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An Empirical Study of the Determinants of Consumer Price Sensitivity for the Health and Fitness Club Industry

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AN EMPIRICAL STUDY OF THE DETERMINANTS OF CONSUMER PRICE SENSITIVITY FOR THE HEALTH AND FITNESS CLUB INDUSTRY

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ABSTRACT

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The primary purpose of this study was to propose and test a general model to describe the extent to which customer price sensitivity is influenced by perceived value, service quality, customer satisfaction, customer loyalty, and switching costs. Additionally, the study also sought to examine if there is a significant difference in consumer price sensitivity among gender and household income groups. Finally, the study was designed to examine the congruency of the hypothesized model and to test the invariance of the model across male and female groups.

There were 507 participants in the study. A convenient sampling approach was used to recruit members from five health and fitness clubs in Colorado and West Virginia. The participants' age ranged from18 to 79 years (M = 36, SD = 13.9). The sample consisted of slightly more males (54.2% males compared to 45.5% females). The majority of the participants were Caucasian (64.5%) and had a membership length less than one year (71.1%).

The significant research findings obtained from the data analysis included the following:

1. The results of structural equation modeling (SEM) analysis revealed that the hypothesized model provided a reasonably well fit to the health and fitness club member sample.

2. The results of the SEM analysis also demonstrated that ten of the 13 hypotheses were supported. Switching cost ($\beta = -.91$, $p < .01$), customer satisfaction ($\beta = -.85$, $p < .01$), perceived value ($\gamma = -.58$, $p < .01$), and service quality ($\gamma = -.42$, $p < .01$) were significant predictors of consumer price sensitivity. However, customer loyalty had a non-significant impact on price sensitivity. The SEM results also indicated that switching cost ($\beta=.21$, $p<.01$) and customer satisfaction ($\beta=.63$, $p<.01$) had a significant positive impact on customer loyalty. Service quality and perceived value positively influence switching costs ($\gamma=.31$, $p<.01$; $\gamma=.49$, $p<.01$) and customer satisfaction ($\gamma=.51$, $p<.01$; $\gamma=.49$, $p<.01$).
3. The results of the two-group SEM analysis revealed that the baseline model showed a good fit for both female and male participants. The results of invariance tests of the price sensitivity model indicated that it had configural and scalar invariance, but not metric invariance (partial invariance) across male and female groups.
4. The results of ANOVA analysis showed that the interaction effect between gender and household income groups did not reach statistical significance. The main effect for both gender and household income were statistically significant. Male members reported significantly lower price sensitivity levels compared to female counterparts. Low-household income members reported a significant higher price sensitivity level than middle-household income and high- household income members. Middle- household income members also

reported a significant higher price sensitivity level than high- household income members.

In summary, this study not only contributed to future theoretical research, but also guides practitioners in the development of marketing strategies. Through empirical study, the research results can help fitness and health club managers to better understand factors that associate with customer price sensitivity, which would allow them to develop more efficient marketing strategies. The theoretical contribution of this paper was the proposition of an integrated theoretical framework, and the use of survey data to validate effects of service quality, customer loyalty, switching costs, consumer participation, and customer satisfaction on consumers' price sensitivity.

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CHAPTER I

INTRODUCTION

Overview of the Health and Fitness Club Industry

In the last two decades, interest in good health and physical fitness has surged. Americans are growing more concerned about their health (Nelson, 2015). Today's sedentary lifestyle has produced severe health hazards such as weight problems, high blood pressure, disorders of the cardiovascular system, and even premature aging (Kupfer, 2005; Lakka et al., 2003). Every year the Physical Activity Council (PAC) conducts nationwide research in the sports, fitness, and recreational habits of all Americans. According to the 2017 PAC report, 78% of Americans participated in some form of physical fitness program on a regular basis. Based on the same PAC report, aerobics and gym activities were the second most popular physical activity category for American adults, just behind walking. According to Ogilvie (2017), Americans aged 18 to 65 spent an average of $155 per month on fitness-related expenditures, such as gym clothing and accessories, membership fees, and supplements. Among those $155 spent on monthly fitness categories, more than $34 per month were spent on health and fitness club membership fees.

The health consciousness of Americans is also reflected by the prosperity of the health and fitness club industry. During the last decade, the health and fitness club industry has experienced incredible growth and has developed into a distinct market

niche. Based on a report of International Health, Racquet and Sportsclub Association (IHRSA, 2017), one out of five Americans belonged to at least one health and fitness club in the U.S. As of January 2017, 36,540 health and fitness clubs were operating in the US, up from 29,357 in 2007. The industry revenues for 2017 totaled $27.6 billion, and the memberships in this same period totaled 60.9 million, up 33.6% from 45.6 million in 2008 (IHRSA, 2017).

According to the IBISWorld Industry Report (2017), the health and fitness club industry is the business of "operating fitness and recreational sports facilities that feature exercise and other active physical fitness conditioning or recreational sports activities, such as swimming, skating or racquet sports" (p. 2). Although health and fitness clubs vary from club to club based on services and market targets, they generally offer a combination of activities designed to improve three areas of fitness: cardiovascular strength and endurance, muscular strength, and flexibility (Rotem, 1992). Some differences among health and fitness clubs result from their emphasis on different components of the above areas, while other differences can be attributed to the variety of programs offered to their members. Among those programs are family activities, social activities for singles or families, tournaments, awareness classes, and other specialty programs. It is assumed that the clubs are attempting to attract different types of consumers by creating and promoting different programs, and by using different pricing methods (Steenhuis, Nooy, Moes, & Schuit, 2009). Most health and fitness club revenues are from membership fees, which account for 60.4% of the total revenues (IBISWorld Industry Report, 2017). Participation fees for service products, such as health and fitness clubs, rely on an organization's ability to identify price points which match consumer

demand and also permit profit maximization. In this sense, pricing becomes a valuable marketing tool as it can directly or indirectly influence customers' buying behavior. In fact, pricing literature commonly cites that the relationship among perceived quality, evaluation, and purchase choice is often the result of products being placed within an acceptable price range (Monroe, 1979). Thus, identifying an accurate price point will have a significant impact on the sales and profitability of business organizations (Mulhern & Leone, 1991).

Importance of Pricing Research

Pricing is one of the most critical areas of business management. It represents the final judgment of value for everything that has preceded and is the final assessment of the worth of the time, money, and labor required to bring a product or service to the marketplace. It is also the only instrument through which a business organization can capture the value that it creates in the marketplace. Pricing decisions are crucial since a small change in price has a dramatic effect on a company's overall profitability. For example, based on a sample of Fortune 500 companies, Hinterhuber (2015) found that, on average, a 5% change in selling price changes the profit by over 22%. In other words, a business organization has to balance the trade-off between margin and volume carefully. If the price is increased too much, not only may current customers lose their intention to purchase the product or service again, but organizations also risk failing to convert potential customers into real buyers. Conversely, by decreasing the price too much, business organizations may weaken consumers' perceptions of the product's quality (Cooper, 1969), while not covering their costs. Recognizing this trade-off, business

organizations have moved away from setting a single price point and are increasingly adopting multiple price points using the classic price discrimination strategy.

Most health and fitness clubs offer multiple membership options with different costs. For example, Anytime Fitness, one of the Americans' top 10 fitness clubs, offers many different types of memberships, such as cardio/weight-only membership, full club membership, and group exercise-only or racquetball-only membership.

From a long-term perspective, business organizations often need to increase price to maintain the balance between cost and profit. This balance can be altered by many factors, such as materials costs, transportation costs, and labor costs (Zhu, Wang, Chevallier, & Wei, 2015). However, a price increase is often received negatively by customers, which then adversely influences their purchase decision-making (Bosman, Sutter, & van Winden, 2005). A typical consequence of price increase is consumer switching behavior, which means customers choose to not accept the price increase, and to change suppliers (Zhu et al., 2015). According to the IHRSA (2017), health and fitness club members were very price-sensitive with respect to the membership fees. Over 58% of respondents indicated high membership fees as a reason for leaving the health and fitness club. Therefore, health and fitness club managers need to better understand how their members react to changes or differences in memberships fees and what elements influence these reactions.

Although research appears in general business marketing literature relating to factors associated with price sensitivity (e.g., Alexandris, Dimitriadis, & Kasiara, 2001; Homburg, Koschate, & Hoyer, 2006; Low, Lee, & Cheng, 2013), a void exists pertaining to psychological factors influencing customer price sensitivity in the sport industry.

Sport has several unique elements that differentiate it from other business products (Mullin, Hardy, & Sutton, 2014). For instance, sport consumers' high involvement in sports makes them particularly receptive to advertising and promotions (Pope, Brown, & Forrest, 1999; Shank & Beasley, 1998). Thus, any attempt to transfer findings from traditional consumption contexts to sport would be futile. Therefore, this study is designed to develop an integrated model for examining how social/psychological factors directly or indirectly influence consumer price sensitivity in the context of the health and fitness club industry.

