

STRUCTURAL RELATIONSHIPS AMONG MARKET DEMAND,
PERCEIVED BENEFITS, PERCEIVED CONSTRAINTS,
PERCEIVED VALUE, MEMBER SATISFACTION,
AND MEMBER COMMITMENT TOWARD MARITAL ARTS PARTICIPATION

By

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1

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To my family

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TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS	4
LIST OF TABLES	7
LIST OF FIGURES	8
LIST OF TERMS.....	9
ABSTRACT.....	10
CHAPTER	
1 INTRODUCTION	12
Statement of the Problem.....	18
Hypothesized Research Model	20
Delimitations.....	21
Limitations.....	21
Significance of the Study.....	22
2 LITERATURE REVIEW	25
Taekwondo	25
Market Demand	27
Conceptual Framework.....	33
Personal Improvement Activities	34
Physical Environment Quality.....	36
Instructional Staff Quality	37
Program Activities Offerings	38
Cultural Learning Activities.....	38
Locker Room Provision.....	40
Economic Conditions Consideration.....	40
Perceived Benefits	41
Perceived Constraints	44
Perceived Value	51
Member Satisfaction.....	57
Member Commitment.....	58
3 METHODOLOGY	61
Participants	61
Measurement.....	62
Market Demand.....	62
Perceived Benefits.....	65

Perceived Constraints	65
Perceived Value	66
Member Satisfaction	67
Member Commitment	67
Demographic Information	68
Procedures	68
Data Analyses	70
Goodness of Model Fit	72
Reliability	73
Validity	74
4 RESULTS	79
Descriptive Statistics	79
Market Demand Variables	79
Perceived Benefits Variables	79
Perceived Constraints Variables	80
Perceived Value Variables	80
Member Satisfaction and Member Commitment Variables	81
Data Normality	81
Measurement Models	82
Market Demand	82
Perceived Benefits	83
Perceived Constraints	84
Perceived Value	85
Overall Measurement Model	86
Structural Equation Model	87
Summary of the Results	89
5 DISCUSSION	107
Measurement Model	107
Structural Models and Hypothesis Testing	110
Suggestions for Further Study	115
APPENDIX	
A SURVEY INSTRUMENT FOR CONTENT VALIDITY	117
B INFORMED CONSENT AND QUESTIONNAIRE	124
LIST OF REFERENCES	130
BIOGRAPHICAL SKETCH	143

LIST OF TABLES

<u>Table</u>		<u>page</u>
3-1	Descriptive statistics for the sociodemographic variables (N=595)	76
3-2	Group comparison between on-line and on-site respondents	78
4-1	Descriptive statistics for the market demand variables (N = 595).....	91
4-2	Descriptive statistics for the perceived benefits (N = 595).....	93
4-3	Descriptive statistics for the perceived constraints (N = 595).....	94
4-4	Descriptive statistics for the perceived value (N = 595).....	95
4-5	Descriptive statistics for the member satisfaction and commitment (N = 595).....	96
4-6	Summary results for overall measurement model	97
4-7	Correlations among market demand constructs	100
4-8	Assessment of discriminant validity	101
4-9	Standardized parameter estimates and hypothesis testing	102
4-10	The direct and indirect effects of market demand on commitment	103

LIST OF FIGURES

<u>Figure</u>		<u>page</u>
1-1	A hypothesized model of the relationships among market demand, perceived benefit, perceived constraint, perceived value, member satisfaction, and member commitment	24
4-1	First-order confirmatory factor analysis for market demand	104
4-2	A hypothesized model of the relationships among market demand, perceived benefit, perceived constraint, perceived value, member satisfaction, and member commitment	105
4-3	A comparison of the partially mediated model and the direct effect model	106

LIST OF TERMS

Customer Commitment	Morgan and Hunt (1994) had defined commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely” (p. 23).
Customer Satisfaction	Consumer’s overall pleasurable fulfillment of the response toward a product, service, or benefit, which is being provided to the customer to satisfy his/her need, desires, and goals (Oliver 1997).
Martial Arts	The martial arts include a wide range of self-defense and personal development systems, or “disciplines”, which originated in the Far East, Karate, judo, kung-fu, and Taekwondo.
Market Demand	Sport consumers’ expectations towards the main attributes of the game itself (Zhang et al., 1995).
Participant	A member enrolled in an organized TKD program, by paying any form of fees.
Perceived Benefits	It defines as “a combination of different attributes of products (tangible and intangible; intrinsic and extrinsic etc), available in relation to a particular buy and use situation” (Snoj, Korda, & Mumel, 2004, p. 157).
Perceived Constraints	It defines as “perceived or experienced by individuals to limit the formation of leisure preferences and to inhibit or prohibit participation and enjoyment in leisure” (Jackson, 1997, p. 461).
Perceived Value	It defines as “consumer’s overall assessment of the utility of a product (or service) based on perception of what is received and what is given” (Zeithaml, 1988, p. 14).
Taekwondo (TKD)	The main feature of TKD is a combative sport using bare hands and feet to defeat an opponent. It is one of the most popular martial arts sports in the world, 191 country and over 70 million participants of all ages (WTF, 2010).

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Participation in physically active recreation and sport has been tremendously increased in recent years due to health and fitness consciousness of people. Of various activities, martial arts have become an increasingly popular in Western countries, and they are widely considered as valuable participation activities within diverse contexts. Although the current trends of growth in the martial arts schools are generating new opportunities for martial arts enthusiasts, rapid growth in the number of the martial arts schools has resulted in a highly competitive business environment in North America. The purpose of this study was to develop and test a theoretical framework that specifies direct and indirect relationships among market demand, perceived benefits, perceived constraint, perceived value, consumer satisfaction, and consumption behavior in martial arts programs. Research participants ($N = 595$) were Taekwondo school participants, who resided in the U.S. and voluntarily participated in the survey study. A confirmatory factor analysis (CFA) was conducted to evaluate the measurement model and the proposed model was developed and tested using a structural equation modeling (SEM) with MPLUS 5.21 program.

The findings of this study indicated that perceived benefits and perceived constraints partially mediated the relationship between the market demand factors and perceived value, which, in turn, influenced member satisfaction and commitment. Participants would select martial arts school that is satisfied with their expectation for dominant perceived benefits and pursue perceived value form the martial arts training experience. Administrators of martial arts programs may also consider the resultant theoretical framework as a general guide in their marketing efforts to recruit and retain program participants. The structure model in this study may be applied in the formulation of marketing strategies for martial arts schools, as well as other related health-fitness settings.

CHAPTER 1 INTRODUCTION

Lifestyles in American society have changed over the past few decades such that people now tend to spend more time and money maintaining wellness. Participation in physically active recreation and sports has increased tremendously in recent years due to this increased fitness and health consciousness. Along with various other activities, martial arts have become an increasingly popular recreational pursuit in Western countries. The introduction and diffusion of martial arts have created various sporting opportunities at the recreational, amateur, and professional levels. Martial arts are widely considered as valuable participatory activities for a variety of purposes, such as prevention of criminal victimization, personal growth and discovery, life transition, and task performance (Columbus & Rice, 1991). Specifically, previous studies of martial arts have supported that martial arts have come to be recognized as a combat sport, a self-defense system, a physical fitness option (e.g., Adamson & Wade, 1986; Mathes & Battista, 1985), and a means of mental discipline training (e.g., Columbus & Rice, 1991; Daniels & Thornton, 1990; Finkenber, 1990; Fuller, 1988; Law, 2004; Richman & Rehberg, 1986; Trulson, 1986). Martial arts participants are usually trained in private martial arts schools, public health and fitness programs, martial arts curriculums in educational institutions, at YMCAs, or in military organizations (Ko, 2002, 2003). American children have grown up being exposed to martial arts films and television programs, such as “The Karate Kid” and “Mighty Morphin’ Power Rangers.” A number of movies, cartoons, books, videogames, and television programs featuring martial arts (e.g., mixed martial arts) have contributed to this growing popularity to such an extent that martial arts are now a part of youth culture (Yang, 1996).

Ko and Yang (2008) identified a number of specific reasons for the growth of martial arts: (a) transformation of values of martial arts training, (b) modernization of instructional

curriculum, (c) promotional efforts made by governments of martial arts countries-of-origin, (d) increased marketing commercialization, (e) globalization of martial arts through the sportification and formalization of its organizational structure, (f) diversification of martial arts products in movies and fitness programs, and (g) the emergence of mixed martial arts.

Coinciding with their popularity as a participation sport, martial arts have also become a popular spectator sport in the U.S., as evidenced by the success of Mixed Martial Arts (MMA) events, launched in 1993 as a new brand of combat sport, as well as that of the Ultimate Fighting Championship (UFC), Pride Fighting Championship, Extreme Martial Arts (XMA), and K-1. MMA is currently the most popular televised combat sport. XMA, for another example, is sponsored by ESPN and the UFC. Its programs have been broadcast on Spike TV and are now seen in 36 countries. The UFC is the largest pay-per-view provider in the world (UFC, 2006) and the fastest-growing sport in the U.S. The UFC's 10 pay-per-view events in 2007 generated more than \$200 million in customer retail value (Hyson, 2008). According to the Sport Business Research Network (2008), approximately 1.1 million people attended MMA events and more than 13 million watched the events on TV in 2006, such that MMA outperformed boxing and professional wrestling. The UFC is now estimated to be worth at more than \$1 billion.

The rapid expansion has subsequently influenced the proliferation of commercial martial arts schools throughout North America. There are approximately 13,950 martial arts schools in the U.S. alone, and more than 100 colleges have martial arts programs (Info-USA, 2007). According to SGMA International (2010), there are currently about 6.9 million martial arts participants, an increase of 28% since 2004. ; Since 2008, the martial arts equipment industry has grown 8.3%, to \$323 million.

The elevated interest in martial arts has increased the magnitude of their market share. For instance, a majority of Taekwondo (TKD) schools in North America are commercial establishments. The elevated interest in TKD has expanded its market and led to the realization that TKD instruction can be a profitable business when properly managed. The White Tiger martial arts school, for example, has an enrollment of more than 3,000 students. The school has a staff of 32, including 14 TKD masters (Bly, 2007). The rapid growth of martial arts, TKD in particular, has produced a highly competitive business environment. Besides competing with other TKD programs, a TKD school usually has to compete with other types of martial arts providers, such as XMA, karate, and kung fu. In addition, TKD competes with other sports and fitness organizations, such as racquet clubs, country clubs, health-fitness centers, and parks and recreational facilities (Kim, Zhang, & Ko, 2009). Although current growth trends in martial arts schools are generating new opportunities for martial arts enthusiasts, the rapid growth in the number of martial arts schools has resulted in a highly competitive martial arts business environment in North America.

Membership is the primary source of revenue generation for health/fitness organizations (Mullin, Hardy, & Sutton, 2007). Likewise, the ongoing operation of martial arts schools primarily rely on revenues generated from its membership (Kim et al., 2009); yet, member recruitment and retention are the most challenging for programs. Grantham, Patton, York, and Winick (1998) explained that recruiting and retaining members can be a complicated process, involving an understanding of many market-related variables. It is critical for administrators of martial arts programs to identify their target market and understand those variables that directly and indirectly affect an individual's decision to attend a program. Among these varying marketing variables, the concept of market demand, which is related to consumer expectations

concerning the attributes of the core product, has received much research attention in recent years (Braunstein, Zhang, Trail, & Gibson, 2005; Byon, Zhang, & Connaughton, 2010; Hansen & Gauthier, 1989; Kim et al., 2009; Schofield, 1983; Zhang, Lam, & Connaughton, 2003; Zhang, Pease, Hui, & Michaud, 1995). Various researchers have indicated that in-depth analyses of market demand variables for a sport product(s) would enhance the understanding of consumer expectations and accordingly allow one to formulate an effective marketing mix to help the sports program to succeed in a highly competitive marketplace (Hansen & Gauthier, 1989; Schofield, 1983; Zhang, Lam, Bennett, & Connaughton, 2003; Zhang et al., 1995). Thus, effective management and marketing practices are necessary to meet the needs and desires of current and potential members. This attentiveness ultimately assists in maintaining a business concern's long-term existence, sustainability, and profitability (Zhang et al., 1995).

The business success and future growth of martial arts organizations in a highly competitive environment depends on how well they understand their consumers and adapt to changes in consumer demand. It is important for administrators of martial arts programs to identify unique market demand variables that directly and indirectly affect an individual's decision to attend a program (Kim et al., 2009). Most studies have focused on the motivational aspects of martial arts participants (Cox, 1993; Donohue, 1994; Ko, Kim, & Valacich, 2010; Stefanek, 2004; Yang, 1996). It is vital for martial arts marketers to understand why people participate in martial arts. Understanding motivational factors that influence participation in martial arts would facilitate an understanding of martial arts participants' decision-making process. Researchers have found that fun, physical fitness, and aesthetics are the most critical factors in explaining why people participate in martial arts. However, only a few researchers have explored the impacts of various elements in the marketing mix of martial arts programs,

namely product, place, price, and promotion from a marketing perspective (Ko, 2002, 2003). In particular, few researchers have investigated those variables representing the attributes of market demand for private TKD schools in the U.S. To fill this void, Kim et al. (2009) identified six dimensions of attributes denoting market demand associated with TKD schools by developing the Scale of Market Demand for Taekwondo Schools (SMD-TKD) to measure key market demand dimensions. These factors were found to be representative of TKD market demand (i.e., Personal Benefits, School Operation, Instruction Quality, Program Offering, Locker Room, and Cultural Learning).

Previous studies on market demand have identified various factors that affect sport event of professional and intercollegiate sports spectators (Braunstein et al., 2005; Byon et al., 2010; Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Schofield, 1983; Zhang, Lam, Bennett et al., 2003; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995). These studies primarily examined the extent to which market demand factors directly affected consumption behaviors, with only a limited amount of variance explained, typically lower than 20% (Byon et al., 2010; Kim et al., 2009; Schofield, 1983; Zhang, Braunstein, Ellis, Lam, & Williamson, 2003; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995). The study by Kim et al. (2009) showed that TKD market demand factors collectively explained only a total of 14% of consumption behaviors variance. This direct approach failed to consider the psychological processes typically associated with martial arts participation (Kim et al., 2009; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995), thus limiting the research work's explanatory power and usefulness in the development of marketing interventions.

To the authors' knowledge, no study has been found that examined the psychological processes associated with market demand with respect to martial arts participation. Herein, the

concepts of martial arts consumer perceived benefits, perceived constraints, and perceived value are first assessed in this study, starting with a literature review. These psychological constructs have been considered the most critical factors in predicting consumer satisfaction, behavior intention, and loyalty in a wide range of contexts (Chen & Chen; Cronin, Brady, & Hult, 2000a; Eggert & Ulaga, 2002; Johnson, Sivadas, & Garbarino, 2008; McDougall & Levesque, 2000; Woodruff & Gardial, 1996). Likewise, for martial arts participants, there is a certain psychological process underlying their decision-making process for participation.

An important aspect of perceived benefits in the context of martial arts is a participant's belief in the likelihood that this sport can provide him/her with physical and psychological benefits (e.g., Adamson & Wade, 1986; Mathes & Battista, 1985). Perceived benefits of martial arts training are thus the participants' subjective perceptions of gain from participating in martial arts. If martial arts participants perceive little or no benefits from martial arts training, it will be difficult for schools to retain or recruit members and avoid attrition. A number of studies documented that participating in martial arts affords positive psychological benefits (e.g., self-esteem, self-concept, confidence, and relaxation) and a unique array of physical benefits (e.g., balance, strength, flexibility, and self-defense) (e.g., Adamson & Wade, 1986; Cai, 2000; Fuller, 1988; Konzak & Boudreau, 1984; Lakes & Hoyt, 2004; Mathes & Battista, 1985; Richman & Rehberg, 1986; Trulson, 1986; Weiser, Kutz, Kutz, & Weiser, 1995).

Even though martial arts training has a strong appeal to the consumers in North America, the drop-out rates in this segment of the sport industry have increased in recent years. However, little research has been conducted to explain this phenomenon. Due to the highly competitive nature of the martial arts business in North America, reduction of dropout rates must be a priority in order to ensure an organization's survival in the saturated marketplace. Thus, martial arts

marketers should identify perceived constraints variables that affect participants' decisions to attend and remain in training programs. Constraints were once considered barriers that directly resulted in non-participation; yet, recent research findings indicate that it is also possible for participants to negotiate a participation process through constraints (Alexandris, Kouthouris, & Girgolas, 2007). Therefore, it is important to identify constraints or barriers to understand why participants drop out of martial arts training. Both the perceived benefits and constraints associated with martial arts participation are expected to play critical roles in explaining participants' behavior and predicting their intentions to remain in the martial arts (e.g., Holbrook, 1996; Snoj et al., 2004; Woodruff, 1997).

Although the importance of perceived value, the ratio between total perceived benefit and total perceived sacrifice/price (Monree, 1990; Zeithaml, 1988), in understanding consumer behavior has been widely recognized, no research attention has been devoted to examining the effect of perceived value on martial arts participation. In a broader sport marketing context, however, perceived value has been shown to play a mediating role in the relationship between team identification and licensed merchandise purchase intentions (Kwon, Trail, & James, 2007b). Byon (2008) investigated the mediating role of perceived value in the relationship of market demand variables and game support programs to the consumption of professional sports. Although perceived value of the participation experience among martial arts participants remains to be evaluated, findings of previous studies on general business consumers have offered strong evidence that the concept of perceived value can be applied specifically to the martial arts setting.

Statement of the Problem

Business success and future growth in a highly competitive market environment depends on how well martial arts organizations understand their consumers and adapt to changes in

consumer demand. It is important for the administrators of martial arts programs to identify unique market demand variables that directly affect an individual's decision to attend a program (Kim et al., 2009). Previous market demand studies have examined how market demand factors directly affect consumption behaviors; however, with this approach only a limited amount of variance was explained, typically lower than 20%. These studies failed to consider the psychological processes typically associated with martial arts participation (Kim et al., 2009; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995), thus limiting their explanatory power and usefulness in the development of marketing interventions. In recent years, understanding socio-psychological path has been the focus of numerous sport consumer behavior studies in various sport settings. Martial arts participant behavior research has been rather neglected in terms of consideration of its relationship with various market demand and psychological constructs. Martial arts participant decision-making with respect to a given school can be explained by such hierarchical order of mental constructs as customer perceived value, perceived constraint, perceived benefits, and satisfaction. Previous researchers have suggested that an understanding of such psychological aspects could be key to helping organizations have an in-depth understanding of consumer decision-making process and consequently gain a competitive advantage within the martial arts industry (e.g., Bolton & Drew, 1991; Chang & Wildt, 1994; Zeithaml, 1988).

In this study, the concepts of market demand, perceived benefits, perceived constraints, and perceived value of martial arts consumer are first explored, along with member satisfaction and commitment, through a comprehensive review of literature. As a result, the study was designed to investigate how market demand would be related to such psychological constructs as perceived constraints, perceived benefits, and perceived value, which would be in turn related to

member satisfaction and member commitment. Specifically, the purpose of this study was to examine direct and indirect relationships among market demand, perceived benefits, perceived constraint, perceived value, consumer satisfaction, and consumption behavior in martial arts programs.

Hypothesized Research Model

Following Ajzen and Fishbein's (1980) Theory of Reasoned Action to predict and understand consumption tendencies through studying the sequential relationships of individual beliefs, attitude, and intention to consumption behavior, a theoretical framework was developed as a result of a comprehensive review of literature, which illustrates direct and indirect relationships among market demand, perceived benefits, perceived constraint, perceived value, consumer satisfaction, and consumption behavior in martial arts programs. Consistent with this conceptual framework, this study speculated that a participant's market demand would lead to perceived benefits and perceived constraints, which would help form perceived value of participating in martial arts programs. Positive perceived value of the program can lead to trusting beliefs and result in intention to commit to a long-term relationship with a martial arts school, and vice versa, which would affect member satisfaction and commitment. Consequently, research hypotheses were derived from the literature review, which depict the hierarchical relationships among constructs (Figure 1-1). The following nine hypotheses were tested in this study:

- Hypothesis 1: Market demand of martial arts participation would have a positive impact on perceived benefits.
- Hypothesis 2: Market demand of martial arts participation would be negatively related to perceived constraints.
- Hypothesis 3: Market demand of martial arts participation would have a positive impact on perceived value.

- Hypothesis 4: Market demand of martial arts participation would have a positive impact on member satisfaction.
- Hypothesis 5: Market demand of martial arts participation would have a positive impact on member commitment.
- Hypothesis 6: Perceived benefit of martial arts participation would have a positive impact on perceived value.
- Hypothesis 7: Perceived constraint of martial arts participation would have a negative impact on perceived value.
- Hypothesis 8: Perceived value of martial arts participation would have a positive impact on member satisfaction.
- Hypothesis 9: Member satisfaction of martial arts participation would have a positive impact on member commitment.

Delimitations

- Of various martial arts activities, this study was delimited to the TKD school setting.
- The participants for this study were those of 18 years or older, and were current members of a TKD school/program.
- This study was conducted via a combination of on-site survey and online questionnaire based on the assumed technological preferences of the participants.
- Research participants were asked to respond to the questionnaires with sincerity and honesty.
- Structural equation model analyses were conducted in this study.

Limitations

- Because data were collected from the members of TKD schools, findings of this study are applicable only to TKD schools.
- Although all research participants were asked to respond to the questionnaires with sincerity and honesty, their actual level of sincerity and social desirability could not be fully controlled by the researcher.
- The response rate was impossible to calculate because the online survey was sent via e-mail to current TKD masters/instructors, who were asked to forward the survey link to their program participants. Meanwhile, the online survey was also linked to a well-known martial arts magazine's website.

- The exclusion of certain items may have affected the psychometric properties of the market demand and psychological constructs.
- The online survey format excluded participants who did not have internet access.
- Since online panels are typically characterized by those who have registered with online panel companies or those who have internet access and computer skills, the participants in this study are not necessarily representative of the entire population of TKD school participants.
- Cross-validation was not conducted due to sample size (Weston & Gore, 2006).

Significance of the Study

The significance of this study lies in the development and testing of a theoretical model which allows a multidimensional exploration of the psychological processes of martial arts participants. This undertaking stems from the importance of understanding participants' behavior, including how and why people participate in martial arts schools. It is important to note that this study is a first attempt to conceptually and empirically investigate through rigorous psychometric testing the dimensions of perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment in the martial arts context. Marketers and managers of martial arts schools should understand the various psychological and market demand factors that can influence participant behavior. Doing so will allow administrators to meet the needs and desires of the participants and consequently increase their satisfaction within their schools. The derived model provides a sound research direction by building linkages from market demand to perceived benefits, perceived constraints, perceived value, satisfaction, and consumption. In addition, it has been shown that marketers can increase participant satisfaction in the martial arts by acknowledging unique market demand factors. Administrators of martial arts programs may consider the derived model as a general guide in their marketing efforts to recruit and retain program participants.

In an effort to meet the demand for organized physical activity, sports marketing has become a profession. Therefore, to retain current members and gain new ones, it is necessary for martial arts schools to identify those variables that may affect current and potential members' decisions to attend clubs. This study provides administrators with a guide in marketing efforts to recruit and retain martial arts participants. The more satisfied participants are with their participation in martial arts, the more likely they are to continue with their training, and thus the more the school can benefit from enhanced revenue streams and reduced costs associated with recruiting new members (Mullin, Hardy, & Sutton, 2007).

