0.62	2
Terrain parks (special trick parks).	2.41	0.91	17
Number of chairlifts.	3.10	0.78	10
Staffs or instructors caring about skiers' safety.	3.35	0.70	7
Friendliness of staffs or instructors.	3.42	0.69	6
Staffs or instructors' ability to solve skiers' problems.	3.43	0.65	5
Good lessons at ski school.	2.90	0.98	13
Good package tours.	3.12	0.87	9
Affordable travel expenditures.	3.71	0.53	1
Advertising about special events.	2.76	0.86	14
Amenities' quality of hotels.	3.24	0.72	8
Food of restaurants.	2.99	0.83	12
Convenience in transportation.	3.53	0.68	4
Shopping opportunities from retail stores.	2.67	0.97	16
<i>N</i> = 207			

### ***The Mean, SD, and Rank of Service Quality***

The service quality scale was applied to measure Taiwanese skiers/snowboarders' perception for the services of the previous visit. Table 4 displayed the mean (*M*), standard deviation (*SD*), and rank on the service quality items. The results found that the three top-ranking service items were "The landscape is very beautiful (*M* = 3.60), the lifts and slopes are well maintained (*M* = 3.60), and

the employees or instructors always concerns about skier's safety ( $M = 3.60$ ).\" The service items that had lower scores were \"the facilities and gear rentals are up to date ( $M = 3.20$ ) and the instructors provide multiple lessons to different level of skiers ( $M = 3.20$ ).\"

Table 4: Mean, SD, and Rank of Service Quality

Service Items	Mean	SD	Rank
The facilities and gear rentals are up to date.	3.20	0.65	8
The landscape is very beautiful.	3.60	0.61	1
The lifts and slopes are well maintained.	3.60	0.53	1
The accommodation is clean and comfortable.	3.49	0.59	5
The employees or instructors are polite and friendly.	3.58	0.58	2
The employees or instructors are knowledgeable to solve skier's problem.	3.50	0.56	4
The employees or instructors always concerns about skier's safety.	3.60	0.56	1
The employees provide accurate and useful information.	3.51	0.62	3
The instructors provide multiple lessons to different level of skiers.	3.20	0.71	8
The operational hours satisfy skier's need.	3.28	0.72	6
The queue time of taking lifts is acceptable.	3.26	0.75	7
$N = 207$			

### ***The Mean, SD, and Rank of Revisit Intention***

The final three questions were used to measure Taiwanese skiers' intention to revisit a ski resort and participate in skiing/snowboarding activities. Table 5 exhibited

the mean (*M*), standard deviation (*SD*), and rank on the revisit intention items. The results found that the mean of "I am determined to visit a ski resort this season" was 3.79, the mean of " I intend to visit a ski resort this season " was 3.81, and the mean of " I will try to visit a ski resort next season " was 3.76. The mean of the three revisit intention items in average was 3.79.

Table 5: Mean, SD, and Rank of Revisit Intention

Revisit Intention Items	<i>Mean</i>	<i>SD</i>	Rank
I am determined to visit a ski resort this season	3.79	0.62	2
I intend to visit a ski resort this season	3.81	0.55	1
I will try to visit a ski resort next season.	3.76	0.64	3
<i>N</i> = 207			

### **Exploratory Factor Analysis and Cronbach's Alpha Coefficient**

Exploratory factor analysis (EFA) and Cronbach's alpha were applied to construct validity and reliability of service quality, ski/snowboard motivation subscales, and revisit intentions. First, Kaiser Meyer Olkin (KMO) and Bartlett's test were used to determine whether service quality and ski/snowboard motivation subscales in the survey were appropriate to conduct factor analysis. The value of KMO that suited factor analysis was between 0.7 and 1.0 (Kline, 1994). Second, the Principal Components and Varimax method were utilized in the extraction and

rotation stage to define factor loadings and check the sufficiency of all items in service quality dimensions and ski/snowboard motive factors respectively. This study used eigenvalues greater than one to extract factors and accepted the items with factor loadings greater than 0.4, while the other items with double loadings and factor loadings less than 0.4 would be eliminated (Kline, 1994). Third, Cronbach's alpha was measured to check the internal consistency degree of each item in service quality dimensions, push-pull motivations, and revisit intentions. The acceptable alpha coefficient should be above 0.60 (Bland & Altman, 1997; Malhotra, 1993). After the three stages, this study would provide a questionnaire with a good level of internal structure and consistency for ski/snowboard motivations and service quality dimensions.

#### ***Procedure of Exploratory Factor Analysis for Push-Pull Items***

The results of Exploratory factor analysis pointed out that the values of KMO and Bartlett's test were 0.80 and 3319.33 (*Sig.* < 0.00), which meant a significant correlation between push-pull subscales and their suitability for the factor analysis. The Principal Components and Varimax method were conducted in every extraction and rotation stage to measure factor loadings of all push and pull motive items and to extract motive factors.



The first matrix (table 6) showed the factor loading of 35 push-pull items and the extraction of 10 motivation factors according to the eigenvalues greater than one. One pull item: affordable travel expenditures presented the factor loading lower than 0.4 in every push-pull motive factor, which meant affordable travel expenditures did not suit any pull-push motive factor and should be eliminated from the push-pull motive scale.

After the elimination of the expenditure item, the second matrix (table 7) showed the factor loading of 34 push-pull items and the extraction of 10 motivation factors according to the eigenvalues greater than one. One push item: I gain confidence presented double loadings in factor one and four (0.39 and 0.42), which meant I gain confidence could not be identified to describe a particular motive factor and should be eliminated from the push-pull motive scale.

After the elimination of the confidence item, the third matrix (table 8) showed the factor loading of 33 push-pull items and the extraction of 9 motivation factors according to the eigenvalues greater than one. One push item: I want to try different types of skiing presented double loadings in factor two and eight (0.44 and 0.40), which meant I want to try different types of skiing could not be identified to describe a particular motive factor and should be eliminated from the push-pull motive scale.





After the removal of the different types of skiing, the fourth matrix (table 9) showed the factor loading of 32 push-pull items and the extraction of 9 motivation factors according to the eigenvalues greater than one. One pull item: natural scenery presented double loadings in factor three and nine (0.45 and 0.41), which meant natural scenery could not be identified to describe a particular motive factor and should be eliminated from the push-pull motive scale.

After the removal of the scenery item, the fifth matrix (table 10) showed the factor loading of 31 push-pull items and the extraction of 9 motivation factors according to the eigenvalues greater than one. In this stage, although no items had lower and double loadings, the factor nine was only composed of one pull item: snow powder. In order to identify the importance of the snow powder item, eight factor extraction of EFA was run to determine the factor loading of snow powder. The results indicated that the snow powder item presented double loadings and the factor loading lower than 0.4 (table 11). Thus, the factor nine was consider as a junk factor and would be deleted from the push-pull motive factors. Finally, 5 motive items were eliminated from the motive scale including "I gain confidence each time, I want to try different types of skiing, natural scenery, snow powder, and affordable travel expenditures." Four push and four pull motive factors were extracted based on the procedure of EFA.

Table 9: Fourth Factor Loading Matrix of Push and Pull Motive Factors ( $N = 207$ )

Component	1	2	3	4	5	6	7	8	9
improvement	0.87								
challenge	0.90								
learning	0.63								
relaxation		0.66							
stress		0.78							
escape		0.75							
resort		0.60							
experience		0.54							
safety			0.80						
kindness			0.90						
ability			0.87						
rental			0.44						
fun				0.89					
excitement				0.64					
enjoyment				0.84					
hotel					0.64				
restaurant					0.71				
transportation					0.67				
shopping					0.60				
ski school						0.71			
tour						0.74			
advertising						0.67			
with friends							0.71		
new friends							0.60		
interaction							0.77		
invitation							0.61		
slope								0.54	
terrain park								0.70	
lift number								0.73	
powder									0.77
mountain									0.55
scenery			<b>0.45</b>						<b>0.41</b>



Table 11: Sixth Factor Loading Matrix of Push and Pull Motive Factors ( $N = 207$ )

Component	1	2	3	4	5	6	7	8
improvement	0.84							
challenge	0.87							
learning	0.68							
relaxation		0.68						
stress		0.78						
escape		0.74						
resort		0.60						
experience		0.53						
safety			0.80					
kindness			0.91					
ability			0.88					
rental			0.44					
fun				0.85				
excitement				0.55				
enjoyment				0.80				
hotel					0.69			
restaurant					0.73			
transportation					0.68			
shopping					0.59			
ski school						0.72		
tour						0.74		
advertising						0.67		
with friends							0.69	
new friends							0.62	
interaction							0.76	
invitation							0.64	
mountain								0.66
slope								0.46
terrain park								0.61
lift number								0.72
powder					<b>0.32</b>			<b>0.38</b>

### ***Factor Loadings and Cronbach's Alpha of Push Motivation Factors***

According to the results of EFA, table 12 displayed the factor loadings of four push motive factors. The first factor was "Self Achievement" including improving skills, challenging myself, and learning new skills with factor loading between 0.64 and 0.90. The second factor was "Relaxation" including relaxing physically and mentally, reducing stress, and breaking away the routine, going to a new resort, and having new experiences with factor loading between 0.54 and 0.79. The third factor was "Enjoyment" including having fun, liking excitement, and enjoying skiing activities with factor loading between 0.64 and 0.89. The fourth factor was "Socialization" including being with friends, meeting new people, enjoying interaction with others, and invitation of friends with factor loading between 0.51 and 0.72. The eigenvalues of self achievement, relaxation, enjoyment, and socialization were 6.53, 4.01, 1.77, and 1.33.

Cronbach's alpha coefficient was measured to determine internal consistency of push motive factors. Table 12 indicated Cronbach's alpha coefficient was in the intervals of 0.67 to 0.85 among the four push motivation factors, and the overall coefficient alpha of push motivation scale was 0.85. Thus, the push motivation scale had a good level of internal consistency and was appropriate for this study.

Table 12: Factor Loading and Cronbach's Alpha of Push Factors ( $N = 207$ )

Factors	Items	Cronbach Alpha	Eigen Values	Factor Loading
Self	I want to improve existing skills.			0.85
Achievement	I like to challenge myself.	0.85	6.53	0.88
	I want to learn new skills.			0.66
Relaxation	I relax physically and mentally.	0.81	4.01	0.68
	I reduce the stress of my daily life.			0.79
	I temporarily break away the pressure of routine.			0.75
	I want to go to a ski resort where I have never been.			0.60
	I want to have a new or different experience.			0.54
Enjoyment	I have a lot of fun in the process.	0.84	1.77	0.87
	I like the excitement of participation.			0.59
	I enjoy skiing and snowboarding.			0.83
Socialization	I want to be with friend or relatives.	0.67	1.33	0.69
	I want to meet new people.			0.60
	I enjoy the interaction with others.			0.77
	My friends invite me to participate.			0.65
Cronbach's $\alpha$		0.85		
Cumulative%			65.44	
KMO				0.80
Bartlett's Test				3319.33
Sig.				0.00

### ***Factor Loadings and Cronbach's Alpha of Pull Motivation Factors***

Table 13 displayed the factor loadings of four pull motive factors. The first factor was "Personnel Performance" including staffs caring about skiers' safety,

friendliness of staffs, staffs' ability to solve problems, and gear rentals of ski resorts with factor loading between 0.45 and 0.91. The second factor was "Peripheral Facilities" including hotels, restaurants, transportation, and shopping opportunities with factor loading between 0.61 and 0.75. The third factor was "Promotion" including ski lessons, package tours, and advertising with factor loading between 0.66 and 0.74. The fourth was "Ski Facilities" including alpine Areas, variety of trails, terrain parks, and number of chairlifts with factor loading between 0.49 and 0.74. The eigenvalues of personnel performance, peripheral facilities, promotion, and Ski Facilities were 2.08, 1.49, 1.22, and 1.20. Furthermore, the four push and four pull motive factors explained a total of 65.44% of cumulative variance to the ski motivation scale.