Problem Statement

In the United States market, health and fitness clubs not only are under fierce internal competition among themselves for the 60.9 million potential members but also face keen external challenges from other organizations in this $27.6 billion industry (IHRSA, 2017). The internal competition takes several forms. Multi-purpose facilities with financial backing have enticed members with a flashy array of sophisticated equipment and exclusive member services. As a result, smaller independent clubs have to fight for the membership dollar by advertising "cut-throat" prices in order to survive. This has reduced membership fees but increased the need to sell more memberships in order to break even (Gneezy, Carmon, & Nelson, 2009).

One of the most critical challenges for health and fitness club managers is member retention. Keiningham, Aksoy, Williams, and Buoye (2015) stated that it costs five times more to acquire a new health and fitness club member than to keep an existing one. However, health and fitness clubs are struggling to retain their existing members. According to a report from the IHRSA in 2015, the majority of health and fitness clubs

have an attrition rate of 30-50%. Most clubs are losing up to 50% of their members annually. Only a very small minority (5%) of clubs are losing less than 30% of their members annually. Among those members who decide to quit their health and fitness clubs, membership price is a critical factor that has heavily influenced their decision-making. According to the IHRSA (2015), the price-related issue is the top reported reason why people quit their membership.

External competition has heightened as more health and fitness clubs have been placed in hotels, apartment and housing communities, etc. for people who want to work out while traveling or at on-site facilities, as well as in workplaces. More and more companies have recognized the benefits of their employees being physically fit and have invested more revenue in corporate fitness centers. These benefits include reducing absenteeism due to illness and decreasing health insurance costs (Voit, 2001). In addition, nonprofit organizations such as YMCA and YWCA, which benefit from lower cost structures, often compete directly with commercial health and fitness clubs by offering similar services. Another external challenge for health and fitness clubs has been home-based exercise equipment, which has exceeded 1billion dollars in sales. According to the National Sporting Goods Association (2002), the home exercise equipment market was estimated at $4.5 billion. Two out of ten Americans are using some form of exercise equipment at home. This is significant competition for the health and fitness club industry because people can now purchase an entire line of home exercise equipment. These machines can fulfill most people’s fitness needs at a price which is sometimes less than the annual membership fees charged by most clubs (Masteralexis, Barr, & Hums, 2015).

With such internal competition and external challenges from other organizations, top management of health and fitness clubs must develop sound operating and management processes to retain and target more members. As touched upon earlier, membership fees are the primary source of revenue for most health and fitness clubs. Therefore, retaining and targeting more members is critical to the sound financial status of health and fitness clubs.

Most prior studies on customer retention and targeting within the health and fitness club industry have focused on service quality (Alexandris et al., 2001; Kim & Kim, 1995; Lam, Zhang, & Jensen, 2005; Mackay & Crompton, 1990), customer satisfaction (Alexandris, Zahariadis, Tsorbatzoudis, & Grouios, 2004; Bodet, 2008), customer loyalty (Alexandris, Douka, Papadopoulos, & Kaltsatou, 2008; Wiest, Andrews, & Giardina, 2015), and psychological commitment (Alexandris et al., 2004; Park & Rainey, 2007). To my knowledge, no research has been conducted on the psychological aspects of pricing within the context of the health and fitness club industry. Therefore, this study is designed to propose and test a general model to describe the extent to which customer price sensitivity is influenced by perceived value, service quality, customer satisfaction, customer loyalty, and switching costs.

Rationale

There are several reasons why there is a need to investigate the factors associated with consumer price sensitivity in the context of health and fitness clubs. First, given the known importance of price sensitivity, it is surprising that there is no formal theoretical model of the construct. In the academic literature, the relationships between price sensitivity and other constructs have been studied in an isolated and piecemeal fashion.

To be sure, price sensitivity has been shown to be an antecedent or a consequence in models of other focal constructs. For example, Park and Noh's study (2012) tested a model to examine the influence of innovation and price sensitivity on purchase intention. They found that price sensitivity as an antecedent in the model had a negative impact on purchase intention. Choi, Kim, Kim, and Kim (2006) tested the effects of customer loyalty and disloyalty on customer price sensitivity. They concluded that price sensitivity, as a consequence in the tested model, was negatively influenced by an increase in loyal behavior, and positively influenced by an increase in disloyal behavior. But in the sport marketing literature, the construct of price sensitivity has not been the focus of a formal model. Not only is there no comprehensive formal model of price sensitivity, but there is also no formal model of the antecedents of the construct, and no formal model of the consequences of the construct. As no formal models have been theorized, no formal models have been tested. Thus, there is a significant theoretical gap in the sport marketing literature.

The primary purpose of this dissertation is to close this theoretical gap by developing and testing a formal model of the construct. Using the literature review as a foundation, several hypotheses are proposed. Second, the most significant challenge in the business world today is customer retention, and while the health and fitness club industry has grown tremendously over the past two decades, it has always struggled with high customer turnover (Efi & Anastasia, 2013). For many years, marketing practitioners, researchers, and theorists have sought better explanations of consumer price sensitivity. This is an exceptionally important topic because customer responses to price change are a significant factor in the planning of a pricing strategy (Solomon, White, Dahl,

Zaichkowsky, & Polegato, 2014). Consumer reactions to differences in prices result from a myriad of influences. Marketing managers must understand the complexities of the relationships between different influences and consumer price sensitivity. By testing the consumer price sensitivity model, this research will better equip health and fitness managers with information necessary for marketing and advertising purposes, especially guidelines for implementing a price increase without reducing the volume of membership sales.

Research Questions

Q1 Does the hypothesized model fit the data and will the relationships shown in the proposed model be supported (see Figure 1.1)?

Q2 Is the hypothesized model invariant across gender?

Q3 What is the relationship between the demographic variables (gender and household income) and price sensitivity?

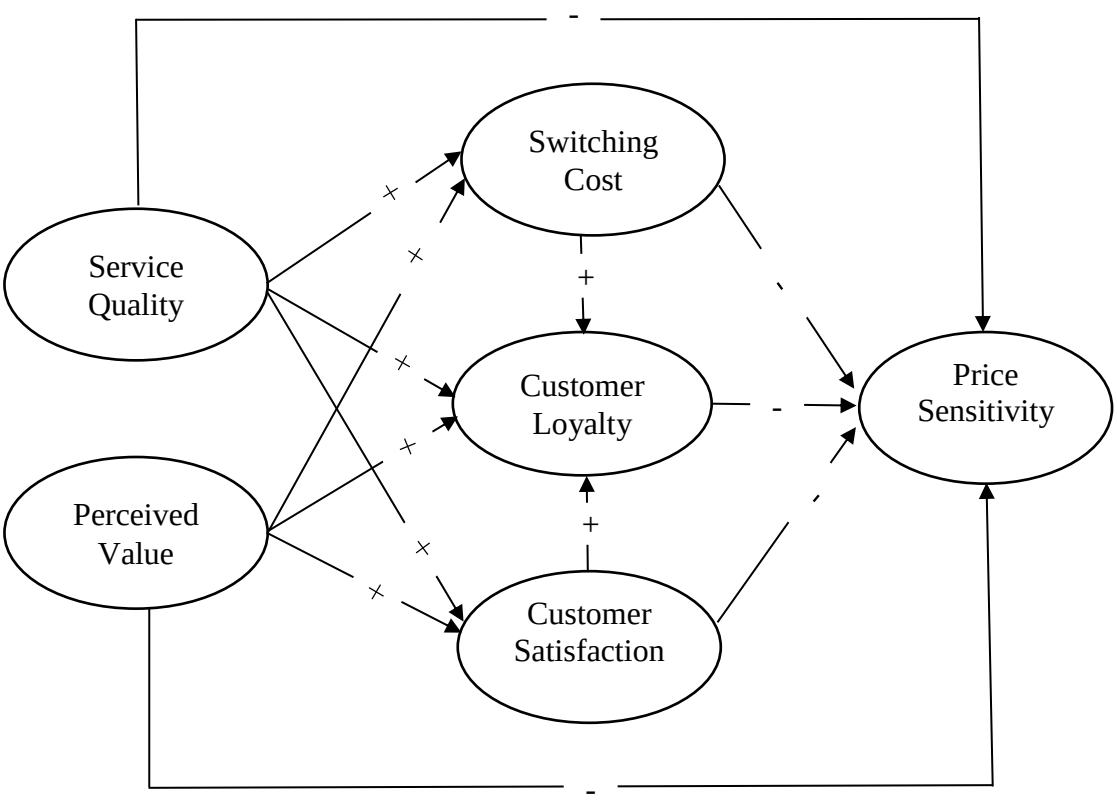

Figure 1.1 Proposed Research Model for Price Sensitivity

Delimitations

Due to financial and permission considerations, the accessible population of the current study was health and fitness club members who lived in Colorado and West Virginia. This study was conducted within five health and fitness clubs in Colorado and West Virginia. Hence, the findings and conclusions were not universally applicable but might only be specific to those clubs that share similar characteristics with these five health and fitness clubs. To ensure a more comprehensive understanding of the survey items, all of the participants in this study were 18 years or older. Based on an extensive literature review, service quality, perceived value, customer loyalty, switching costs, consumer participation, customer satisfaction, price sensitivity, and social-economic

status were subjects to examine in the proposed model of sport consumer price sensitivity. There is not an abundance of research in the area of sport consumer price sensitivity. However, there still may be other constructs not included in this study, and these constructs may also prove useful in explaining sport consumer price sensitivity.