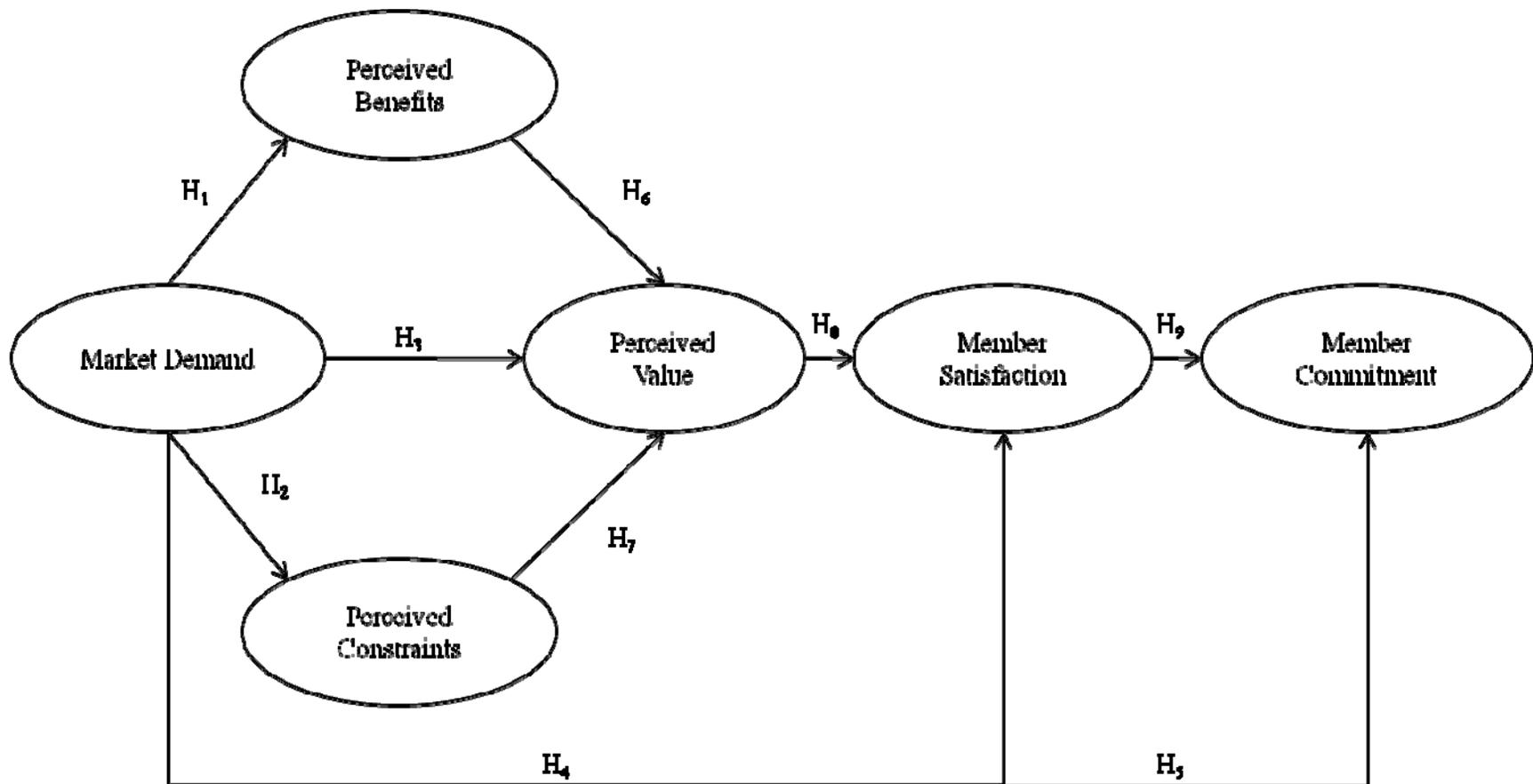


Figure 1-1. A hypothesized model of the relationships among market demand, perceived benefit, perceived constraint, perceived value, member satisfaction, and member commitment

CHAPTER 2 LITERATURE REVIEW

This chapter begins by exploring the background of martial arts. A literature review is presented in order to provide a conceptual basis for the study and to develop a framework that incorporates market demand, perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment.

Taekwondo

Taekwondo (TKD) is known as systematic Korean traditional martial arts, an essential form of combat requiring little or no use of weapons other than the warrior's own hands and feet. TKD is a type of martial arts developed independently over 20 centuries ago in Korea. The current form of TKD has gained popularity since the 1950s, when it was developed by the Korean Army as a free-fighting combat art. After the Korean War, martial arts became widespread in Korea. However, many small schools were operating under their own independent style of martial arts until the late 1950's. For example, both the International Taekwondo Federation (ITF) and the World Taekwondo Federation (WTF) were created as major TKD organizations. These federations differed over a variety of issues concerning such matters as style and ideology. The ITF adhered to a more traditional style of taekwondo; whereas, the form practiced by the WTF has been promoted as a martial art sport in the Olympic Games (Stepan, 2008).

The Korean government supports TKD as a national martial art, and found it necessary to unify the school under one organization, a system that did not work well at first. Subsequently, the WTF was recognized by the Korean Government in 1972 as the only governing body for TKD. Today, the WTF is the only official Black Belt certifying agency in the world. In 1980, the

WTF became an International Olympic Committee (IOC) recognized sports federation. Today, the WTF has 191 member nations with 70 million participants (WTF 2010).

TKD has become the world's most-practiced martial arts activity and has gained an international reputation as an Olympic sport based on the efforts of TKD enthusiasts who actively promoted the sport as a formal competitive game in the Olympics. TKD was first staged in the Olympic Games as a demonstration sport in the 24th Olympic Games in Seoul, Korea in 1988. It became an official Olympic medal sport at the 2000 Olympic Games in Sydney, Australia (WTF, 2010). TKD has earned a place in the hearts of Koreans (Stepan, 2008), and the Korean government has attempted to promote TKD internationally. The Korean government realized that TKD has long stood at the forefront of promoting Korea's image. It has regarded TKD as a new strategy for branding Korea. The Korean government has striven to expand the dispatching of TKD demonstration teams and instructors, which promote TKD as well as promoting Korea and Korean culture. For example, the demonstration teams have performed in 31 nations and instructors have been dispatched to 26 nations. Recently, the government made the decision to dispatch over 90 global TKD interns to the U.S. Another big project has been the construction of TKD Park, which will be opened officially in 2013, with a total of \$600 million invested in the project (Minister of Culture, Sport and Tourism, 2009).

TKD is a martial arts sport that people over the world can enjoy; it is a sport that transcends race, ideology, and religion. TKD's popularity has grown to make it the most recognized of the Korean Martial Arts in the U.S. TKD was accepted as an official sport by the U.S Amateur Athletic Union (AAU) in 1984. In recent years, TKD has rapidly grown and developed in the U.S. because of the benefits it offers. The discipline required in TKD not only improves physical fighting skills but also enhances the participant's spirit and mind.

Market Demand

Sport consumer recruitment and retention have been among the greatest challenges the sport industry faces (Rein, Kotler, & Shields, 2006). Mullin, Hardy, and Sutton (2007) pointed out that “competition for sport dollars is growing at the pace of a full-court press” (p. 7). Sport organizations should regularly analyze their internal and external environments, understand market demand, and develop strategic plans to enhance the success of their businesses (Mullin et al., 2007). Understanding the expectations of consumers concerning key elements of their products and services would help sport organization satisfy consumer needs and increase market demand (Zhang et al., 1995).

Market demand is defined as consumer expectations concerning the attributes of the core product (Zhang, Lam, Bennett et al., 2003; Zhang, Lam, & Connaughton, 2003). It is a cluster of pull factors associated with a sport product that an organization can offer to its new and returning consumers (Braunstein et al., 2005; Byon et al., 2010; Hansen & Gauthier, 1989; Kim et al., 2009; Schofield, 1983; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995).

A number of researchers have stated that analysis of market demand for sports organizations can provide an understanding of consumer expectations and help organizations formulate an effective and efficient marketing mix. Recent studies on market demand have stressed the influence of the product or service on membership, attendance, and overall consumption at athletic events (e.g., Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Schofield, 1983; Zhang, Lam, Bennett et al., 2003; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995).

Numerous studies have been conducted to develop instruments that assess market demand variables affecting spectator sport consumption, which many common features of core sport products that affect event attendance of sport spectators (Braunstein et al., 2005; Byon et al.,

2010; Hansen & Gauthier, 1989; Kim et al., 2009; Schofield, 1983). Schofield (1983) reviewed 17 production function studies (i.e., team performance, player skills, and winning percentage) and demand studies (i.e., price, population size, complementary commodities, consumer preference for the sport, and substitutive forms of entertainment), and categorized the market demand variables into four categories: economic consideration, demographic characteristics, game attractiveness, and residual preference. Hansen and Gauthier (1989) pointed out that understanding factors that affect attendance at sport events is a key to developing an effective marketing plan. They investigated factors associated with the decision-making process for attending professional sport games. Following Schofield's (1983) model, they identified 40 items associated with the four key factors (i.e., economics, demographics, attractiveness, and residual preferences). Nonetheless, in an investigation into major league professional sport managers, the factors and items did not converge well enough to provide a clear direction for further understanding sport consumer behaviors.

Zhang et al. (1995) examined market demand variables affecting the attendance of professional basketball events by developing the Spectator Decision Making Inventory (SDMI), which had 15 items under four factors: Game Promotion, Home Team, Opposing Team, and Schedule Convenience. The findings of this study revealed that these market demand factors were significantly ($p < .05$) related to game attendance. Following this study, Zhang et al. (2003b) conducted a confirmatory study that investigated the market demand for consumers of different professional sports and reconfirmed the SDMI's factor structure with four subscales, providing stronger implications that the four factors were common features of market demand variables and may be applied to a variety of professional sports. These factors were further found to be predictive of game consumption level, with 15 to 22% of the variance explained. Based on

the SDMI scale, Braunstein et al. (2005) expanded the SDMI scale, and assessed the dimensions of market demand associated with the MLB spring training games. The Spectator Decision Making Inventory – Spring Training (SDMI - ST) was developed by conducting both EFA and CFA, which resulted in 29 items under eight factors: Home Team, Opposing Team, Game Promotion, Vacation Activity, Economic Consideration, Schedule Convenience, Nostalgic Sentiment, and Love of Baseball.

Previous market demand studies have been limited in that they mainly examined specific professional sport settings such as the NBA, NHL, and NFL, respectively. Also, these studies included a limited number of market demand factors, ignoring the presence of other potential factors that might be more predictive of consumption level (Byon et al., 2010). To overcome the limitations identified in previous studies, Byon et al. (2010) identified the dimensions of general market demand associated with professional sports through a comprehensive measurement process that involved applications of advanced statistical analysis. Consequently, a scale with 17 items under five factors were developed: Opposing Team, Home Team, Game Promotion, Economic Consideration, And Schedule Convenience (Byon et al., 2010).

To summarize across studies, previous studies have found that three factors are integral to consumers' decision making: Game Attractiveness, Economic Consideration, and Schedule Convenience. Game Attractiveness has been studied most, which usually included such variables as team members' individual skills, presence of star players, team records, league standing, record-breaking performances, closeness of competition, team history in a community, schedule, convenience, and stadium quality. Economic considerations usually dealt with such variables as ticket price, marketing promotion, substitute forms of entertainment, television effect, income, and competition with other sporting events. Schedule convenience were usually referred to such

considerations as game time, day of week, and weather, and is a category which has been studied thoroughly to a lesser extent (Braunstein et al., 2005; Byon et al., 2010; Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Schofield, 1983; Zhang, Lam, Bennett et al., 2003; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995). Previous research efforts have primarily been focused on professional and intercollegiate sports (Braunstein et al., 2005; Byon et al., 2010; Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Schofield, 1983; Zhang, Lam, Bennett et al., 2003; Zhang, Lam, & Connaughton, 2003; Zhang et al., 1995).

Business success and future growth in a highly competitive environment depends on how well martial arts organizations understand their consumers and adapt to rapid changes in consumer demand. Although several studies have focused on the motivational aspects of TKD participants (e.g., Cox, 1993; Donahue, 1994; Ko, Valacich, & Kim, 2009; Stefanek, 2004; Yang, 1996), few have explored the impacts of various elements in the marketing mix of TKD programs, namely product, place, price, and promotion (Ko, 2002, 2003). In particular, no study has been conducted to investigate market demand variables associated with private TKD schools in North America. To fill this void, Kim et al. (2009) identified the dimensions of market demand associated with TKD schools by developing the Scale of Market Demand for Taekwondo School (SMD-TKD) to measure key market demand dimensions. Kim et al.'s (2009) study applied the concept of market demand to TKD schools. The researchers considered that investigation of TKD schools in terms of market demand would provide managerial implications to TKD school management and marketing. The Kim et al.'s (2009) study integrated findings from both qualitative and quantitative research protocols. Development of the theoretical framework and formulation of the scale were achieved through a comprehensive review of literature, on-site observations of private TKD school operations, interviews with TKD school

masters, administrators, and members, and a test of content validity through a modified application of the Delphi technique. Through these qualitative research procedures, a preliminary scale was developed with 71 items under six factors: Personal Benefits, School Operation, Instruction Quality, Program Offering, Economic Consideration, and Cultural Learning. The quantitative phase of the study further examined the dimensions of the scale by administering the preliminary scale to TKD school members and conducting a factor analysis. A total of 51 items under six factors emerged in the factor analysis: Personal Benefits, School Operation, Instruction Quality, Program Offering, Locker Room, and Cultural Learning, where Locker Room was different from the proposed dimensions. Besides good factor validity, all six factors displayed acceptable internal consistency and predictive validity, revealing strong applicability for marketing studies by both researchers and TKD school administrators.

The SMD-TKD scale is a measure that was specifically developed to assess marketing features of martial arts programs as demanded by program participants (Kim et al. 2009). After its development, the SMD-TKD scale was identified as having a number of weaknesses and limitations. First, according to Braunstein, Zhang, Trail, and Gibson (2005) and Zhang, Lam, and Connaughton (2003), market demand is defined as consumer expectations towards the attributes of the core product. A major emphasis of this definition is on the assessment of attributes and features of the core product. However, the worded statements of a number of items in the SMD-TKD scale actually reflect the benefit aspect of some core product elements, not directly on the attributes. Second, only an exploratory factor analysis (EFA) was conducted to assess the dimensionality of the scale, which was to uncover the construct and the relationship among a relatively large set of observed and latent variables. Third, according to the findings derived from a number of previous studies, the concept of Economic Consideration was an important and

relevant aspect of market demand studies (e.g., Braunstein et al., 2005; Hansen & Gauthier, 1989; Schofield, 1983; Zhang et al., 1995; Zhang, Lam, Bennett, & Connaughton, 2003a; Zhang, Lam, & Connaughton, 2003b). However, this factor did not emerge in the EFA due to double loadings or lack of interpretability of its items. Further investigation into the viability of this factor is necessary. Fourth, as a result of the qualitative research process in Kim et al.'s (2009) study, items under the Locker Room factor in the resolved SMD-TKD scale were originally proposed to be a part of the School Operation factor. Yet, these items emerged into a separate factor in the EFA. Some researchers support the notion that Locker Room represents a unique aspect of health-fitness settings. For example, Lam, Zhang, and Jensen's (2005) Service Quality Assessment Scale (SQAS) emphasized the inclusion of the Locker Room factor because it allowed managers to pinpoint specific Locker Room areas for improvement. However, others have shown that Locker Room variables fall under the general concept of physical environment, which includes equipment, locker room, and facility (e.g., Chelladurai, Scott, & Haywood-Farmer, 1987; Kim & Kim, 1995). Apparently, this inconsistency deserves further investigation. Fifth, data in the study by Kim et al. (2009) were collected from a convenience sample from only one state in the U.S. To what extent the findings can be generalized to a wider range of TKD schools in North America is unknown. Although there are market similarities among TKD schools in different regions and cultural settings, some differences may exist. For a more complete understanding of market demand in TKD, additional work is required using broader samples derived from different geographic regions. Additionally, when considering the number of items in both the preliminary scale and the refined scale, the sample size ($N = 205$) in Kim et al.'s (2009) study was rather small. Hair et al. (1998) and Kline (2005) stated that the number of subjects should be at least five times and preferably 10 times the number of items used for a

factor analysis. Consequently, the scale was recently revised and modified by Kim & Zhang (2010). Through investigating TKD school participants (N = 579), the Revised SMD-TKD scale was resolved through conducting a CFA, which contained 37 items under seven factors (Personal Improvement Activities, Physical Facility Quality, Instruction Staff Quality, Program Activities and Offerings, Cultural Learning, Locker Room Provision, and Economic Condition Consideration). Overall, the revised scale had good validity and reliability characteristics; in particular, a SEM analysis revealed that these factors were significantly ($p < .05$) influential of member satisfaction and member commitment of TKD school participants.

Conceptual Framework

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) is based on the assumption that individual behavior is a direct outcome of behavior intentions, which is a combination of individual attitude toward the behavior and subjective norms. People would have a positive attitude toward performing the behavior if they thought that the outcome of performing the behavior was positive. Attitude toward the behavior is influenced by the individual's beliefs about the consequences of performing a behavior and his/her evaluation of the outcomes, irrespective of whether the outcomes are positive or negative. Subjective norms are impacted by one's beliefs that specific individuals or groups think he/she should or should not perform the behavior. Exposure to different information leads to the formation of different beliefs, which also reflects a person's past experience. Beliefs refer to knowledge about the attitude object, which may be formed via direct observations, accepting information from outside sources, or self-generated perceptions through participation, experience, and/or a process of personal inference. According to Fishbein and Ajzen (1975), there is a causal relationship between beliefs and behavior. If a person intends to influence people's behavior, it is necessary for him/her to ensure people are exposed to sufficient information and also that they alter their beliefs in a social

environment; in turn, beliefs will determine attitudes, subjective norms, and corresponding behaviors. The Theory of Reasoned Action has often been used to examine consumer behavior toward sport products and services in an effort to predict and understand sport consumer behaviors. For example, the Reasoned Action Theory was applied to examine general market demand for professional team sports (Byon et al., 2010).

The Reasoned Action Theory was the underlying theoretical framework adopted by Kim et al. (2009) for the development of the SMD-TKD scale and Kim and Zhang (2010) for the revised scale. Application of this theory was focused on assessing consumer beliefs that were primarily referred to as knowledge about the attitude object with regard to key elements of TKD programs. In the Revised SMD-TKD scale, there are seven dimensions (i.e., Personal Improvement Activities, Physical Facility Quality, Instruction Staff Quality, Program Activities Offerings, Cultural Learning Activities, Economic Condition Consideration, and Locker Room Provision). Theories and rationale for these seven factors briefly demonstrate the concept underlying each factor.

Personal Improvement Activities

The Personal Improvement Activities (PIA) factor is defined as “attempts to learn how to, or to be inspired to, improve a particular attribute” (Halliwell & Dittmar, 2005, p. 205). According to the PIA, it can be expected that participants will actively attempt to improve themselves physically and psychologically through the martial arts. Several longitudinal studies on martial arts (e.g., Adamson & Wade, 1986; Columbus & Rice, 1991; Fuller, 1988; Mathes & Battista, 1985) have demonstrated the physical and psychological benefits of martial arts. According to Weiser, Kutz, Kutz, and Weiser (1995), “martial arts have come to be seen as inculcating physical and mental relaxation and control of mind and body, which are associated with increase in self-confidence and esteem” (p. 118). Martial arts provide unique physical,

mental, and social benefits. In Western sport education systems, eastern martial arts are primarily known as a part of sports and physical activities (e.g., physical fitness, skills acquisition, and social activity) (Ko, 2002). Previous studies have found that improving health and physical fitness is a prime factor in determining participation in sport activities, including TKD (Adamson & Wade, 1986; Mathes & Battista, 1985). Martial arts are a crucial source of exercise for children and adults. Middle-aged participants (aged 40-60 years) train themselves through martial arts programs to improve aerobic capacity, balance, flexibility, muscle endurance, strength, and reduce body fat (Douris, Chinan, & Gomez, 2004).

However, less known are the psychological (mental) benefits that TKD participants obtain from the training programs. A number of researchers have examined positive attributes regarding the psychological aspect of martial arts, and have found that many martial arts participants train themselves for the psychological benefits; the finding implies that the psychological benefits of martial arts play a critical role for martial arts participants. It also indicates the importance of the psychological benefits and their relevance for making a commitment to participating in martial arts (e.g., Columbus & Rice, 1991; Daniels & Thornton, 1990; Finkenber, 1990; Fuller, 1988; Law, 2004; Richman & Rehberg, 1986; Trulson, 1986). The code of conduct for martial arts stresses both skill and mental acuity. Participation in TKD training can help participants to develop a stronger mind, spirit, and body. Most items out of Kim et al.'s (2009) Personal Benefit factor are related to positive psychological change (e.g., "improving character," "developing positive life attitude," "maintaining self-confidence," and "being a humble person"). To put it briefly, PIA centers on TKD participants' belief that TKD training offers opportunities for personal growth (Ko et al., 2009).

Physical Environment Quality

According to Bitner's research (1990, 1992), the Physical Environment Quality (PEQ) dimension can impact participants' experiences concerning participation and retention in martial arts schools. The physical environment quality dimension describes how service delivery occurs as opposed to the natural or social environment (Bitner, 1990). Chelladurai, Scott, and Haywood-Farmer (1987) noted that "when consumers evaluate whether to join a particular club, they may base their decision on those aspects of the club they can see, the physical evidence of the tangible facilities and goods" (p. 169). Bitner (1992) also examined physical environment items that impacted customers and employees. The significant items included ambient conditions, space and function, signs, artifacts, symbols, and social interactions. Similarly, physical environment quality (e.g., up-to-date equipment and visually appealing facility) is regarded as an important component in retail stores (Zeithaml, Parasuraman, & Berry, 1985). In line with this notion, this dimension was consistent with previous studies on fitness and recreational sport facilities that identified important variables related to physical environment quality perspectives, such as ambience (Kim & Kim, 1995), program service (i.e., activity range due to facility availability, facility comfort, and safe equipment) (Howat, Absher, Crilley, & Milne, 1996; MacIntosh & Doherty, 2007), context (i.e., facility, location, and equipment and tools) (Chelladurai & Chang, 2000), facility attraction, facility operations (Papadimitriou & Karteroliotis, 2000), physical and workout facilities (Lam, Zhang, & Jensen, 2005; MacIntosh & Doherty, 2007), and physical environment elements (i.e., ambience, design, and equipment) (Ko & Pastore, 2004, 2005; MacIntosh & Doherty, 2007). Kim et al.'s (2009) study found that up-to-date equipment with a variety of functions and a visually appealing facility was important to TKD participants. TKD participants are often concerned about the potential for injury in martial arts, so safety equipment (e.g., padded or sprung floors) is necessary for participants.

Instructional Staff Quality

Instructional Staff Quality (ISQ) refers to the quality of staff, the knowledge and skills of instructors, and the instructor's interactions with program participants. It is well documented that an instructor's attitude, expertise, and actual behavior have a direct positive influence on current and potential consumers (Bitner, 1990; Brady & Cronin, 2001; Papadimitriou & Karteroliotis, 2000). Papadimitriou and Karteroliotis (2000) found that instructor quality determined the service quality in private sport and fitness clubs. Zeithaml et al. (1985) indicated that interaction quality explained the relationship between the service provider and the customers, specifying the process of service delivery. In line with the above notion, Huset-McGuire, Trail, and Anderson (2003) noted that the concept applies to "any service that requires special knowledge and comprehensive training of the individuals responsible for delivering the service" (p. 263).

Many researchers (Chelladurai et al., 1987; Howat et al., 1996; Kim & Kim, 1995; Ko & Pastore, 2004, 2005; Papadimitriou & Karteroliotis, 2000) have attempted to define professional attributes of fitness program instructors in terms of their job-related traits (i.e., knowledge, skill, friendliness, warmth, responsiveness, courtesy, reliability, assurance, empathy, and helpfulness). The Instructional Staff Quality factor is similar to the professional service factor that represents the abilities and characteristics of instructors (Huset-McGuire et al., 2003). Similarly, Bodet (2006) found that the quality of human factors such as staff behavior and image were critical determinants of participants' satisfaction in the health club context. Clearly, it is important that the instructor be professionally trained and prepared for work in the martial arts environment. Kim et al. (2009) found that instructors' qualifications, knowledge, friendliness, and reputation played critical roles in the success of TKD schools. Qualified instructors and their unique pedagogical content contribute to the popularity of TKD schools. Quality TKD instructors can assist participants in achieving instructional and personal goals.

Program Activities Offerings

Researchers noted the importance of high quality programs and developing diversified programs in order to achieve market penetration and expansion (Chelladurai & Chang, 2000; Howat et al., 1996; Kim & Kim, 1995; Ko & Pastore, 2005; MacIntosh & Doherty, 2007). The Program Activities Offerings (PAO) dimension is used to evaluate whether and how a variety of activities is offered. Kim et al. (2009) asserted that TKD schools need to diversify their programs by incorporating after-school programs, belt promotion ceremonies, tournaments, family programs, child-care services, and self-defense techniques into program curriculum. Unlike participants in Western sports, participants in martial arts programs earn differently-colored belts that indicate their degree of proficiency. Belts are awarded on the basis of tenure, skill performance, and personal improvement. Yang (1996) found that teenage American TKD participants viewed TKD training as a means of self-defense, physical exercise, and fun. In contrast, adult participants valued TKD training for its ability to enhance their self-confidence, self-esteem, and self-discipline. Obviously, these differences should be taken into consideration in promoting/designing activity offerings of TKD programs.