Cronbach alpha coefficient was measured to determine internal consistency of pull motivation factors. Table 13 indicated the Cronbach's alpha coefficient was in the intervals of 0.63 to 0.83 among the four pull motivation factors. The overall coefficient alpha of pull motivation scale was generated a high level 0.83. Therefore, the results provided good evidences of internal consistency for the pull motivation scale.

Table 13: Factor Loading and Cronbach's Alpha of Pull Factors ( $N = 207$ )

Factors	Items	Cronbach Alpha	Eigen Values	Factor Loading
Personnel Performance	Staffs or Instructors Caring about Skiers' Safety	0.83	2.08	0.80
	Friendliness of Staffs or Instructors			0.91
	Staffs or Instructors' Ability to Solve Skiers' Problems			0.88
	Gear Rentals of Ski Resorts			0.45
Peripheral Facilities	Amenities' Quality of Hotels	0.72	1.49	0.67
	Food of Restaurants			0.75
	Convenience in Transportation			0.68
	Shopping Opportunities from Retail Stores			0.61
Promotion	Good Lessons at Ski School	0.70	1.22	0.71
	Good Package Tours			0.74
	Advertising about Special Events			0.66
Ski Facilities	Variety of Trails and slopes	0.63	1.20	0.49
	Terrain Parks			0.67
	Number of Chairlifts			0.74
	High Alpine Areas			0.62
Cronbach's $\alpha$		0.83		
Cumulative %			65.44	
KMO				0.80
Bartlett's Test				3319.33
Sig.				0.00

### ***Factor Loadings and Cronbach's Alpha of Service Quality Dimensions***

The results of EFA to service items showed that the values of KMO and

Bartlett's test were 0.88 and 710.37 ( $Sig. < 0.00$ ), which meant a strong correlation

between service quality subscales and their suitability for factor analysis. The Principal Components and Varimax method was conducted to measure factor loadings of 11 service quality items and to extract two service dimensions according to the eigenvalues greater than one (table 14). The eigenvalues of the two factors were 4.45 and 1.17, and the two factors explained 51.09% of the variance to the service quality scale. The first service dimension was "Personnel Service" including that employees are polite, employees are knowledgeable, employees concerns about skier's safety, employees provide useful information, instructors provide multiple lessons, landscapes are beautiful, lifts and slopes are well maintained, and the accommodation is comfortable with factor loading between 0.41 and 0.82. The second service dimension was "Reliable Service" including facilities and rentals are up to date, appropriate operational hours, and acceptable queue time with factor loading between 0.42 and 0.80. Thus, no service items with factor loadings lower than 0.4 or double loadings should be eliminated.

Cronbach alpha coefficient was measured to determine internal consistency of the service quality scale. Table 14 indicated Cronbach's alpha of the two service quality factors was 0.84 and 0.58 that is close to the acceptable level 0.6. Moreover, the overall coefficient alpha of service quality scale was 0.84. Thus, the service quality scale had a good level of internal consistency.

Table 14: Factor Loading and Cronbach's Alpha of Service Quality ( $N = 207$ )

Dimensions	Items	Cronbach Alpha	Eigen values	Factor Loading
Personnel Service	The employees are polite and friendly.			0.82
	The employees are knowledgeable to solve problems.			0.77
	The employees always concerns about skier's safety.			0.81
	The employees provide accurate and useful information	0.84	4.45	0.70
	The instructors provide multiple lessons to different level of skiers.			0.54
	The landscapes are very beautiful.			0.41
	The lifts and slopes are well maintained.			0.61
	The accommodation is clean and comfortable.			0.59
Reliable Service	The operational hours satisfy skier's need.			0.79
	The queue time of taking lifts is acceptable.	0.58	1.17	0.80
	The facilities and gear rentals are up to date.			0.42
Cronbach's $\alpha$		0.84		
Cumulative %			51.09	
KMO				0.88
Bartlett's Test				710.37
<i>Sig.</i>				0.00

### ***Factor Loadings and Cronbach's Alpha of Revisit Intention***

In the process of factor analysis for the revisit intention, the Principal Components method was conducted to measure factor loadings of three revisit intention items. Table 15 displayed that the factor loadings of three items were between 0.84 and 0.96. In addition, Cronbach's alpha coefficient in the revisit intention was 0.88. Thus, the revisit intention scale had a good level of internal consistency.

Table 15: Factor Loading and Cronbach's Alpha of Revisit Intention ( $N = 207$ )

Revisit Intention	Cronbach Alpha	Factor Loading
I am determined to visit a ski resort this season		0.84
I intend to visit a ski resort this season	0.88	0.96
I will try to visit a ski resort next season.		0.89

### **T-test and ANOVA Analysis**

T-test and one-way ANOVA analysis was employed to identify the performance of the eight push-pull motivations (self achievement, enjoyment, socialization, relaxation, ski facilities, personnel performance, promotion, and peripheral facilities), two service quality dimensions (personnel service and reliable service), and revisit intention based on the demographic difference (sex, age, marital status, household income, education level, frequency of annual participation, skiing

hours, riding style, and destination of participation). After obtaining a significant F value with a variable that consisted of three or more means via ANOVA (two means via t-test), Scheffe's test provided specific information on which means were significantly different from each other.

### ***Sex Difference Related to Push-Pull Motivation Factors, Service Quality***

#### ***Dimensions, and Revisit Intention***

Table 16 indicated whether different sex group was related to the four push motivation factors, four pull motivation factor, two service quality dimensions, and revisit intention. The results showed that the "Enjoyment" factor presented a significant difference on the sex variable ( $t = 2.36, p < 0.05$ ). Male ( $M = 3.87, SD = 0.28$ ) was more motivated than female ( $M = 3.75, SD = 0.45$ ) on the "Enjoyment" factor. Second, the scores of "Promotion" factor had a significant difference on the sex groups ( $t = -4.24, p < 0.01$ ). Female ( $M = 3.14, SD = 0.63$ ) was more motivated than male ( $M = 2.74, SD = 0.73$ ) on the "Promotion" factor. However, the service quality dimensions and revisit intention had no any significant difference on the sex variable ( $p > 0.05$ ).

Table 16: Significant Differences between Sex Groups

Variables	Male		Female		<i>t</i>	<i>p</i>	Difference
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Self Achievement	3.53	0.60	3.49	0.55	0.44	0.66	n.s.
Enjoyment	3.87	0.28	3.75	0.45	2.36	0.02*	1 > 2
Socialization	3.42	0.51	3.42	0.57	-0.01	0.99	n.s.
Relaxation	3.70	0.44	3.69	0.43	0.19	0.85	n.s.
Ski Facilities	2.98	0.52	2.89	0.54	1.13	0.26	n.s.
Personnel	3.25	0.56	3.38	0.59	-1.72	0.09	n.s.
Performance							
Promotion	2.74	0.73	3.14	0.63	-4.24	0.00**	2 > 1
Peripheral	3.05	0.57	3.18	0.62	-1.55	0.12	n.s.
Facilities							
Personnel Service	3.49	0.40	3.54	0.43	-0.81	0.42	n.s.
Reliable Service	3.21	0.52	3.29	0.51	-1.24	0.22	n.s.
Revisit Intention	3.84	0.51	3.72	0.57	1.67	0.10	n.s.

\*  $p < 0.05$ ; \*\*  $p < 0.01$  (2 tailed);  $N = 207$   
n. s. = no significant difference  
1: male, 2: female

### ***Age Difference Related to Push-Pull Motivation Factors, Service Quality***

#### ***Dimensions, and Revisit Intention***

Table 17 and 18 indicated whether different ages were related to the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. The results showed that the scores of "Self Achievement" factor differed significantly by the age groups ( $F = 3.51$ ,  $p < 0.01$ ). After Scheffe's test, the skiers and snowboarders between 26 and 30 years old ( $M = 3.67$ ,  $SD = 0.52$ ) were more motivated than those older than 40 years old ( $M = 3.22$ ,  $SD = 0.73$ ) on the "Self



Table 18: Significant Differences between Age Groups

Variables	F Value	p Value	Scheffe
Self Achievement	3.51	0.00**	2 > 5
Enjoyment	0.48	0.75	n.s.
Socialization	1.89	0.11	n.s.
Relaxation	0.65	0.63	n.s.
Ski Facilities	0.16	0.96	n.s.
Personnel	2.88	0.02*	5 > 2
Performance			
Promotion	1.10	0.36	n.s.
Peripheral Facilities	0.35	0.84	n.s.
Personnel Service	1.23	0.30	n.s.
Reliable Service	1.78	0.14	n.s.
Revisit Intention	1.80	0.13	n.s.

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $N = 207$

n. s. = no significant difference

1: age 18 ~ 25, 2: age 26 ~ 30, 3: age 31 ~ 35, 4: age 36 ~ 40, 5: > 40 years old

### ***Marital Status Difference Related to Push-Pull Motivation Factors, Service Quality***

#### ***Dimensions, and Revisit Intention***

Table 19 indicated whether different marital status was related to the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. The results showed that push-pull motivation factors, service quality dimensions, and revisit intention had no any significant difference on the marital status variable ( $p > 0.05$ ).

Table 19: Significant Differences between Marital Status Groups

Variables	Married		Single		<i>t</i>	<i>p</i>	Difference
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Self	3.47	0.60	3.53	0.57	-0.74	0.46	n.s.
Achievement							
Enjoyment	3.84	0.34	3.80	0.38	0.64	0.53	n.s.
Socialization	3.35	0.49	3.44	0.56	-1.20	0.23	n.s.
Relaxation	3.68	0.44	3.70	0.44	-0.37	0.71	n.s.
Ski Facilities	3.01	0.51	2.91	0.54	1.36	0.18	n.s.
Personnel	3.40	0.57	3.27	0.58	1.55	0.12	n.s.
Performance							
Promotion	3.01	0.67	2.89	0.73	1.16	0.25	n.s.
Peripheral	3.17	0.56	3.08	0.61	0.97	0.34	n.s.
Facilities							
Personnel	3.52	0.43	3.51	0.40	0.13	0.90	n.s.
Service							
Reliable Service	3.29	0.51	3.23	0.52	0.81	0.42	n.s.
Revisit	3.81	0.50	3.77	0.56	0.50	0.62	n.s.
Intention							

\*  $p < 0.05$  (2 tailed);  $N = 207$   
n. s. = no significant difference

### ***Household Income Difference Related to Push-Pull Motivation Factors, Service***

#### ***Quality Dimensions, and Revisit Intention***

Table 20 indicated the differences between household incomes on the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. The results showed that the scores of "Reliable Service" factor differed significantly by the household income groups ( $F = 4.01$ ,  $p < 0.05$ ). After Scheffe's test, the tourists whose monthly household income over NT\$ 150,000 (> US\$ 4,700) ( $M =$

3.50,  $SD = 0.48$ ) were satisfied with the reliable services, while the tourists whose monthly household income less than NT\$ 150,000 (< US\$ 4,700) ( $M = 3.21$  and  $3.20$ ,  $SD = 0.57$  and  $0.54$ ) were less satisfied with the reliable services. However, the push-pull motivation factors and revisit intention had no any significant difference on the household income variable ( $p > 0.05$ ).