Limitations

The limitations of a study include potential weaknesses that cannot be controlled by the researchers. This study is affected by the following limitations:

1. The hypothesized model includes five exogenous variables (i.e., customer satisfaction, switching cost, perceived value, service quality, and customer loyalty) and one endogenous variable. Although previous research provides strong evidence that the five exogenous variables are associated with customer price sensitivity, they never explain all the variation in predicting customers' price perceptions. Therefore, alternative models which may be employed to explain customer price sensitivity cannot be excluded.
2. This study relies solely on quantitative data to examine the determinants of customer price sensitivity. The findings from this study may differ from qualitative investigations.
3. Due to the need for a valid sample size while having limited accessibility to the population, a convenience sampling approach will be used, which may not be representative of the true health and fitness club member population.
4. Participants complete the survey voluntarily and privately. The survey is a one-time, self-report questionnaire. I assume that all questions will be

answered accurately and according to participants' true beliefs, feelings, and experiences.

Definition of Terms

Health and Fitness Club Industry: Health and fitness club industry is one which "operates fitness and recreational sports facilities that feature exercise and other active physical fitness conditioning or recreational sports" (IBISWorld Industry Report, 2017, p. 2).

Price Sensitivity: Price sensitivity can be defined as "the degree to which a customer's buying decisions are based on price-related aspects. A high level of price sensitivity manifests itself in regular comparisons of the price of a specific supplier firm with prices offered by other companies, and an immediate reduction of purchasing volume in case of a price increase" (Stock, 2005, p. 8).

Service quality: Service quality is a phenomenon of perception identified through the eyes of the customer. Meaning, definition, and evaluation of service quality remain in the customer's mind, and quality is the difference between expectations and perceptions (Parasuraman, Zeithaml, & Berry, 1988).

Customer satisfaction: Customer satisfaction is "the degree of overall pleasure or contentment felt by the customer, resulting from the ability of the service to fulfill the customer's desires, expectations and needs in relation to the service" (Hellier, Geursen, Carr, & Rickard, 2003, p.1765).

Perceived Value: Perceived value is the consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given.

Perceived value is subjective and individual, and therefore differs among consumers (Zeithaml, 1988).

Switching Cost: Switching costs are regarded as the loss or sacrifice of time, money and effort when a customer switches from one service provider to another one (Yang & Peterson, 2004). Switching costs include the costs resulting from terminating an exchange relationship as well as the costs required to build a new one.

Customer Loyalty: Customer loyalty can be defined as the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service arises (Gremler & Brown, 1996).

CHAPTER II

LITERATURE REVIEW

Introduction

Chapter two is organized around three major sections. The first section covers the introduction of price sensitivity. The second section reviews procedures for measuring price sensitivity and explains pros and cons for each procedure. The last section reviews the antecedents of consumer price sensitivity which represent the core knowledge/theoretical foundation supporting the research design and hypotheses. For each antecedent of price sensitivity, theoretical framework and research findings related to consumer price sensitivity will be discussed.

Price Sensitivity

According to Pallister and Law (2006), the world *price* is defined as "the amount of money charged for a product or service, or the value that a customer exchanges for the benefit of having or using a product or service" (p. 412). Neufeldt and Guralnik (1994) defined the world *sensitivity* as "the response of an organism to external stimuli" (p. 1222). Combining these two definitions, the term price sensitivity clearly refers to a person's response to the amount of money asked or paid for a product or service. The definition of price sensitivity is generally agreed upon in the marketing literature, with several authors offering similar definitions. Goldsmith, Kim, Flynn, and Kim (2005) defined price sensitivity as "how consumers react to price levels or price change" (p. 501). Stock (2005) stated that price sensitivity is "the degree to which a customer's

buying decisions are based on price-related aspects. A high level of price sensitivity manifests itself in regular comparisons of the price of a specific supplier firm with prices offered by other companies, and an immediate reduction of purchasing volume in case of a price increase" (p. 8). Based on the above definitions, price sensitivity can be comprehended as a latent construct referring to the extent to which a consumer changes his or her purchase of a product as its price changes.

The economic definition of price sensitivity is linked to the concept of price elasticity of demand (Goldsmith & Newell, 1997). Price elasticity of demand is also an important concept in price planning. If a change in price causes a change in unit sales volume, then demand is price sensitive. More important, though, is the possible effect on total revenue. Mathematically, the price elasticity of demand can be expressed by the following form (Mankiw, 2014):

$$e = \frac{(Q_1 - Q_0)/[1/2(Q_1 + Q_0)]}{(P_1 - P_0)/[1/2(P_1 + P_0)]}$$

where e is the price elasticity of demand.

Q_0 represents the initial quantity demanded that exists when the price is P_0.

P_0 represents the initial price that exists when the demand is Q_0.

Q_1 represents the new quantity demanded that exists when the price changes to P_1.

P_1 represents the new price that exists when the demand is Q_1.

When *e* can be calculated, the impact of price changes on revenue can be predicted. If elasticity is larger than -1, demand is very sensitive to price, and the change in revenue will be in the direction opposite that of the price change. If elasticity is -1 or less, demand

is not price-sensitive, and the increase in price will cause a smaller increase in revenue. If elasticity is zero, demand is unaffected by any change in the price of the commodity.

According to Zhu (2013), the price elasticity of demand only has limited value for business practices because: (1) it is difficult to develop a numerically precise indicator of elasticity; (2) it offers little insight into the behavior of the individual consumer. Moreover, a real-life scenario would be likely to violate all the assumptions involved in the creation of the demand curve and the price elasticity of demand. Therefore, the price elasticity of demand is, at its best, only an imperfect model of reality. Businesses, however, needed more tangible guidance for their pricing practices. Although price sensitivity and price elasticity of demand have been used interchangeably, they do refer to different concepts. Price elasticity of demand refers to an aggregate measure or market level unit of analysis and does not reveal how individuals or specific groups react to a price increase or decrease. The concept of price sensitivity, which refers to how individuals feel about paying a certain price for a product or service, is beneficial for marketing purpose. Moreover, the price elasticity of demand is egregiously difficult to measure, but reliable and valid scores obtained from a measure of price sensitivity are useful in a survey to measure the concept of price sensitivity (Ramirez & Goldsmith, 2009).

As mentioned in the first chapter, pricing is an important marketing tool that can directly or indirectly influences customers' buying behavior. It also has a significant impact on sales and the profitability of business organizations. Pricing of a product or service is one of the most difficult decisions that most business organizations face because not every customer is willing to pay the same price (Lipovetsky, Magnan, &

Zanetti-Polzi, 2011). Consequently, it is crucial to understand how customers react to price changes for each product or service they currently consume, and which are the associated factors influencing those reactions. On high volume products, a few pennies more per unit can mean millions of dollars of increased revenue and profit. Gaining customer insight on price sensitivity is critical to ensure that the price level is consistent with the value of the product or service in the mind of the target customer.

Understanding customers' perceptions of price is fundamental for successful strategic marketing, and data on price sensitivity are a very important variable in assessing customers' perception of the price (Ouyang, Hungenberg, & Gray, 2018). There has been much research in the general business marketing literature on the effect of different factors on price sensitivity, including customer loyalty (Choi et al., 2006), switching cost (Erdem, Swait, & Louviere, 2002), consumer satisfaction (Low et al., 2013), and service quality (Kalra & Goodstein, 1998; Krishnamurthi & Raj, 1985). Despite the appropriateness of previous studies as a framework to explain price sensitivity across different industries, few research studies have been conducted to measure customer price sensitivity in the context of the sport marketing field. There is also very limited research that has investigated factors which influence customer price sensitivity in the sport industry. Estimates of customer price sensitivity and willingness to pay can substantially improve both price setting and marketing segmentation.

Measuring Price Sensitivity

There are numerous procedures for measuring and estimating price sensitivity. Each procedure offers particular advantages over the others under certain circumstances, so the choice among measurement techniques is not arbitrary. Researchers should think

carefully about the appropriate procedure for any given product or service before conducting their research. According to Nagle and Holden (2002), four types of measurements that can be used to estimate customers' price sensitivity include: uncontrolled actual purchase, uncontrolled preferences and intentions, experimentally controlled actual purchase, and experimentally controlled preferences and intentions.