Cultural Learning Activities

In spite of different sports having their origins in different countries, nowadays many sports are being played worldwide. International sporting events have brought athletes of many cultures together. *Culture* is defined as “the way of life for an entire society.” Understanding culture is important for understanding social interactions (Boyd & Richerson, 1988). Culture can be generally described as consisting of language, signals or artifacts (Curran & O’Riordan, 2006). Cultural learning is the process of obtaining cultural knowledge and information to survive and thrive in a social environment and to pass that knowledge onto peers or successive generations. It is a subset of lifetime learning because the exchange of knowledge and

information occurs throughout a lifetime and enhances people's behavior (Argyle, 1969; Curran & O'Riordan, 2006).

Another important concept in understanding human behavior in terms of culture is *acculturation*, which refers to the process of learning how to adapt to a new culture. Learning martial arts can be a means to understanding a different culture and become acculturated into it. McCracken (1989) argued that the term *cultural meaning* describes the “culturally constituted world” of life experience, and martial arts helps transfer meaning from the culturally constituted world to individual participants. The dimension of Individualism/collectivism, one of the cultural typologies proposed by Hofstede (1991), can illuminate the cultural aspect of martial arts. Individualism represents the traits of independence and self-orientation, with a goal toward the individual and individual accomplishments. In contrast, collectivism is the maintenance of interpersonal relationships and group harmony. An example is a culture of family-orientation. A martial arts school has a family-type atmosphere that allows for encouragement, respect, and acceptance. The TKD philosophy emphasizes that the relationship between a master and a student is comparable to that between a parent and a child. Unlike the coach-athlete relationship in traditional sports, a family-type atmosphere is typical in martial arts schools (Weiss, 1987). There have been confirmed differences between the historical and philosophical foundations of Western sports and Eastern martial arts. Eastern culture, as embodied in martial arts, has a recognized potential to compete with Western culture in terms of sports and physical education (Yang, 1996). According to Patel, Stier, and Luckstead (2002), martial arts offer both physical exercise and cultural exchange with Eastern culture. Schmidt (1986) argued that TKD is as an expressive institution through which practitioners are acculturated into traditional Korean culture, philosophy, and heritage.

Locker Room Provision

Previous studies (Chelladurai et al., 1987; Kim & Kim, 1995) have indicated that the locker room factor falls under the general concept of physical environment. Conversely, in Lam et al.'s (2005) study that developed the Service Quality Assessment Scale (SQAS) to evaluate service quality in health/fitness clubs, the Locker Room was identified as one of the primary components that independently affected member retention and recruitment (MacIntosh & Doherty, 2007). Kim et al. (2009) also found that variables related to locker room quality, cleanliness, and convenience emerged as an independent factor. The importance of this factor may in part be due to the uniqueness of TKD training, in that it requires changing apparel and uniforms before and after a training session. Consequently, program participants might have singled out the Locker Room factor as a unique aspect of school operations and expressed a demand for its delivery.

Economic Conditions Consideration

Eschenfelder and Li (2007) noted that “the expected cost and benefits decision makers in sport face are influenced by the type of economic system used to make decisions in society” (p. 26). Previous researchers have defined the economic consideration in terms of consumers’ perceptions of economic conditions and related variables that potentially influence their consumption decisions, such as ticket price, marketing promotion, substitute forms of entertainment, television effects, income, and competition from other sport events (e.g., Hansen & Gauthier, 1989; Schofield, 1983; Zhang et al., 1995, 2003a, 2003b). In the setting of TKD schools, there are likely several economic considerations, such as membership fees, payment method, discounts, refunds, membership promotions, and coupons. Among these elements, membership fee is a primary concern and may affect participants’ decision as to whether or not

to attend or remain at TKD schools. Most TKD members want a reasonable membership fee and cancellation policy (Kim et al., 2009).

Perceived Benefits

Perceived benefits were defined as “a combination of different attributes of products (e.g., tangible vs. intangible, intrinsic vs. extrinsic), available in relation to a particular buy and use situation” (Snoj et al., 2004, p. 157). According to Monroe (1990), perceived benefits are constituted of some integration of physical attributes, service attributes, and technical support available in relation to the particular use of a product or offering. Based on these definitions, the perceived benefits of martial arts training can be interpreted as the participants’ perception of gains from participation in martial arts programs. If martial arts participants perceive little or no benefits stemming from program training, retaining or recruiting members would be difficult for martial arts schools.

There are many recognized benefits to participating in martial arts. What attracts participants to a martial arts program is its potential to enhance not only the physical body but also the mind and spirit of participants. Many researchers have discussed the benefits of martial arts participation (e.g., Adamson & Wade, 1986; Cai, 2000; Fuller, 1988; Konzak & Boudreau, 1984; Lakes & Hoyt, 2004; Mathes & Battista, 1985; Richman & Rehberg, 1986; Trulson, 1986; Weiser et al., 1995) and supported the assertion that these benefits play an important role in enhancing both physical and psychological benefits. Improvements in self-esteem (Fuller, 1988), emotional stability, and assertiveness (Konzak & Boudreau, 1984), as well as reductions in anxiety and depression (Cai, 2000), are some major positive consequences of participating in martial arts programs, in addition to physical benefits (Richman & Rehberg, 1986; Trulson, 1986). Martial arts training tends to emphasize psychological changes in such aspects as social interaction, leadership skills, and reducing mental disorders. Positive psychological changes may

also include enhancement of self-esteem and self-concept (Columbus & Rice, 1991; Daniels & Thornton, 1990; Finkenber, 1990; Konzak & Boudreau, 1984). Konzak and Boudreau (1984) have also drawn attention to the social benefits of such behavioral changes, in particular the relationship between martial arts practice and aggression. Social interaction skills gained through martial arts training is helpful in relieving the stresses of life. In addition, long-term training fosters greater independence. With progressive training, children grow to be better leaders and more enthusiastic, optimistic, and self-reliant. For example, when individuals reach the black belt level, they may be required to teach lessons to lower belt levels. During teaching, they gain the ability to lead groups and take responsibility for their actions. Richman and Rehberg (1986) remarked that long term participation in martial arts programs would be a testimony to an individual's psychological worth. They even made a comparison between the role of the martial arts instructor or master with that of a psychotherapist.

Martial arts training has been widely considered as something that inculcates physical and mental relaxation, and the control of the mind and body that are associated with self-confidence, self-esteem, and better management of aggression and vulnerability (Mathes & Battista, 1985; Weiser et al., 1995). Self-esteem development has been a primary component of TKD practice and has widely adopted in the marketing of TKD lessons. In addition, advanced TKD participants tend to have more positive personalities than beginning TKD participants as a positive relationship between TKD practice and decreased aggressiveness has been found in previous studies (Weiss, 1987; Fox, 1997).

Fuller (1988) described these features of the martial arts, saying, "from a psychotherapeutic viewpoint, the martial arts may be viewed as formalized, refined systems of human potential training which provide interesting practical models and mechanisms of

psychological intervention” (p. 318). In addition, Richman and Rehberg (1986) asserted that the reason for the growth in the martial arts might be explained by how they provide participants with significant physical and psychological benefits. Based on Fuller’s (1988) review, Columbus (1991) noted that research into the benefits of martial arts has been carried out using positivist methods of investigation, which are less relevant when it comes to understanding oriental styles of thinking/acting. Heavily influenced by Zen Buddhism and Taoism, martial arts are not easily grasped merely from a positivist perspective. Lake and Hoyt (2004) examined how martial arts training impacts self-regulatory abilities in children, where self-regulation is featured in the martial arts in terms of self-control, body control, and discipline. These researchers found that the martial arts group had greater improvement than the control group in the area of self-regulation after a three-month intervention. Other researchers (Weiss, 1987; Fox, 1997) have also examined self-esteem and physical activity, and revealed that self-esteem was a consequence of physical activity. According to Rosenberg (1965), a person with high self-esteem has feelings of acceptance, goodness, worth, and respect of the self; whereas, a person with low self-esteem displays rejection, dissatisfaction, and contempt for the self.

With respect to physical benefits, Stefanek (2004) investigated the motivations of martial arts practitioners through examining collegiate TKD participants. Findings of this study indicated that the motivations of martial arts participants were similar to those found in participants in traditional sports. The physical benefits usually include such variables as physical exercise, skill development, and tactics of competition. In this regard, the phenomenon of increased obesity level among both children and adults highlights the importance of participating in physical activity that provides health benefits and personal well-being, and reduces morbidity (Woodward, 2009). In recent years, martial arts as a combative sport and as an outlet for physical

fitness and conditioning have experienced a widespread growth throughout the U.S. Participation in the martial arts can enhance physical fitness in such areas as cardio-respiratory endurance, muscular endurance, agility, and flexibility through the combination of running, jumping, kicking, punching, and stretching. Overall, martial arts provide the participant with physical exercise that contributes to an individual's physical improvement (Anthony, 1991; Weiss, 1993). In addition, due to an increased rate of violent crimes in today's society, demand for self-defense education has significantly increased (Chen & Liu, 2000). Self-defense, the ability to prevent injury to oneself or others from attackers, has become one of the critical benefits of martial arts. Americans see martial arts as a sufficient and sometimes necessary means to defend themselves against unlawful attacks. Given this evidence, it seems clear that participation in the martial arts has its advantage when compared to ordinary physical activities or no physical activities (e.g., Holbrook, 1996; Snij et al., 2004; Woodruff, 1997).

Perceived Constraints

Many martial arts participants believe that martial arts are capable of producing both physical and mental benefits for participants. Ironically, even though a strong attraction to martial arts training exists, in recent years low participation rate and drop-out rates have also increased in the martial arts industry. No effort has been made to invest in the constraining factors that cause low participation and withdrawal from attending martial arts programs. Thus, it is important to identify those constraints or barriers in order to facilitate an understanding of reasons. As a result of such investigations, "when managers have a more complete understanding of what obstacles impede the use of their services, they will be in a position to take necessary corrective actions" (Howard & Crompton, 1984, p. 43).

In place of the term *perceived constraints*, other terms have been used, such as *perceived risks* (Johnson et al., 2008; Snij et al., 2004), *perceived inhibitors* (Um & Crompton, 1992), and

perceived barriers (Pritchard, Funk, & Alexandris, 2009). However, in this study the assumption was adopted that all these terms are analogous due to their underlying identity and meanings.

Perceived constraints is defined as those “perceived or experienced by individuals to limit the formation of leisure preferences and to inhibit or prohibit participation and enjoyment in leisure” (Jackson, 1997, p. 461). Perceived constraints have received increased research attention in recent years because they are one of the most critical factors in predicting consumer behavior in various industrial contexts, such as general business, leisure, tourism, and sport management (Alexandris & Carroll, 1997; Alexandris et al., 2007; Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991; Henderson & Bialeschki, 1993; Kim & Trail, 2010)

The number of studies on constraints has grown exponentially in the leisure and recreation disciplines. Constraints were once considered barriers that directly resulted in non-participation; but recent research findings have indicated that it is also possible for participants to negotiate the participation process through constraints (Alexandris et al., 2007). A number of constraints studies have revealed that such negotiation strategies have been applied to prevent dropping out. Examples of such studies include an investigation of barriers to family leisure (Crawford & Godbey, 1987), an inquiry into different recreational sport participation levels (Alexandris & Carroll, 1997), an exploration of female adventure recreation (James, 2000), and an investigation of recreational skiers (Alexandris et al., 2007).

Crawford and Godbey (1987) developed a theoretical framework of leisure constraints that would hinder an individuals’ preference in recreation/leisure participation. The constraints consisted of three main categories: intrapersonal, interpersonal, and structural. Intrapersonal constraints involve individual psychological states and attributes, which interact closely with leisure preferences rather than intervening between preferences and participation. Intrapersonal

constraints include such factors as stress, religiosity, reference group attitudes, depression, and perceived self-skill. Interpersonal constraints result from social interactions or the relationship between partners or within a social group (e.g., lack of sufficient companionship to participate in activity). Referring to organizational and operational functions, structural constraints are formed from external constraints, such as unavailability of resources needed to participate in leisure/sport activities (e.g., financial resources, availability time). Kay and Jackson (1991) found that more than 30% of respondents perceived constraints based on lack of money and lack of time. Lack of time as a constraint was indicated by a number of recreation/leisure studies (Alexandris & Carroll, 1997; Kay & Jackson, 1991). Other structural constraints have included participants' perceptions of low energy, lack of self-discipline, injury, poor health, or lack of skill (Shaw, Bonen, & McCabe, 1991).

Due to the lack of a conceptual link between each of the constraints and the dynamics of those constructs identified in previous studies, Crawford et al. (1991) integrated Crawford and Godbey's (1987) model and proposed a theoretical advance, namely a hierarchical model that depicts constraints within an individual's decision-making process (i.e., participation vs. non-participation). For example, the hierarchical constraints model suggested that individuals first encounter the intrapersonal constraint. If they overcome that obstacle, interpersonal constraints are then confronted. Finally, structural constraints are encountered. If structural constraints are stronger than the negotiation, the result is nonparticipation. They suggested that "the factors that create constraints might continue to have relevance even after an individual takes up participation in a given activity" (Crawford et al., 1991, p. 315). In addition, they found that intrapersonal constraints are the most powerful of the constraints; whereas, structural constraints are the least powerful. Additionally, they anticipated that intrapersonal and interpersonal

constraint factors would be more likely to influence leisure preference. However, structural constraints occur after the individual has solved the intrapersonal and interpersonal constraints (Crawford et al., 1991). Later on, Jackson, Crawford, and Godbey (1993) modified their hierarchical constraints model by adding negotiation process into the explanatory model.

Different from Crawford et al.'s (1991) findings, Andronikidis, Vassiliadis, Priporas, and Kamenidou (2007) conducted a CFA and found that there were the intrapersonal and structural constraints were relevant factors affecting ski centre visitors. It was an unexpected finding that interpersonal constraints were not found to be a major factor in this study. Because all three constraint factors involve some aspects of interpersonal interactions or social interactions, whether there are two or three constraints remained a source of debate in the leisure and recreation literature (Gilbert & Hudson, 2000; Kay & Jackson, 1991). From a broader perspective, Hubbard and Mannell (2001) empirically tested four competing conceptual models of leisure constraints negotiation process, including the independence, negotiation-buffer, constraint-effects-mitigation, and perceived-constraint reduction models. They speculated that leisure constraints were not insurmountable hindrances. Instead of passively reacting (i.e., not participating) to constraints, people can negotiate through constraints and continue in at least some form of participation (Hubbard & Mannell, 2001; Jackson et al., 1993). Thus, constraints need not always be regarded as causing a prevention or reduction of participation level.

Murphy and Enis (1986) defined constraint/risk factors from a different perspective, which focused on financial, psychological, physical, and functional dimensions. As a result of their findings, perceived constraints are now explained as a multidimensional concept. Similarly, Crompton and Kim (2004) examined changes in the magnitude of the influence of constraints on state park visitation and outlined four perceived constraint factors: personal and facility, time

availability, weather conditions and consequences, and cost. In a broad sense, perceived constraints negatively affected the intention to attend an event. Applying the concept of leisure constraints to the tourism and sports research realm, previous studies have identified factors that hamper traveling to or attending at sporting events (Funk, Filo, Beaton, & Pritchard, 2009; Hung & Petrick, 2010; Kim & Chalip, 2004; Kim & Trail, 2010; Nyaupane, Morais, & Graefe, 2004; Trail, Robinson, & Kim, 2010). Kim and Chalip (2004) proposed a conceptual model to examine how push factors (e.g., demographics, fan motives, and travel motives) have an impact on the intention to attend an event by the moderating effect of constraints (e.g., risk and financial constraints). Interestingly, financial constraints were not found to have a significant effect on desire to attend an event. This finding was inconsistent with those of previous studies. Nyaupane et al., (2004) conducted a study on why individuals do not participate in nature-based tourism (i.e., rafting, canoeing, and horseback riding) by applying Crawford and Godbey's (1987) model of leisure constraints. The findings supported Crawford and Godbey's three dimensions of constraints (i.e., intrapersonal, interpersonal, and structural). This study further found that the structural constraints factor was more complicated than the other two constraints factors. Funk et al. (2009) examined how the relationships between sports travel and perceived constraints affected behavioral intentions prior to a mega event (i.e., Beijing Olympic Games). The findings of this study supported the existence of three categories of leisure constraints: structural, interpersonal, and intrapersonal (Jackson et al., 1993). Intrapersonal constraints included a limited knowledge of the destination, language, and ability to travel to China. Difficulties in finding co-travelers, security concerns, and terrorism risks were interpersonal constraints. Finally, structural constraints included concerns about travel cost, distance, and time. These perceived constraints were found to be negatively related to the intention to attend the event.

Attending a mega sporting event was found to be more likely to occur when the traveler perceived more potential benefits than constraints (Funk et al., 2009).

Hung and Petrick (2010) explored the constraint dimensions in the context of cruise vacation and developed a measurement scale through adopting both qualitative and quantitative research procedures. The developed scale has 18 items under four factors: intrapersonal, interpersonal, structural, and “not an option.” Their findings were consistent with those of Crawford et al. (1991) that before attempting to overcome structural constraints, intrapersonal and interpersonal constraints must first be surmounted.

Trail et al. (2008) examined a variety of factors that might possibly constrain or hinder spectators from attending a sporting event and indicated that in order to understand how to market and pull in greater attendance numbers, marketers must look at many different factors that prevent people from attending a sports event. Structural constraints such as other sources of entertainment, ticket pricing, climate, work schedule, and event accessibility are typically environmental or situational factors that hinder people from attending a sport event. They suggested that marketers can have some control over structural constraints and may be able to overcome them through effective marketing practices. Kim and Trail (2010) examined the relationship among constraints, motivators, and attendance in a spectator sport setting. One of the purposes of their study was to develop a constraints scale for the spectator sport setting based on the work of Crawford et al. (1991). They explained that spectator sport constraints were consisted of two main categories: the internal constraint constructs (i.e., lack of knowledge, lack of success of the team, lack of someone to attend with, and low interest from others) and external constraint constructs (i.e., commitment, cost, leisure alternatives, location, parking, participants in the sports, and alternative sport entertainment). In their study, lack of success, an internal

constraint subscale that reflected the team's performance, was found to explain approximately 10% of the variance in attendance. In addition, leisure alternatives as an external constraint explained 3% of the variance. The leisure alternative subscale was supported by Zhang et al.'s (1997) finding that alternative sport entertainment such as a movie, restaurant, and bar negatively influenced spectators' decision to go to a sporting event. In line with this notion, ticket price, substitute forms of entertainment, and competition with other sporting events all have a negative relationship with game consumption (Hansen & Gauthier, 1989; Noll, 1974; Siegfried & Eisenberg, 1980; Zhang et al., 1995). Surprisingly, although cost was found to be a significant component in previous constraint studies (Crompton & Kim, 2004; Funk et al., 2009; Tam, 2004; Zeithaml, 1988), it was not shown to statistically influence attendance in this study.

In the context of martial arts, only a few studies have examined various uncertainties and constraints that are often associated with participation in martial arts (Kim et al., 2009; Zetaruk, Violan, Zurakowski, & Micheli, 2005). Hung and Petrick (2010) argued that structural constraints in martial arts may be different from what people experience in leisure or tourism settings; measurement for constraints for a martial arts setting should be different. For instance, one of the factors in martial arts is physical risks due to the involvement in a highly competitive sport. Thus, training in martial arts is associated with the potential risk of such injuries as strains, sprains, or bruising. TKD as a full contact sport is known for its fast, powerful kicks, and strikes which inhibits the potential for causing severe injury (Zetaruk et al., 2005).

In the current study, Crawford et al.'s (1991) hierarchical model of leisure constraints, which includes intrapersonal, interpersonal, and structural constraints, was applied to the martial arts context. Intrapersonal constraints for martial arts might involve participants' psychological states and attributes that interfere with their preferences, health problems, perceived self-skill

level, injuries, stress level, and safety concerns. Interpersonal constraints include interactions or relationships between individuals, such as availability of a suitable partner and relationship with the master/instructor as learning martial arts is a product of social interactions (Kim et al., 2009; Weiss, 1987). Structural constraints might be primarily related to lack of resources needed to participate in martial arts (e.g., membership fee, equipment, time, facility, and location). In this study, it was anticipated that the perceived constraints for martial arts participation would play a significant role in explaining participants' behaviors and predicting their intentions to remain in martial arts schools.

Snoj et al. (2004) examined the relationship among perceived value, perceived quality, and perceived risk in the context of mobile phones usage and found that perceived constraints to have a negative effect on perceived value. Consumers were found to be very sensitive to financial aspects of the constraints. Tam (2004) found that perceived constraints such as monetary and time costs had a negative effect on perceived value in consumption behavior at a restaurant chains, indicating that monetary and time costs play an important role in customers' assessments of the perceived value of a service.

Perceived Value

Perceived value has received increasing attention as one of the most significant factors in predicting consumer satisfaction, behavioral intention, and loyalty in several different contexts such as general business, tourism, and sports perspective (Bolton & Drew, 1991; Chang & Wildt, 1994; Cronin, Brady, & Hult, 2000b; Jayanti & Ghosh, 1996; Kwon, Trail, & James, 2007a; Lee, Yoon, & Lee, 2007; Mizik & Jacobson, 2004; Woodruff, 1997; Zeithaml, 1988). Due to its dynamic nature, perceived value has been defined in many ways, depending on the type of product or services and personal characteristics of customers. One such definition that it is the "consumer's overall assessment of the utility of a product (or service) based on the perception of

what is received and what is given” (Zeithaml, 1988, p. 14). Monroe (1990) also defined perceived value in terms of how the “buyers’ perceptions of value represent a tradeoff between the quality or benefits they perceive by paying the price” (p. 46). Perceived value represents a trade-off between desirable attributes compared with sacrifice attributes by consumers with regard to goods or services (Woodruff & Gardial, 1996). Vandermerwe (2003) argued that consumers’ perceived value is realized when they are satisfied with the total experience. Working from these premises, Woodruff (1997) defined perceived value as “a customer’s perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer’s goal and purposes in use situations” (p. 142).

Zeithaml (1988) proposed a conceptual model that illustrates the relationship among price, quality, perceived value, and purchase intentions based on an exploratory investigation. Four types of value were defined: (a) low price, (b) whatever I want in a product, (c) the quality I get for the price I pay, and (d) what I get for what I give. Perceived value for the cost was found to be indirectly related to perceived value via perceived quality.

Woodruff (1997) argued that customers experience different perceived value stages when purchasing a product or service, and during or after its use. Thus, Woodruff developed a customer perceived value hierarchy model. In the first stage, customers learn about products by way of bundles of specific attributes and attribute performances. The second stage occurs when purchasing and using a product; at this stage, desires or preferences are formed for certain attributes based on desired consequences in a usage situation. The final stage is when customers evaluate certain desired consequences so as to achieve their goals and purposes. Woodruff’s hierarchy also well described received value (i.e., overall satisfaction feelings, disconfirmation

perceptions), showing that customers evaluate a product using the same desired attributes, consequences, and goal structure. The findings of this study showed that understanding the concept of customer perceived value along with other constructs such as service quality, satisfaction, and behavior intention helps marketers determine how to efficiently allocate their marketing resources (Woodruff, 1997). Substantial evidence supports the important role of perceived value as a mediating factor in the relationship between service quality and consumption behavior (Cronin, Brady, Brand, Hightower, & Shemwell, 1997).

Anderson, Fornell, and Lehmann (1994) pointed out that there had been limited empirical research into the relationship between perceived value and customer satisfaction in service settings. To date, researchers have found that perceived value has positively influenced customer satisfaction, which in turn leads to changed behavior intentions (e.g., McDougall & Levesque, 2000; Parasuraman & Grewal, 2000). McDougall and Levesque (2000), in a study of four service firms (i.e., dentist, hairstylist, restaurant, and auto service), found that perceived value should be incorporated into studies of customer satisfaction to provide a more complete picture on the causes of customer satisfaction. Tam (2004) examined the relationship among perceived service quality, perceived constraints (i.e., monetary costs and time costs), perceived value, customer satisfaction, and post-purchase behavior in a family chain of restaurants setting and found that perceived value had a positive effect on customer satisfaction, with a total of 73% of variance explained. Thus, if customers perceive that their desired or received value exceeds the constraints of obtaining the value, they experience greater satisfaction (Tam, 2004; Woodruff, 1997). In a tourism context, Lee et al. (2007) identified multiple dimensions of perceived value for tourism and examined how these perceived value dimensions affected visitors' satisfaction level and positive recommendations to others. They found that three tourist perceived value

factors (i.e., functional, overall, and emotional value) were predictive of their satisfaction with the tour and the likelihood of referring others to the tour.