Table 20: Significant Differences between Household Income Groups

Variables	< NT \$80,000		NT\$80,000 ~ \$150,000		> NT \$150,000		<i>F</i>	<i>p</i>	Scheffe
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
	Self	3.58	0.56	3.52	0.51	3.29			
Achievement									
Enjoyment	3.83	0.39	3.81	0.33	3.80	0.44	0.07	0.93	n.s.
Socialization	3.41	0.59	3.46	0.49	3.29	0.56	0.97	0.38	n.s.
Relaxation	3.75	0.37	3.67	0.45	3.62	0.56	1.26	0.29	n.s.
Ski Facilities	2.88	0.50	2.98	0.54	2.97	0.58	0.80	0.45	n.s.
Personnel	3.29	0.59	3.26	0.55	3.54	0.59	2.78	0.06	n.s.
Performance									
Promotion	3.02	0.71	2.89	0.67	2.77	0.86	1.41	0.25	n.s.
Peripheral	3.09	0.62	3.12	0.60	3.13	0.52	0.06	0.94	n.s.
Facilities									
Personnel	3.47	0.43	3.50	0.39	3.67	0.40	2.42	0.09	n.s.
Service									
Reliable	3.21	0.53	3.20	0.49	3.50	0.48	4.01	0.02*	3 > 2, 1
Service									
Revisit	3.73	0.57	3.80	0.54	3.87	0.45	0.77	0.47	n.s.
Intention									

\*  $p < 0.05$ ;  $N = 207$

n. s.= no significant difference

1: < NT\$ 80,000, 2: NT\$ 80,001 ~ NT\$ 150,000, 3: > NT\$ 150,000

*Educational Level Difference Related to Push-Pull Motivation Factors, Service*

*Quality Dimensions, and Revisit Intention*

Table 21: Significant Differences between Educational Level Groups

Variables	High School		Undergraduate Degree		Graduate Degree		<i>F</i>	<i>p</i>	Scheffe
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
	Self Achievement	3.33	0.67	3.57	0.55	3.45			
Enjoyment	3.86	0.26	3.84	0.34	3.77	0.41	0.98	0.38	n.s.
Socialization	3.64	0.28	3.40	0.59	3.42	0.47	0.72	0.49	n.s.
Relaxation	3.54	0.40	3.72	0.42	3.67	0.47	0.68	0.51	n.s.
Ski Facilities	2.93	0.45	2.94	0.57	2.94	0.47	0.00	0.99	n.s.
Personnel Performance	3.18	0.47	3.39	0.57	3.20	0.58	2.74	0.07	n.s.
Promotion	3.05	0.62	3.01	0.69	2.80	0.75	2.07	0.13	n.s.
Peripheral Facilities	3.14	0.59	3.15	0.65	3.04	0.52	0.88	0.42	n.s.
Personnel Service	3.46	0.59	3.49	0.44	3.55	0.35	0.51	0.60	n.s.
Reliable Service	3.19	0.60	3.28	0.50	3.20	0.53	0.54	0.58	n.s.
Revisit Intention	4.00	0.00	3.82	0.46	3.72	0.65	1.40	0.25	n.s.

\*  $p < 0.05$ ;  $N = 207$

n. s.= no significant difference

1: High School, 2: Undergraduate School, 3: Graduate School

Table 21 indicated whether different educational levels were related to the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. The results showed that the all push-pull motivation factors, service quality

dimensions, and revisit intention had no any significant difference on the educational level variable ( $p > 0.05$ ).

***Frequency of Annual Participation's Difference Related to Push-Pull Motivation Factors, Service Quality Dimensions, and Revisit Intention***

Table 22 and 23 indicated whether different frequency of annual participation was related to the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. The results showed that the scores of "Enjoyment" factor presented a significant difference on the frequency of annual participation's groups ( $F = 2.84, p < 0.05$ ). After Scheffe's test, the skiers and snowboarders who participated over eight days ( $M = 3.93, SD = 0.21$ ) were more motivated than the skiers and snowboarders who participated less than two days ( $M = 3.71, SD = 0.41$ ) on the "Enjoyment" factor. Second, the scores of "Personnel Performance" factor had a significant difference on the frequencies of annual participation ( $F = 5.35, p < 0.01$ ). After Scheffe's test, the skiers and snowboarders who participated between three and five days ( $M = 3.46, SD = 0.52$ ) were more motivated than the skiers and snowboarders who participated over six and eight days ( $M = 3.11$  and  $3.13, SD = 0.65$  and  $0.57$ ) on the "Personnel Performance" factor.

Table 22: Mean and SD of Different Frequency of Annual Participation

Variables	0 ~ 2 Days		3 ~ 5 Days		6 ~ 8 Days		> 8 Days	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Self	3.39	0.69	3.60	0.50	3.46	0.50	3.51	0.65
Achievement								
Enjoyment	3.71	0.41	3.81	0.41	3.80	0.34	3.93	0.21
Socialization	3.28	0.60	3.44	0.54	3.49	0.47	3.42	0.53
Relaxation	3.67	0.37	3.75	0.38	3.59	0.56	3.70	0.47
Ski Facilities	2.83	0.53	2.96	0.53	2.97	0.58	2.96	0.49
Personnel	3.39	0.55	3.46	0.52	3.11	0.65	3.13	0.57
Performance								
Promotion	3.26	0.58	3.09	0.64	2.68	0.73	2.55	0.73
Peripheral	3.17	0.54	3.24	0.54	3.09	0.63	2.83	0.63
Facilities								
Personnel	3.33	0.48	3.55	0.40	3.53	0.37	3.58	0.38
Service								
Reliable	3.27	0.48	3.36	0.48	3.11	0.48	3.14	0.60
Service								
Revisit	3.68	0.70	3.81	0.51	3.80	0.43	3.83	0.52
Intention								
<i>N</i> = 207								

Third, the scores of "Promotion" differed significantly by the frequencies of annual participation ( $F = 11.59, p < 0.05$ ). After Scheffe's test, the skiers and snowboarders who participated 3 ~ 5 days and two days less ( $M = 3.26$  and  $3.09, SD = 0.58$  and  $0.64$ ) were more motivated than the skiers and snowboarders who participated 6 ~ 8 days and over eight days ( $M = 2.68$  and  $2.55, SD = 0.73$  and  $0.73$ ) on the "Promotion" factor. Fourth, the scores of "Peripheral Facilities" differed significantly by the frequencies of annual participation ( $F = 5.04, p < 0.05$ ). After

Scheffe's test, the skiers and snowboarders who participated 3 ~ 5 days ( $M = 3.24$ ,  $SD = 0.54$ ) were more motivated than the skiers and snowboarders who participated over eight days ( $M = 2.83$ ,  $SD = 0.63$ ) on the "Peripheral Facilities" factor. Fifth, the scores of "Personnel Service" differed significantly by the frequencies of annual participation ( $F = 3.24$ ,  $p < 0.05$ ). After Scheffe's test, the skiers/snowboarders who rode over eight days ( $M = 3.58$ ,  $SD = 0.38$ ) were satisfied with the personnel services, while the skiers/snowboarders with low frequency of annual participation ( $M = 3.33$ ,  $SD = 0.48$ ) were less satisfied with the personnel services. However, the revisit intention had no any significant difference on the frequency of annual participation variable ( $p > 0.05$ ).

Table 23: Significant Differences between Annual Participation Frequencies

Variables	<i>F</i> Value	<i>p</i> Value	Scheffe
Self Achievement	1.39	0.25	n.s.
Enjoyment	2.84	0.04*	4 > 1
Socialization	1.17	0.32	n.s.
Relaxation	1.12	0.34	n.s.
Ski Facilities	0.66	0.58	n.s.
Personnel Performance	5.35	0.00**	2 > 3, 4
Promotion	11.59	0.00**	1, 2 > 3, 4
Peripheral Facilities	5.04	0.00**	2 > 4
Personnel Service	3.24	0.02*	4 > 1
Reliable Service	2.91	0.04*	n.s.
Revisit Intention	0.70	0.56	n.s.

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $N = 207$

n. s.= no significant difference

1: 0 ~ 2 Days, 2: 3 ~ 5 Days, 3: 6 ~ 8 Days, 4: > 8 Days

*Skiing Hours Difference Related to Push-Pull Motivation Factors, Service Quality Dimensions, and Revisit Intention*

Table 24 indicated whether different skiing hours a day were related to the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. The results exhibited that the scores of "Self Achievement" factor presented a significant difference on the skiing hour groups ( $F = 4.06, p < 0.05$ ). After Scheffe's test, the Taiwanese tourists who ski and snowboard between five and eight hours ( $M = 3.57, SD = 0.52$ ) were more motivated than those who ski and snowboard four hours less ( $M = 3.28, SD = 0.70$ ) on the "Self Achievement" factor. Second, the scores of "Enjoyment" factor presented a significant difference on the skiing hour groups ( $F = 3.22, p < 0.05$ ). After Scheffe's test, there was no any significant difference from each other on the "Enjoyment" factor. Third, the scores of "Relaxation" factor had a significant difference on the skiing hour groups ( $F = 3.74, p < 0.05$ ). After Scheffe's test, there was no any significant difference from each other on the "Relaxation" factor. Fourth, the scores "Promotion" factor presented a significant difference on the skiing hour groups ( $F = 3.36, p < 0.05$ ). After Scheffe's test, the Taiwanese tourists who ski and snowboard four hours less ( $M = 3.16, SD = 0.58$ ) were more motivated than those who ski and snowboard over eight hours ( $M = 2.61, SD = 0.86$ ) on the "Promotion" factor. In addition, the service quality

dimensions and revisit intention had no any significant difference on the skiing hour variable ( $p > 0.05$ ).

Table 24: Significant Differences between Skiing Hours

Variables	1~4 Hours		5~8 Hours		> 8 Hours		F	p	Scheffe
	M	SD	M	SD	M	SD			
Self Achievement	3.28	0.70	3.57	0.52	3.37	0.72	4.06	0.02*	2 > 1
Enjoyment	3.67	0.48	3.83	0.36	3.91	0.19	3.22	0.04*	n.s.
Socialization	3.33	0.51	3.44	0.55	3.38	0.53	0.60	0.55	n.s.
Relaxation	3.55	0.42	3.74	0.38	3.54	0.75	3.74	0.03*	2 > 1
Ski Facilities	2.81	0.51	2.96	0.53	2.93	0.56	1.07	0.34	n.s.
Personnel Performance	3.48	0.55	3.27	0.58	3.36	0.59	1.80	0.17	n.s.
Promotion	3.16	0.58	2.92	0.71	2.61	0.86	3.36	0.04*	1 > 3
Peripheral Facilities	3.03	0.62	3.12	0.60	3.14	0.58	0.27	0.76	n.s.
Personnel Service	3.36	0.49	3.52	0.39	3.64	0.39	2.95	0.05	n.s.
Reliable Service	3.22	0.46	3.23	0.53	3.44	0.47	1.45	0.24	n.s.
Revisit Intention	3.72	0.66	3.79	0.52	3.83	0.51	0.28	0.76	n.s.

\*  $p < 0.05$ ;  $N = 207$

n. s.= no significant difference

1: 1 ~ 4 Hours, 2: 5 ~ 8 Hours, 3: > 8 Hours

### ***Riding Style Difference Related to Push-Pull Motivation Factors, Service Quality***

#### ***Dimensions, and Revisit Intention***

Table 25 indicated whether different riding styles were related to the four push motivations, four pull motivations, two service quality dimensions, and revisit

intention. The results showed that the scores of "Self Achievement" factor differed significantly by the riding style groups ( $F = 7.08, p < 0.01$ ). After Scheffe's test, the snowboarders ( $M = 3.60, SD = 0.48$ ) were more motivated than the skiers ( $M = 3.26, SD = 0.71$ ) on the "Self Achievement" factor. Second, the scores of "Enjoyment" factor differed significantly by the riding style groups ( $F = 3.30, p < 0.05$ ). After Scheffe's test, the snowboarders ( $M = 3.86, SD = 0.30$ ) were more motivated than the skiers ( $M = 3.70, SD = 0.50$ ) on the "Enjoyment" factor. Third, the scores of "Ski Facilities" factor had a significant difference on the riding style groups ( $F = 4.63, p < 0.05$ ). After Scheffe's test, the snowboarders ( $M = 3.00, SD = 0.52$ ) were more motivated than the skiers ( $M = 2.75, SD = 0.55$ ) on the "Ski Facilities" factor. Fourth, the scores of "Personnel Performance" factor presented a significant difference on the riding style groups ( $F = 4.19, p < 0.05$ ). After Scheffe's test, the skiers ( $M = 3.50, SD = 0.53$ ) were more motivated than the snowboarders ( $M = 3.24, SD = 0.59$ ) on the "Personnel Performance" factor. Fifth, the scores of "Promotion" factor had a significant difference on the riding style groups ( $F = 4.84, p < 0.01$ ). After Scheffe's test, the skiers ( $M = 3.14, SD = 0.65$ ) were more motivated than the people riding both ski and snowboard ( $M = 2.63, SD = 0.72$ ) on the "Promotion" factor. Finally, the scores of "Reliable Service" factor had a significant difference on the riding style groups ( $F = 3.58, p < 0.05$ ). After Scheffe's test, the skiers ( $M = 3.40, SD = 0.51$ ) were

satisfied with the reliable services such as facilities are up to date, while the snowboarders ( $M = 3.18$ ,  $SD = 0.52$ ) were less satisfied with the reliable services. However, the revisit intention had no any significant difference on the riding style variable ( $p > 0.05$ ).