Uncontrolled actual purchase measurement refers to the use of statistical methods (such as simple or multiple linear and nonlinear regression models) to examine the effects of price on sales based upon past sales data (Breidert, Hahsler, & Reutterer, 2006). According to Kostova (2010), there are three types of past sales data that can be used by both marketers and scholars to measure customers' price sensitivity: "(1) historical sales data – sales reports from a company's own records or from a sales-monitoring service, (2) panel data – individual purchase reports from members of a consumer panel, and (3) store scanner data – sales data for an individual retail outlet" (p. 173). The major benefit of using uncontrolled actual purchase measurement is that it is cheap and accessible. Since sales data are usually collected as part of a company's regular operation, they are available for all products or services that have prior sales histories. Given the ability to actually track data, marketers are able to analyze price trends and project future movement of product or service sales.

There are also limitations of using historical sales data to measure customer price sensitivity. For instance, the most common statistical technique to analyze historical sales data is regression analysis. It can show how much of the historical variation in a product's or service's sales can be explained by each of the explanatory variables such as price (Nagle & Holden, 2002). However, if there has been little historical variation in a

product or service's price, then no statistical technique can be applied to reveal the effect of price change. In addition, the statistical method will not always be feasible. Competitors' prices are needed, and factors other than price may affect sales too. It is difficult to separate such effects from price effects, even if data on all factors are available (Montgomery, 1994). Although there are limitations of using historical sales data, researchers can still assess customers' price sensitivity when they have much historical data with enough price variation.

For example, Mela, Gupta, and Lehmann (1997) conducted research to investigate the impact of promotion on customers' choices through examining an eight-year historical sales data set from producers within a household nonfood product category. The data showed three different types of promotional activities: temporary price reduction, price feature of the product, and the offering of a coupon. Mela et al. (1997) used a multinomial logit model to investigate the influence of the three promotional activities on the consumers' choice of a product. Further, they used cluster analysis to segment users into loyal and non-loyal segments and to compare the price sensitivities of these two groups. Based on the elasticities, they found that the loyal segment showed little price sensitivity, but it did increase over time. The non-loyal segment showed higher price sensitivities that increased over time as well. The results also revealed that the size of the non-loyal group increased over time, indicating an increasing proportion of price-sensitive customers.

Another empirical study by Allenby and Lenk (1995) employed a similar approach to measure customer price sensitivity and to examine the differences between frequent and infrequent buyers in terms of their price sensitivity, displays, and feature

advertising. They analyzed four household brand store scanner data sets and found that frequent buyers were more price sensitive than infrequent ones, and infrequent buyers tended to be more display and feature sensitive. The authors also tried to explain the reasons that caused the above differences between frequent and infrequent buyers. Usually, frequent buyers have more knowledge about the brand characteristic and its market prices; consequently, they may be more sensitive to price. Infrequent buyers have limited information and background about a brand. They may be more likely to rely on displays and features about the brand than frequent buyers.

Experimentally controlled actual purchase measurement examines relationships between marketing variables and price by conducting experiments in which actual retail prices are manipulated. Such experiments may be conducted in a store without the buyers' knowledge or in a laboratory. The main advantage to use experimentally controlled actual purchase measurement is that it can provide direct implications to marketers, but it can also be costly and time-consuming. In addition, the researchers may not get cooperation from distributors or retailers (Montgomery, 1994). For example, a luxury jewelry company conducts an in-store experiment that focuses on the effect of price alone; the experiment requires 100 stores to charge prices below normal and runs for three months. Such a study can easily cost a huge amount of money. Nagle and Holden (2002) stated, "although in-store experiments have the potential for yielding very high-quality estimates, marketer researchers are more often forced to use alternatives" (p.341).

Experimentally controlled preferences and intentions measurement refers to survey respondents simulating the decision to actually purchase a product or service

when answering survey questions. This allows great control over price because all prices can be manipulated at once. However, lack of realism could be a drawback.

Olesen, Alfnes, Rora, and Kolstad (2010) conducted a study to investigate consumers' willingness to pay a premium price for organic and welfare-labeled salmon. In order to reveal customers' real preference for the two different products, the authors employed a non-hypothesis choice experiment, which incorporated 30 choice scenarios. These scenarios simulated different shopping situations, with a choice between the two different products. One hundred and fifteen Norwegian consumers participated in the experiment. The results indicated that customers were price sensitive to conventional salmon and were not price sensitive for organic salmon. These results were consistent with the results in other studies investigating customers' preferences to organic products.

Uncontrolled preferences and intentions measurement, the most common research technique utilized to estimate price sensitivity (Nagle & Holden, 2002), comprises customer or user surveys and in-depth interviews. There have been many survey measurements developed to estimate customers' price sensitivity. For example, Van Westendorp (1976) developed the Price Sensitivity Meter (PSM), which is a direct marketing technique for studying customer price sensitivity. The PSM consists of four open-ended questions linking price to perceived value. Participants are asked questions that allow them to indicate when a product or service is "too expensive," "too cheap," "expensive," and "cheap." Examples of questions include "At what price would you consider the product or service too expensive to consider (too expensive)?" and "At what price would you consider the product or service is inexpensive that you would question the quality/value (too cheap)?" (Van Westendorp, 1976, p. 166). The PSM approach

continues through drawing a cumulative frequencies plot. Based on the plot, the intersection of "too cheap" and "expensive" is viewed as the lower boundary of an acceptable price range. The intersections of "too expensive" and "cheap," "expensive" and "cheap," and "too cheap" and "too expensive" are viewed as the upper boundary of the acceptable price range, indifference price, and optimal price, respectively. If the range of acceptable price is broad and the indifference price is high, then there is a market with low sensitivity to price. The precondition of using PSM is that it assumes participants have some knowledge or background of what a product or service is worth. Then participants can answer explicitly about their price perceptions.

Ceylana, Koseb, and Aydin (2014) investigated the price perceptions of university students on private dormitories by using the PSM. They collected data from 151 students enrolled in a Turkish university. The responses to four questions in the PSM were displayed graphically using the cumulative frequencies plot. The plot indicated that the acceptable range of price was from 320 to 385 Turkish Lira and the indifference price was 345 Turkish Lira. The indifference price point percentage was 33%. They concluded that the students' price sensitivity on a private dormitory was high. Another study by Kupiec and Revell (2001) used the same approach to measure customers' price sensitivity on specialty cheese. They employed the PSM and investigated 250 British cheese consumers. The results of PSM analysis revealed that the acceptable range of price was from £4.7 to £6.3, the optimal price was £5.7, and the indifference price was £5.5. The results also indicated that 92 percent of respondents would pay more for the specialty cheese, and that the average price at specialty cheese stores varied from £5 to £7.5, which

is relatively higher than the optimal price of £5.7. Kupiec and Revell concluded that the price sensitivity on specialty cheese was low, as revealed by the study.

The most significant advantage of PSM is its practical application. As a direct technique for researching price, it can provide marketers with information about the customers' perceptions of price value through identifying the optimal price, indifference price, and acceptable range of price. According to Batt and Katz (1998), the major drawback of using the PSM to measure customers' price sensitivity is that it lacks a standard criterion to judge if a market is price sensitive or not. For instance, Van Westendorp (1976), the developer of PSM, stated that if the range of acceptable price is narrow and the indifference price is low, then a market is highly price sensitive. These criteria are relatively abstract because we do not know how small a number should be considered narrow and low.

Another measurement scale that has been broadly used to measure customers' price sensitivity was developed by Zeithaml, Berry, and Parasuraman (1996). Zeithaml et al.'s price sensitivity scale is a unidimensional scale, which includes three items to assess the customer's likelihood to pay a premium price and make a repeat purchase of a product or service when its price goes up. A unidimensional type scale was chosen because the developers believed that the concept of price sensitivity really was unidimensional in reality. The 3-item scale was measured on a 7-point Likert-type scale (1 = not at all likely, 4 = neutral, 7 = extremely likely). Examples of questions include "Will you pay a higher price than other competitors charge for the benefit you currently received from X?" and "Will you take some of your business to other X that offers better price?" (Zeithaml et al., 1996, p. 38).

One of the advantages of Zeithaml et al.'s (1996) price sensitivity scale is its repeatability and reproducibility. This scale has been widely utilized in various industries and scores from the scale have shown good reliability and validity (Alexandris, Dimitriadis, & Markata, 2002; Choi et al., 2006; Zeng, Yang, Li, & Fam, 2011). For instance, Choi et al. (2006) used this scale to investigate the effects of customers' loyalty and disloyalty behavior on price sensitivity in the context of Internet retail stores (IRS). They hypothesized there would be a negative relationship between loyal behavior and price sensitivity and a positive relationship between disloyal behavior and price sensitivity. Two hundred and thirty participants with IRS shopping experiences were recruited. The results indicated that the Cronbach's alpha value for scores on the price sensitivity scale was higher than .70, suggesting the measure is internally consistent. The structural equation modeling method was employed to test the proposed hypotheses. The results revealed that loyal behavior had a significant and negative impact on customer price sensitivity, and disloyal behavior was significantly and positively associated with customer price sensitivity.

Zeng et al. (2011) employed the Zeithaml et al. (1996) price sensitivity scale to examine the effects of five service quality dimensions on price sensitivity from the perspective of cell phone buyers. The results showed that the Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) values for price sensitivity were .80, .72, and .86, respectively, indicating that scores obtained on the price sensitivity scale were valid and reliable.