Recognizing the importance of perceived value in understanding the consumer decision-making process, a few studies related to perceived value have been undertaken in the sports marketing setting (Kwon et al., 2007a; Murray & Howat, 2002; Petrick, Backman, & Bixler, 1999). To predict return or repatronage of sport and leisure consumers, Petrick et al. (1999) investigated the effect of selected factors on golfers' satisfaction with a golf course and the perceived value of a golfing experience. They found that overall satisfaction and perceived value of golfers increased their repeat usage and thus provided critical direction for golf management. Murray and Howat (2002) investigated the relationship between service quality, perceived value, satisfaction, and future intentions of customers by proposing two conceptual models: (a) one with satisfaction mediating the effect of value and (b) one with value mediating the effect of satisfaction. The findings revealed that perceived value not only had a direct relationship with future behavioral intentions, but was also indirectly related to future intentions through satisfaction. In sum, perceived value plays a vital mediating role in the formation of customer satisfaction, which in turn, influences future intentions. Kwon et al. (2007) investigated how the effect of perceived value would predict the purchase of a team-licensed product. They examined perceived value in terms of its mediating role in the relationship between team identification and team-licensed merchandise purchase intentions. The findings showed that nearly 43% of the variance in purchase intention was explained by perceived value. Perceived value of the licensed sport merchandise was also positively related to the intention to purchase. The researchers specifically pointed out that team identification alone was not sufficient to explain the sport consumer's purchase intentions.

Recently, Byon (2008) investigated the mediating role of perceived value in the relationship of market demand variables and game support programs to the consumption of professional sports. Unlike previous market demand studies that tended to examine how market demand factors directly affected consumption behaviors, this study examine the hierarchical relationships among market demand, game support, perceived value, and game consumption factors, where the mediating role of perceived value was examined. The findings of the study confirmed the presence of hierarchical relationships.

To measure perceived value, a number of researchers have focused on perceived value as a single-item measure, derived from the overall perceived value of product/service quality and price (Murray & Howat, 2002; Zeithaml, 1988). On the other hand, some researchers have argued that perceived value cannot be explained by a single-item scale due to the presence of different types of products or services and individual characteristics of customers. Thus, it is argued that multiple value dimensions are more desirable than a single value item (Al-Sabbahy, Ekinci, & Riley, 2004; Bolton & Drew, 1991; Lee et al., 2007; Sheth, Newman, & Gross, 1991; Sweeney & Soutar, 2001).

Consistent with this view, Bolton and Drew (1991) asserted that perceived value cannot be accounted for as simply the outcome of the trade-off between a single overall quality and constraints because perceived value is more complicated than such a construct can encompass. In addition, Al-Sabbahy et al. (2004) claimed that the single-item approach would not completely cover the concept of perceived value in the hospitality marketing setting. For this reason, previous researchers have suggested that perceived value should be measured by a multi-dimensional scale (Lee et al., 2007; Sweeney & Soutar, 2001).

Sweeney and Soutar (2001) developed the Perceived Value (PERVAL), which measures consumer perceived value through a multiple-item scale. Originally, the PERVAL scale was derived from the dimensions of Sheth et al.'s (1991) value construct. While a number of perceived value studies focused on quality and price, these two factors could not completely explain the decision-making process. The PERVAL scale added the emotion and social dimensions. Thus, Sweeney and Soutar's PERVAL scale (2001) was developed to include all four dimensions of consumers' perceived value, including: (a) emotional value, (b) social value, (c) functional value (price/value for money), and (d) functional value (performance/quality). They defined emotional value as "the utility derived from the feelings or affective states that a product generates" (p. 211). Social value was defined as "the utility derived from the product's ability to enhance social self-concept" (p. 211). Function value (price/value for money) was defined as "the utility derived from the product due to the reduction of its perceived short term and longer term costs" (p. 211). Finally, they defined functional value (performance/quality) as "the utility derived from the perceived quality and expected performance of the product" (p. 211).

In fact, multiple dimensions of perceived value have been suggested by many researchers (e.g., Lee et al., 2007; Sweeney & Soutar, 2001). It is assumed that in a similar way, multiple dimensions of perceived value would better explain member satisfaction of martial arts schools than a single item. (Snoj et al., 2004). An important argument proposed by the current study is that perceived benefits and perceived constraints with regard to martial arts participation lead to certain consequences that are mirrored in participants' perceived value. A customer's perceived value is a comparison between perceived benefit and perceived constraints (Cardenas, Henderson, & Wilson, 2009; Cheng et al., 2003; Kam & Crompton, 2006).

Member Satisfaction

Customer satisfaction has received attention from practitioners and academicians because it helps one understand how consumer response may be utilized as a key determinant of customer retention (Cronin et al., 2000a; Cronin & Taylor, 1992), customer loyalty (Fornell, Johnson, Anderson, Cha, & Bryant, 1996), positive word-of-mouth (Maxham & Netemeyer, 2002), and trust and commitment (Tax, Brown, & Chandrashekar, 1998). Particularly, marketing researchers have studied consumer satisfaction to understand how it is a critical predictor for consumer behavior intentions such as purchase intention, word-of-mouth, and loyalty to an organization (Eggert & Ulaga, 2002; Fornell, 1992). Oliver (1981) defined satisfaction as “the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer’s prior feelings about the consumption experience” (p. 27). In line with this definition, Anderson et al. (1994) defined overall satisfaction as “an overall evaluation based on overall satisfaction based on the total purchase and consumption experience with a good or service over time” (p. 54). Later, Oliver (1997) defined customer satisfaction as a consumer’s overall pleasurable fulfillment of the response to a product, service, or benefit, which is being provided to the customer to satisfy his/her needs, desires, and goals. There is a differentiation between perceived value and satisfaction. Satisfaction may happen after a purchase, which is called the post-usage evaluation stage. However, perceived value is generally determined at the purchasing stage (Sweeney & Soutar, 2001).

The concept of customer satisfaction has been a focus of academics and practitioners in light of the fact that it affects the revenue generation of organizations. The primary goal for most service companies today is to achieve customer satisfaction. In a broad sense, customer satisfaction has a heavy influence on member loyalty, where the behavioral aspect of customer

loyalty is the repurchase intention of a product or service. Increasing customer satisfaction and customer retention improves profits, word-of-mouth, and allows for lower marketing expenditures (Reichheld, 1996).

In the current study, satisfaction is assumed to be formed based on customers' previous experience and cumulative evaluations of a martial arts program, and is assumed to be a key determinant of customer retention, positive word-of-mouth, and sales of merchandise (Bitner, 1990; Cronin & Taylor, 1992; Gotlieb, Grewal, & Brown, 1994). The success of a sports program depends on the extent to which it can satisfy customers with quality service. High levels of customer satisfaction would be helpful in preventing or reducing customer attrition (Ko & Pastore, 2004; Kotler, 1994).

Member Commitment

Like member satisfaction, member commitment has been identified as a critical component, essentially representing a consequence of consumer market demand. Specifically, numerous researchers have indicated that when consumer expectations are satisfied, consumers tend to exhibit high commitment to continued consumption of a product or service (e.g., Howat et al., 1996; Leeuwen, Quick, & Daniel, 2002; Oliver, 1997; Parasuraman, Zeithaml, & Berry, 1988). Morgan and Hunt (1994) defined commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely” (p. 23). Commitment is also defined as being “indicative of the organization's likelihood of developing or maintaining customer identification with organizational goals and values and retaining the service customer as an active participant in the service encounter” (Kelley, Donnelly, & Skinner, 1990, p. 322). Both definitions indicate that

member commitment is regarded as a significant element to maintaining successful long-term relationships (Kelley et al., 1990; Morgan & Hunt, 1994).

In participant sports, sports commitment has been defined as “a psychological construct representing the desire and resolve to continue sport participation” (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993, p. 7). Sport commitment is thus a dominant predictor of actual participation when people face intervening or constraint factors such as time, injury, and cost (Scanlan et al., 1993). Commitment has been found to be a primary construct affecting customer retentions and behavior in the context of health and fitness clubs (Alexandris, Zahariadis, Tsorbatzoudis, & Grouios, 2002).

A majority of previous researchers have held that perceived value is an important concept with regard to customer satisfaction and behavioral intentions in the pre-purchase and post-purchase stages (Cronin et al., 2000b; Eggert & Ulaga, 2002; Fornell et al., 1996; Heskett & Schlesinger, 1994; Tam, 2004; Woodruff, 1997). Cronin et al. (2000) conceptualized how quality, satisfaction, and value effect consumer behavior intentions. In an effort to understand consumer decision-making, Eggert and Ulaga (2002) developed two alternative models: direct impact of perceived value on the purchasing intention, and perceived value as a mediating variable in the relationship between customer satisfaction and purchasing intention. These models were developed to explore how customer perceived value interacts with customer satisfaction. Eggert and Ulaga argued that multidimensional constructs of perceived value should be considered in terms of both cognitive and affective variables. In their study, customer perceived value was regarded as a cognitive variable and in turn, customer satisfaction was considered an affective variable. The study confirmed that the two variables do not replace, but complement each other. Specifically, perceived value influenced customer satisfaction, which

subsequently led to positive behavior intentions. Thus, consumer satisfaction was found to be a critical predictor of behavior outcomes as a mediating factor (Eggert & Ulaga, 2002). Johnson, Sivadas, and Garbarino (2008) examined the relationships among customer satisfaction, affective commitment, and consumer's perception of risk associated with a service organization, and found that satisfaction had a positive influence on commitment and a negative influence on perceived risk.

CHAPTER 3 METHODOLOGY

This chapter provides a detailed description of methodological procedures, which are presented in the following four sections: (a) participants, (b) measurement, (c) procedures, and (d) data analyses.

Participants

A convenience sampling method was employed to survey TKD school participants. The target population for this study was 18 years of age or older, resided in the U.S., and have attended a TKD school. Participation in this study was voluntary and confidential. Sample size was a vital consideration in determining whether the analytical procedures of the hypothesized model were reliable, especially conducting advanced statistical analyses including a confirmatory factor analysis (CFA) and structural equation modeling (SEM). Although there are no optimal standards in the literature about sample size, Kline (2005) and Hair, Black, Babin, Anderson, and Tatham (2006) suggested that a minimum ratio of respondents to each observed variable should at least be 5:1 and preferably 10:1. Because the Revised Scale of Market Demand of Taekwondo (SMD-TKD) was the primary segment of the survey form and it had a total of 62 items under seven factors, a total of 595 participants were recruited from TKD schools throughout the U.S.

Descriptive statistics for the demographic variables are presented in Table 3-1. Of the respondents for this study, there were 59.5% ($n = 356$) male and 39.9 % ($n = 232$) female. The participants ranged in age from 18 to 77 years old ($M = 36.6$; $SD = 12.7$). Approximately, 50% of the participants were between 35 and 55 years old and close to 27% were between 18 and 25 years old. The respondents ranged from 1.0 day to 7.0 days in regular training per week ($M = 3.54$; $SD = 1.35$) and 1.0 hour to 5.0 training hours per visit ($M = 2.03$; $SD = 1.60$). Caucasian

(66.1%) was the primary ethnic composition of the participants and the remaining sample consisted of 15.7% Hispanics, 8.5% Asians, and 5.4% African Americans. Over one half of them (61%) were married. More than 70% of the respondents had at least one child. They were of various educational backgrounds, with a majority having at least some college experience (85%). A majority of the participants reported an annual income of \$50,000 or higher (74%); and 33% of the participants had an annual income of \$100,000 or higher, reflecting the fact that participants of martial arts schools had higher levels of household income. Of the respondents, 41% of them had a family membership contract and 50% had individual contracts. Close to 66% of the participants were of Black Belt rank; whereas, 10% were of White or Yellow Belt rank which represents beginner levels of TKD. Participants first learned of the TKD school with which they were affiliated from various sources, mainly including referrals, advertisements, and the internet. For example, more than 50% of the respondents obtained information about their TKD school(s) via word of mouth and friend referrals. With respect to TKD expenditures per year, more than one half of the participants spent more than \$2,000 on TKD services and products. The characteristic of the respondents were generally consistent with Kim et al.'s (2009) descriptions on the general characteristics of TKD school participants.

Measurement

A questionnaire was developed that consisted of seven sections: (a) market demand, (b) perceived benefit, (c) perceived constraints, (d) perceived value, (e) satisfaction, (f) commitment, and (g) demographic variables (Appendix B).

Market Demand

To measure market demand of TKD schools, items from the SMD-TKD scale (Kim et al., 2009) were adopted and modified, which has a total of 37 items under seven factors (Personal Improvement Activities, Physical Facility Quality, Instruction Staff Quality, Program Activities

and Offerings, Cultural Learning, Locker Room Provision, and Economic Condition Consideration). This scale was the only instrument identified in the published literature that measures market demand features of martial arts programs. The original SMD-TKD scale (Kim et al., 2009) was developed by an integrative application of both qualitative and quantitative research methods that contained the following procedures: (a) a comprehensive review of literature, (b) on-site observations of private TKD school operations, (c) interviews with TKD school masters, administrators, and members, (d) a test of content validity through a modified application of the Delphi technique, and (e) conducting factor analyses. Through investigating TKD school members ($N = 205$) who were 18 years and older from 22 TKD schools in major cities of Florida, an EFA with principal component extraction and varimax rotation produced a six-factor solution with 51 scale items (i.e., Personal Benefits, School Operation, Instruction Quality, Program Offering, Locker Room, and Cultural Learning). Four of these factors, except for program offering and cultural learning, were found to be positively ($p < .05$) predictive of TKD consumption in a regression analysis.

After its development, the SMD-TKD scale was identified with having a number of weaknesses and limitations. First, according to Braunstein, Zhang, Trail, and Gibson (2005) and Zhang, Lam, and Connaughton (2003), market demand is defined as consumer expectations towards the attributes of the core product. A major emphasis of this definition is on the assessment of attributes and features of the core product. However, the worded statements of a number of items in the SMD-TKD scale actually reflect the benefit aspect of some core product elements, not directly on the attributes. Second, only an exploratory factor analysis (EFA) was conducted to assess the dimensionality of the scale, which was to uncover the construct and the relationship among a relatively large set of observed and latent variables. Third, according to the

findings derived from a number of previous studies, the concept of Economic Consideration was an important and relevant aspect of market demand studies (e.g., Braunstein et al., 2005; Hansen & Gauthier, 1989; Schofield, 1983; Zhang et al., 1995; Zhang, Lam, Bennett, & Connaughton, 2003a; Zhang, Lam, & Connaughton, 2003b). However, this factor did not emerge in the EFA due to double loadings or lack of interpretability of its items. Further investigation into the viability of this factor is necessary. Fourth, as a result of the qualitative research process in Kim et al.'s (2009) study, items under the Locker Room factor in the resolved SMD-TKD scale were originally proposed to be a part of the School Operation factor. Yet, these items emerged into a separate factor in the EFA. Some researchers support the notion that Locker Room represents a unique aspect of health-fitness settings. For example, Lam, Zhang, and Jensen's (2005) Service Quality Assessment Scale (SQAS) emphasized the inclusion of the Locker Room factor because it allowed managers to pinpoint specific Locker Room areas for improvement. However, others have shown that Locker Room variables fall under the general concept of physical environment, which includes equipment, locker room, and facility (e.g., Chelladurai, Scott, & Haywood-Farmer, 1987; Kim & Kim, 1995). Apparently, this inconsistency deserves further investigation. Fifth, data in the study by Kim et al. (2009) were collected from a convenience sample from only one state in the U.S. To what extent the findings can be generalized to a wider range of TKD schools in North America is unknown. Although there are market similarities among TKD schools in different regions and cultural settings, some differences may exist. For a more complete understanding of market demand in TKD, additional work is required using broader samples derived from different geographical regions. Additionally, when considering the number of items in both the preliminary scale and the refined scale, the sample size ($N = 205$) in Kim et al.'s (2009) study was rather small. Hair et al. (1998) and Kline (2005) stated that the number of

subjects should be at least five times and preferably 10 times the number of items used for a factor analysis. Consequently, the scale was recently modified by Kim & Zhang (2010). Through investigating TKD school participants ($N = 579$), the Revised SMD-TKD scale was resolved through conducting a CFA, which contained 37 items under seven factors (Personal Improvement Activities, Physical Facility Quality, Instruction Staff Quality, Program Activities and Offerings, Cultural Learning, Locker Room Provision, and Economic Condition Consideration). A SEM analysis revealed that these factors were significantly ($p < .05$) influential of member satisfaction and member commitment. In this study, the Revised SMD-TKD items were phrased in a 7-point Likert-type scale, ranging from 1 = strongly disagree to 7 = strongly agree. Each item was preceded with a common statement of “I attend this Taekwondo school because it...”

Perceived Benefits

Based on reviewing related literature on the benefits of martial art training, items measuring perceived benefits were generated from previous research (e.g., Cheng et al., 2003; Kim et al., 2009). According to these studies, martial arts participants are actively attempting to improve themselves physically and psychologically through participating in these training programs. The personal benefits dimension was comprised of two subscales (Psychological Benefit and Physical Benefit) with a total of 12 items. Each statement was phrased into a 7-point Likert-type scale, ranging from 1 = strongly disagree to 7 = strongly agree, and preceded with a common statement of “attending the TKD school helps me...”

Perceived Constraints

To measure perceived constraints, items in the ‘Leisure Constraints Scale’ (Alexandris & Carroll, 1997) were modified. This scale was selected because it was developed in the setting of recreational sport participation and its items were deemed relevant to martial arts schools. The

original scale was resulted from adoption and modification of Crawford et al.'s (1991) concept and scale, which consisted of intrapersonal constraint, interpersonal constraint, and structural constraint. This three-dimensional framework has been a widely adopted in studies examining perceived constraints in the leisure, tourism, and sport participation. There are a total of 29 items in Alexandris and Carroll's scale (1997). Based on item relevance and representativeness of these items, a total of 22 items under three dimensions were included the current study: Intrapersonal Constraints (7 items), Interpersonal Constraints (6 items), and Structural Constraints (9 items). These items were phrased in a 7-point Likert-type scale, ranging from 1 = strongly disagree to 7 = strongly agree. Each item was preceded with a common statement of "I would consider ceasing participation in the Taekwondo school because....."

Perceived Value

Perceived value was measured with four subscales (Emotion, Quality, Price, and Social) with a total of 11 items that were adapted from Sweeney and Soutar's PERVAL scale (2001). While a number of previous perceived value studies focused on quality and price (Byon, 2008; Holbrook, 1996; Kwon et al., 2007), two other factors (Emotion and Social) were often overlooked that were related to the decision-making process of consumers. Sweeney and Soutar's PERVAL scale (2001) took into consideration the void in the measurement of perceived value. The PERVAL's scale items were slightly modified in order to be relevant to the setting of TKD schools. The Emotion value dimension (3 items) can be measured by the following three items: (a) attending TKD school is something that I would enjoy, (b) attending TKD school is something that I like to participate in, (c) I feel comfortable attending the TKD school. The perceived value items were preceded with the following statement: 'I believe that attending the Taekwondo school is.....' and each item was phrased in a 7-point Likert-type scale, ranging from 1 = strongly disagree to 7 = strongly agree.

Member Satisfaction

Each respondent was assessed on his/her level of overall satisfaction with the TKD School that he/she was affiliated. Member satisfaction was measured as a latent construct reflected by overall satisfaction. Specifically, three items were adopted from Brady, Knight, Cronin, Hult, and Keillor's (2005) scale as this scale was widely recognized and adopted to measure three critical affective reaction components toward a consumptive object (satisfaction, happiness, and delight). The wording of the original items was modified in order to be relevant and representative of the setting of TKD school participation. The three items were "I am satisfied with my decision to attend the Taekwondo school," "I am happy that I attended the Taekwondo school," and "I think that I did the right thing by deciding to attend the Taekwondo school." In this study, each item was structured in a 7-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

Member Commitment

Member Commitment was measured with a four-item scale that was modified from Scanlan et al.'s (1993) Sport Commitment Scale. This scale was adopted because it was validated in the context of exercise and fitness participation setting (Alexandris et al., 2002). The four items were slightly modified to reflect the TKD setting, which included "I am dedicated to being a member of the Taekwondo school," "I am determined to remain a member of the Taekwondo school," "It would be hard for me to quit membership of the Taekwondo school," and "I would be willing to do almost anything to keep being a member of the Taekwondo school." The items were measured with a 7-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

Demographic Information

For the purpose of describing the characteristics of respondents, a sociodemographic section was included in the questionnaire that contained nine variables (i.e., gender, age, ethnicity, marital status, household income, education, belt rank, information source, and TKD annual expenditure). Multiple choice or fill-in-the-blank format were adopted for the sociodemographic variables.

Procedures

Prior to the data collection, a test of content validity was conducted. The preliminary questionnaire was submitted to a panel of nine experts, which consisted of five university professors (one in business marketing and four in sport management) and four practitioners (two TKD masters in different TKD schools and two administrators of different TKD organizations). Each panel member was requested to examine the relevance, clarity, and representativeness of the items (Appendix A). A standard of 80% agreement among the panel members was adopted for accepting each item. With minor improvements that were primarily related to wording clarity, all items in the questionnaire were retained as a result of the content validity test.

Although mail, telephone, on-site, and online modes are commonly used survey protocol in social science research, each has its own advantage and disadvantage. For example, online mode is a convenient and time and cost efficient method to collect data from a large sample, but it has limitations (e.g., noncoverage and nonresponse), and some respondents may not participate because of inadequate computer skills (Dillman, 2007). In order to obtain responses from a large group of TKD participants and in the meantime reduce the tendency of survey limitations, (Dillman, 2007) suggests adopting a mixed-mode survey design, where data collection is conducted by combining on-site and online test administrations.

After receiving approval from the Institutional Review Board (IRB) involving human subjects, the researchers contacted and described the purpose of the study to the masters/instructors of TKD schools and executives of TKD competitions of various nationwide events and requested permission and assistance with data collection. For example, the researcher contacted the executive director of major TKD events, such as U.S. Open Taekwondo Championship in Austin, TX and Amateur Athletic Union (AAU) Taekwondo National Championship in Ft. Lauderdale, FL, and collected data from these well-known national TKD events. The U.S. Open Taekwondo Championship is one of the premier TKD annual events in North America. The AAU TKD National Championship is also a major TKD annual event organized by one of the largest non-profit volunteer organizations in the U.S. For the on-site test administration, after an administrator agreed for his/her organization or event to participate in the study, associated program/event participants were informed of the purpose of the study by the researchers. Participants in each event were asked to complete the questionnaire and return them to their master/instructor or survey booth.

The online surveys were simultaneously conducted, which were considered as beneficial by including TKD program participants with broader backgrounds and in different geographical regions of the U.S. in an effort to enhance the generalizability of the research findings. In this protocol, an online survey with consent form was sent via e-mail to current TKD masters/instructors who agreed to have his/her school participate in the study. The masters and instructors were asked to forward the survey link to their program participants. Meanwhile, the online survey was also linked to a well-known martial arts magazine's website (i.e., Taekwondo Times), various Taekwondo online forums, and the Yahoo Taekwondo Group. Additionally, the AAU Taekwondo organization forwarded the online survey to all members in its listserv.

Follow-up e-mails, personal e-mails, and phone calls, where the contact information was available, were conducted to non-responding TKD school members in an effort to increase response rate. Consequently, a total of 147 TKD school participants responded to the face-to-face survey and a total of 448 TKD school participants responded to the online survey.

Participant responses between the online survey and the face-to-face survey were later compared in an effort to eliminate concerns associated with possible differences occurring from applying two data collection methods.