Table 25: Significant Differences between Riding Style Groups

Variables	Ski		Snowboard		Both		<i>F</i>	<i>p</i>	Scheffe
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Self	3.26	0.71	3.60	0.48	3.58	0.60	7.08	0.00**	2 > 1
Achievement									
Enjoyment	3.70	0.50	3.86	0.30	3.83	0.32	3.30	0.04*	2 > 1
Socialization	3.31	0.52	3.45	0.56	3.44	0.45	1.34	0.26	n.s.
Relaxation	3.64	0.42	3.71	0.45	3.72	0.38	0.61	0.55	n.s.
Ski Facilities	2.75	0.55	3.00	0.52	2.99	0.46	4.63	0.01*	2 > 1
Personnel	3.50	0.53	3.24	0.59	3.26	0.54	4.19	0.02*	1 > 2
Performance									
Promotion	3.14	0.65	2.90	0.72	2.63	0.72	4.84	0.01**	1 > 3
Peripheral	3.17	0.54	3.11	0.60	2.95	0.68	1.22	0.30	n.s.
Facilities									
Personnel	3.59	0.40	3.49	0.40	3.46	0.46	1.39	0.25	n.s.
Service									
Reliable	3.40	0.51	3.18	0.52	3.23	0.46	3.41	0.04*	1 > 2
Service									
Revisit	3.72	0.61	3.81	0.49	3.78	0.63	0.59	0.56	n.s.
Intention									

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $N = 207$

n. s.= no significant difference

1: Skier, 2: Snowboarder, 3: Both

### *Destination Difference Related to Push-Pull Motivation Factors, Service Quality*

#### *Dimensions, and Revisit Intention*

Table 26 indicated whether different destination was related to the four push motivations, four pull motivations, two service quality dimensions, and revisit intention. Due to the small sample size of China, Canada, New Zealand, Australia, and France, the investigator only analyzed the data of Japan, Korea, and the USA. The results showed that the scores of "Personnel Performance" factor differed significantly by the different destinations ( $F = 4.60, p < 0.05$ ). After Scheffe's test, the skiers and snowboarders who went to Japan ( $M = 3.33, SD = 0.58$ ) and Korea ( $M = 3.58, SD = 0.40$ ) were more motivated by the "Personnel Performance" factor than the others who went to the USA ( $M = 2.81, SD = 0.63$ ). Second, the scores of "Personnel Service" factor differed significantly by the different destinations ( $F = 14.37, p < 0.01$ ). After Scheffe's test, the ski resorts of Japan ( $M = 3.54, SD = 0.38$ ) and the USA ( $M = 3.60, SD = 0.33$ ) focused on the importance of personnel services such as employees' attitude or safety issues, while the ski resorts of Korea ( $M = 2.85, SD = 0.44$ ) did not. However, the push motivation factors and revisit intention had no any significant difference on the destination variable ( $p > 0.05$ ).

Table 26: Significant Differences between Destinations

Variables	Japan		Korea		USA		<i>F</i>	<i>p</i>	Scheffe
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Self	3.50	0.58	3.22	0.69	3.44	0.53	0.90	0.41	n.s.
Achievement									
Enjoyment	3.81	0.38	3.70	0.45	3.81	0.34	0.33	0.72	n.s.
Socialization	3.41	0.55	3.22	0.51	3.39	0.55	0.52	0.59	n.s.
Relaxation	3.71	0.44	3.42	0.51	3.73	0.35	1.79	0.17	n.s.
Ski Facilities	2.95	0.52	2.72	0.67	3.00	0.57	0.60	0.55	n.s.
Personnel	3.33	0.58	3.58	0.40	2.81	0.63	4.60	0.01*	1, 2 > 3
Performance									
Promotion	3.00	0.70	3.00	0.60	2.52	0.60	2.07	0.13	n.s.
Peripheral	3.13	0.58	3.28	0.40	3.19	0.58	0.31	0.73	n.s.
Facilities									
Personnel	3.54	0.38	2.85	0.44	3.60	0.33	14.37	0.00**	1, 3 > 2
Service									
Reliable	3.25	0.53	2.93	0.40	3.26	0.46	0.25	0.79	n.s.
Service									
Revisit	3.82	0.45	3.89	0.33	3.48	1.08	2.16	0.12	n.s.
Intention									

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $N = 195$   
n. s.= no significant difference  
1: Japan, 2: Korea, 3: USA

### Pearson Correlation Analysis

The Pearson Correlation Coefficient was a measure of strength and direction of the linear relationship between two variables. In order to demonstrate the relationships among push-pull motivation factors, service quality dimensions, and revisit intention, the Pearson Correlation Coefficient ( $r$ ) was utilized to examine whether the four push motivations (self achievement, enjoyment, socialization, and

relaxation), the four pull motivations (ski facilities, personnel performance, promotion, and peripheral facilities), and the two service quality dimensions (personnel service and reliable service) were positive related to the revisit intention ( $p < 0.05$ ).

### ***The Correlations between Push Motivations and Revisit Intention***

The correlations between the four push motivations and revisit intention were tested by the Pearson correlation analysis. Table 27 exhibited that the "Enjoyment" factor is positive correlated to the revisit intention ( $r = 0.28$ ,  $p < 0.01$ ). The "Relaxation" factor is positive correlated to the revisit intention ( $r = 0.17$ ,  $p < 0.05$ ). However, the "Self Achievement, Socialization, and Novelty" were not significantly correlated to the revisit intention.

Table 27: Correlations between Push Motivations and Revisit Intention ( $N = 207$ )

Factors	Self Achievement	Enjoyment	Socialization	Relaxation
Revisit Intention	0.09	0.28**	0.09	0.17*

\*\* : Correlation is significant at the 0.01 level (2 tailed).

\* : Correlation is significant at the 0.05 level (2 tailed).

### ***The Correlations between Pull Motivations and Revisit Intention***

The correlations between the four pull motivations and revisit intention were tested by the Pearson correlation analysis. Table 28 showed that all the four pull

factors, "Ski Facilities, Personnel Performance, Promotion, and Peripheral Facilities," were not significantly correlated to the revisit intention.

Table 28: Correlations between Pull Motivations and Revisit Intention ( $N = 207$ )

Factors	Ski Facilities	Personnel Performance	Promotion	Peripheral Facilities
Revisit Intention	0.03	0.10	-0.06	0.11

\*\* : Correlation is significant at the 0.01 level (2 tailed).

\* : Correlation is significant at the 0.05 level (2 tailed).

### *The Correlations between Service Quality and Revisit Intention*

The correlations between the three service quality dimensions and revisit intention were tested by Pearson Correlation Coefficient. Table 29 displayed that the "Personnel Service" dimension is positive correlated to the revisit intention ( $r = 0.17$ ,  $p < 0.05$ ). However, the "Reliable Service" was not significantly correlated to the revisit intention.

Table 29: Correlations between Service Quality and Revisit Intention ( $N = 207$ )

Dimensions	Personnel Service	Reliable Service
Revisit Intention	0.17*	0.00

\*\* : Correlation is significant at the 0.01 level (2 tailed).

\* : Correlation is significant at the 0.05 level (2 tailed).

### **Multiple Linear Regression Analysis**

Before implementing the multiple linear regression analysis, dummy coding was created to present the categorical variables (demographic characteristics) such as high school = 100, undergraduate = 010, and graduate = 001. The correlations of the independent variables (four push motive, four pull motive factors, and two service quality dimensions) were firstly identified. Furthermore, multicollinearity was checked by the tolerance and variance inflation factor (VIF). After the three steps, linear regression was used to analyze the influence of the independent variables on the dependent variable (revisit intention) via backward regression procedure, which involved starting with all independent variables, using a chosen criterion for the deletion (automatically remove probability of  $F$  greater than 0.05), deleting the variable that improves the model, and repeating the process until no further improvement is possible. The purpose of this procedure was to understand which factors were the main predictors of the Taiwanese intention to revisit ski resorts and to explain how much of the variation in revisit intention was explained by each main factor.

#### ***The Correlations between Push-Pull Motivations and Service Quality***

Table 30 displayed the correlations between independent variables (push-pull motivations and service quality dimensions). The means of independent variables

were between 2.93 and 3.81 ( $SD = 0.37$  to  $0.72$ ). Most independent variables presented a weak ( $-0.4 < r < 0.4$ ) or moderate ( $0.4 < r < 0.6$ ) correlation. However, no independent variables presented a strong correlation ( $r > 0.6$ ).

Table 30: Correlations between Push-Pull Motivations and Service Quality

	1	2	3	4	5	6	7	8	9	10	M	SD
SA	1.00										3.51	0.58
ENJ	0.44	1.00									3.81	0.37
SOC	0.34	0.27	1.00								3.42	0.54
REL	0.36	0.52	0.41	1.00							3.69	0.44
SF	0.33	0.22	0.25	0.36	1.00						2.94	0.53
PP	0.06	0.04	0.05	0.23	0.28	1.00					3.31	0.58
PRO	0.13	-0.08	0.14	0.11	0.22	0.44	1.00				2.93	0.72
PF	0.12	0.04	0.22	0.23	0.32	0.44	0.42	1.00			3.11	0.60
PS	0.18	0.31	0.25	0.29	0.19	0.26	0.12	0.23	1.00		3.51	0.41
RS	0.00	0.07	0.11	0.16	0.00	0.32	0.19	0.21	0.50	1.00	3.25	0.52

Note: SA = Self Achievement, ENJ = Enjoyment, SOC = Socialization, REL = Relaxation, SF = Ski Facilities, PP = Personnel Performance, PRO = Promotion, PF = Peripheral Facilities, PS = Personnel Service, RS = Reliable Service;  $N = 207$

### ***The Identification of Multicollinearity***

In the procedure of multiple regression analysis, a problem that might occur with the data of this study and influence the results of regression was multicollinearity that referred to a situation in which two or more predictors were highly correlated. In order to avoid this situation, tolerance and variance inflation factor (VIF) values were the two diagnostics to determine multicollinearity. A tolerance of less than 0.10 and a

VIF of 10 more might indicate a multicollinearity problem (Clark & Maher, 2007).

Table 31 exhibited that tolerance (between 0.48 and 0.66) and VIF (between 1.51 and 2.07) values of all variables were in the acceptable levels of collinearity.