A study by Stock (2005) employed a completely different approach to measuring customers' price sensitivity. He developed a price sensitivity scale from the retailer's

side, which included five items measured on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Example questions include “This customer regularly compares our prices with the prices of alternative suppliers” and “Our price level is very important to this customer” (Stock, 2005, p. 83). The reason why Stock measured price sensitivity from the retailer’s side is because he believed customers would report their price sensitivity lower for retailers with which they were satisfied. Therefore, the bias caused by common method variance (CMV) would exist. CMV can be described as “systematic error variance shared among variables measured with and introduced as a function of the same method and/or source” (Richardson, Simmering, & Sturman, 2009, p. 765). Simply, CMV is variance that is caused by measurement method rather than by the construct of the measurement. Low et al. (2013) used Stock’s price sensitivity scale to explore the relationship between customer satisfaction and price sensitivity. The results of a confirmatory factor analysis and reliability analysis showed good reliability and validity for scores obtained on the price sensitivity scale (α=.87, AVE=.57, and CR=.87) in 248 retail store shoppers. Further, a hierarchical regression analysis revealed that customers’ price sensitivity decreased when economic satisfaction increased.

One limitation of Stock’s (2005) price sensitivity scale is that it requires salespeople, or retailers, to have a close relationship with their customers, and then they can explicitly describe the price sensitivity levels of their customers. For example, if Stock’s price sensitivity scale is utilized in the context of online consumption, it will not yield accurate results because online store sellers usually have no idea about their customers’ perception of price.

Based on this review of price sensitivity measurement, it is clear that there is no single way to best measure customer price sensitivity. The appropriate technique for measuring price sensitivity depends on the nature of the product/service and customer. When a product or service has been on the market for a long time, and its past sales data have been fully recorded, an uncontrolled actual purchase measurement is more likely preferred. In contrast, when a company is marketing a new product or improving an old one, the PSM measurement is definitely the first choice.

Antecedents of Price Sensitivity

A literature review of the price sensitivity construct would not be complete without an identification of the antecedents of the construct. Unfortunately, the theoretical examination of what factors influence price sensitivity in the academic literature has been conducted in an isolated and piecemeal fashion. As mentioned in Chapter One, there is no formal theoretical model of the antecedents of price sensitivity in the sport marketing literature. The discussion that follows suggests five possible explanations of what influences consumer price sensitivity: 1) customer satisfaction, 2) customer loyalty, 3) switching costs, 4) service quality, and 5) perceived value.

Customer Satisfaction

Based on expectation confirmation theory (ECT), most researchers would define customer satisfaction as the result of confirmation of customers' pre-purchase expectations concerning product performance (e.g., Alexandris, & Palialia, 1999; Beard, & Ragheb, 1980; Caruana, 2002; Cengiz, 2010; Halilovic, & Cicic, 2013; Oliver, 1997; Poister, & Thomas, 2011). When an individual's expectations are positively disconfirmed (expectation exceeded) by product performance, the result is greater satisfaction with the

product; and when an individual's expectations are negatively disconfirmed (expectation not met) by product performance, the result is dissatisfaction with the product. Expectations are cognitions developed by individuals to facilitate dealing with future uncertainties. The most frequent source of expectations is previous experience (Oliver, 1997). Other sources of consumer expectations include word-of-mouth and marketer communications (e.g., advertisement). Customer satisfaction can also be defined based on customers' evaluations of their experience with a product or service. Hellier et al. (2003) defined customer satisfaction as "the degree of overall pleasure or contentment felt by the customer, resulting from the ability of the service to fulfill the customer's desires, expectations and needs in relation to the service" (p.1765). Specific to games or sporting events, spectators may be satisfied with the performance of the team or a certain player. They may also be satisfied (or not) with the outcome of the game or event. When it comes to the sport fitness realm, people may be satisfied with the quality of service and overall environment of the facility. They may also be satisfied (or not) with the outcome of training or practicing. Therefore, within different contexts, people will have different perceptions of satisfaction. In order to accurately estimate customer satisfaction, researchers should use or design measurements that fit with a particular population.

Equity theory is a well-developed and substantiated theory which has strong potential applications to the issue of post-choice evaluation. The theory was first developed by Adams (1963) to explain the results of inequitable employer-employee relations. As such, this theory has always had a substantial applied business flavor, which gives it better face validity in a marketing context than most theories borrowed from the social psychology literature (Huppertz, Arenson, & Evans, 1978; Lapidus & Pinkerton,

1995). Equity theory focuses on explaining the results of inequity arising from an exchange. Hence, equity theory seems particularly appropriate for analyzing a consumer's satisfaction/dissatisfaction immediately following an exchange (or choice). The occurrence of choice does not always imply that an exchange has been completed, but the key concern here is that the consumers feel committed to the exchange. In the marketing context, equity theory has also been used to explain the relationships between a buyer and seller (Ashley, Noble, Donthu, & Lemon, 2011).

> An inequity relationship is said to exist when individuals perceive their inputs in an exchange process as psychologically inconsistent with the outcomes they received. When buyers feel that they perceive inequity in their exchange, they will be motivated to either stop continuing the exchange or adjust the inequity relationship" (Ouyang et al., 2018, p. 3).

When inequity occurs, the most common way to rebuild equity is to adapt inputs (e.g., negotiating a lower price; Walster, Berscheid, & Walster, 1973).

The equity theory is applied in the current study to explain the relationship between customer satisfaction and price sensitivity. For instance, health and fitness club members pay membership fees to get related services from their clubs. As long as the received services meet with consumers' outcome expectancies, perceived equities are realized. The two components of equity theory are input and output. In the context of the current study, customer satisfaction reflects output, while customers' willingness to pay a certain price for their memberships (price sensitivity) refers to input. Previous studies have provided empirical evidence to support that satisfied customers are less likely to decrease their inputs than unsatisfied customers (i.e., increase price sensitivity). For

example, Ouyang et al. (2018) conducted an empirical study in the context of the commercial martial arts school industry and investigated whether or not a satisfied customer will care about the price. They measured customer satisfaction in five dimensions: 1) facilities/service, 2) individual/psychological, 3) relaxation, 4) social, and 5) health/fitness. The results showed that all dimensions of customer satisfaction had a significant and negative impact on price sensitivity with the exception of the relaxation dimension. The negative relationship between customer satisfaction and price sensitivity is not always consistent. With a sample of 248 retail store consumers, Low et al. (2013) found that social satisfaction was positively related to price sensitivity. The authors explained that this counterintuitive result might be caused by the predominance of the female sample (accounting for 67.7% of the sample). Low et al. believed that female customers enjoyed the social aspect of price bargaining more than male customers. Within a different context, customers may evaluate their experience from different angles and eventually have different perceptions of satisfaction. Therefore, studies conducted within different industries or populations could reveal inconsistent results. Therefore, the following hypotheses are proposed for the current study:

H1 Customer satisfaction is negatively associated with price sensitivity.

H2 Customer satisfaction is positively associated with customer loyalty.

Customer Loyalty

The concept of customer loyalty is closely related to that of customer satisfaction. Researchers such as Chou, Lu, and Chan (2014) have theorized that loyalty to a particular service provider is associated with customer satisfaction. By providing a customer with the type and level of service that meets or exceeds their expectations, business

organizations are attempting to create loyal patrons. Backman and Veldkamp (1995) have identified loyalty as “committed behavior that is manifested by a propensity to participate in a particular recreation activity” (p. 32).

Pritchard, Howard, and Havitz (1992) suggested two types of loyalty in recreation. The first one is what is commonly referred to in the business world as brand loyalty. Brand loyalty is generally defined as customer behavior with respect to choice of branded merchandise. For example, when an individual is considering the purchase of a health and fitness club membership, he or she may have a preference for and be intending to buy from 24 Hour Fitness. However, because a 24 Hour Fitness club is not located within 10 miles of his home, he buys a membership from the YMCA near his home. One could argue that this buyer was brand loyal to 24 Hour Fitness because of his preference and intentions but was prevented from buying his brand choice because of inconvenient location. The definition of brand loyalty would classify this buyer as brand disloyal.

The second type of loyalty that researchers have studied is activity loyalty. Two complementary dynamics can define activity loyalty: the individuals’ attachment to the place and their involvement in activities (LaMondia & Bhat, 2012). For example, an individual is a member of a 24 Hour Fitness club, and he has had a good experience at his club. There is a newly opened YMCA which offers the same service he currently receives from the 24 Hour Fitness and charges 50% less than his current payment. However, this individual still renews his membership at the 24 Hour Fitness based on his positive experience and psychological attachment on the 24 Hour Fitness. According to the definition of activity loyalty, this individual would be classified as activity loyal. In the field of recreation, previous studies have found that participants tend to be more loyal to

an activity than to the agency providing the service (Backman & Crompton, 1991; Holland & Baker, 2001).