Data Analyses

Data were analyzed by adopting procedures in the SPSS 18.0, PRELIS 2.52, and MPLUS 5.21 computer programs in this study. Data screening and descriptive statistics were calculated to examine the characteristics of the data by using the SPSS 18.0 program (SPSS, 2009). After data screening, t-tests were conducted to examine if there were differences between the face-to-face and the online survey modes by using SPSS 18.0 program. In fact, the findings from the t-tests indicated that there were no significant ($p < .05$) differences between the two data collection procedures except perceived constraints, where the mean constraint score for the event participants from the on-site data collection process was significantly ($p < .05$) lower than TKD participants responding to the on-line version of the survey (Table 3-2). This finding makes a practical sense that for those TKD event participants, overall they tended to perceive fewer constraints as evidenced by their already presence at the event; conversely, they might possess higher motivation and commitment to TKD.

Data screening was conducted to examine the distributions of variables, accuracy of data entry, outliers, and assumptions for multivariate analyses. To examine multivariate normality, Mardia's coefficient of multivariate skewness and kurtosis was tested by applying the PRELIS 2.52 program (Jöreskog & Sörbom, 1996). In an effort to cope with multivariate non-normal

distribution, a robust maximum likelihood estimator (MLR) with Satorra-Bentler (S-B) adjusted chi-square (S-B χ^2) scaling method was adopted and performed to make the corrections (Satorra & Bentler, 2001). The robust ML is a “very well-behaved estimator across different levels of non-normality, model complexity, and sample size” (Brown, 2000, p. 379). Chou, Bentler, and Satorra (1991) argued that the robust ML with S-B scaling methods is appropriate to handle continuous non-normal data.

Testing of hypotheses was conducted by a two-step process, a systematic approach suggested by (Anderson & Gerbing, 1988). In the first step, the measurement model was tested through appropriate validation process. The first step tested the suitability of hypothesized factor structure for the data. The second step was related to the assessment of the structural relationships in the model when measurement model was adequate (Anderson & Gerbing, 1988; Kline, 2005). Upon confirming multivariate normality, a preliminary step of the analyses was to reexamine the factor validity of measures. Prior to testing the overall measurement models, six separate confirmatory factor analyses (CFA) were conducted for the market demand, perceived benefit, perceived constraints, perceived value, member satisfaction, and member commitment measures using the Mplus 5.21 program (Muthén & Muthén, 2007). Then, a CFA was conducted to evaluate the measurement model for all of the constructs and their items, and to estimate how well the items would represent the proposed latent constructs (Hair et al., 2006). According to Hair et al. (2006) and Tabachnick and Fidell (2006), executing a CFA has to follow the following five steps: (a) model specification, (b) identification, (c) model estimation, (d) testing model fit, and (e) model respecification.

A structural equation modeling (SEM) was conducted to examine the hypothesized structural relationships. There are advantages to using SEM in this study for the following

considerations: (a) it has the ability to correct measurement error, (b) it is an advanced statistical technique to investigate hierarchical relationships among latent variables, (c) it provides a new approach to theory building and testing the model, (d) it offers evaluations for the general compatibility (e.g., goodness of fit) of the model, and (e) it has the ability to estimate the entire interrelated dependence relationships simultaneously (Hair et al., 2006; Quintana & Maxwell, 1999). By adopting the procedures in the Mplus 5.21 that are friendly in handling non-normal data (Muthén & Muthén, 2007), the SEM was executed to assess the proposed structural relationships among the market demand, perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment constructs that were refined in the stage of CFA.

Goodness of Model Fit

To assess the goodness of model fit and the estimation of parameters of the hypothesized model, the Satorra-Bentler chi-square to the model's degree of freedom ($\chi^2_{S-B/df}$) (Kline, 2005) and the following fit indexes were considered: root mean square error of approximation (RMSEA), standardized means square residual (SMRM), and comparative fit index (CFI) (Hair et al., 2006; Hu & Bentler, 1999; Kline, 2005). The adequacy of conventional cutoff criteria for fit indices recommended by Hu and Bentler (1999) and Kline (2005) was followed. The chi-square statistic could be used to examine significant difference between expected and observed covariance matrix structure. A nonsignificant chi-square shows that the model is of good data fit. However, alternative measures of fit have been used because chi-square is sensitive to sample size (Kline, 2005). Kline (2005) defined RMSEA as "badness-of-fit index in that a value of zero indicates that best fit and higher values indicate worse fit" (p. 138). For RMSEA, Hu and Bentler (1999) suggested that RMSEA values less than .06 indicate a close fit, between .06 and .08 indicate an acceptable fit, and greater than .10 indicate a poor fit. The SRMR indicates the

average value across all standardized residuals. A higher value of SRMR indicates bad fit and smaller values shows good fit. The value less than .09 generally indicates a good fit of model (Kline, 2005). The CFI is defined as “the relative improvement in fit of the researcher’s model compared with a baseline model” (Kline, 2005, p. 140). A rule of thumb for the CFI index is that researcher’s model has a reasonable fit when a value is larger than .90 (Hu & Bentler, 1999).

Reliability

Reliability is consistent in what it is intended to measure. Hair et al. (2006) defined the reliability in SEM as “degree to which a set of latent construct indicators are consistent in their measurements. In more formal terms, reliability is the extent to which a set of two or more indicators share in their measurement of a construct” (p. 583). To assess the reliability of the scale, the following three tests were conducted: Cronbach’s alpha (α), construct reliability (CR), and averaged variance extracted (AVE). Cronbach’s alpha (α) coefficients (i.e., internal consistency values) indicate how well the items predict one another based on the correlations in the subscale. CR is also an internal consistency measure that accounts for measurement errors of all indicators (Fornell & Larcker, 1981). The internal consistency (α) value and CR are suggested to be equal to or greater than .70 cut-off point (Fornell & Larcker, 1981; Nunnally & Bernstein, 1994). Another measure of reliability is the Average Variance Extracted (AVE). The AVE values assessed the variance captured by the indicators relative to measurement error. AVE value recommended to be greater than .50 threshold (Fornell & Larcker, 1981) and calculated as (Hair et al., 2006):

$$AVE = \sum (\text{standardized loading}^2) / \sum (\text{standardized loading})^2 + \sum \epsilon_j$$

In other words, the AVE value is calculated by dividing (summation of squared standardized

factor loadings) by ([summation of squared standardized factor loadings] plus [summation of error variances]) (Hair et al., 2006).

Validity

Construct validity is defined by “whether a measure relates to other observed variables in a way that is consistent with theoretically derived predictions” (Bollen, 1990, p. 188). Thus, to establish construct validity, the relationship between the observed variables and latent constructs was examined. Two key elements determined construct validity: (a) convergent validity and (b) discriminant validity. First, convergent validity refers to how well each indicator loads on its underlying theoretical construct, which is a correlation between two constructs measuring the same concept (Anderson & Gerbing, 1988; Netemeyer, Johnston, & Burton, 1990). To assess convergent validity, indicator loadings and t-value should be examined. The loading value for each of the measurement items need to be equal to or greater than .707 (Anderson & Gerbing, 1988), demonstrating good convergent validity. Second, discriminant validity indicates the extent to which a given construct is different from other constructs (e.g., perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment) (Fornell & Larcker, 1981). Discriminant validity can be established if correlations among constructs are less than .85 (Kline, 2005) or if the AVE of a specific construct exceeds the squared value of the correlation between that construct and any other factor (Fornell & Larcker, 1981). In this study, both ways were conducted to examine discriminant validity.

After confirming overall measurement model, the final step involved testing the proposed hypotheses in the conceptual model and analyzing the data through a structural equation modeling (SEM). The SEM utilizes various types of models (e.g., path and confirmatory models) to depict both latent and observed relationships among variables in order to provide a

quantitative test for a theoretical model hypothesized by a researcher (Hair et al., 2006; Kline, 2005).

Table 3-1. Descriptive statistics for the sociodemographic variables (N=595)

Variable	Category	N	%	Cumulative %
Gender	Male	356	59.9	59.9
	Female	232	39.9	100.0
Age	18-25	141	27.4	27.4
	26-35	85	16.5	43.9
	36-45	148	28.7	72.6
	46-55	108	21.0	93.6
	56-65	27	5.2	98.8
	Over 65	6	1.2	100.0
Ethnicity	White	391	66.1	66.1
	African-American	32	5.4	71.5
	Hispanic	93	15.7	87.2
	Asian	50	8.5	95.7
	Other	21	3.6	100.0
Marital Status	Single	181	30.8	30.8
	Married	358	61.0	91.8
	Divorced	45	7.7	99.5
	Other	3	0.5	100.0
Number of Children	0	177	30.5	30.5
	1	106	18.3	48.8
	2	163	28.2	77.0
	3	81	14.0	91.0
	4 or more	52	9.0	100.0
Household Income	Under \$9,999	35	6.4	6.4
	\$10,000-14,999	17	3.1	9.5
	\$15,000-24,999	22	4.0	13.5
	\$25,000-34,999	20	3.6	17.1
	\$35,000-49,999	45	8.2	25.3
	\$50,000-74,999	114	20.8	46.1
	\$75,000-99,999	112	20.4	66.6
	Over \$100,000	183	33.4	100.0
Education	Some High School	19	3.2	3.2
	High School Graduate	41	7.0	10.2
	Some College	151	25.6	35.8
	College Graduate	226	38.4	74.2
	Graduate Degree	128	21.7	95.9
	Others	24	4.1	100.0

Table 3-1. Continued

Variable	Category	N	%	Cumulative %
Membership Type	Individual	296	50.6	50.6
	Family	240	41.0	91.6
	Other	49	8.4	100.0
Belt Rank	White	18	3.1	3.1
	Yellow	24	4.1	7.2
	Green	36	6.1	13.3
	Blue	56	9.5	22.8
	Red	63	10.7	33.5
	Black (1-3 Dan)	304	51.5	85.0
	Black (Above 3 Dan)	89	15.0	100.0
Learned of the School Referral (Word of Mouth and Friend)		320	53.7	53.7
	Advertisement	77	13.1	66.8
	Yellow Pages	28	4.8	71.6
	Internet	68	11.5	83.1
	Other	96	16.9	100.0
	TKD Expenditure (per year)	Under \$999	166	28.8
\$1,000-1,999		160	27.7	56.5
\$2,000-2,999		97	16.8	73.3
\$3,000-3,999		49	8.5	81.8
Over \$4,000		103	18.2	100.0

Table 3-2. Group comparison between on-line and on-site respondents

Factor		On-line (N = 448)	On-site (N = 147)	t- value	<i>p</i>
MD	<i>M</i>	5.43	5.56	-1.782	.076
	<i>SD</i>	0.73	0.88		
PB	<i>M</i>	6.11	6.22	-1.359	.175
	<i>SD</i>	0.75	0.95		
PC	<i>M</i>	2.56	2.18	3.235	.001
	<i>SD</i>	1.08	1.06		
PV	<i>M</i>	6.15	6.30	-1.592	.123
	<i>SD</i>	0.74	1.02		
MSA	<i>M</i>	6.63	6.68	-.689	.491
	<i>SD</i>	0.72	0.78		
MCO	<i>M</i>	6.32	6.48	-1.694	.091
	<i>SD</i>	1.02	0.91		

Note: MD = Market Demand; PB = Perceived Benefits; PC = Perceived Constraints; PV = Perceived Value; MSA = Member Satisfaction; MCO = Member Commitment

CHAPTER 4 RESULTS

The result of this study was presented in the following four sections: (a) descriptive statistics, (b) confirmatory factor analyses, and (c) structural equation model analyses.

Descriptive Statistics

Market Demand Variables

Descriptive statistics including mean and standard deviation for the market demand variables are presented in Table 4-1. All items except three had a mean score above 4.0 (i.e., midpoint on the 7-point Likert scale), representing that respondent is overall considered market demand variables as important while they made decision to attend a TKD school. The means score of the market demand items ranged from 3.12 to 6.60 and standard deviations ranged from 0.85 to 2.07. Among the market demand factors, Instruction Service Quality had the highest mean score ($M = 6.46$, $SD = .083$). Within this factor, the “Instructors/masters are friendly” item had the highest mean score ($M = 6.60$, $SD = 0.85$). On the other hand, Locker Room Provision had the lowest mean score among the market demand factors ($M = 4.15$, $SD = 1.64$). Within this factor, “The school offers a good shower room” item had the lowest mean score ($M = 3.18$; $SD = 2.02$).

Perceived Benefits Variables

Table 4-2 presented the descriptive statistics for the perceived benefits variables. All 12 items had a mean score greater than 4.0 (i.e., midpoint on the 7-point Likert scale, reflecting that respondents had positive perceived benefits gained from attending a TKD school). The means score of the perceived benefits items ranged from 5.58 to 6.42 and standard deviations ranged from 0.83 to 1.35. The “Improving my appearance” item had the lowest mean score ($M = 5.58$, $SD = 1.35$) and the “Improving my physical health” item had the highest mean score ($M = 6.42$,

$SD = 0.83$) of the perceived benefits variables. Of the perceived benefits dimensions, the Physical Benefits had slightly higher mean score ($M = 6.10$, $SD = 0.89$) than Psychological Benefits.

Perceived Constraints Variables

Table 4-3 presented the descriptive statistics for the perceived constraints variables. All 22 items had a mean below 4.0 on the 7-point Likert scale, reflecting that respondents did not perceive strong constraints associated with attending a TKD school. The mean scores of the perceived constraints items ranged from 1.85 to 3.43 and standard deviations ranged from 1.32 to 2.10. The item, “A language barrier in the Taekwondo school,” had the lowest mean score ($M = 1.85$, $SD = 1.32$) and the “Health problems” item had the highest mean score ($M = 3.42$, $SD = 1.98$) among the perceived constraints variables. Of the perceived constraints factors, the Structural Constraints factor had the highest mean score ($M = 2.64$, $SD = 1.54$), followed by Interpersonal Constraints ($M = 2.59$, $SD = 1.10$). The lowest mean score was associated with the Intrapersonal Constraints factor ($M = 2.31$, $SD = 1.36$).

Perceived Value Variables

Table 4-4 presented the descriptive statistics for the perceived constraints variables. All items had a mean score over 4.0 on the 7-point Likert scale, indicating that respondents perceived that it was valuable for them to participate in TKD schools. The mean scores of these perceived value items ranged from 5.53 to 6.56 and standard deviations ranged from 0.79 to 1.64. The “Helping me feel accepted by others” item had the lowest mean score ($M = 5.36$, $SD = 1.64$) and the “Something that I like to participate in” item had the highest mean score ($M = 6.56$, $SD = 0.798$) among the variables. Of the perceived value dimensions, Emotion Value had the highest mean score ($M = 6.52$, $SD = 0.76$), followed by Quality Value ($M = 6.27$, $SD = 1.04$). The lowest mean score was associated with the Social Value factor ($M = 5.58$, $SD = 1.39$).

Member Satisfaction and Member Commitment Variables

Table 4-5 presents the descriptive statistics for member satisfaction and commitment variables. All of the variables had a mean score greater than 4.0 on the 7-point Likert scale. Among member satisfaction items, two items, “I am happy that I attended the school” ($M = 6.58$, $SD = 0.90$) and “I think that I did the right thing by deciding to attend the school” ($M = 6.58$, $SD = 0.94$), had same high mean score. Of the member commitment items, the item, “It would be hard for me to quit member of the school,” had the lowest mean value ($M = 5.59$, $SD = 1.75$) and the item, “I would be willing to do almost anything to keep being a member of the school,” had the highest mean value ($M = 6.54$, $SD = 0.97$).

Data Normality

Test of multivariate normality assumptions for the variables was conducted by executing the PRELIS 2.52 program (Jöreskog & Sörbom, 1996). Multivariate non-normality would be violated when Mardia’s Normalized coefficients of both skewness and kurtosis are statistically ($p < .05$) significant. Findings of this study revealed that the normality assumption was violated based on Mardia’s coefficients of multivariate skewness ($z = 189.6$, $p < 0.01$) and kurtosis ($z = 38.7$, $p < 0.01$) (Mardia, 1985). In order to deal with the lack of multivariate normality, the measurement model that was estimated with maximum likelihood robust (MLR) estimation and tested with Satorra-Bentler chi-square (S-B χ^2) was applied for correction (Satorra & Bentler, 1994). In addition, multicollinearity was examined to check high correlations among variables. Kline (2005) asserted that any two variables with a high correlation of over .85 indicated multicollinearity problems. In this study, no correlation between any two items was over .85; thus, multicollinearity was not a concern.

Measurement Models

Before proceeding to conducting the SEM, a CFA was conducted to verify the measurement properties of market demand, perceived benefits, perceived constraints, and perceived value measures, respectively, through executing the Mplus 5.21 program (Muthén & Muthén, 2007). In particular, this process of reexamining the measurement models helped determine the factor validity of the hypothesized relations between latent variables and their indicators (Kline, 2005). Testing the overall measurement model was also conducted.

Market Demand

The measurement model of the seven market demand factors (Figure 4-1) with 37 items was tested. Goodness of fit indexes revealed that the measurement model achieved good fit with the data (Table 4-6). The S-B χ^2/df ($1263/608 = 2.07$) was lower than the suggested standard value of 3.0 (Kline, 2005). Robust CFI value of 0.949 was higher than the recommended cut-off ratio ($>.90$; Hu & Bentler, 1999). The RMSEA value (.043) indicated a close fit. In addition, SRMR (.040) was less than .09, indicating a good fit of the model (Kline, 2005).

Alpha and CR coefficients for all of the seven factors were greater than the cut-off point of .70 (Fornell & Larcker, 1981; Nunnally & Bernstein, 1994), where alpha coefficients ranged from .77 (Economic Condition Consideration) to .97 (Personal Improvement Activities). CR coefficients ranged from .78 for Economic Consideration to .96 for Personal Improvement Activities. AVE values ranged from .55 to .85, which also provided evidence for convergent validity (Fornell & Larcker, 1981). Overall, the findings indicated that the proposed seven-factor market demand measure had sound reliability (Table 4-6).

The two key components of factorial validity, convergent validity and discriminant validity, are both referred to how well the measurement items on its underlying theoretical construct (Anderson & Gerbing, 1988; Netemeyer et al., 1990). In this study, convergent validity

was examined by assessing factor loadings and t-values. All indicator loadings were equal to or above the suggested standard value of .707 (Anderson & Gerbing, 1988), with the exception of four items with slightly lower loading values. These four items included two items (self-defense and family programs) under the Physical Facility factor and two other items (hidden fee and reasonable refund/cancellation policy) under the Economic Condition Consideration factor. A decision was made to retain these four items based on the following considerations: (a) their theoretical relevance, (b) their importance as shown in the descriptive statistics and t-tests, and (c) overall model fit. The *t*-test values for all of the factor loadings were statistically significant at the .001 level. In addition, significant relationships between the seven factors and the general construct (i.e., market demand) supported convergent validity of the scale. Overall, these findings support the evidence of convergent validity. To assess discriminant validity, Kline (2005) suggested that discriminant validity be established when interfactor correlation is below .85. The interfactor correlation between any two factors ranged from .14 (between Personal Improvement Activities and Locker Room Provision) to .52 (between Physical Facility Quality and Program Activities and Offerings) (Table 4-7). In addition, a squared correlation between two constructs should be lower than the AVE value for any one of the two constructs (Table 4-8). Thus, discriminant validity of the market demand measure was evidenced.

Perceived Benefits

A CFA was performed to evaluate the measurement model of the perceived benefits measure with two latent variables and 12 items. Modification indices suggested that model fit needed to be improved with respecification. In order to improve model fit, three items had to be eliminated based on further considerations of theoretical relevance, parsimoniousness of the model, and indicator loadings. After the modification, the model fit the data marginally well ($S-B \chi^2 / df(433.2/53) = 8.17, p < .01$; RMSEA = .111; CFI = .839; SRMR = .060). However, the

two latent factors (i.e., psychological benefit and physical benefit) were highly correlated (.90), which would likely lead to multicollinearity issues in the SEM stage. Kline (2005) recommended that the variables causing the multicollinearity should be eliminated or combined redundant variables onto a composite variable. Therefore, two latent variables were combined into one factor, labeled Perceived Benefits, based on Kline's suggestion. Consequently, the revised model showed adequate fit for the data (S-B $\chi^2/df(123.4/26) = 4.74, p < .01$; RMSEA = .080; CFI = .936; SRMR = .035).

The Perceived Benefits factor showed good reliability as evidenced in Cronbach's alpha coefficient ($\alpha = .94$) and CR coefficient (.94) (Table 4-6). The AVE value for factor was .64, also providing strong evidence of convergent validity (Fornell & Lorcker, 1981). The findings overall indicated that the one-factor structure was internally consistent (Table 4-6).

Perceived Constraints

A CFA was performed to evaluate the measurement model of three perceived constraints factors with 22 items. Modification indexes suggested that model fit needed to be improved with respecification. To do so, a total of 10 items were eliminated due to their poor indicator loadings and reconsiderations of their theoretical relevance and parsimoniousness of the model. After the modification, the model fit the data reasonably well (S-B $\chi^2/df(240.1/51) = 4.70, p < .01$; RMSEA = .079; CFI = .925; SRMR = .051). Cronbach's alpha coefficients were .76, .86, and .91, respectively, for Intrapersonal Constraints, Interpersonal Constraints, and Structural Constraints. CR values resembled those coefficients derived from calculating Cronbach's alpha. AVE values for the factors ranged from .62 to .66, also indicating strong evidence of convergent validity (Fornell & Lorcker, 1981). Overall, the findings indicated that the three-factor model had internal consistency.

For convergent validity, t-values for all of the factor loadings were statistically significant at the .001 level. In addition, significant relationships among the three factors, as well as between the three factors and a general construct (i.e., perceived constraints), provided supporting evidence of convergent validity of the scale (Table 4-6). The interfactor correlations ranged from .54 (between Intrapersonal Constraints and Structural Constraints) to .70 (between Interpersonal Constraints and Structural Constraints), no interfactor correlation coefficient was larger than .85 (Table 4-7). In addition, a squared correlation between two constructs should be lower than the AVE value for any one of the two constructs (Table 4-8). These indicated very good discriminant validity.

Perceived Value

A CFA was performed to evaluate the measurement model of four perceived value factors with 11 items. Modification indexes suggested that model fit needed to be improved with respecification. The model fit the data well ($S-B \chi^2 / df (224.9/38) = 5.91, p < .01$; RMSEA = .091; CFI = .919; SRMR = .056), so the modification was conducted. Cronbach's alpha coefficients for the four factors were .87, .93, .90, and .73, respectively, for Emotion Value, Price Value, Social Value, and Quality Value. CR coefficients ranged from .70 for Quality Value to .96 for Emotional Value. AVE values for the factors ranged from .54 (Quality Value) to .82 (Price Value), also indicating evidence of convergent validity (Fornell & Lorcker, 1981). The findings overall indicated that the four-factor measure had sound internal consistency (Table 4-6). Additionally, indicator loadings and t-test values supported the presence of convergent validity. For discriminant validity, interfactor correlations ranged from .51 (between Emotion Value and Social Value) to .80 (between Emotion Value and Quality), and no interfactor correlation coefficient was greater than .85 (Table 4-7). In addition, a squared correlation

between two constructs should be lower than the AVE value for any one of the two constructs (Table 4-8). These findings indicated very good discriminant validity of the measure.

Overall Measurement Model

Anderson and Gerbing (1998) introduced a two-step approach, which involves the testing of a general measurement model and a structural model. Thus, initial overall measurement model with 17 latent factors, including all of the market demand, perceived benefits, perceived constraints, and perceived value factors, as well as member satisfaction and commitment, with a total of 76 observed indicators was tested by conducting a CFA. An initial estimation of the overall measurement model produced acceptable levels of model fit (S-B $\chi^2 / df(5483.3/2637) = 2.07, p < .01$; RMSEA = .043; CFI = .906; SRMR = .052); yet, the goodness of fit indexes suggested that the measurement model needs to be respecified in order to achieve better valid and reliable evidence. Consequently, the revised overall measurement model with 16 latent factors and 71 observed indicators was tested. By checking the high modification index, three items were deleted to improve the goodness of fit. One latent factor, Quality Value, with two items was also eliminated due to its very high correlation with Member Commitment. Overall, a finding of the revised measurement model was satisfactory. The S-B $\chi^2 / df(4520/2293 = 1.97)$ was lower than the suggested standard value of 3.0 (Kline, 2005). Robust CFI value of .920 was higher than the recommended cut-off ratio ($>. 90$; Hu & Bentler, 1999). The RMSEA value (.040) indicated a close fit. In addition, the SRMR (.047) was less than .09, indicating a good fit of model (Kline, 2005).