Table 31: Diagnostics of Multicollinearity for Independent Variables ( $N = 207$ )

Variables	Collinearity Statistics	
	Tolerance	VIF
Self Achievement	0.62	1.61
Enjoyment	0.52	1.91
Socialization	0.66	1.51
Relaxation	0.48	2.07
Ski Facilities	0.61	1.63
Personnel Performance	0.55	1.82
Promotion	0.53	1.88
Peripheral Facilities	0.64	1.57
Personnel Service	0.55	1.82
Reliable Service	0.60	1.67

***The Influence of Demographic Characteristics, Push-Pull Motivations, and Service Quality Dimensions on Revisit Intention***

Multiple linear regression analysis was utilized to understand the effect of the demographic characteristics, push-pull motivations, and service quality dimensions on the revisit intention. After 22 iterations, where the worst variable was removed in each procedure using backward regression (automatically remove probability of  $F$  greater than 0.05 in the procedure), table 32 indicated that the regression equation was

calculated to predict the revisit intention based on enjoyment and four age variables ( $F(5, 201) = 5.35, p < 0.00$ ). Standardized coefficients (*Beta* weights) were then reviewed to assess the relative importance of the five variables in the prediction of the revisit intention. "Enjoyment ( $\beta = 0.29, t = 4.35, p < 0.01$ )", "age 26~30 ( $\beta = 0.39, t = 2.53, p < 0.05$ )", "age 31~35 ( $\beta = 0.45, t = 2.66, p < 0.01$ )", "age 36~40 ( $\beta = 0.40, t = 2.66, p < 0.01$ )", and "age > 40 ( $\beta = 0.40, t = 2.87, p < 0.01$ )" were the five main factors to contribute the revisit intention. These five predictors significantly explained a total 12% of the variance in the revisit intention ( $R^2 = 0.12$ ), which meant increase of enjoyment and all age Taiwanese participants in this study would increase the probability to revisit ski resorts.

Table 32: The Influence of Demographic Characteristics, Push-Pull Motivations, and Service Quality Dimensions on Revisit Intention

Independent Variables	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>sig</i>
Constant	1.67	0.41		4.04	0.000
Enjoyment	0.42	0.10	0.29	4.35**	0.000
Age 18~25	Reference				
Age 26~30	0.49	0.20	0.39	2.53*	0.012
Age 31~35	0.51	0.19	0.45	2.66**	0.008
Age 36~40	0.52	0.20	0.40	2.66**	0.008
Age > 40	0.58	0.20	0.40	2.87**	0.005

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $N = 207$   
 $R^2 = 0.12$ ;  $F = 5.35$ ;  $p = 0.00$

## **CHAPTER V: INTERPRETATION AND DISCUSSION**

This study examined the relationships among demographic characteristics, push-pull motivations, service quality dimensions, and revisit intention for Taiwanese tourists to participate in overseas skiing and snowboarding activities. This chapter is divided into two sections. The first section is to summarize the findings of this study and answer the research questions. The second section presents how the research's findings are related to or different from the previous studies. The findings will provide some ideas for travel agencies, the Chinese Taipei Ski Association, and managers of ski resorts to develop marketing strategies in ski and snowboard tourism field. Further, the population of skiers and snowboarders in Taiwan may be increased that allows the government in Taiwan to cultivate and train ski and snowboard athletes for future winter competitions.

### **Summary of the Findings**

There were seven research questions in this study about ski sport tourism in Taiwan. The research questions were designed to demonstrate the research model that mentioned in the chapter three. After the statistic analytic procedures, the findings of this study were described as follows:

***Q1. What are the primary push and pull motive items for Taiwanese skiers and snowboarders?***

The primary push motive items for Taiwanese skiers/snowboarders were "I have a lot of fun in the process ( $M = 3.85$ ), I enjoy skiing/snowboarding ( $M = 3.82$ ), and I like the excitement of participation ( $M = 3.78$ )." The push motive item that made Taiwanese skiers and snowboarders least motivated was "my friends invite me to participate ( $M = 3.21$ )." In addition, the primary pull motive items for Taiwanese skiers/snowboarders were "affordable travel expenditures ( $M = 3.71$ ), variety of different trails and slopes ( $M = 3.56$ ), and snow powder ( $M = 3.55$ )." The pull motive item that made Taiwanese skiers and snowboarders least motivated was "terrain parks ( $M = 2.41$ )."

***Q2. What are the primary performances of service quality provided by ski resorts?***

The best service items were "The landscape is very beautiful ( $M = 3.60$ ), the lifts and slopes are well maintained ( $M = 3.60$ ), and the employees or instructors always concerns about skier's safety ( $M = 3.60$ )." The service items that had lower scores were "the facilities and gear rentals are up to date ( $M = 3.20$ ) and the instructors provide multiple lessons to different level of skiers ( $M = 3.20$ )."

***Q3. Are the push-pull and service quality subscales well constructed internal structure and consistency of the questionnaire?***

According to the results of EFA, "I want to try different types of skiing and I gain confidence each time" were ignored. The four push motive factors were extracted and named as self achievement, enjoyment, socialization, and relaxation that presented factor loadings between 0.54 and 0.88, and computed a coefficient alpha 0.85 for the push scale. For the pull motive factors, affordable travel expenditures natural scenery, and snow powder" were eliminated because of the lower factor loading and the double loadings. After that, the four pull motive factors were extracted and named as ski facilities, personnel performance, promotion, and peripheral facilities that presented factor loadings between 0.45 and 0.91, and computed a coefficient alpha 0.83 for the pull motive scale. Moreover, the two service quality dimensions were extracted and named as personnel service and reliable service that presented factor loadings between 0.41 and 0.82, and computed a coefficient alpha 0.84 for the service quality scale. Therefore, based on the sufficiency of each factor and Cronbach's Alpha Coefficient, the questionnaire of this study provided a good level of internal structure and consistency.

***Q4. Is there any significant difference between demographic characteristics on push and pull motive factors?***

Table 33 showed the summary of push motivations differed by demographic groups. Males, people who rode over eight days annually, and snowboarders felt the

enjoyment of skiing/snowboarding activities was more important as compared with females, people who rode less than two days, and skiers. Young adults, people who rode over five hours a day, and snowboarders more liked challenging and improving skiing/snowboarding skills than mid age adults, people who rode less than four hours, and skiers. People who rode over five hours a day felt more relaxed than people who rode less than four hours a day. However, there is no significant difference on the socialization factor.

Table 33: The Differences between Demographics on Push-Pull Motivations

Motivations		More Motivated	Less Motivated
Push Factor	Enjoyment	Males People riding over 8 days Snowboarders	Females People riding 2 days less Skiers
	Self Achievement	Age 26 ~ 30 People riding over 5 hours Snowboarders	Age > 40 People riding 4 hours less skiers
	Relaxation	People riding over 5 hours	People riding 4 hours less
Pull factors	Ski Facilities	Snowboarders	Skiers
	Personnel Performance	Age > 40 People riding 5 days less Skiers Visitors to Japan & Korea	Age 26 ~ 30 People riding over 6 days Snowboarders Visitors to the USA
	Promotion	Females People riding 5 days less People riding 4 hours less Skiers	Males People riding over 6 days People riding over 8 hours Both
	Peripheral Facilities	People riding 3 ~ 5 days	People riding over 8 days

For the pull motivations, snowboarders more focused on variety of ski facilities than skiers. Middle age adults, skiers, people riding 5 days less, and people who skied/snowboarded in Japan and Korea more focused on employees' performance. Females, people who rode less than five days annually, people who rode less than four hours a day, and skiers more focus on promotion's offer. Moreover, people who rode less than five days annually more focused on variety of peripheral facilities such as shopping stores and restaurants.

***Q5. Is there any significant difference between demographic characteristics on service quality dimensions?***

Table 34 indicated the summary of service quality dimensions differed by demographic groups. People who rode over eight days annually and people who skied/snowboarded in Japan and the USA were satisfied with the personnel services at ski resorts, but people who rode two days less annually and visitors to Korea were less satisfied with the personnel services. Moreover, the skiers and people who had high household incomes were satisfied with the reliable services such as short queue time to take lifts as compared with the snowboarders and people with lower and middle household income.

Table 34: The Differences between Demographics on Service Quality

Service Quality	Higher Scores	Moderate Scores
Personnel Service	People riding over 8 days Visitors to Japan and the USA	People riding 2 days less Visitors to Korea
Reliable Service	Skiers High household income	Snowboarders Low~middle household income

***Q6. Is there any significant difference between demographic characteristics on Taiwanese skiers' revisit intention?***

The results showed that the majority of Taiwanese with various demographic characteristics mostly presented high intention to revisit ski resorts ( $M = 3.79$ ). Thus, there was no any significant difference between the demographic characteristics and revisit intention.

***Q7. Are the demographic characteristics, service quality dimensions, and push-pull motivations the main predictors of Taiwanese tourists' intention to revisit ski resorts?***

The results found that "Enjoyment ( $\beta = 0.29, t = 4.35, p < 0.01$ )", "age 26~30 ( $\beta = 0.39, t = 2.53, p < 0.05$ )", "age 31~35 ( $\beta = 0.45, t = 2.66, p < 0.01$ )", "age 36~40 ( $\beta = 0.40, t = 2.66, p < 0.01$ )", and "age > 40 ( $\beta = 0.40, t = 2.87, p < 0.01$ )" were the five main factors to predict the revisit intention. As a result, young age and middle age adults were all very willing to participate in skiing activities. Moreover, people who

thought skiing and snowboarding was exciting and enjoyable would absolutely increase their intention to revisit ski resorts and participate in skiing activities. The five indicators significantly predicted 12% of the variance in the revisit intention.

### **Discussion**

Based on the statistical analysis of this study, the results presented the Taiwanese participants' primary demographic characteristics. The majority of the ski/snowboard population in this study was male (54.11%), 26 ~ 35 years old (57.49%), single (70.05%), snowboarder, (61.84%), had household income NT\$80,001 ~ NT\$150,000 per month (45.89%), completed undergraduate degree (56.52%), participated in skiing/snowboarding activities 3 ~ 5 days annually (40.10%), rode 5 ~ 8 hours per day (76.81%), and went to Japan (85.51%).

As comparison with prior studies, the descriptive results were somewhat heterogeneous and encompass various characteristics for Taiwanese skiers and snowboarders. It was not surprising that the majority of skiing/snowboarding population was single (70%), middle income people (46%), and young adults (61%) because people need more free time and financial support to participate in outbound skiing/snowboarding activities. However, it was unexpected that the number of female skiers/snowboarders (46%) was almost even to male skiers/snowboarders. This result contrasted with the studies (Chang & Huang, 2012; Ma, 2009) that

indicated only 22% and 23% of female participated in sport and outbound tourism.

Although several studies confirmed that the majority of sport tourists were predominantly male, more and more females tried to attend ski/snowboard tourism (Hallmann, Feiler, & Breuer, 2012; Lin, 2011). In addition, an obvious difference between Taiwanese skiers and skiers from other countries was number of annual visits to ski resorts. The frequency of annual participation for most Taiwanese was about once or two times (3~5 days) (40.10%), while European skiers and snowboarders participated in skiing/snowboarding activities more than 10 times a season (40.10%) (Faillant, Mataler, & Fuller, 2008)

### ***The Main Motivations for Taiwanese Skiers/Snowboarders***

The study used the theory of push-pull motivations to investigate why Taiwanese people participated in overseas skiing/snowboarding activities and identify their primary motivations. For the push motivations, enjoyment was the most important motivation for Taiwanese skiers and snowboarders who were mostly motivated by skiing and snowboarding because the activities provided a lot of fun and excitement in the process. This finding was expectably similar to most studies that indicated the enjoyment and excitement of activities were the first or second primary motivation for tourists' participation in different types of sport tourism such as skiing, safari hunting, and watching soccer games (Lin, 2011; Radder, Mulder, & Han, 2013;

Won & Kitamura, 2007). For the pull motivations, previous studies mentioned that an activity's price and travel costs were main factors to stimulate tourists to participate in sport and outbound tourism (Correia & Pintassilgo, 2006; Tawil & Al-Tamimi, 2013). The results supported the finding of this study that the affordability of prices including airline, lift tickets, and accommodation was the primary pull factor the Taiwanese skiers/snowboarders were concerned about. This situation might be because the majority of participants in this study were from lower and middle income families (86%).