In order to investigate different levels of activity (product) loyalty, Backman and Crompton (1991) suggested four categories or levels to classify loyalty: low, latent, spurious, and high (see Figure 2.1). High loyalty users have a strong emotional or psychological attachment to an activity combined with a high level of usage. Low loyalty participants have a low level of attachment to an activity and a low level of usage. Spurious level users have a weak attachment and high usage of an activity. Strong attachment but low usage is identified as latent loyalty. In order to encourage brand (agency) loyalty, marketers need to identify which participants fall into which loyalty level category in order to target the high loyalty individuals for relationship marketing (Holland & Baker, 2001; Hsieh, & Chang, 2004). Companies should also be aware that customers might be loyal to them for a number of reasons that have nothing to do with a relationship between the two parties. For example, Kabiraj and Shanmugan (2011) stated that some business organizations might have a monopoly in the local marketplace. Therefore, customers have no choice but to use the services of the business. In other situations, customers may not change service providers because the uniqueness of the service they are receiving (e.g., childcare services at their health and fitness club, Kongfu group fitness class).

	Low Usage	**High Usage**
Weak Attachment	Low Loyalty	Spurious Loyalty
Strong Attachment	Latent Loyalty	High Loyalty

Figure 2.1 Loyalty Matrix

Wieseke, Alavi, and Habel (2014) stated that the primary reason why loyal customers are valuable to a company is that loyal customers tend to spend more money than non-loyal patrons, as they are less likely to be willing to switch service providers. Besides, loyal customers are valuable in that they may be willing to pay a higher price for goods or services than their non-loyal counterparts. In other words, a loyal customer may be less price sensitive to a product or service than non-loyal customers.

Many empirical studies support this. For example, Goldsmith, Flynn, and Kim (2010) conducted research to investigate the association between status consumption and price sensitivity in the context of the garment industry. They tested a model using data from 409 college students in the United States. Brand loyalty and price sensitivity were two constructs in the model. The results indicated that brand loyalty had a strong and negative impact on price sensitivity. With a sample of 7,229 customers from jewelry stores, Wieseke et al. (2014) found that customers who reported a higher level of loyalty were more willing to pay more and less likely to negotiate a low price than customers with a low level of loyalty. Huang, Jones, Hahn, and Leone (2012) investigated 207 grocery shoppers and found that customer loyalty was a significant factor that could reduce customers' price sensitivity.

There is also research that found inconsistent relationships between loyalty and price sensitivity. Neslin, Henderson, and Quelch (1985) collected data from a static sample of 2,293 consumers who took part in a scanner panel in a single metropolitan market over a 28-week period. They found that there was a significant positive relationship between loyalty and price sensitivity. Raj (1982) also revealed customer loyalty could positively influence price sensitivity. These inconsistent findings could be

due to the fact that the studies were conducted in different contexts or generations. Within the sport fitness industry, Ouyang et al. (2018) found that the low-frequency participants' price sensitivity was more severely influenced by social satisfaction and health/fitness satisfaction than were high-frequency participants. According to Backman and Crompton's (1991) four categories of loyalty, the low-frequency participant is either low loyalty or latent loyalty. Therefore, this hypothesis is proposed:

H3 Customer loyalty is negatively related to price sensitivity.

Service Quality

Before we can understand the nature of service quality, we must first understand the concept of service. In contrast to goods, services are performances rather than objects. Parasuraman, Zeithaml, and Berry (1985) identified four unique characteristics of service: 1) intangibility, 2) heterogeneity, 3) inseparability, and 4) perishability. Services are intangible; they are impossible to grasp physically. Tangibles like facilities, equipment, or the appearance of contact personnel may represent the service but are not the service itself. Since the services are usually performed by human beings, the quality and essence of a service can vary between different producers and customers. The inseparability of service production and consumption means a service is generally consumed while being performed. Moeller (2010) said that most services cannot be stored. If a service is not used when available, the service capacity is wasted.

Service quality can have various meanings in different contexts and for various service receivers; there is no standard definition of service quality (Lee, Kim, Ko, & Sagas, 2011). Based on different theoretical assumptions service quality has been defined in several ways. For instance, Zeithaml and Bitner (2003) defined service quality as "a

focused evaluation that reflects the customer's perception of specific dimensions of service: reliability, responsiveness, assurance, empathy, tangibles" (p. 85). On the other hand, a more popular and widely accepted definition of service quality is the comparison of customers' expectations about a service with their actual perception of the service performance (Berry, Parasuraman, & Zeithaml, 1988; Caruana, Ewing, & Ramaseshan, 2000; Parasuraman et al., 1985).

Although "service encounter satisfaction," "overall service satisfaction," and "service quality" have been used interchangeably by some scholars and practitioners, most researchers in the marketing field hold to the truth that these three constructs are distinguishable even though they are highly interrelated (e.g., Bolton & Drew, 1991; Cronin & Taylor, 1992; Theodorakis, Kambitsis, & Laios, 2001). Indeed, in examining the independence of the three constructs, Bitner and Hubbert (1994) conducted an empirical study among 242 airline travelers who were asked to relate the details of a service encounter and were later asked to respond to both qualitative and quantitative measures of service satisfaction and service quality. They utilized both confirmatory factor analysis and content analysis and found three distinct constructs from the consumer's point of view. The results also suggested that service encounter satisfaction was more distinguishable than overall service satisfaction and perceived service quality.

Service quality has attracted significant research attention in marketing literature. One important factor that has frequently motivated scholars to investigate this topic has been the growth of service industries, especially in developed countries (Schneider & White, 2004). According to the data from the U.S. Bureau of Economic Analysis (2011), service-producing industries represented the largest section of the U.S Gross Domestic

Product (GDP), which accounted for about 82 percent of the total GDP. The service sector is overwhelmingly important to the U.S economy. In 2010, employment in the U.S. service-producing industries accounted for over 84 percent of all jobs (U.S. Bureau of Labor Statistics, 2010). Another reason explaining the popularity of studying service quality in the marketing field is that it has a great influence on consumers' emotional and behavioral responses such as customer satisfaction (Falk, Hammerschmidt, & Schepers, 2010; Ferrand, Robinson, & Valette-Florence, 2010; Kelley & Turley, 2001; Ko & Pastore, 2004), customer loyalty (Chiou & Droge, 2006), brand image (Gronroos, 1984), commitment (Harrison-Walker, 2001; Sharma & Patterson, 1999), and repurchase intention (Theodorakis, Kaplanidou, & Karabaxoglou, 2015; Woolf, 2008).

The research about service quality in the sport marketing field is relatively limited and, in many instances, originates from disciplines beyond sports, although, as stated in recent works by Yoshida and James (2010), sport service quality is being given increasing attention in the sport marketing literature. Sport has several unique elements that differentiate it from other business products (Mullin et al., 2014), and sport consumers are a unique group of individuals for study because many of them are highly involved in sports, and they may be more receptive to sport advertisements and promotions than the general population (Pope et al., 1999; Shank & Beasley, 1998). Sport marketing agencies and organizations engage in this practice by measuring service quality dimensions and editorial information in the belief that sport customers' perceived service quality is an important element of their purchase and repurchase decision process (Ferrand et al., 2010). It should follow, then, that an area of particular importance to sport marketers is to have a comprehensive view of the relationship between perceived sport

service quality and other consumer variables such as repurchase intention, loyalty, and price sensitivity. With only a few exclusions (Alexandris et al., 2004; Ferrand et al., 2010; Lee et al., 2011), the previous studies related to sport service quality were mainly focused on developing new sport service quality measurements (Howat, Absher, Crilley, & Milne, 1996; Kim & Kim, 1995; Papadimitriou & Karteroliotis, 2000) and testing applicability of existing service quality scales that had been used in the general business field (Lee et al., 2011; Yoshida & James, 2010). The linkages between sport service quality and consumers' behavioral responses still need more research effort. For instance, can high service quality decrease a customer's price sensitivity in sport markets? This type of question has largely gone uninvestigated by sport marketing researchers.

Service Quality Research in Sport

Within the sport industry, Chelladurai (1992) classified sport services into two categories: 1) spectator services (e.g., National Basketball Association games, tennis tournaments) and 2) participant services (e.g., services offered at commercial sport clubs or health and fitness clubs). According to Lee et al. (2011),

> spectator sport services refer to delivering entertainment and opportunities for socialization during sport events; and participant sport services, which focus on sport as a platform to deliver a wide range of sport experiences that result in physical, mental, and social benefits for the participants (p.56).

There have been many studies which have investigated service quality in both categories.