Cronbach's alpha and CR for the factors were all greater than the cut-off point of .70 (Fornell & Lorcker, 1981; Nunnally & Bernstein, 1994). As shown in Table 4-6, alpha coefficients for the factors ranged from .76 (Intrapersonal Constraints) to .97 (Personal Improvement Activities). CR coefficients ranged from .78 for Economic Condition

Consideration and Intrapersonal constraints to .96 for Personal Improvement Activities and Member Satisfaction. AVE values ranged from .55 (Program Activities Offerings and Economic Condition Consideration) to .89 (Member Satisfaction), indicating a strong evidence of reliability.

Convergent validity of the overall measurement model was examined by *t*-value and factor loadings. The *t*-values for the factor loadings were all statistically significant at the .001 level. Factor loading coefficients were equal to or greater than .707, except for five items with slightly lower values (Anderson & Gerbing, 1988). Consistent with measurement model testing for individual conceptual areas, these items were retained due to their theoretical relevance and minimal deviance from the high standard of .707 (Table 4-6).

The interfactor correlations ranged from -.07 (between Locker Room Provision and Structural Constraints) to .77 (Member Satisfaction and Member Commitment), and no interfactor correlation coefficient was greater than .85 (Table 4-7). Discriminant validity was also assessed by comparing the AVE value with the interfactor correlation coefficients, where all squared correlations in the scale should be less than the AVE value for the respective construct (Table 4-8). All of the AVE values were significantly greater than any squared correlations. These findings indicated very good discriminant validity. Overall, the findings of the measurement models provided good evidence for the study to proceed with the SEM analysis.

Structural Equation Model

Based on the overall measurement model, there were a total of 16 observed variables (i.e., personal improvement activities, physical facility quality, instructional staff quality, program activities offerings, cultural learning activities, locker room provision, economic condition consideration, perceived benefits, intrapersonal constraints, interpersonal constraints, structural constraints, emotional value, price value, social value, member satisfaction, and

member commitment) and six latent variables (i.e., market demand, perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment). Figure 1-1 showed the relationships among these constructs. The fit indices revealed that S-B χ^2 / df (5044.8/2391) = 2.11, $p < .01$; RMSEA = .043; CFI = .905; SRMR = .068. The relationship between market demand factors and the latent, general market demand variable was all significantly ($p < .05$) different from zero, and all standardized loading ranged from .36 for Locker Room Provision to .85 for Economic Condition Consideration (Figure 4-2). With respect to the structural relationships, path coefficients were examined among the market demand, perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment constructs. The market demand latent variable directly affected perceived benefits, perceived constraints, and perceived value, and indirectly affected perceived value, member satisfaction, and member commitment. All of the direct and indirect paths were statistically significant ($p < .05$) (Figure 4-2). An amalgamation of the market demand factors had positive effects on perceived benefits ($\beta = .73, p < .01$), perceived constraints ($\beta = -.38, p < .01$), perceived value ($\beta = .72, p < .01$), member satisfaction ($\beta = .58, p < .05$), and member commitment ($\beta = .28, p < .01$). Therefore, H₁₋₅ were supported (Table 4-9). Also, the effect of perceived benefits on perceived value was positive and statistically significant ($p < .05$), where perceived benefits was positively predictive of perceived value ($\beta = .25, p < .001$), indicating that H₆ was supported. However, although the effect of perceived constraints on perceived value was negative, it was not statistically significant ($\beta = -.01; p > .05$); Thus, H₇ was not supported (Table 4-9). The path from perceived value to member satisfaction was positively and statistically significant ($\beta = .45, p < .05$), indicating that H₈ was not supported (Table 4-9). Furthermore,

member satisfaction had a positive impact on member commitment ($\beta = .61, p < .001$), indicating that H₉ was supported (Table 4-9).

To compare the advantage between the partially mediated model (Model A) and the direct effect model (Model B) (Figure 4-3), the chi-squares and degrees of freedom of models were compared to see if the hypothesized model was supported (Model A). The null hypothesis, ‘the partially mediated model fits the data (H₁) would fit the data well just as the fully mediated model,’ was tested. The model comparison test was conducted by using $\chi_{12}^2 = (\chi_1^2 - \chi_2^2) = .07$ and $df_1 - df_2 = 1$. Although the fit index for the partially mediated model was slightly better, the difference was not statistically ($p > .05$) different, indicating that the null hypothesis was retained. In this case, it would be reasonable to consider that perceived benefits and perceived constraints fully mediated the relationships between market demand and perceived value, which in turn influenced member satisfaction and commitment.

The capability of the hypothesized model to explain variation in perceived value, member satisfaction, and member commitment was estimated by R^2 value. A total 85% of variable in perceived value was explained by the market demand, perceived benefits, and perceived constraints. The R^2 values for member satisfaction and member commitment were .54 and .69, respectively (Figure 4-2).

Summary of the Results

In summary, for each individual measurement model a CFA was conducted to assess the validity of its construct(s). The findings revealed that the market demand consisted of seven factors (i.e., personal improvement activities, physical facility quality, instruction staff quality, program activities offerings, cultural learning activities, economic condition consideration, and locker room provision). Perceived benefits variables converged to one factor. Perceived constraints were found to be of a three-factor structure (i.e., intrapersonal, interpersonal, and

structural constraints). Perceived value had four factors retained, including emotion value, price value, social value, and quality value. In addition, member satisfaction and member commitment were confirmed as being unidimensional. After confirming individual measurement models, an overall measurement model was found to fit the data well. Finally, a SEM was conducted for testing the stated hypotheses, all of which were supported except H₇, where perceived constraints were not found to be predictive of perceived value (Table 4-9).

Table 4-1. Descriptive statistics for the market demand variables (N = 595)

Factors and items	<i>M</i>	<i>SD</i>
Personal Improvement Activities		
Improving self-discipline (PIA1)	6.02	1.384
Improving patience (PIA2)	5.76	1.410
Learning to be humble (PIA3)	5.58	1.490
Fully exploring individual potential (PIA4)	6.16	1.205
Building character (PIA5)	5.98	1.300
Fostering a positive attitude (PIA6)	6.03	1.286
Improving self-confidence (PIA7)	6.20	1.193
Improving social skills (PIA8)	5.43	1.531
Improving self-concept (PIA9)	5.73	1.379
Increasing personal pride (PIA10)	5.90	1.354
Developing respect for other people (PIA11)	5.87	1.437
Developing a strong work ethic (PIA12)	5.85	1.416
Improving leadership skills (PIA13)	5.91	1.395
Developing a code of honor (PIA14)	5.78	1.486
Physical Facility Quality		
The school has first-aid equipment (PFQ1)	5.51	1.536
The school has safety equipment (PFQ2)	5.76	1.422
The school's facility is safe and comfortable (PFQ3)	6.23	1.004
The school's interior is well designed (PFQ4)	5.74	1.339
The school has adequate space for class activities (PFQ5)	5.93	1.289
The school has up-to-date equipment (PFQ6)	5.86	1.239
A variety of exercise equipments are available (PFQ7)	5.14	1.717
The school's ambience is excellent (PFQ8)	5.81	1.339
The school's facility is aesthetically attractive (PFQ9)	5.38	1.483
Cultural Learning Activities		
Learning Korean philosophy (ritual/ceremony, symbol) (CLA1)	4.62	1.808
Learning about Korean culture (CLA2)	4.32	1.753
Learning about Korean heritage (CLA3)	4.26	1.767
Improving bilingual ability (CLA4)	3.91	1.795
Locker Room Provision		
The school offers a good locker room (LRP1)	4.08	1.855
The locker room is safe (LRP2)	4.75	1.866
The school offers a good shower room (LRP3)	3.18	2.017
The locker room in this school is convenient (LRP4)	4.38	1.925
The locker room in this school is clean (LRP5)	4.73	1.871
The shower room in this school is clean (LRP6)	3.94	1.964

Table 4-1. Continued

Factors and items	<i>M</i>	<i>SD</i>
Instructional Staff Quality		
Instructors/masters have a good reputation (ISQ1)	6.57	0.892
Having an adequate number of instructors (ISQ2)	6.07	1.277
Instructors/masters are willing to help members (ISQ3)	6.59	0.884
Having well qualified instructors (ISQ4)	6.57	0.959
Instructors/masters are friendly (ISQ5)	6.60	0.853
Instructors/masters handle problems promptly and professionally (ISQ6)	6.38	1.073
Program Activities Offerings		
Opportunity to see master's demonstration performance (PAO1)	5.06	1.748
Dan certification from a sanctioned organization (PAO2)	5.88	1.554
Child-care services (PAO3)	3.12	1.942
An appropriate class size (PAO4)	5.61	1.395
A reasonable belt promotion system (PAO5)	5.85	1.376
After-school programs (PAO6)	3.91	2.075
Classes focusing on self-defense (PAO7)	5.50	1.584
Quality promotional materials (e.g., pamphlets) (PAO8)	4.67	1.864
Opportunities to compete in taekwondo tournaments (PAO9)	5.83	1.567
Free trial lessons (PAO10)	5.39	1.760
Special events (e.g., training camp) (PAO11)	5.25	1.744
Various activities for different groups of members (PAO12)	5.23	1.705
Family programs (PAO13)	5.38	1.716
Convenient operating hours (PAO14)	6.11	1.142
Classes at several different times (PAO15)	5.79	1.525
Economic Condition Consideration		
No charge any hidden fees (ECC1)	6.15	1.346
Payment methods service is convenient (ECC2)	6.18	1.127
The membership fee is reasonable (ECC3)	6.07	1.262
A reasonable refund and cancellation policy (ECC4)	5.50	1.554
Offering giveaway items (uniforms, belts, club bag, etc) (ECC5)	4.47	1.934
Offering flexible payment plans (ECC6)	5.49	1.584
Offering optional long term membership category (ECC7)	5.19	1.881
Offering discounted family membership option (ECC8)	5.83	1.469

Note. PIA = personal improvement activities; PFQ = physical facility quality; CLA = cultural learning activities; LRP = locker room provision; ISQ = instructional staff quality; PAO = program activities offerings; ECC = economic condition consideration

Table 4-2. Descriptive statistics for the perceived benefits (N = 595)

Factors and items	<i>M</i>	<i>SD</i>
Psychological Benefit		
Coping with life's pressures (PSY1)	5.92	1.222
Enhancing self-image (PSY2)	5.82	1.243
Improving my mental health (PSY3)	5.97	1.186
Improving my character (PSY4)	5.88	1.292
Improving positive psychological effect (PSY5)	6.00	1.150
Enhancing self-confidence (PSY6)	6.14	1.086
Feeling better in general (PSY7)	6.36	0.949
Physical Benefit		
Improving my appearance (PHY1)	5.58	1.351
Basic athletic skills (PHY2)	6.14	1.087
Improving my physical health (PHY3)	6.42	0.826
Improving self-protection (PHY4)	6.14	1.124
Improving self-defense ability (PHY5)	6.21	1.063

Note. PSY = psychological benefit; PHY = physical activity

Table 4-3. Descriptive statistics for the perceived constraints (N = 595)

Factors and items	<i>M</i>	<i>SD</i>
Intrapersonal Constraints		
Health problems (ITR1)	3.43	1.984
Harder to learn than other sports (ITR2)	2.52	1.663
Skills are improved enough (ITR3)	2.50	1.669
Tiring to attend the Taekwondo school (ITR4)	2.16	1.419
Afraid of injury (ITR5)	2.28	1.488
No fun anymore (ITR6)	2.23	1.641
Physically challenging (ITR7)	3.02	2.087
Interpersonal Constraints		
Happy with social situations in school (ITE1)	2.58	1.797
I do not think that the instructor(s)/master is competent (ITE2)	2.44	2.103
No close partner in school (ITE3)	2.26	1.587
Observing negative attitudes from instructor(s)/master (ITE4)	2.66	2.126
Problems with my training partner in the TKD school (ITE5)	2.04	1.424
A language barrier in the Taekwondo school (ITE6)	1.85	1.318
Structural Constraints		
Pay for expensive equipments to attend in school (STR1)	2.56	1.746
Pay for expensive membership and promotion fees (STR2)	2.70	1.944
Not enough money to participate in school (STR3)	2.92	2.021
Not enough time to participate in school (STR4)	2.82	1.906
The facility is poorly maintained (STR5)	2.51	1.861
The school is located too far away (STR6)	2.63	1.919
Not have transportation to attend the school (STR7)	2.35	1.872
The facility is very crowded (STR8)	2.48	1.696
I cannot afford to attend the school (STR9)	2.82	2.009

Note. ITR = intrapersonal constraints; ITE = interpersonal constraints; STR = structural constraints

Table 4-4. Descriptive statistics for the perceived value (N = 595)

Factors and items	<i>M</i>	<i>SD</i>
Emotional Value		
Something that I would enjoy (EMO1)	6.52	0.834
Something that I like to participate (EMO2)	6.56	0.792
I feel comfortable attending the Taekwondo school (EMO3)	6.50	0.924
Price Value		
Reasonably priced (PRI1)	6.01	1.245
Offering value for the money I spend (PRI2)	6.18	1.220
Affordable (PRI3)	5.77	1.417
Social Value		
Making a good impression on other people (SOC1)	5.84	1.405
Helping me feel accepted by others (SOC2)	5.36	1.642
Improving the way I am perceived by others (SOC3)	5.53	1.521
Quality Value		
Last a long time (QUA1)	6.04	1.276
I would definitely consider continuing with school (QUA2)	6.49	1.077

Note. EMO = emotional value; PRI = price value; SOC = social value; QUA = quality value

Table 4-5. Descriptive statistics for the member satisfaction and commitment (N = 595)

Factors and items	<i>M</i>	<i>SD</i>
Member Satisfaction		
I am satisfied with my decision to attend the school (MSA1)	6.54	0.966
I am happy that I attended the school (MSA2)	6.58	0.907
I think that I did the right thing by deciding to attend the school (MSA3)	6.58	0.944
Member Commitment		
I am dedicated to being a member of the school (MCO1)	6.47	1.103
I am determined to remain a member of the school (MCO2)	6.39	1.199
It would be hard for me to quit member of the school (MCO3)	6.18	1.465
I would be willing to do almost anything to keep being a member of the school (MCO4)	5.59	1.753
I would be willing to do almost anything to keep being a member of the school (MCO4)	6.54	0.966

Note. MSA = member satisfaction; MCO = member commitment

Table 4-6. Summary results for overall measurement model

Construct and Items	CR	λ	α	AVE
Personal Improvement Activities (11 items)	.96		.97	.72
Improving self-discipline (PIA1)		.840		
Learning to be humble (PIA3)		.814		
Building character (PIA5)		.907		
Fostering a positive attitude (PIA6)		.902		
Improving self-confidence (PIA7)		.853		
Improving self-concept (PIA9)		.822		
Increasing personal pride (PIA10)		.796		
Developing respect for other people (PIA11)		.875		
Developing a strong work ethic (PIA12)		.839		
Improving leadership skills (PIA13)		.842		
Developing a code of honor (PIA14)		.856		
Physical Facility Quality (6 items)	.90		.90	.61
The school's facility is safe and comfortable (PFQ3)		.743		
The school's interior is well designed (PFQ4)		.865		
The school has adequate space for class activities (PFQ5)		.708		
The school has up-to-date equipment (PFQ6)		.759		
The school's ambience is excellent (PFQ8)		.766		
The school's facility is aesthetically attractive (PFQ9)		.837		
Instructional Staff Quality (5 items)	.92		.92	.71
Instructors/masters have a good reputation (ISQ1)		.833		
Instructors/masters are willing to help members (ISQ3)		.875		
Having well qualified instructors (ISQ4)		.886		
Instructors/masters are friendly (ISQ5)		.803		
Instructors/masters handle problems promptly/ professionally (ISQ6)		.813		
Program Activities Offerings (5 items)	.85		.86	.55
Classes focusing on self-defense (PAO7)		.686		
Quality promotional materials (e.g., pamphlets) (PAO8)		.726		
Special events (e.g., training camp) (PAO11)		.775		
Various activities for different groups of members (PAO12)		.821		
Family programs (PAO13)		.696		

Table 4-6. Continued

Construct and Items	CR	λ	α	AVE
Cultural Learning Activities (3 items)	.94		.94	.85
Learning Korean philosophy (ritual and symbol) (CLA1)		.831		
Learning about Korean culture (CLA2)		.972		
Learning about Korean heritage (CLA3)		.959		
Locker Room Provision (4 items)	.93		.94	.78
The school offers a good locker room (LRP1)		.883		
The locker room is safe (LRP2)		.867		
The locker room in this school is convenient (LRP4)		.894		
The locker room in this school is clean (LRP5)		.895		
Economic Condition Consideration (3 items)	.78		.77	.55
Not charged any hidden fee (ECC1)		.681		
Membership fee is reasonable (ECC3)		.862		
A reasonable refund and cancellation policy(ECC4)		.657		
Personal Benefit (9 items)	.94		.94	.64
Enhancing self-image (PBE1)		.762		
Improving my mental health (PBE2)		.806		
Improving my character (PBE3)		.830		
Improving positive psychological effect (PBE4)		.858		
Enhancing self-confidence (PBE5)		.886		
Feeling better in general (PBE6)		.832		
Improving my physical health (PBE7)		.726		
Improving self-protection (PBE8)		.723		
Improving self-defense ability (PBE9)		.772		
Intrapersonal Constraints (2 items)	.78		.76	.64
Tiring to attend the Taekwondo school (ITR4)		.678		
No fun anymore (ITR6)		.911		
Interpersonal Constraints (3 items)	.80		.86	.58
Happy with social situations in school (ITE1)		.678		
I do not think that the instructor(s)/master is competent (ITE2)		.887		
Observing negative attitudes from instructor(s)/master (ITE4)		.702		

Table 4-6. Continued

Construct and Items	CR	λ	α	AVE
Structural Constraints (5 items)	.91		.92	.67
Not enough time to participate in school (STR4)		.681		
The school is located too far away (STR6)		.816		
Not have transportation to attend the school (STR7)		.916		
The facility is very crowded (STR8)		.811		
I cannot afford to attend the school (STR9)		.863		
Emotional Value (3 items)	.87		.87	.69
Something that I would enjoy (EMO1)		.839		
Something that I like to participate (EMO2)		.829		
I feel comfortable attending the Taekwondo school (EMO3)		.830		
Price Value (3 items)	.93		.93	.82
Reasonably priced (PRI1)		.951		
Offering value for the money I spend (PRI2)		.876		
Affordable (PRI3)		.889		
Social Value (3 items)	.90		.90	.76
Making a good impression on other people (SOC1)		.819		
Helping me feel accepted by others (SOC2)		.884		
Improving the way I am perceived by others (SOC3)		.910		
Member Satisfaction (3 items)	.96		.96	.89
Satisfied with my decision to attend school (MSA1)		.934		
Happy I attend school (MSA2)		.983		
I did the right thing by deciding to attend the school (MSA3)		.911		
Member Commitment (3 items)	.94		.93	.85
Dedicated to being a member of the school (MCO1)		.944		
Determined to remain a member of the school (MCO2)		.969		
It would be hard for me to quit member of the school (MCO3)		.844		

Table 4-7. Correlations among market demand constructs

Factor	Correlation Matrix															
	PIA	PFQ	ISQ	PAO	CLA	LRP	ECC	PBE	ITR	ITE	STR	EMO	PRI	SOC	MSA	MCO
PIA	1															
PFQ	.400**	1														
ISQ	.326**	.381**	1													
PAO	.470**	.515**	.451**	1												
CLA	.293**	.336**	.297**	.414**	1											
LRP	.143**	.307**	.300**	.259**	.199**	1										
ECC	.361**	.376**	.589**	.478**	.236**	.293**	1									
PBE	.538**	.461**	.492**	.505**	.304**	.178**	.480**	1								
ITR	-.241**	-.266**	-.267**	-.286**	-.163**	-.103*	-.261**	-.318**	1							
ITE	-.173**	-.252**	-.260**	-.282**	-.161**	-.116**	-.264**	-.215**	.583**	1						
STR	-.125**	-.171**	-.129**	-.217**	-.091*	-.077	-.215**	-.186**	.540**	.695**	1					
EMO	.360**	.377**	.543**	.394**	.241**	.175**	.523**	.629**	-.357**	-.231**	-.158**	1				
PRI	.351**	.399**	.443**	.403**	.229**	.240**	.713**	.524**	-.263**	-.235**	-.243**	.624**	1			
SOC	.420**	.379**	.385**	.477**	.224**	.136**	.451**	.584**	-.250**	-.258**	-.248**	.507**	.541**	1		
MSA	.300**	.398**	.666**	.364**	.251**	.226**	.549**	.516**	-.268**	-.226**	-.157**	.622**	.548**	.356**	1	
MCO	.342**	.362**	.619**	.385**	.278**	.179**	.550**	.522**	-.331**	-.216**	-.181**	.644**	.531**	.418**	.772**	1
Mean	5.89	5.82	6.54	5.20	4.40	4.46	5.90	6.10	2.20	2.56	2.61	6.53	5.98	5.58	6.57	6.35
SD	1.19	1.05	0.82	1.38	1.68	1.74	1.16	0.91	1.38	1.78	1.61	0.76	1.22	1.39	0.90	1.18

Note. **. Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Note. PIA = personal improvement activities; PFQ = physical facility quality; CLA = cultural learning activities; LRP = locker room provision; ISQ = instructional staff quality; PAO = program activities offerings; ECC = economic condition consideration; PBE = perceived benefits; ITR = intrapersonal constraints; ITE = interpersonal constrains; STR = structural constraints; EMO = emotional value; PRI = price value; SOC = social value; MSA = Member Satisfaction; MCO = Member Commitment.

Table 4-8. Assessment of discriminant validity

Factor	AVE and Squared Correlations															
	PIA	PFQ	ISQ	PAO	CLA	LRP	ECC	PBE	ITR	ITE	STR	EMO	PRI	SOC	MSA	MCO
PIA	0.72															
PFQ	0.160	0.61														
ISQ	0.107	0.145	0.71													
PAO	0.221	0.265	0.204	0.55												
CLA	0.086	0.113	0.088	0.171	0.85											
LRP	0.020	0.094	0.090	0.067	0.040	0.78										
ECC	0.130	0.141	0.347	0.229	0.056	0.086	0.55									
PBE	0.289	0.212	0.242	0.255	0.093	0.032	0.230	0.64								
ITR	0.058	0.071	0.071	0.082	0.026	0.011	0.068	0.101	0.64							
ITE	0.030	0.063	0.068	0.079	0.026	0.013	0.069	0.046	0.340	0.58						
STR	0.016	0.029	0.017	0.047	0.008	0.006	0.046	0.035	0.291	0.484	0.67					
EMO	0.130	0.142	0.295	0.155	0.058	0.031	0.274	0.395	0.128	0.053	0.025	0.69				
PRI	0.123	0.159	0.197	0.163	0.052	0.058	0.508	0.274	0.069	0.055	0.059	0.390	0.82			
SOC	0.177	0.144	0.149	0.227	0.050	0.018	0.203	0.341	0.063	0.067	0.062	0.257	0.292	0.76		
MSA	0.090	0.159	0.444	0.132	0.063	0.051	0.302	0.267	0.072	0.051	0.025	0.387	0.300	0.127	0.89	
MCO	0.117	0.131	0.384	0.148	0.077	0.032	0.302	0.273	0.110	0.047	0.033	0.414	0.282	0.175	0.597	0.85

Note. PIA = personal improvement activities; PFQ = physical facility quality; CLA = cultural learning activities; LRP = locker room provision; ISQ = instructional staff quality; PAO = program activities offerings; ECC = economic condition consideration; PBE = perceived benefits; ITR = intrapersonal constraints; ITE = interpersonal constrains; STR = structural constraints; EMO = emotional value; PRI = price value; SOC = social value; MSA = Member Satisfaction; MCO = Member Commitment.