### ***The Service Quality Performance of Ski Resorts***

A service quality scale was used to measure the perception of Taiwanese skiers/snowboarders for the services of the previous visit to ski resorts. After the identification of service quality, Taiwanese tourists might increase their intention to revisit the ski resorts. The results indicated that most skiers and snowboarders were concerned about their safety and the maintenance of lifts and slopes. However, some skiers and snowboarders felt that quality of gear rentals and ski lessons in ski schools did not perform very well. It might be that Taiwanese skiers/snowboarders were not highly satisfied with these two service items because the gear rentals might be outdated or overused by other customers, and the ski school might not quite provide effective lessons to a certain level of skiers/snowboarders.

*The Difference of Demographic Characteristics on Push-Pull Motivations and Service Quality Dimensions*

ANOVA analysis was conducted to the push-pull motivations and service quality dimensions based on the demographic difference. The results found that males enjoyed skiing/snowboarding activities and were more willing to experience different level of trails, while female focused on the good package tours (e.g., spa or hot spring) and special events (e.g., music concert at ski resorts) that were not the skiing and snowboarding related activities.

There was a significant difference between age groups on the self achievement (the scores of age 26~30 higher than the scores of age over 40), and on the personnel performance (the scores of age over 40 higher than the scores of age 26~30). The results pointed out that the motivation of middle-aged adults to visit a ski resort was more influenced by employees' performance, while young adults' motivation was more influenced by self achievement such as improving their ability and learning new skills. This result somewhat differed from previous studies (Radder, Mulder, & Han, 2013; Ting, Wang, & Chou, 2014). Ting, Wang, and Chou (2014) indicated that the younger adults were more motivated by social interaction than the middle-aged people in the event sport tourism, while Radder, Mulder, and Han (2013) pointed out that the age factor did not affect safari hunters' motivations. To identify the presence of

different motivations based on the age groups, Dotson, Clark, and Dave (2008) studied travel motivations of young ages in various sport and travel activities. The researchers claimed that the age groups from 18 to 30 were not homogenous in their travel motivations because two groups of young age adults might have two different motivations. For example, some young adults would like to spend time with their family members when traveling (social motivation), while other young adults would like to challenge risky activities by themselves (self achievement motivation). In this study, age might be an important variable to influence Taiwanese skiers and snowboarders' motivations. Skiing and snowboarding was an extreme activity that involved more challenging and learning, so only young skiers/snowboarders were able to rank self achievement as their main motivation such as trying difficult trails rather than social interaction and other motivations.

There was a significant difference between household income groups on the reliable services. The finding was supported by a previous study for Chinese outbound tourists. Ma (2009) indicated many Chinese citizens were eager to leave their city to temporarily experience different lifestyles. The influence of higher income would mean that the rich group had more financial support to easily satisfy their physical needs and pursue higher quality services when traveling. For example, Chinese outbound tourists with higher incomes were more willing to stay in high service

quality hotels or to gamble in casinos that provided services. In this study, it is not surprising that skiers and snowboarders with higher household income might visit ski resorts that provided good reliable services such as good gear rental quality and high speed chairlift.

There was a significant difference between groups of participation's frequency on the enjoyment, self achievement, and relaxation in this study. Hobson (2000) claimed that outdoor recreation participants could be placed on a continuum from general interest and low involvement (casual participants) to specialized interest and high involvement (committed participants) that was associated with the length of involvement such as hours and days of participation. Hallmann, Feiler, and Breuer (2012) demonstrated that the committed tourists were more interested in coastal sports and would like to learn knowledge and skills from coastal activities such as snorkeling. Moreover, Chang and Huang (2012) found that enduring involvement in paragliding activities would help people release mental pressure. Thus, the finding of this study was supported: that the committed skiers and snowboarders who rode over eight days annually and six hours a day rated enjoyment, relaxation, and self achievement as a stronger motive. In addition, the casual skiers/snowboarders were more motivated by peripheral facilities and promotions such as shopping stores or cheaper package tours. Rittichainuwat, Qu, and Mongkhonvanit (2008) suggested that

promotional campaigns and tour packages should be used to target casual travelers rather than repeat travelers because the casual travelers were not attracted by the activity itself. Thus, this study also declared that the casual skiers/snowboarders were influenced by non skiing activities (peripheral facilities and promotions) because they were not seriously involved in the skiing/snowboarding activities.

According to the demographic statistics, snowboarders played an important role in the Taiwanese ski/snowboard population (62%). The results showed that snowboarders were motivated to ride in various trails, special trick parks, and improve self skills, while skiers were motivated by other activities and employees' performance. This result was supported by Little & Needham (2011) who investigated the motivation's difference between skiers and snowboarders in a ski resort of central Oregon. The results indicated that snowboarders thought the terrain parks were essential for their motivation to visit ski resorts, while skiers concerned about the price and employee's service more importantly.

There was a significant difference between destination groups on the personnel performance and personnel service. The results indicated that the ski resorts of Japan and the USA focused on the importance of personnel services, while the ski resorts of Korea less considered the importance of personnel services. However, the tourists were more motivated by employees' performance to visit ski resorts in Japan

rather than the USA, even if the visitors to the USA were satisfied with the personnel services.

According to the finding, an interesting phenomenon was derived from this study: the visitor's ratio of Japan and the USA (20:1). Both the ski resorts of Japan and the USA provided good service quality, but people were not motivated to visit to the ski resorts in the USA. The research speculated that there were two possible reasons to explain the lower number of skier visits to the ski resorts in the USA. The first was the distance between Taiwan and the USA. For example, Taiwanese generally needed to spend about 30 hours including boarding, transiting, flying time to arrive at a destination in the USA and the same hours to return to Taiwan. In contrast, the flying time to Japan was only four hours. The second might be the travel expenditure. The price of package tours revealed a huge difference between the ski tourism to Japan and the USA. Based on the Lion Travel agency in Taiwan, the package tour (5 days trip) to Japan only cost between US\$1,000 and US\$1,500, but the package tour (10 days trip) to the USA might cost around US\$4,500 that is three or four times the price of skiing in Japan. Thus, most Taiwanese skiers/snowboarder previously choosing Japan as the destination rather than the USA and Korea might be because of the long distance and huge expenditure to the USA and the perception of worse service quality in Korea.

*The Influence of Demographic Characteristics, Push-Pull Motivations, and Service Quality Dimensions on Revisit Intention*

Multiple linear regression analysis was used to illustrate the influence of demographic characteristics, push-pull motivations, and service quality dimensions on revisit intention. The results found that enjoyment was the primary predictor, and four age groups were the secondary predictors of the revisit intention. These five independent variables significantly explained 12% of the variance in the revisit intention

The age variable was the only demographic characteristic to predict the revisit intention. It was surprising that all age participants in this study were willing to participate in skiing activities. The finding pointed out a new perspective that ski sport considered as an extreme sport might no longer for young adults. The middle and older adults might be attracted by the skiing activities and increase their intention to revisit overseas ski resorts.

There was no any pull factors to predict the revisit intention. In this study, natural attraction factor was ignored in the procedure of EFA that was not supported by previous studies. For example, natural orientation had a significant influence for tourists to revisit Bird's Nest Beijing National Stadium in China (Pearce & Lee, 2005), and tourists were significantly motivated by natural attractions to revisit Thailand

(Rittichainuwat, Qu, & Mongkhonvanit, 2008). The above studies indicated that natural attractions were positive related to the revisit intention in nostalgic sport and general tourism. However, Gibson (1998) indicated that the main purpose of people participating in active sport tourism was to involve themselves in physical activities rather than other inactive leisure activities. Thus, this study contended that the motivation to focus on natural attractions might positively predict tourists' revisit intention in other types of tourism, but natural attractions did not play an important factor for Taiwanese skiers and snowboarders' intention to participate in skiing activities.

Enjoyment was the most powerful predictor of the revisit intention in this study. Enjoyment was a sort of intrinsic motivation that involved freedom for personal choice and control to participate in activities without the presence of external pressures. In other words, fun or excitement had an immediate influence on people's intention and behavior rather than based on the reinforcement of external factors, such as requirements of friends or rewards (Deci & Ryan, 1985). Thus, the finding of this study were supported by many studies (Alexandris, Funk, & Pritchard, 2011; Alexandris, Kouthouris, & Girgolas, 2007; Chang and Huang, 2012; Funk, Filo, Beaton, & Pritchard, 2009; Lin, 2011). No matter what types of tourism (active sport tourism or event sport tourism) and tourists (inbound or outbound tourists), the

influence of enjoyment has been confirmed to influence the revisit intention, which meant more enjoyment in skiing/snowboarding activities would increase probability for Taiwanese tourists to revisit ski resorts.

The personnel service and reliable service in this study did not provide predictive power to the revisit intention. It is not supported by a previous study that mentioned the service dimensions: physical environment quality, personnel interaction quality, and outcome quality offered significant contributions to the place attachment (Alexandris, Kouthouris, & Meligdis, 2006). Even if Pearson correlation analysis was used to identify the association between the service quality factors and revisit intention, there was only a weak relationship between the independent and dependent variables. To explain this issue, the investigator contended that the most difference from the present study was the dependent variable. For example, Alexandris, Kouthouris, & Meligdis's study (2006) mainly stressed the influence of service quality on the skiers' loyalty to a specific ski resort in Greece. The purpose was to make the skiers attached to the ski resort rather than to increase their intentions to ski. Nevertheless, the present study tried to demonstrate the influence of overall service quality of ski resorts on Taiwanese tourists' intention to participate in skiing and snowboarding activities. According to the comparison, good service quality might be powerful to attract skiers to a specific ski resort, but people who considered skiing as

their serious leisure would keep participating in the activities no matter what services were provided by ski resorts. This issue about the dependent variables might be why service quality was not so important to predict the revisit intention in this study.

## **CHAPTER VI: RECOMMENDATIONS**

Ski/snowboard motivations in North America and Europe have been fairly well researched, but studying motivations for Taiwanese outbound skiers and snowboarders is an emerging area of research. This study has confirmed the relationships among the demographics, push-pull motivations, service quality, and revisit intention. The results indicated the self achievement, enjoyment, relaxation, ski facilities, personnel performance, promotions, peripheral facilities, environmental service, and personnel service were the main factors to interact with demographic characteristics. In addition, the enjoyment and age variable offered significant contributions to the revisit intention. Finally, this chapter provides some recommendations for the ski industry, limitations for the present study, and suggestions for the future research according to the findings.

### **Recommendations for the Ski Industry**

Based on the findings, several demographic characteristics, push-pull motivations, and service quality dimensions were important to the revisit intention. Managers of ski resorts and travel agencies should consider the following recommendations to their marketing strategies:

(1) Development of potential market for female and casual skiers/snowboarders

The number of female and casual skiers is growing. Although female and casual skiers are less motivated by ski/snowboard activities, they consider promotions and peripheral facilities as their primary motivations when they participate in ski sport tourism. Thus, to combine various promotions and activities for women and for casual skiers is very important in the current stage. Such activities could involve music concerts, night life, shopping, or spa facilities.

(2) Organization of a variety of ski/snowboard events

For the young men and committed skiers/snowboarders who prefer to learn new skills and experience various trails, ski resorts with bigger business funding could hold competitive events such as slope style and half pipe competitions, while small ski resorts could make some attractive activities or facilities such as water skiing/snowboarding or new terrain parks. In addition, skiing/snowboarding demonstrations could be presented to middle-aged and older adults because they have more concern for their safety.

(3) Importance of personnel performance at ski resorts

Positive past service could help tourists become attached to ski/snowboard activities and resorts. In this study, the services of front line employees play an important role for Taiwanese skiers and snowboarders' revisit intention. Thus, ski

resort managers should work on issues related to employees' attitude, training about safety, communication skills, foreign languages, and employees' expertise about skiing and snowboarding.

(4) Improvement of physical facilities and personnel service at ski resorts

Resort managers in Korea should work on the improvement of the physical environment aspects and personnel performance such as employees' attitudes, quality of gear rentals, and maintenance of lifts and slopes. In addition, resort managers in Japan should consistently keep up the good performance of the services.