Spectator service. Spectator sport is considered to be unique (Mullin et al., 2014) in part because it is produced and consumed simultaneously, which is one of the unique characteristics of the service. There have been many attempts to measure service quality

in the context of the spectator sport (Kelley & Turley, 2001; Koo, 2009; McDonald, Sutton, & Milne, 1995; Theodorakis & Alexandris, 2008; Theodorakis et al., 2001). For example, McDonald et al. (1995) developed a 39-item survey instrument (TEAMQUAL) based upon the scales and dimensions defined by the SERVQUAL instrument. According to the developers of SERVQUAL, measuring service quality should assess both expectations and perceptions of service quality. Due to the difficulty in collecting information from spectators on more than one occasion, McDonald and colleagues made a significant adjustment by simultaneously assessing expectations and perceptions of service equality. This was achieved through the administration of one survey, which included items measuring the multifaceted service experience customers encounter when attending professional sporting events. The TEAMQUAL measurement requires participants to rate their perceptions of service quality on a 7-point Likert-type scale. Ratings of 1, 2, or 3 indicate that perceived service quality falls below expected service. Ratings of 5, 6, or 7 indicate that perceived service exceeds expected service quality, and a rating of 4 means perceived service quality just meets expected service. It is worth noting that the construct validity and reliability assessments were not conducted by the original developers, which is essential when testing a measurement (Huck, 2004). According to Pallant (2007), reliability refers to the degree to which a research instrument produces stable and consistent results; validity concerns how well a research instrument measures what it is designed to measure. Although there were no reliability and validity assessments conducted, the TEAMQUAL still provided a theoretical framework to guide future research in service quality at spectator sporting events.

However, Koo (2009) took a different approach and focused on the service attributes of service quality at sporting events. He did not use the SERVQUAL instrument, but rather he decided to focus on specific attributes related to service in the spectator sport. Booms and Bitner's (1981) Servicescape as well as Gronroos's (1984) perceived service quality (PSQ) framework were used to establish the attributes that would be the focus. Servicescape is a concept that was proposed by Booms and Bitner (1981) to highlight the impact of the physical environment in which a service process takes place. Koo developed a 14-item scale to examine the quality of service delivered by Minor League Baseball (MiLB) and also investigate the relationship between service quality and spectators' satisfaction. These 14 items are immersed in three service attributes: technique, functional, and environmental. Based on previous studies in service quality, Koo hypothesized that the three service attributes would positively influence PSQ, and PSQ would positively influence satisfaction. Reliability analysis revealed that the Cronbach's alpha values for scores on the three subscales ranged from .88 to .96, suggesting good internal consistency. The author also conducted confirmatory factor analysis (CFA) to test and validate the measurement model. The results indicated no convergent and discriminant validity issues. After the measurement model was confirmed, Koo employed structural equation modeling (SEM) methods to test the proposed hypotheses. SEM results indicated that all three service attributes were significant predictors on PSQ, and the function attribute made the largest contribution on predicting PSQ ($\beta = .404$, $p < .001$).

Another study by Kelley and Turley (2001) investigated the important service attributes used by sport spectators for evaluating their service quality experiences. Based

on sports marketing and service quality literature, they generated 35 service attributes items. Through conducting exploratory factor analysis (EFA), a nine-factor structure was considered as the best solution and explained 67.4% of the total variance. According to the items in each dimension, Kelley and Turley named the nine dimensions as follows: employees, price, facility access, concessions, fan comfort, game experience, showtime, convenience, and smoking.

Theodorakis et al. (2001) conducted a study to examine the relationship between measures of service quality and satisfaction of spectators in professional basketball games that took place in Greece. They used the SPORTSERV scale to measure spectators' perceived service quality. The SPORTSERV scale was developed by Theodorakis and Kambitsis (1998) to measure spectators' perceived service quality in professional sports. It contains 22 items immersed in five dimensions: access, reliability, responsiveness, tangibles, and security. Theodorakis et al. (2001) found only two service quality dimensions reported positively, which were access (M = 2.6) and tangibles (M = 2.2). Security, responsiveness, and reliability were reported as poor service quality perceptions by the spectator. They also found three dimensions (responsiveness, reliability, and tangibles) with a positive influence on spectators' satisfaction, which accounted for 40 percent of the total variance.

Participant services. Most sport participant service studies have been conducted in the sport fitness industry (Kim & Kim, 1995; Ko & Pastore, 2004; Papadimitriou & Karteroliotis, 2000) and sport tourism (Cronin & Taylor, 1992; Kouthouris & Alexandris, 2005). For example, Kim and Kim (2005) conducted a study at a sports center in South Korea to examine the customers' perceived service quality. They developed the Quality

Excellence of Sport Centers (QUESC) scale for use in quality-improvement program for sports centers. The QUESC includes 33 items immersed in 12 factors: ambiance, employee attitude, employee reliability, social opportunity, available information, programs offered, personal consideration, price, privilege, ease of mind, stimulation, and convenience. Papadimitriou and Karteroliotis (2000) reexamined the QUESC by investigating 380 private sport and fitness club members in Greece. They modified the original 12 factor QUESC into a four-factor structure. Papadimitriou and Karteroliotis named the four factors as follows: instructor quality, program availability and delivery, facility attraction and operation, and other services. In Papadimitriou and Karteroliotis's study, the four-factor QUESC showed a better model fit than it did in the original test study by Kim and Kim (1995). However, Papadimitriou and Karteroliotis did not report the reliability of the scores on the four-factor QUESC, which makes it hard to compare the two different QUESC structures and determine which one is more effective for measuring sport participant service quality than another. According to Pallant (2007), the reliability of scores from a particular scale varies depending on the sample with which it is used. Therefore, it is necessary to check if a scale is reliable with a particular sample even it has been previously tested.

Ko and Pastore (2004) also developed a hierarchical service quality model for measuring customers' perceptions of service quality in the context of the recreational sport industry. For the purpose of the study, Ko and Pastore developed the Scale of Service Quality in Recreational Sport scale (SSQRS) through following the standard psychometric procedures as suggested by Nunnally (1978). The final SSQRS scale included 49 items that reflected 11 subdimensions of service quality. The results from Ko

and Pastore's study are similar to the above-mentioned two studies (Kim & Kim, 1995; Papadimitriou & Karteroliotis, 2000). For example, all three studies have similarities in some service attributes, such as facility quality, ambiance, and programs offered. Although there are some similarities, some differences still exist. In Ko and Pastore's study, the authors conducted a second order CFA to group the 11 subdimensions into four major factors (program quality, interaction quality, outcome quality, and physical environment quality). The following hypotheses are proposed for the current study:

H1 Service quality is positively associated with customer loyalty.

H2 Service quality is positively associated with switching costs.

H3 Service quality is positively associated with customer satisfaction.

H4 Service quality is negatively associated with price sensitivity.

Perceived Value

Researchers have described perceived value in different ways based on the different context of their research. Rokeach (1973) defined value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). He also suggested that "values are multifaceted standards that guide conduct" (p. 13). Gordon (1975) noted that "values are constructs representing generalized behaviors or states of affairs that are considered by the individual to be important" (p. 2). He also suggested that although individual values can be modified, they tend to endure over time.

From the marketing perspective, Zeithaml (1988) identified four consumer definitions of value which are often linked with the concept of price:

1. Value is low price.
2. Value is whatever I want in a product.
3. Value is the quality I get for the price I pay.
4. Value is what I get for what I give.

These four expressions of value can be captured in one overall definition: perceived value is the consumer's overall assessment of the utility of a product or service based on perceptions of what it received and what is given (Zeithaml, 1988). The diversity in meanings of value illustrated by these definitions provides a partial explanation for the difficulty in conceptualizing and measuring the value construct in research. Although what is received varies across consumers and what is given varies, value for the consumer represents a tradeoff between the quality or benefits buyers perceive in the product relative to the sacrifice they perceive by paying the price (Li & Green, 2011). In the context of the sport fitness industry, the perceived value can be described as a participant's experience of being a member of a sport club or fitness center. It is the participant's evaluation of service and facility quality based on perceptions of what one gets for what one gives (Petrick, 2002; Sweeney & Soutar, 2001).

According to Kwon, Trail, and James, (2007), the perceived value of the total package of products or services is what influences customer behavior, and thus competitive success. This notion of relative perceived value results in three possible value positions: "offering comparable quality at a comparable price, offering superior

quality at a premium price, or offering inferior quality at a discounted price" (Petrick, 1999, p. 5). Thus, an organization can change its relative value by changing what it is doing if a competitor changes what they are doing, or if a customer's needs or preferences change. For example, health and fitness clubs have different membership rates based on the services customers will receive (cardio only, full access) and length of the contract (monthly, quarterly, or annual).

In the sport marketing literature, many studies have investigated the relationship between perceived value and consumer behavioral intention (Kwon et al., 2007; Murray & Howat, 2002; Yu et al., 2014). Murray and Howat (2002) empirically tested an integrated model of service quality, satisfaction, value and future intentions of consumers of a sport and leisure center. They measured future intention with a single item by asking participants' likelihood to recommend the center to someone else. The results indicated that perceived value had a significant and positive impact on both customer satisfaction and future intention. Several years later Yu et al. (2014) examined a similar model with Murray and Howat's (2002) framework. They tested a hypothesized model to explain the relationships among service quality perceived value, customer satisfaction, and behavioral intention. Yu et al. measured behavioral intention with two sub-dimensions: repurchase intention and complaint behavior. With a sample of 212 fitness center members from South Korea, Yu et al. found that the perceived value was significantly and positively associated with customer satisfaction and repurchase intention.