Note. The AVE value of each factor is shown on the diagonal in bold

Table 4-9 Standardized parameter estimates and hypothesis testing

Endogenous Variable	Exogenous Variable					Hypothesis Testing	
	PB	PC	PV	MSA	MCO		
Market Demand	.73**	-.38**	.72**	.58*	.28**	H ₁₋₅	Supported
Perceived Benefits	–	–	.25**	–	–	H ₆	Supported
Perceived Constraints	–	–	-.01	–	–	H ₇	Not Supported
Perceived Value	–	–	–	.45*	–	H ₈	Supported
Member Satisfaction	–	–	–	–	.61**	H ₉	Supported

Note. ** $p < .01$; * $p < .05$

Note: MD = Market Demand; PB = Perceived Benefits; PC = Perceived Constraints; PV = Perceived Value; MSA = Member Satisfaction; MCO = Member Commitment

Table 4-10. The direct and indirect effects of market demand on commitment

Direct/Indirect Effect	Path	Standardized Coefficient
Direct effect	MD → MCO	.28
Indirect effect	MD → PV → MSA → MCO	$.72 \times .17 \times .60 = .07$
Indirect effect	MD → PB → PV → MSA → MCO	$.73 \times .25 \times .17 \times .60 = .019$
Indirect effect	MD → PC → PV → MSA → MCO	$-.38 \times .01 \times .17 \times .60 = .00039$
Indirect effect	MD → MSA → MCO	$.58 \times .60 = .35$
Total effect		$.28 + .07 + .019 + .00039 + .35 = .72$

Note: MD = Market Demand; PB = Perceived Benefits; PC = Perceived Constraints; PV = Perceived Value; MSA = Member Satisfaction; MCO = Member Commitment

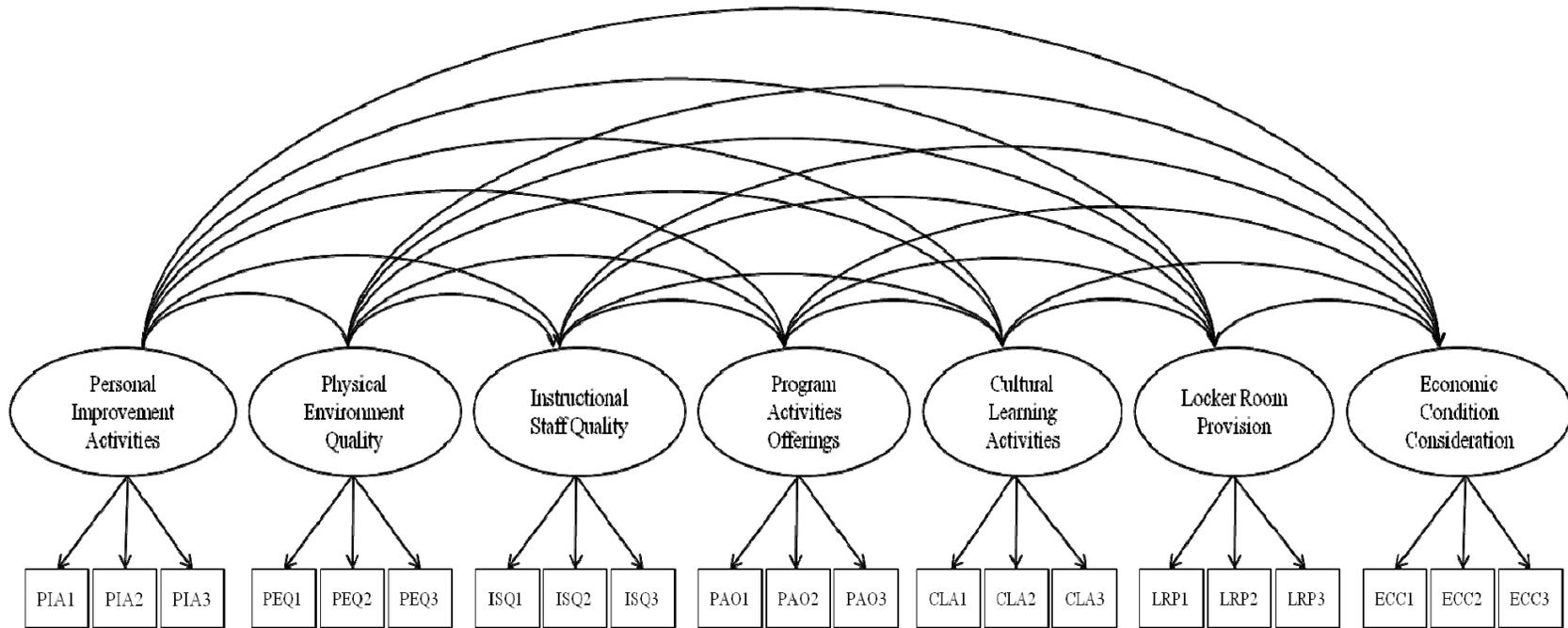


Figure 4-1. First-order confirmatory factor analysis for market demand

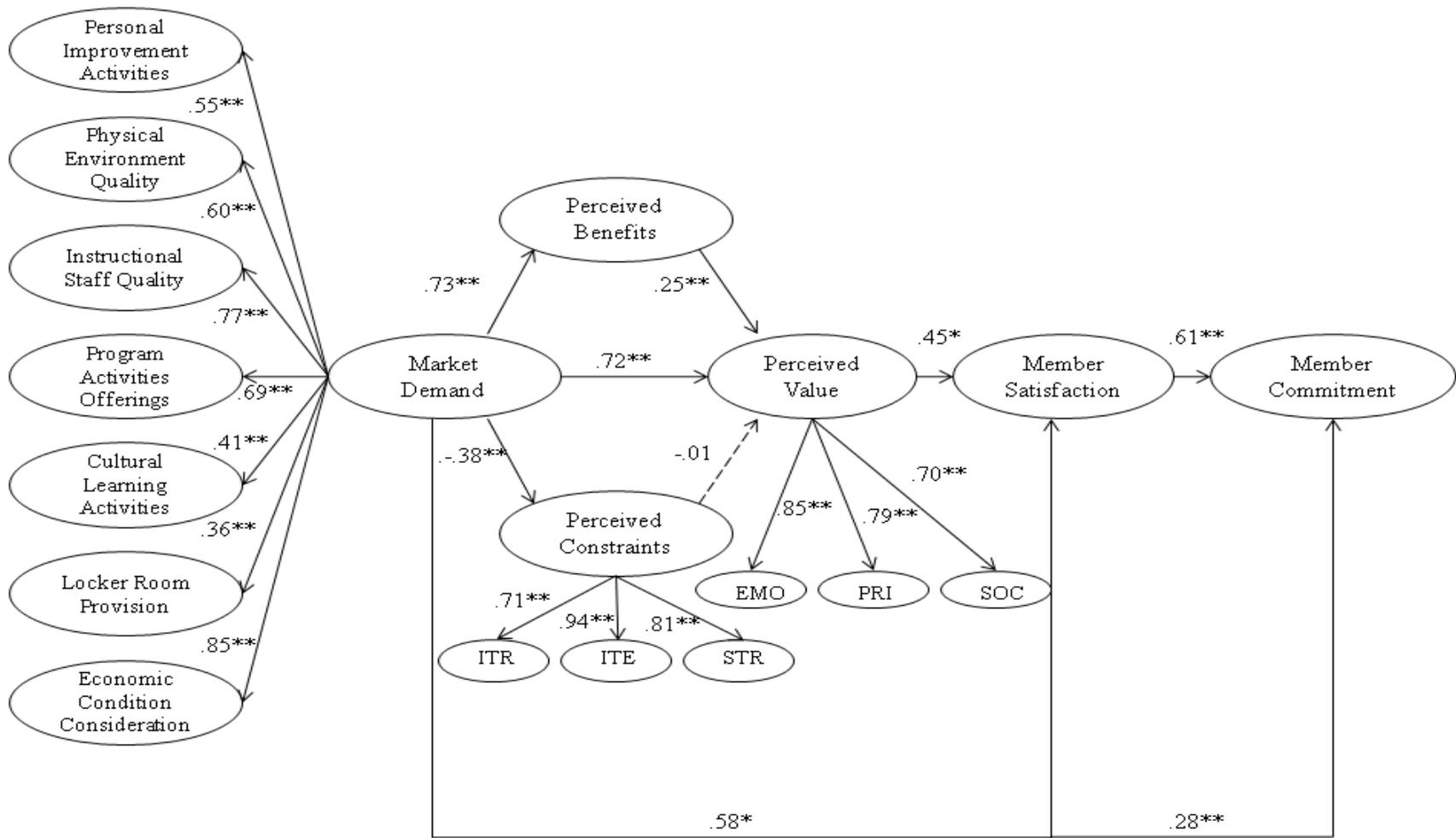
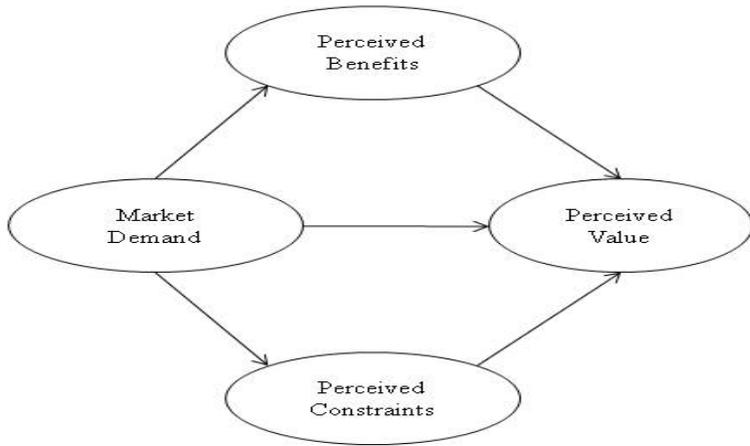
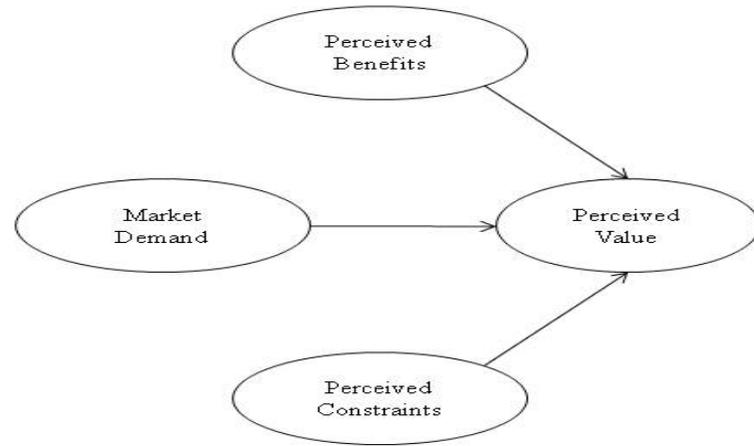


Figure 4-2. A hypothesized model of the relationships among market demand, perceived benefit, perceived constraint, perceived value, member satisfaction, and member commitment



Model A: Partially mediated model



Model B: Direct effect model

Figure 4-3. A comparison of the partially mediated model and the direct effect model.

CHAPTER 5 DISCUSSION

Because rapid growth in the number of martial arts schools has resulted in a highly competitive business environment in the U.S., it is important for both practitioners and academicians to understand the dimensions of market demand, perceived benefits, perceived constraints, perceived value, member satisfaction, and member commitment both conceptually and empirically in the context of this sport industry segment. While empirically testing the hierarchical relationships among these belief-attitude-intention constructs, the mediating influence of perceived benefits and perceived constraints in the relationships of market demand to member satisfaction and commitment was taken into consideration. Using TKD schools as an example of studying martial arts schools, the following processes were undertaken in the current study: (a) each of the measurement scales for the psychological constructs were reexamined for their measurement properties; (b) psychometric properties for the overall measure were further assessed; and (c) the hierarchical relationships among these constructs were examined through conducting an SEM. This discussion section presents the following: (a) the measurement model, (b) the structural model and hypothesis testing, and (c) suggestions for further study.

Measurement Model

With respect to the market demand variables, assessment of the psychometric properties of the Revised SMD-TKD scale indicated that the scale with seven factors was of good validity and reliability. The seven-factor model had one factor (Economic Condition Consideration) that was additional to the original SMD-TKD (Kim et al., 2009). The resolved factor structure represents a parsimonious solution of measuring the market demand of TKD schools. Improvements made in Kim and Zhang's (2010) revision helped improve its measurement properties and also applicability in both research and practical settings. Findings in the current study confirmed these

merits of the scale. Because the Revised SMD-TKD scale assesses the attributes of core product elements of a martial arts program, it is assumed that information obtained from adopting this measure would have direct relevance to improving the operation and marketing of programs, so that they become strongly positioned in a highly competitive marketplace. The perceived benefits variables were initially hypothesized to fall into two factors, namely psychological benefits and physical benefits. However, the model fit indices did not support the two-factor model. Upon consideration of the statistical evidence, the scale was revised to a unidimensional construct. The resolved factor structure and its items were similar to those of Kim et al.'s (2009) personal benefits construct and its items (i.e., improving self-image, mental health, character, psychological effect, self-confidence, better feeling, physical health, and self-defense). In the current study, the revealed presence of a perceived benefits factor indicates its potential role for understanding martial arts participants, and also signifies the importance and relevance of perceived benefits variables in one's propensity to make a commitment to martial arts training (e.g., Columbus & Rice, 1991; Daniels & Thornton, 1990; Finkenberg, 1990; Fuller, 1988; Law, 2004; Richman & Rehberg, 1986; Spear, 1989; Trulson, 1986).

With respect to perceived constraints, this study identified three perceived constraints dimensions (i.e., intrapersonal, interpersonal, and structural constraints) that might prohibit or hinder one from training at a martial arts school. The findings were consistent with those of Crawford and Godbey (1987). Intrapersonal constraints with regard to martial arts involves participants' psychological states and attributes that interact with their preferences, and include such issues as the training activity being tiring and not fun. Interpersonal constraints consisted of social situations, competence of the instructor/master, and negative attitude of the instructor/master. Finally, structural constraints consisted of external factors primarily related to

lack of availability of the resources needed to participate in martial arts. In this study, the retained items, including time, location, transportation, crowdedness of school, and affordability were found to be significant indicators among the structural constraints. Previous studies have consistently found that more than 30% of respondents' perceived constraints were based on a lack of money and time. Lack of time as a constraint was indicated in a number of recreation/leisure participant studies, which was also the case in this study (Alexandris & Carroll, 1997; Kay & Jackson, 1991). Data in the current study suggest that the perceived constraints regarding martial arts participation tend to play a significant role in explaining participants' behaviors and predicting their intentions to remain in martial arts schools. In order to overcome such constraints, it is important for program administrators and marketers to undertake promotional efforts to encourage internal motivation. For instance, it is important for martial arts programs to consider scheduling favorable operating hours with regard to participants' availability (e.g., after school, after work, and weekends). Furthermore, schools should consider location, transportation service, class size, and communication channels to enhance the effectiveness of program operations (Brady & Cronin, 2001; Kim et al., 2009).

For the perceived value variables, the current study initially proposed a four-dimension model based on Sweeney and Soutar (2001)'s PERVAL scale: (a) emotional value, (b) social value, (c) functional value (price/value for money), and (d) functional value (performance/quality). However, these four dimensions were not replicated in this study. The functional value (performance/quality) did not emerge as an independent dimension for martial arts participation due to its high correlation with member commitment. Unlike a number of previous studies that measured perceived value via a single-item construct, findings of this study did confirm that perceived value for martial arts schools are of a multidimensional nature.

Consequently, perceived value cannot be accounted for as simply the outcome of the trade-off between a single overall quality and constraints, as the concept of perceived value is much more complicated than a single-item construct can encompass (Bolton & Drew, 1991). It was certain that multiple dimensions of perceived value could better explain martial arts participation satisfaction than any single item alone.

Structural Models and Hypothesis Testing

The goodness of fit of the overall measurement model permitted an examination of the structural relationships of market demand to the exogenous constructs in this study. All seven market demand factors were found to be predictive of the general latent variable of market demand, where the dimension of Economic Condition Consideration was shown to be the most important factor ($R^2 = .72$), accounting for 72% of the variance in market demand (Figure 4-2). With respect to the Economic Condition Consideration, such considerations as no hidden fees, reasonable membership fees, and a refund and cancellation policy played significant roles in TKD schools (Table 4-6). Another important factor, Instructional Staff Quality (e.g., instructor reputation, friendliness, qualifications, and handling problems promptly) was found to explain about 59% of the variance in market demand (Figure 4-2). This finding was consistent with previous findings that an instructor's attitude, expertise, and actual behavior had a direct influence on current and new consumers' evaluations of program services (Bitner, 1990; Brady & Cronin, 2001; Kim et al., 2009; Ko & Pastore, 2004, 2005; Papadimitriou & Karteroliotis, 2000). Although the Locker Room Provision factor accounted for 13% of the variance in market demand, managers would be well-advised to take it seriously because it pinpoints the areas of locker room condition and maintenance for improvement (Figure 4-2). It is important to note that in Kim et al.'s (2009) study, the Cultural Learning activities factor was not found to have a significant impact on the consumption level of TKD schools. Similarly, although Ko et al. (2010)

indicated that culture learning was one of the motivation factors that would explain why people participate in TKD, cultural activities were found to have no significant impact on the motivation of TKD participants. Unlike these previous studies, the findings of the current study showed that the Cultural Learning Activities factor had a significant effect on market demand, indicating that TKD participants were likely to acculturate to learn Korean philosophy, culture, and heritage through training in TKD schools (Patel et al., 2002; Schmidt, 1986). It appeared that the TKD participants were very much oriented to train in TKD schools for cultural learning and socio-psychological discipline (e.g., respect other people, positive attitude, leadership skills, code of honor, and strong work ethic) (Kim et al., 2009; Ko et al., 2010). TKD school administrators may wish to consider developing special curricula activities and elements that foster cultural and psychological learning and improvement.

With respect to the perceived constraints, the interpersonal constraints factor was shown to be most important ($R^2 = .88$), accounting for 88% of the variance in perceived constraints (Figure 4-2). Of items assessing interpersonal constraints, social interaction and relationship with the master/instructor were considered highly relevant by the participants. This was consistent with previous findings revealing that learning martial arts was a product of social interactions (Kim et al., 2009; Weiss, 1987). Finally, in terms of the perceived value variables, all three factors (i.e., Emotion Value, Price Value, and Social Value) were highly predictive of the general construct of perceived value. Of these factors, Emotion Value accounted for 72% of the variance in perceived value. In a previous study, this factor was also found to be a critical aspect of a participant's value perceptions of participating in martial arts training (Sweeney & Soutar, 2001). After the overall measurement model was found to fit to the data well, the structural model was examined to test the hypotheses.

Previous market demand studies have primarily examined the extent to which market demand factors directly affected consumption behaviors, and explained only a small portion of variance, typically lower than 20% (Byon et al., 2009; Schofield, 1983). Following the concept of reasoned action theory, this study recognized the importance and necessity to study the sequential relationships of beliefs, attitude, and intentions associated with martial arts school participations. To this end, the structural relationships of market demand on perceived benefits, perceived value, perceived constraints, member satisfaction, and member commitment were examined. Market demand was found to be of significant impact on all exogenous constructs. Instead of only 28% variance in member commitment being directly explained by the market demand construct, a total of 72% variance in member commitment was explained in the structural model, including both direct and indirect influences, revealing a much higher explanatory power.

Essentially, Hypotheses 1-5 were supported (Byon et al., 2008). Further, perceived benefits of martial arts participation were found to have a positive impact on perceived value, indicating that participants would select a martial arts school that meet their expected benefits and value. This finding was consistent with Holbrook's (1996) suggestion that the martial arts customer who has perceived the benefits of a given product or service may be expected to experience a positive perceived value attached to his or her experience with that product or service. With respect to the effects of the perceived constraints on perceived value, a negative impact on the perceived value was identified although it was not statistically significant. Previous studies (i.e., Snoj et al., 2004; Tam, 2004) have consistently found that perceived constraints negatively influence the perceived value of a mobile phone. In particular, Tam (2004) indicated that perceived constraints, such as monetary and time costs, would have a negative effect on

perceived value in the competitive marketplace. Apparently, findings of this study failed to confirm this notion; future studies are needed to further examine this issue.

Perceived value was found to exert influence on member satisfaction and commitment. This finding was consistent with the findings of previous research indications that perceived value would be an important concept that influences customer satisfaction and behavioral intentions in both pre-purchase and post-purchase stages (Cronin et al., 2000b; Eggert & Ulaga, 2002; Fornell et al., 1996; Heskett & Schlesinger, 1994; Tam, 2004; Woodruff, 1997), which would in turn positively influence member commitment. Accordingly, highly perceived value for martial arts program would be a significant element in an organization's efforts for maintaining long-term customer relationships (Johnson et al., 2008; Kelley et al., 1990; Morgan & Hunt, 1994).

The tested structure model in this study has provided in-depth information about the relationships of market demand factors to a number of exogenous belief-attitude-intention constructs, which has provided researchers and practitioners with needed evidence to develop effective marketing strategies and campaigns by tapping into such key concepts as perceived benefits, perceived value, perceived constraints, and member satisfaction when highlighting the core attributes of martial arts programs. In addition, the findings indicate that participants' perceived constraints contributed to the reduction of their perceived value ratings and member satisfaction. Martial arts program managers need to identify the constraints with their programs and work to minimize their existence and influence. For example, finding a good master/instructor may be even more important than finding the right school due to the importance of interpersonal constraints. In the meantime, martial arts participants are encouraged to search for instructors with such positive qualities as patience, knowledge, and strong

communication skills. Prospective participants should also search for schools with adequate facilities, including padded or sprung floors, full-length mirrors, and roomy practice spaces with no obstructions. Another example is related to pricing strategies, which is generated from the descriptive statistics revealing that a flexible payment option, reasonable membership fee, and various payment methods in the Economic Condition Consideration factor were critically considered by program participants. Thus, martial arts school administrators may consider applying family discounts, long-term membership discounts, and referral discounts to recruit martial arts members. Identifying these perceived constraints would be fundamental for martial arts schools to understand customer expectations, perceived performance, and their discrepancy, and develop effective marketing schemes to meet the expectations of consumers.

As participants feel more satisfied with an organization's offerings, they will be more likely to be repeat customers and refer others to join (Eggert & Ulaga, 2002; Fornell, 1992; Maxham & Netemeyer, 2002). Zhang et al. (2004) also recognized the importance of providing quality programs and the necessity of developing diversified programs in order to achieve market penetration and expansion by considering sociodemographic variables when planning marketing strategies. Better understanding of target segmentation facilitates market penetration and expansion of martial arts schools in terms of offering a variety of customized quality programs and activities. For example, the findings of the current study indicate that mental control training, self-defense, and cultural learning experiences were critical reasons for adult participants to practice TKD; thus, TKD marketers might wish to consider developing special programs that focus on these topics. Very importantly, the findings of this study revealed that program offerings based on market demand (i.e., attributes of core products) led to high consumer satisfaction level, which in turn led to a high level of consumer commitment. Based on these

findings, martial arts school administrators should position their marketing strategies by increasing perceived benefits and decreasing perceived constraints in an effort to recruit and retain participants.

Suggestions for Further Study

Several opportunities for future study are noted as follows: First, future studies are needed to confirm the model using data collected from different martial arts contexts to allow for further generalizability of the model. Second, in order to better understand individual participants in the martial arts, future studies should examine individual characteristics, such as age, gender, ethnicity, education, and belt ranking as moderating variables (Evanschitzky & Wunderlich, 2006). Individual demographic characteristics affect a participant's propensity to perceive experience dimensions, and this study examines whether there are differences in understanding and interpreting experience variables depending on individual consumers' characteristics. Third, this study was delimited to the adult population who is overall of low consumption level of TKD. In fact, a majority of TKD school attendants are school aged children (SGMA, 2010). Thus, future studies need to examine those marketing factors pertinent to the youth population; in particular, the proposed structural model or alternative models should be tested with a sample of youth TKD participants. Fourth, although this study involved a sample of TKD participants with various belt ranks, individuals with black belt accounted for a very large portion of the sample (i.e., 65%). As the highest rank in this sport, people of black belt likely possess higher motivation and commitment to attend TKD schools. Future studies may be constructed to confirm the hypothesized structural model with a sample that is more diverse in belt rankings. Fifth, in this study member satisfaction was measured via items captured within a unidimensional construct. In the future, multiple aspects of consumer satisfaction should be considered. Instead of the perception-only conceptual framework adopted in this study to assess

member satisfaction, the expectation-confirmation paradigm may be utilized as various researchers have proposed the merits of this approach (e.g., Oliver, 1980; Parasuraman et al., 1988). Sixth, invariance analyses should be conducted to confirm the resolved structural model across different populations, such as age, gender, and belt rank. Finally, although the constraint factors were not found to contribute to the structural relationships within this study, a number of researchers (Kim & Trail, 2010; Nyaupane et al., 2004; Trail et al., 2008) have indicated the importance of studying the reasons that hamper sport consumptions; thus, future studies are necessary to further examine the relevance of constraint factors to the decision making process for TKD school attendance. Such knowledge would provide administrators of TKD schools with a roadmap in their marketing efforts to recruit and retain martial arts participants.