(5) Selection of different ski/snowboard package tours

Travel agencies should provide various package tours for different groups. For example, higher income tourists may add other leisure activities and services to enrich their trip. Nevertheless, lower income tourists may choose cheaper hotels or small ski resorts to experience skiing/snowboarding.

### **Limitation and Suggestions**

The present study made a contribution to ski sport tourism in Taiwan and Japan by providing empirical support for the value of service quality and push-pull motivations in revisit intention research. Although the results of the study addressed some key points regarding the motivations and service quality, the influence of several limitations on the findings might need further investigation. The first limitation is the

recruited time and small sample size. According to a reference about the sample size calculation (Creative Research Systems, n. d.), 375 participants would be the number to represent the 15,000 Taiwanese skiers with the 95% confidence level. However, only 207 Taiwanese skiers voluntarily filled out the online survey within the limited recruited time. The sample size (207 participants) in this study might not represent the whole ski population in Taiwan. Secondly, the data were collected by using a convenience sampling method that might result in some sample selection bias. For example, the Taiwanese participants in this study were recruited from a public group of the Chinese Taipei Ski Association and a private ski group. In these groups, most Taiwanese participants were serious skiers and snowboarders because they routinely plan to visit overseas ski resorts once or twice every year. Moreover, the travel agencies of these two groups cooperated with some ski resorts in Japan. One hundred seventy seven Taiwanese tourists that accounted for 85.51% of the sample size went to the ski resorts in Japan, but there were less than 10 tourists to participate in skiing activities in the other countries according to their previous visit. Thus, these two limitations might hinder the generalization of the research findings, such as the results might be only generalized to the serious skiers or visitors to Japan.

There are several issues associated with the limitations of the study that should provide a guide for improvement of the present study and future research. First, the

study could use a stratified sampling framework instead of the convenience sampling method to represent the whole ski population in Taiwan. To employ the stratified sampling framework, the amount of the population, what groups should be stratified, and the ratio between groups would be the first steps to recognize based on the purpose of the study. For example, the study could stratify the Taiwanese skiers regarding different destinations or different household income level, so the study is able to allow for generalization and to compare the motivations between the visitors to Japan and to Korea or the motivations between mid income and high income people. Second, service quality should be measured to predict other dependant variables. In the present study, the results have proved no significant influence between service quality and the intentions to continue skiing. However, it does not imply that service quality is not important. For example, Alexandris, Kouthouris, & Meligdis (2006) investigated the influence of service quality on the skiers' loyalty of a ski resort in Greece, and the service dimensions provided a powerful evidence to predict the skiers' loyalty. As a result, service quality plays an important role to make skiers attached to a ski resort. The future studies might re-identify the influence of service quality on the Taiwanese skiers' loyalty to a specific ski resort, so ski resorts would know what services need to improve and the Taiwanese skiers' loyalty to a specific resort might be increased. Third, only two predictors in this study explained 12% of the variance in

the revisit intention. It would be more meaningful to answer the question 'are there any other influential factors that should be included to give a more holistic picture to predict Taiwanese tourists' revisit intention?' Constraint factor was one of the most powerful predictors and had negative influence on the behavioral intentions (Clark & Maher, 2007). For example, Chen and Wu (2009) pointed out that personal reason constraint such as physical ability and age problem had negative influence on the seniors' intentions of overseas traveling. Alexandris, Funk, and Pritchard (2011) also indicated that constraints had a significantly negative influence on the intentions to continue skiing, which meant constraints such as I do not have time, I am not skilled, and my friends do not like skiing would make skiers unwilling to participate in skiing activities. Although the influence of specific constraints on the revisit intentions for domestic skiers has been confirmed, the relation between the constraints and the outbound skiers' revisit intentions in Taiwan is not established yet. The future studies might add some constraint factors such as lack of free time and higher traveling expenditure that might be the important indicators to understand why the ski population is so small in Taiwan.

Finally, the present study has developed a fundamental push-pull motive scale with good level of reliability and validity that should be applied to other populations or other types of winter sport tourism. This study also proved that measuring

push-pull motivations can help to a better understanding of Taiwanese tourists' intention to participate in skiing activities and individuals from different characteristics differ from their preferences regarding motivations. However, the contribution of this study are still in exploratory stage and should be viewed as a starting point for examining skiers and snowboarders' motivations in Taiwan because we only understand the importance of enjoyment for the serious skiers and snowboarders. To do further empirical investigation, it is necessary to integrate potential or first-time skiers' motivations into the present study by using the push-pull motive scale because several studies have expressed that the first-time travelers' motivations differed from the repeat travelers' motivations in other types of tourism (Hallmann, Feiler, & Breuer, 2012; Rittichainuwat, Qu, & Mongkhonvanit, 2008).

For the academia, to identify the potential or first-time skiers' motivations might not only help understanding their psychological needs but also create a motivation model and develop a new perspective about the motive changes between serious skiers and first-time skiers. For the development of ski sport in Taiwan and Japan, since serious skiers are already attached to the ski activities, the ski resort might not need to worry about the retention of customers who consider skiing and snowboarding as a serious leisure. In contrast, to attract the potential ski population might be more important for the ski resorts. If the present study and further investigation offer comprehensive

information about the motivations of the potential ski population, the benefits brought by the potential ski market will be much more than the profits produced by the present ski market. Therefore, according to the suggestions, this empirical study about the ski motivations will be more integrated and will provide a greater contribution to the academic and business field.

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## **APPENDICES**

## APPENDIX A

### The Blueprint of Push Motivation

	Items	References
Push Factors	I want to improve existing skills.	Filo, Funk, & O'Brien (2011); Radder, Mulder, & Han (2013); Wilson, Rodgers, & Fraser (2002)
	I like to challenge myself.	Chang & Huang (2012); Radder, Mulder, & Han (2013); Wilson, Rodgers, & Fraser (2002); Wong, Cheung, & Wan (2013)
	I want to learn new skills.	Prayag & Grivel (2014); Wilson, Rodgers, & Fraser (2002)
	I gain confidence each time.	Chang & Huang (2012);
	I have a lot of fun in the process.	Kim, Oh, & Jogaratnam (2007); Ma (2009); Wilson, Rodgers, & Fraser (2002)
	I like the excitement of participation.	Chang & Huang (2012); Kim, Oh, & Jogaratnam (2007); Radder, Mulder, & Han (2013); Wilson, Rodgers, & Fraser (2002); Wong, Cheung, & Wan (2013)
	I enjoy skiing and snowboarding.	Meng, Tepanon, & Uysal (2008); Wilson, Rodgers, & Fraser (2002); Wong, Cheung, & Wan (2013)
	I want to be with friends or relatives.	Chang & Huang (2012); Carr (2006); Chen & Wu (2009); Meng, Tepanon, & Uysal (2008); Won & Kitamura (2007); Wilson, Rodgers, & Fraser (2002)
	I want to meet new people.	Chang & Huang (2012); Filo, Funk, & O'Brien (2011); Chen & Wu (2009); Lee & Chen (2005); Prayag & Grivel (2014); Radder, Mulder, & Han (2013); Wilson, Rodgers, & Fraser (2002)
	I enjoy the interaction with others.	Chang & Huang (2012); Filo, Funk, & O'Brien (2011); Won & Kitamura (2007)
My friends invite me to participate in skiing.	Wilson, Rodgers, & Fraser (2002)	

**The Blueprint of Push Motivation (continued)**

Push Factors	I relax physically and mentally.	Chang & Huang (2012); Carr (2006); Chen & Wu (2009); Ma (2009); Wong, Cheung, & Wan (2013)
	I reduce the stress of my daily life.	Chang & Huang (2012); Filo, Funk, & O'Brien (2011); Radder, Mulder, & Han (2013); Wong, Cheung, & Wan (2013)
	I temporarily break away the pressure of routine.	Carr (2006); Chen & Wu (2009); Kim, Oh, & Jogaratnam (2007); Lee & Chen (2005); Ma (2009); Won & Kitamura (2007); Wong, Cheung, & Wan (2013)
	I want to try different types of skiing and snowboarding.	Chen & Wu (2009)
	I want to go to a ski resort where I have never been before.	Kim, Oh, & Jogaratnam (2007); Meng, Tepanon, & Uysal (2008); Ma (2009)
	I want to have a new or different experience.	Carr (2006); Chen & Wu (2009); Kim, Oh, & Jogaratnam (2007); Lee & Chen (2005); Radder, Mulder, & Han (2013); Rittichainuwat, Qu, & Mongkhonvanit (2008); Wong, Cheung, & Wan (2013)

## APPENDIX B

### The Blueprint of Pull Motivation

	Items	References
Pull Factors	I visit a ski resort because of snow powder.	Little & Needham (2011)
	I visit a ski resort because of high alpine areas.	Dotson, Clark, & Dave (2008); Rittichainuwat, Qu, & Mongkhonvanit (2008)
	I visit a ski resort because of natural scenery.	Chang & Huang (2012); Carr (2006); Lee & Chen (2005); Ma (2009); Meng, Tepanon, & Uysal (2008)
	I visit a ski resort because of gear rentals of ski resorts.	Alexandris, Kouthouris, & Meligdis (2006); Little & Needham (2011)
	I visit a ski resort because of variety of trails and slopes.	Little & Needham (2011)
	I visit a ski resort because of terrain parks	Little & Needham (2011)
	I visit a ski resort because of number of chairlifts.	Alexandris, Kouthouris, & Meligdis (2006); Little & Needham (2011)
	I visit a ski resort because of staffs and instructors caring about skiers' safety.	Alexandris, Kouthouris, & Meligdis (2006); Little & Needham (2011); Neuvonen, Pouta, & Sievanen (2010)
	I visit a ski resort because of friendliness of staffs and instructors.	Alexandris, Kouthouris, & Meligdis (2006); Meng, Tepanon, & Uysal (2008); Neuvonen, Pouta, & Sievanen (2010)
	I visit a ski resort because of staffs' ability to solve skiers' problems.	Neuvonen, Pouta, & Sievanen (2010)
	I visit a ski resort because of good lessons at ski school.	Little & Needham (2011); Neuvonen, Pouta, & Sievanen (2010)

**The Blueprint of Pull Motivation (continued)**

Pull Factors	I visit a ski resort because of good package tours.	Rittichainuwat, Qu, & Mongkhonvanit (2008)
	I visit a ski resort because of affordable travel expenditures.	Lee & Chen (2005); Little & Needham (2011); Rittichainuwat, Qu, & Mongkhonvanit (2008)
	I visit a ski resort because of advertising about special events.	Little & Needham (2011); Neuvonen, Pouta, & Sievanen (2010)
	I visit a ski resort because of amenities' quality of hotels.	Neuvonen, Pouta, & Sievanen (2010); Lee & Chen (2005); Meng, Tepanon, & Uysal (2008);
	I visit a ski resort because of food of restaurants.	Neuvonen, Pouta, & Sievanen (2010); Lee & Chen (2005); Little & Needham (2011); Meng, Tepanon, & Uysal (2008); Rittichainuwat, Qu, & Mongkhonvanit (2008)
	I visit a ski resort because of convenience in transportation.	Neuvonen, Pouta, & Sievanen (2010); Lee & Chen (2005); Little & Needham (2011)
	I visit a ski resort because of shopping opportunities from retail stores.	Carr (2006); Little & Needham (2011); Ma (2009); Rittichainuwat, Qu, & Mongkhonvanit (2008); Wong, Cheung, & Wan (2013)

## APPENDIX C

### The Blueprint of Service Quality

	Items	References
Service Quality	The facilities and gear rentals are up to date.	Alexandris, Kouthouris, & Meligdis (2006); Canny (2013); Shahin & Janatyan (2011)
	The landscape is very beautiful.	Frochot & Kreziak (2008); Neuvonen, Pouta, & Sievanen (2010)
	The lifts and slopes are well maintained.	Alexandris, Kouthouris, & Meligdis (2006); Frochot & Kreziak (2008)
	The accommodation is clean and comfortable.	Frochot & Kreziak (2008); Han & Radder (2011); Shahin & Janatyan (2011); Neuvonen, Pouta, & Sievanen (2010)
	The employees are polite and friendly.	Alexandris, Kouthouris, & Meligdis (2006); Canny (2013); Neuvonen, Pouta, & Sievanen (2010); Shahin & Janatyan (2011)
	The employees are knowledgeable to solve problems.	Alexandris, Kouthouris, & Meligdis (2006); Canny (2013); Han & Radder (2011); Shahin & Janatyan (2011); Neuvonen, Pouta, & Sievanen (2010)
	The employees always concern about skier's safety.	Alexandris, Kouthouris, & Meligdis (2006); Neuvonen, Pouta, & Sievanen (2010)
	The employees provide accurate and useful information.	Canny (2013); Neuvonen, Pouta, & Sievanen (2010); Shahin & Janatyan (2011)
	The instructors provide multiple lessons to different level of skiers.	Neuvonen, Pouta, & Sievanen (2010)
	The operational hours satisfy skier's need.	Canny (2013); Shahin & Janatyan (2011)
	The queue time of taking lifts is acceptable.	Canny (2013); Han & Radder (2011)

**APPENDIX D****The Blueprint of Revisit Intention**

Revisit intention	I am determined to visit a ski resort this season.	Alexandris, Kouthouris, & Girgolas (2007); Alexandris, Funk, & Pritchard (2011)
	I intend to visit a ski resort this season.	
	I will try to visit a ski resort next season.	

## APPENDIX E

### Procedure of Exploratory Factor Analysis

Model	Item Deleted	Reason
1	Affordable travel expenditures.	Loading < 0.4 Double loadings
2	I gain confidence each time	Loading < 0.4 Double loadings
3	I want to try different types of skiing	Double loadings
4	Natural scenery	Double loadings
5	Snow powder	Junk factor Loading < 0.4 Double loadings

## APPENDIX F

### The Skiing/Snowboarding Survey in English

Dear Taiwan skiing and snowboarding travelers,

You are being asked to participate in a research project regarding relationships among service quality, motivations and revisit intentions by completing a brief survey. There are no foreseeable risks or immediate benefits, but your responses will provide ideas for targeting a market orientation and designing marketing strategies for the ski tourism industry in both the United States and Taiwan. All information collected will remain confidential. Your participation as a participant is completely voluntary and you may withdraw at any time. By continuing on you provide consent to participate in this research project. If you have any questions or concerns, please contact Po-Hong Shen at ps3h@mtmail.mtsu.edu. Thank you for your participation.

Po-Hong Shen

Doctoral Candidate

Middle Tennessee State University

#### Part I: Basic Information

1. Sex: Male Female
2. Age \_\_\_\_\_
3. Marital Status: Married Single Other\_\_\_\_\_
4. Household Income of One Month:  
NT\$0~80,000 NT\$80,001~NT\$150,000 over NT\$150,000
5. What is your highest education completed?  
High School and Under Undergraduate Degree Graduate Degree
6. How frequently do you participate in skiing activities in the last year?  
0~2 days 3~5 days 6~8 days over 8 days
7. On average, how many hours do you ski/snowboard in a day?  
1~4 hours 5~8 hours over 8 hours
8. Do you consider yourself a skier or a snowboarder?  
Skier Snowboarder Primarily skier but I also snowboard  
Primarily snowboarder but I also ski Other\_\_\_\_\_
9. In which country, you participated in overseas skiing activities last time? \_\_\_\_\_

**Part II:** The following items describe services of a ski resort. Please indicate the degree of satisfaction for each item according to your perception of last skiing experience and check the appropriate box based on the following scale:

1= Not at all      2= Slightly      3= Moderately      4= Very much

**The services provided by the ski resort:** 1 2 3 4

01. The facilities and gear rentals are up to date.....
02. The landscape (e.g., mountains, rivers, or trees) is very beautiful.....
03. The lifts and slopes are well maintained.....
04. The accommodation is clean and comfortable.....
05. The employees are polite and friendly.....
06. The employees are knowledgeable to solve problems.....
07. The employees always concern about skier's safety.....
08. The employees provide accurate and useful information (climate or map)..
09. The instructors provide multiple lessons to different level of skiers.....
10. The operational hours satisfy skier's need.....
11. The queue time of taking lifts is acceptable.....

**Part III:** The following items describe possible reasons that you participate in skiing activities. Please indicate how important each reason is in deciding to ski or snowboard and check the appropriate box based on the above scale:

**I participate in ski and/or snowboard activities because:** 1 2 3 4

12. I want to improve existing skills.....
13. I like to challenge myself.....
14. I want to learn new skills.....
15. I gain confidence each time.....
16. I have a lot of fun in the process.....
17. I like the excitement of participation.....
18. I enjoy skiing and snowboarding.....
19. I want to be with friends or relatives.....
20. I want to meet new people.....
21. I enjoy the interaction with others.....
22. My friends invite me to participate.....
23. I relax physically and mentally.....
24. I reduce the stress of my daily life.....
25. I temporarily break away the pressure of routine.....
26. I want to try different types of skiing/snowboarding.....
27. I want to go to a ski resort where I have never been before.....
28. I want to have a new or different experience.....

**Part IV:** The following items describe possible reasons that you visit a ski resort.

Please indicate how important each reason is in deciding to visit a ski resort and check the appropriate box based on the following scale:

1= Not at all      2= Slightly      3= Moderately      4= Very much

- | <b>I visit a ski resort because of:</b>                           | 1                        | 2                        | 3                        | 4                        |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 29. Snow powder.....  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. High alpine areas.....  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. Natural scenery.....  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. Gear rentals of ski resorts.....                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. Variety of trails and slopes.....                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. Terrain parks (special trick parks).....                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. Number of chairlifts.....                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. Staffs or instructors caring about skiers' safety.....        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. Friendliness of staffs or instructors.....                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. Staffs or instructors' ability to solve skiers' problems..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 39. Good lessons at ski school.....                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 40. Good package tours.....                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 41. Affordable travel expenditures.....                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 42. Advertising about special events.....                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 43. Amenities' quality of hotels.....                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 44. Food of restaurants.....                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 45. Convenience in transportation.....                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 46. Shopping opportunities from retail stores.....                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Part V:** The following items are the intentions that you would like to revisit ski

resorts next season. Please indicate how much each item is in deciding to revisit ski resorts and check the appropriate box based on the following scale:

1= Not at all      2= Slightly      3= Moderately      4= Very much

- |  | 1                        | 2                        | 3                        | 4                        |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 47. I am determined to visit a ski resort this season..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 48. I intend to visit a ski resort this season.....        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 49. I will try to visit a ski resort next season.....      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

~Thank you for your participation~

## APPENDIX G

### The Skiing/Snowboarding Survey in Traditional Chinese

各位臺灣滑雪觀光客您好,

您同意參與一份關於服務品質、滑雪動機和重遊意願關係的研究問卷，請您仔細閱讀每一個問題並且勾選適合的程度，另外您也可以隨時停止填寫。本問卷以不記名方式填答，資料將嚴格保密絕不對外公開，並且僅做學術研究之用，因此不會有任何風險，本研究結果將提供資訊給美國和臺灣了解滑雪市場導向，並且助於擬訂滑雪觀光行銷策略，如果您有任何問題，可以聯絡問卷負責人沈柏宏，電子郵件地址為 ps3h@mtmail.mtsu.edu，最後感謝您的合作與協助。

敬祝

身體健康 萬事如意

中田納西州立大學

博士候選人 沈柏宏

#### 第一部份: 基本資料

- 1、性別: 男 女
- 2、年齡: \_\_\_\_\_
- 3、婚姻狀況: 已婚 未婚 其它\_\_\_\_\_
- 4、您家庭一個月的總收入:
  - 新台幣 0~8 萬 新台幣 8 萬~15 萬 超過新台幣 15 萬
- 5、您的最高學歷是? 高中和以下 大學 研究所以上
- 6、您去年滑雪的頻率是? 零到兩天 三到五天 六到八天 超過八天
- 7、您一天滑雪的平均小時數是? 一到四小時 五到八小時 超過八小時
- 8、您是 skier(玩雙板)或 snowboarder (玩單板)?
  - Skier (雙板) Snowboarder (單板) 主要是 skier 但也玩 snowboard
  - 主要是 snowboarder 但也玩 ski 其它\_\_\_\_\_
- 9、您上次滑雪是到那個國家\_\_\_\_\_

第二部份：以下的項目為雪場所提供的服務，請依照您上次的滑雪體驗和以下的測量標準勾選您對每一個服務項目的滿意程度：

1=不同意      2=一點點同意      3=同意      4=非常同意

我上次到達的雪場所提供的服務：	1	2	3	4
01、雪場的設施和租借設備都有定期更新.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02、雪場的風景都非常漂亮(例如:高山、河流或樹冰).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03、雪場的纜車和雪道都有維修和保養.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04、雪場或旅行團提供乾淨又舒適的食宿.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05、雪場員工和指導員都很友善且好相處.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06、雪場員工和指導員都很專業並且能解決滑雪者的問題.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07、雪場員工和指導員都很注重滑雪者的安全.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08、雪場能提供有用的資訊(例如:天候狀況或地圖).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
09、旅行團提供多樣化的滑雪課程給小朋友、初階和進階滑雪者.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10、雪場的營運時間符合滑雪者的需要.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11、排隊等待纜車的時間是可以接受的.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

第三部份：以下的項目為您出國參與滑雪觀光可能的理由，請依照以下的測量標準勾選每一個項目影響您滑雪動機的強弱程度：

1=不同意      2=一點點同意      3=同意      4=非常同意

我參與滑雪活動是因為：	1	2	3	4
12、我想要改善現有的滑雪技能.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13、我喜歡挑戰自己.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14、我想要學習新的滑雪技巧.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15、每次滑雪都讓我更有自信.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16、滑雪讓我得到很多樂趣.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17、我喜歡滑雪的興奮感.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18、我非常享受滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19、我想要和朋友或家人一起滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20、我想要認識新的朋友.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21、我喜歡滑雪時和大家的互動.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22、我朋友邀請我一起滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23、我可以放鬆我的身心.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24、我可以減少日常生活壓力.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25、我可以暫時遠離日常的环境.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26、我想要嘗試不同種類的滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27、我想要去沒去過的滑雪場.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28、我想要我的生活有新的體驗.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

第四部份：以下的項目為您選擇一個滑雪場可能的理由，請依照以下的測量標準勾選每一個項目影響您造訪滑雪場的動機的強弱程度：

1=不同意      2=一點點同意      3=同意      4=非常同意

我到一個雪場滑雪是因為：	1	2	3	4
29、滑雪場的粉雪(雪況).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30、滑雪場的海拔高度.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31、滑雪場的自然風景.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32、滑雪場的滑雪課程.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33、滑雪道的多樣性.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34、滑雪場的特技場(Terrain Parks).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35、滑雪場的纜車數量.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36、滑雪場員工和指導員關心滑雪者的安全.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37、滑雪場員工和指導員的親切友善.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38、滑雪場員工和指導員能幫忙解決問題.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39、好的套裝滑雪旅遊行程.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40、負擔得起的滑雪旅遊費用.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41、旅行團的特別滑雪活動廣告.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42、滑雪場的租借設備品質.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43、滑雪場飯店的設施品質.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44、滑雪場餐廳的食物.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45、到達滑雪場的交通便利性.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46、滑雪場零售店提供的購物機會.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

第五部份：以下的項目為您出國滑雪觀光的重遊意願，請依照以下的測量標準勾選您再次出國滑雪意願的強弱程度：

1=不同意      2=一點點同意      3=同意      4=非常同意

	1	2	3	4
47、這個冬季我已決定要出國滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48、這個冬季我有意願出國滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49、下個冬季我會試著找時間出國滑雪.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

感謝你的合作和參與