In conclusion, in an attempt to fill the gap between research into market demand and the psychological processes of martial arts participants, this study investigated the relationships of market demand and certain complex psychological constructs that influence the decision to participate in martial arts training. This study confirmed a conceptual model that facilitates an understanding of participant behavior with regard to the martial arts. It depicted how market demand and psychological constructs influence satisfaction and commitment of martial arts participants. It is anticipated that these research findings will help fill the void in the literature by building linkages among market demand and psychological constructs, and thus facilitate a better understanding of martial arts participants.

APPENDIX A
SURVEY INSTRUMENT FOR CONTENT VALIDITY



May 25, 2009

Dear Participant:

This is Minkil Kim, a doctoral student majoring in Sport Management at University of Florida. I am currently conducting a study that identifies variables that affect current and potential members' decision to attend taekwondo schools. Preliminary conceptual model and scale items have been developed based on review of literature, on-site observations of taekwondo schools, and interview with taekwondo school instructors.

You are invited to serve on a panel of experts to help further develop the scale. I would like to have your comments and suggestions for content relevance, representativeness, clarity, and format of each item. Please feel free to add or delete any factor and /or items that you feel necessary. It would be greatly appreciated by me if you could return your inputs soon. If you have questions, please do not hesitate to contact me at (352) 328-8574 or via e-mail: minkilk@hhp.ufl.edu. Thank you in advance for your assistance and cooperation.

Sincerely yours,

Min Kil Kim
Doctoral Student
Sport Management Program
University of Florida
Rm. 206K Florida Gym
PO Box 118207
Gainesville, FL 32611
(352) 392-4042x 1388

<i>Items</i>	<i>Comments</i>														
	<i>Relevance</i>		<i>Representativeness</i>		<i>Clarity</i>										
Personal Improvement Activities	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>									
<i>I attend this taekwondo school because ...</i>	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve self-discipline.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve patience.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to learn to be humble.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to fully explore individual potentials.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve character.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve positive attitude.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve self-confidence.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve social skills.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve self-concept.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to increase personal pride.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to develop respect for other people.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to develop a strong work ethic.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve leadership skills.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to develop a code of honor.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Physical Facility Quality															
The school has first-aid equipment.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school has safety equipment.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school's facility is safe and comfortable.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school is well designed.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school has adequate space for class activities.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school has up-to-date equipment.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
A variety of exercise equipments are available at this school.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school's ambience is excellent.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school's facility is aesthetically attractive.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Items	Comments					
	Relevance		Representativeness		Clarity	
	Low	High	Low	High	Low	High
Locker Room Provision						
The school offers a good locker room.	1	2	3	4	5	
The locker room is of high safety.	1	2	3	4	5	
The school offers a good shower room.	1	2	3	4	5	
The locker room is convenient.	1	2	3	4	5	
The locker room in this school is clean.	1	2	3	4	5	
The shower room in this school is clean.	1	2	3	4	5	
Instructional Staff Quality						
The school's instructors/masters have a good reputation.	1	2	3	4	5	
The school has an adequate number of instructors.	1	2	3	4	5	
The school's instructors/masters are very knowledgeable about taekwondo.	1	2	3	4	5	
The school's instructors/masters are willing to help individual members.	1	2	3	4	5	
The school has well qualified instructors.	1	2	3	4	5	
The school's instructors/masters are friendly.	1	2	3	4	5	
The school's instructors/masters handle problems promptly and professionally.	1	2	3	4	5	
Program Activities Offerings						
The school offers opportunity to see master's demonstration performance.	1	2	3	4	5	
The school offers Dan certification from sanctioned organization.	1	2	3	4	5	
The school offers child-care services.	1	2	3	4	5	
The school offers appropriate class size.	1	2	3	4	5	
The school offers a reasonable belt promotion system.	1	2	3	4	5	
The school offers after-school programs.	1	2	3	4	5	
The school offers classes focusing on self-defense.	1	2	3	4	5	
The school offers quality promotional materials (e.g., pamphlets).	1	2	3	4	5	
The school offers opportunity to compete in taekwondo tournaments.	1	2	3	4	5	
The school offers free trial lessons.	1	2	3	4	5	
The school offers special events (e.g., training camp)	1	2	3	4	5	

The school offers various activities for different groups of member.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
The school offers family programs.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
The school offers convenient operating hours.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
The school offers classes at several different times.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Items	Comments														
	Relevance		Representativeness		Clarity										
Cultural Learning Activities	Low	High	Low	High	Low	High									
The school offers programs and activities designed to learn Korean philosophy (e.g., ritual/ceremony, symbol/artifacts).	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to learn about Korean culture.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to learn about Korean heritage.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to learn about Korean heritage.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers programs and activities designed to improve bilingual ability.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Economic Condition Consideration															
The school does not charge any hidden fees.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Billing service is convenient.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Membership fee is reasonable.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school has a reasonable refund and cancellation policy.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers giveaway items (i.e., uniforms, belts, club bag, etc)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers flexible payment plans.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers various payment methods (i.e., credit card, check, cash, etc).	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
The school offers optional long term membership category.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Comments:															

<i>Items</i>	<i>Comments</i>														
	<i>Perceived Value</i>		<i>Relevance</i>		<i>Representativeness</i>		<i>Clarity</i>								
	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>							
I believe that attending the TKD school is something that I would enjoy.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that the Taekwondo school is reasonably priced.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school would last a long time	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school is something that I like to participate.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that the Taekwondo school is good for the price.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school would make a good impression on other people.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I feel comfortable of attending the Taekwondo school	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that the Taekwondo school is fairly priced.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school is exciting.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school is fun.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school makes me feel good.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school is affordable.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school would improve the way I am perceived by others.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I definitely consider continuing with the Taekwondo school.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school helps me feel accepted by others.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school makes me happy.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I believe that attending the Taekwondo school offers value for money	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Comments:															

<i>Items</i>	<i>Comments</i>					
	<i>Relevance</i>		<i>Representativeness</i>		<i>Clarity</i>	
Perceived Constraints	Low	High	Low	High	Low	High
<i>I would consider ceasing participation in the Taekwondo school because...</i>						
I have health problems.	1	2	3	4	5	
Taekwondo is harder to learn than other sports.	1	2	3	4	5	
My Taekwondo skills are improved enough.	1	2	3	4	5	
I am too busy and tired to attend the Taekwondo school.	1	2	3	4	5	
I am afraid of injury.	1	2	3	4	5	
Attending the Taekwondo school is no fun anymore.	1	2	3	4	5	
Attending the Taekwondo school is physically challenging.	1	2	3	4	5	
I am not happy with social situations in the Taekwondo school.	1	2	3	4	5	
I do not think that the instructor(s)/master is competent.	1	2	3	4	5	
I have to pay for expensive equipments to attend the Taekwondo school.	1	2	3	4	5	
I have no close partner in the Taekwondo school.	1	2	3	4	5	
I observe negative attitudes from instructor(s)/master in the Taekwondo school.	1	2	3	4	5	
I have problems with my training partner in the TKD school.	1	2	3	4	5	
I ran into language barrier in the Taekwondo school.	1	2	3	4	5	
I have no one to partner with in the Taekwondo school.	1	2	3	4	5	
I have to pay for expensive membership and promotion fees to attend the Taekwondo school.	1	2	3	4	5	
I do not have enough money to participate in the Taekwondo school.	1	2	3	4	5	
I do not have no enough time to participate in the programs and activities offered by the Taekwondo school.	1	2	3	4	5	
The facility in the Taekwondo school is poorly maintained.	1	2	3	4	5	
The Taekwondo school is located too far away.	1	2	3	4	5	
I do not have transportation to attend the Taekwondo school.	1	2	3	4	5	
The facility in the Taekwondo school is very crowded.	1	2	3	4	5	
I cannot afford to attend the Taekwondo school.	1	2	3	4	5	
Are there any other reasons you may not participate in the TKD school?						
Comments:						

<i>Items</i>	<i>Comments</i>														
	<i>Relevance</i>		<i>Representativeness</i>		<i>Clarity</i>										
	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>									
Attending the Taekwondo school helps me to cope with life's pressures.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me learn Korean culture.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me provide opportunities to meet people.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to improve appearance.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to enhance self-image.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me learn things about Korea.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me with basic athletic skills.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school provides me with skills to safeguard myself	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me improve physical health.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me improve relationships with other people.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me improve mental health.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me learn Korean language.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me improve my health-fitness.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me improve self-protection.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to improve my character.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to increase positive psychological effect.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to enhance self-confidence.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to improve self-defense ability.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Attending the Taekwondo school helps me to feel better in general.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Comments:															

APPENDIX B
INFORMED CONSENT AND QUESTIONNAIRE



Dear Participant:

This Minkil Kim, a doctoral student majoring in Sport Management at University of Florida, and I am currently conducting a study that identifies variables that affect current and potential members' decision to attend taekwondo schools. I would like to ask you to assist me by completing the questionnaire.

Your participation is entirely voluntary and you have to be over age of 18 for participation.

This survey is about your feeling and reactions to various aspects of your experience in your Taekwondo schools. The collected information is very important since it may help increase understanding of your needs, thus enabling Taekwondo schools to improve the programs and service offered to you.

Your participation in this study is voluntary. It will take approximately 15 minutes to complete. There are no physical and psychological risks associated with participating in completing this questionnaire. However, you may refuse to answer certain questions or discontinue your participation at any time without penalty.

If you have any questions about this research protocol, please contact me at (352) 392-4042x 1388 (e-mail: minkilk@hhp.ufl.edu) or my faculty supervisor, Dr. Zhang (392-0584 x1274; e-mail: jamesz@hhp.ufl.edu). Questions or concerns about your rights as research participant may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611, (352) 392-0433.

I have read the procedure described above for the study. I voluntarily agree to participate in the study and I have received a copy of this description.

Participants: _____ Date: _____
Principal Investigator: Minkil Kim Date: June 19, 2009

1. Gender: ___ (1) Male ___ (2) Female

2. Age: ___ Years old.

3. My current residence is: City _____ State _____ ZIP code _____

4. Ethnicity: ___ (1) African-American ___ (2) Asian/Pacific Island ___ (3) Caucasian/White
 ___ (4) Native American ___ (5) Hispanic (6) Other (Specify) _____

5. Martial Status: ___ (1) Single ___ (2) Married
 ___ (3) Separated/Divorced ___ (4) Widowed

6. Annual Household Income: ___ (1) \$9,999 or less ___ (2) \$10,000-\$14,999 ___ (3) \$15,000-\$24,999 ___ (4) \$25,000-\$34,999
 ___ (5) \$35,000-\$49,999 ___ (6) \$50,000-\$74,999 ___ (7) \$75,000-\$99,999 ___ (8) \$100,000 or more

7. Number of Children: _____

8. Highest Education Level: ___ (1) Some high school ___ (2) High school graduate ___ (3) Some college ___ (4) College graduate
 ___ (5) Graduate degree (6) Other (Specify) _____

9. Occupation: ___ (1) Management ___ (2) Technical ___ (3) Professional ___ (4) Sales
 ___ (5) Clerical ___ (6) Education/Student ___ (7) Skilled Worker ___ (8) Nonskilled Worker
 ___ (9) Housewife/husband ___ (10) Retired ___ (11) Unemployed (12) Other (Specify) _____

10. Please indicate your Taekwondo school membership type: ___ (1) Individual ___ (2) Family (3) Other (Specify) _____

11. Length of membership contract at this Taekwondo school: ___ (1) 1 month ___ (2) 3 months ___ (3) 6 months
 ___ (4) 1 year ___ (5) 2-3 years ___ (6) over 3 years

12. How long have you participated in any Taekwondo school **in general**? ___ (1) less than 1 year ___ (2) 1-2 years ___ (3) 2-3 years
 ___ (4) 3-4 years ___ (5) 4-5 years or more ___ (6) 5 years or more

13. How long have you participated in **this** Taekwondo school? ___ (1) less than 1 year ___ (2) 1-2 years ___ (3) 2-3 years
 ___ (4) 3-4 years ___ (5) 4-5 years or more ___ (6) 5 years or more

14. What rank or belt do you hold? ___ (1) White ___ (2) Yellow ___ (3) Green ___ (4) Blue
 ___ (5) Red ___ (6) Black (1st-3rd Dan) ___ (7) Black (above 3rd Dan)

15. How frequently do you come to this Taekwondo school and how much time do you spend at this taekwondo school? _____ Times / per week _____ Hours / per visit

16. How much money do you and family spend on Taekwondo **each year**? ___ (1) \$500 or less ___ (2) \$501-\$999 ___ (3) \$1,000-\$1,499 ___ (4) \$1,500-\$1,999
 ___ (5) \$2,000-\$2,499 ___ (6) \$2,500-\$2,999 ___ (7) \$3,000-\$3,999 ___ (8) \$4,000 or more

17. How did you learn about this school? ___ (1) Referral ___ (2) Word of Mouth ___ (3) Advertisement ___ (4) Yellow Pages
 ___ (5) Friend ___ (6) Internet (7) other (Specify) _____

The purpose of this section of questionnaire is to identify how important each of these reasons is to your participation in your Taekwondo School. Please rate each of the following statements using the scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (7):

Items	Scale						
	Strongly Disagree		← →			Strongly Agree	
<i>I attend this taekwondo school because the school offers programs and activities designed to...</i>	①	②	③	④	⑤	⑥	⑦
improve self-discipline.	①	②	③	④	⑤	⑥	⑦
improve patience.	①	②	③	④	⑤	⑥	⑦
learn to be humble.	①	②	③	④	⑤	⑥	⑦
fully explore individual potential.	①	②	③	④	⑤	⑥	⑦
build character.	①	②	③	④	⑤	⑥	⑦
foster a positive attitude.	①	②	③	④	⑤	⑥	⑦
improve self-confidence.	①	②	③	④	⑤	⑥	⑦
improve social skills.	①	②	③	④	⑤	⑥	⑦
improve self-concept.	①	②	③	④	⑤	⑥	⑦
increases personal pride.	①	②	③	④	⑤	⑥	⑦
develop respect for other people.	①	②	③	④	⑤	⑥	⑦
develop a strong work ethic.	①	②	③	④	⑤	⑥	⑦
improve leadership skills.	①	②	③	④	⑤	⑥	⑦
develop a code of honor.	①	②	③	④	⑤	⑥	⑦
The school has first-aid equipment.	①	②	③	④	⑤	⑥	⑦
The school has safety equipment.	①	②	③	④	⑤	⑥	⑦
The school's facility is safe and comfortable.	①	②	③	④	⑤	⑥	⑦
The school's interior is well designed.	①	②	③	④	⑤	⑥	⑦
The school has adequate space for class activities.	①	②	③	④	⑤	⑥	⑦
The school has up-to-date equipment.	①	②	③	④	⑤	⑥	⑦
A variety of exercise equipments are available at this school.	①	②	③	④	⑤	⑥	⑦
The school's ambience is excellent.	①	②	③	④	⑤	⑥	⑦
The school's facility is aesthetically attractive.	①	②	③	④	⑤	⑥	⑦
<i>The school offers programs and activities designed to...</i>							
learn Korean philosophy (e.g., ritual/ceremony, symbol/artifacts).	①	②	③	④	⑤	⑥	⑦
learn about Korean culture.	①	②	③	④	⑤	⑥	⑦
learn about Korean heritage.	①	②	③	④	⑤	⑥	⑦
improve bilingual ability.	①	②	③	④	⑤	⑥	⑦
I am satisfied with my decision to attend the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I am happy that I attended the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I think that I did the right thing by deciding to attend the Taekwondo school.	①	②	③	④	⑤	⑥	⑦

<i>Items</i>	<i>Scale</i>						
	Strongly Disagree	← →			Strongly Agree		
<i>The purpose of this section of questionnaire is to identify how important each of these reasons is to your participation in your Taekwondo School.</i>							
The school offers a good locker room.	①	②	③	④	⑤	⑥	⑦
The locker room is safe.	①	②	③	④	⑤	⑥	⑦
The school offers a good shower room.	①	②	③	④	⑤	⑥	⑦
The locker room in this school is convenient.	①	②	③	④	⑤	⑥	⑦
The locker room in this school is clean.	①	②	③	④	⑤	⑥	⑦
The shower room in this school is clean.	①	②	③	④	⑤	⑥	⑦
The school's instructors/masters have a good reputation.	①	②	③	④	⑤	⑥	⑦
The school has an adequate number of instructors.	①	②	③	④	⑤	⑥	⑦
The school's instructors/masters are willing to help individual members.	①	②	③	④	⑤	⑥	⑦
The school has well qualified instructors.	①	②	③	④	⑤	⑥	⑦
The school's instructors/masters are friendly.	①	②	③	④	⑤	⑥	⑦
The school's instructors/masters handle problems promptly and professionally.	①	②	③	④	⑤	⑥	⑦
<i>I attend this Taekwondo school because the school offers...</i>							
opportunity to see master's demonstration performance.	①	②	③	④	⑤	⑥	⑦
Dan certification from a sanctioned organization.	①	②	③	④	⑤	⑥	⑦
child-care services.	①	②	③	④	⑤	⑥	⑦
an appropriate class size.	①	②	③	④	⑤	⑥	⑦
a reasonable belt promotion system.	①	②	③	④	⑤	⑥	⑦
after-school programs.	①	②	③	④	⑤	⑥	⑦
classes focusing on self-defense.	①	②	③	④	⑤	⑥	⑦
quality promotional materials (e.g., pamphlets).	①	②	③	④	⑤	⑥	⑦
opportunities to compete in taekwondo tournaments.	①	②	③	④	⑤	⑥	⑦
free trial lessons.	①	②	③	④	⑤	⑥	⑦
special events (e.g., training camp).	①	②	③	④	⑤	⑥	⑦
various activities for different groups of members.	①	②	③	④	⑤	⑥	⑦
family programs.	①	②	③	④	⑤	⑥	⑦
convenient operating hours.	①	②	③	④	⑤	⑥	⑦
classes at several different times.	①	②	③	④	⑤	⑥	⑦
I am dedicated to being a member of the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I am determined to remain a member of the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
It would be hard for me to quit member of the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I would be willing to do almost anything to keep being a member of the taekwondo school.	①	②	③	④	⑤	⑥	⑦

Items	Scale						
	Strongly Disagree		← →			Strongly Agree	
The school does not charge any hidden fees.	①	②	③	④	⑤	⑥	⑦
Payment methods service (i.e., credit card, check, cash, etc) is convenient.	①	②	③	④	⑤	⑥	⑦
The membership fee is reasonable.	①	②	③	④	⑤	⑥	⑦
The school has a reasonable refund and cancellation policy.	①	②	③	④	⑤	⑥	⑦
The school offers giveaway items (i.e., uniforms, belts, club bag, etc).	①	②	③	④	⑤	⑥	⑦
The school offers flexible payment plans.	①	②	③	④	⑤	⑥	⑦
The school offers optional long term membership category.	①	②	③	④	⑤	⑥	⑦
The school offers discounted family membership option.	①	②	③	④	⑤	⑥	⑦
<i>This section is to identify YOUR "PERCEIVED VALUE" of attending the Taekwondo school. Please rate each of the following statements using the scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7):</i>							
<i>I believe that attending the TKD school is...</i>							
something that I would enjoy.	①	②	③	④	⑤	⑥	⑦
reasonably priced.	①	②	③	④	⑤	⑥	⑦
offering value for the money I spend.	①	②	③	④	⑤	⑥	⑦
something that I like to participate.	①	②	③	④	⑤	⑥	⑦
making a good impression on other people.	①	②	③	④	⑤	⑥	⑦
helping me feel accepted by others.	①	②	③	④	⑤	⑥	⑦
affordable.	①	②	③	④	⑤	⑥	⑦
improving the way I am perceived by others.	①	②	③	④	⑤	⑥	⑦
last a long time.	①	②	③	④	⑤	⑥	⑦
I feel comfortable attending the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I would definitely consider continuing with the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
<i>This section is to identify YOUR "PERCEIVED BENEFITS" of attending the Taekwondo school. Please rate each of the following statements using the scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7):</i>							
<i>Attending the Taekwondo school helps me...</i>							
cope with life's pressures.	①	②	③	④	⑤	⑥	⑦
learn Korean culture.	①	②	③	④	⑤	⑥	⑦
provide opportunities to meet people.	①	②	③	④	⑤	⑥	⑦
improve my appearance.	①	②	③	④	⑤	⑥	⑦
enhance self-image.	①	②	③	④	⑤	⑥	⑦
learn things about Korea.	①	②	③	④	⑤	⑥	⑦
basic athletic skills.	①	②	③	④	⑤	⑥	⑦
improve my physical health.	①	②	③	④	⑤	⑥	⑦
improve relationships with other people.	①	②	③	④	⑤	⑥	⑦

improve my mental health.	①	②	③	④	⑤	⑥	⑦
learn the Korean language.	①	②	③	④	⑤	⑥	⑦
improve self-protection.	①	②	③	④	⑤	⑥	⑦
improve my character.	①	②	③	④	⑤	⑥	⑦
increase positive psychological effect.	①	②	③	④	⑤	⑥	⑦
enhance self-confidence.	①	②	③	④	⑤	⑥	⑦
improve self-defense ability.	①	②	③	④	⑤	⑥	⑦
feel better in general.	①	②	③	④	⑤	⑥	⑦

*This section is to identify YOUR “PERCEIVED CONSTRAINTS” of attending the Taekwondo school.
The following statements using the scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (7):*

<i>Items</i>	<i>Scale</i>						
	Strongly Disagree		← →			Strongly Agree	
<i>I would consider <u>ceasing</u> participation in the Taekwondo school because...</i>							
I have health problems.	①	②	③	④	⑤	⑥	⑦
Taekwondo is harder to learn than other sports.	①	②	③	④	⑤	⑥	⑦
My Taekwondo skills are improved enough.	①	②	③	④	⑤	⑥	⑦
I am tired to attend the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I am afraid of injury.	①	②	③	④	⑤	⑥	⑦
Attending the Taekwondo school is no fun anymore.	①	②	③	④	⑤	⑥	⑦
Attending the Taekwondo school is physically challenging.	①	②	③	④	⑤	⑥	⑦
I am not happy with social situations in the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I do not think that the instructor(s)/master is competent.	①	②	③	④	⑤	⑥	⑦
I have to pay for expensive equipments to attend the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I have no close partner in the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I observe negative attitudes from instructor(s)/master in the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I have problems with my training partner in the TKD school.	①	②	③	④	⑤	⑥	⑦
I ran into a language barrier in the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I have to pay for expensive membership and promotion fees to attend the school.	①	②	③	④	⑤	⑥	⑦
I do not have enough money to participate in the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
I do not have enough time to participate in the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
The facility in the Taekwondo school is poorly maintained.	①	②	③	④	⑤	⑥	⑦
The Taekwondo school is located too far away.	①	②	③	④	⑤	⑥	⑦
I do not have transportation to attend the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
The facility in the Taekwondo school is very crowded.	①	②	③	④	⑤	⑥	⑦
I cannot afford to attend the Taekwondo school.	①	②	③	④	⑤	⑥	⑦
Are there any other reasons you may not participate in the TKD school?	_____						

Thank you for your participation

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Min Kil Kim was born in SunCheon, South Korea. He received his Bachelor of Science (with distinction) in Business Administration (specialization: Marketing) from the University of Alabama, Tuscaloosa in December 2003. He completed his Master of Sciences (Specialization: Sport Management) in the University of Florida in August 2006. Finally, he earned his Ph D. in health and human performance (sport management) from the University of Florida in August 2010. He had taught numerous courses in the Sport and Fitness program such as self-defense and Taekwondo and Sport Marketing. He was well liked and respected by his students as evidenced in his high teaching evaluations. He worked as a graduate research assistant in the Department of Tourism, Recreation and Sport Management. His primary research interest is sport marketing, especially sport consumer behavior, cross-cultural study, and service quality based on quantitative research design. He has published four research manuscripts in good to excellent journals and has delivered close to 20 research presentation at academic conferences.