To the best of my knowledge, no research has been conducted investigating the relationship between perceived value and price sensitivity in sport marketing literature. Based on the above perceived value definitions, perceived quality is a part of customers'

evaluations of perceived quality. Bloemer, De Ruyter, and Wetzels (1999) investigated the association between perceived service quality and service loyalty across multiple service sectors (entertainment, fast food, supermarket, and health care). They used four dimensions to describe service loyalty: purchase intentions, word-of-mouth communication, price sensitivity, and complaining behavior. The results partially support the significant relationship between perceived service quality and price sensitivity. However, Kwon et al. (2007) investigated the mediating role of perceived value on the relationship between sport team identification and purchase intention. They suggested that "perceived quality might have the potential to mitigate price sensitivity" (Kwon et al., 2007, p. 551). Therefore, the following hypotheses are proposed for the current study:

H8 Perceived value is positively associated with customer satisfaction.

H9 Perceived value is negatively associated with price sensitivity.

H10 Perceived value is positively associated with switching costs.

H11 Perceived value is positively associated with customer loyalty.

Switching Costs

A conceptual understanding of the switching cost construct is the starting point for research on the topic. According to Burnham, Frels, and Mahajan (2003), switching costs are anticipated costs associated with switching from a relationship. Costs reflect any consequences of making the switch, such as self-disapproval, disapproval of significant others, anxieties, time and effort, money, and utilitarian losses for significant others. A variety of switching costs have been proposed in the literature (Gremler, Bitner, & Evans, 1995; Guiltinan, 1989). For example, Guiltinan (1989) summarized four types of switching cost: continuity costs, learning costs, setup cost, and contractual costs. The

continuity costs can be defined as “the costs of lost performance benefits that usually result from specified knowledge developed by the provider and/or a history of satisfactory performance” (Guiltinan, 1989, p. 29). Aaker and Equity (1991) described continuity costs as the risk of changing the service provider due to the unknown level of service that might be received by a new provider. For example, a health and fitness club member is only moderately satisfied with the service at his current club. While the service is not terrible, it is not excellent either. Therefore, he decides to buy a new membership from a newly opened club. There is a perceived risk of being a member at a new club since the service at the new club could be worse than the service received from the previous club. Thus, the lost performance during this initial time period is referred to as continuity costs. The learning costs are those costs “associated with learning the idiosyncrasies of how to use the service or how the process works” (Gremler et al., 1995, p. 87). For example, a health and fitness club member considers buying a new membership from another club. However, he is worried about the relationship between the new club employees and himself. He also worries about how to use the new facility and relationships with other members. All this individual’s worries are perceived learning costs. Learning costs are particularly relevant in service sectors since customers often play an important part in the delivery of services (Jones, 1998). The setup costs refer to those costs incurred when purchasing from a new source for the first time (Guiltinan, 1989). Contractual costs are the last type of switching costs and can be defined as “the costs of foregone economic savings from sticking with a single source” (Guiltinan, 1989, p. 218).

In the marketing literature, the concept of switching cost has been found as a strategy to increase the price of a product or service (Dube, Hitsch, & Rossi, 2009). Researchers believe that prices are higher when switching costs are present. For example, Zeng et al. (2011) stated that "companies are often more inclined to charge a high price to locked-in customers than to make an effort to capture new customers because they believe that locked-in customers are less price sensitive if switching costs are substantial" (p. 398). Dube et al. (2009) indicated that the customers faced with high investment in switching costs were not likely to change vendors. Consequently, when the perceived switching costs increase, the likelihood of a customer negotiating for a low price should decrease. For example, if health and fitness club members find that there is another recently opened club within 15 miles of their current club, considering the cost of time and travel expense to the recently opened club, they may decide to renew their membership and stay with their current club instead.

Klemperer (1987) said that "switching costs make each individual firm's demand more inelastic and so reduce rivalry" (p. 377). The inelastic demand refers to the quantity demand not being responsive to price changes (low price sensitivity) when a given relative change in price will occasion a less proportionate change in quantity demanded. For example, a 20 percent increase in the membership fees only cause 10 percent member loss. In other words, as switching cost increase, customer price sensitivity decreases.

As discussed earlier, many factors could influence customer loyalty. Scholars have argued that switching costs (the costs associated with changing from the use of one product or service to another) can also have a direct impact on customer loyalty (e.g., El-Manstrly, 2016; Oyeniyi, & Abiodun, 2010; Tsai, Tsai, & Chang, 2010; Yen, 2010).

Switching costs are described as those costs, including investment of effort, money, or time, that are perceived by customers as factors that make it difficult to purchase from a different company. Switching costs can affect customer loyalty by making it difficult for the customer to move to another product or service provider (Gremler et al., 1995). For example, Oyeniyi, and Abiodun (2010) found that switching costs had a significant and positive impact on customer retention. Tsai et al. (2010) investigated the effect of customer value, customer satisfaction, and switching costs on customer loyalty. With a sample of 236 hypermarket shoppers, Tsai et al. found that with the increase of switching costs the customer loyalty would increase too. Therefore, as switching costs increase, service loyalty is expected to increase. The following hypotheses are proposed for the current study:

H12 Switching costs are negatively associated with price sensitivity.

H13 Switching costs are positively associated with customer loyalty.

A Proposed Model

Based on the preceding extensive review of literature, a total number of 13 hypotheses were suggested. The research hypotheses suggest the relationships among the variables, service quality, perceived value, switching costs, customer loyalty, customer satisfaction, and price sensitivity. The proposed research model is presented in Figure 2.2.

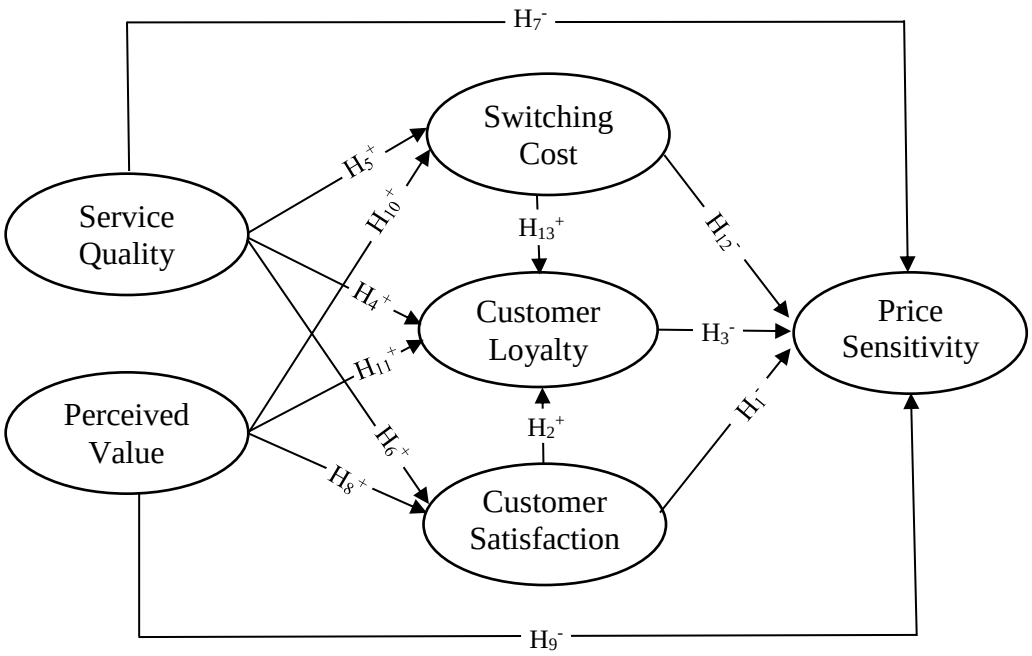

Figure 2.2 Proposed Hypothesized Model for Price Sensitivity

CHAPTER III

METHODS

The focal point of this study was to establish a structural model of consumer price sensitivity in the context of health and fitness club industry and test the hypothesized relationships outlined in the model. It was expected that service quality, perceived value, customer loyalty, and customer satisfaction would be negatively related to price sensitivity while switching cost and consumer participation would positively influence price sensitivity. It was also expected that customer loyalty, switching cost, consumer participation, and customer satisfaction could be explained by service quality and perceived value.

The methods used to answer the research questions and hypotheses are discussed in this chapter and are organized into the following five sections: 1) introduction to structural equation modeling, 2) sample selection, 3) instrumentation, 4) design and procedure, and 5) data analysis. The first section includes the basic concepts and terminology necessary to understand why the proposed techniques are utilized to answer the research questions. The second section covers information about the determination of appropriate sample size, and description of the target population and participants. In the instrumentation section, the scales used to measure the study's variables of interest are discussed in detail. The design and procedure section details the nature of the study and procedures of data collection. Finally, the last section expands on the statistical techniques used to answer the research questions. A pilot study was conducted in summer

2019 to assess the accessibility of the target population and the clarity of the study's survey instruments. A detailed discussion of the pilot study is provided in the design and procedures section.

Introduction to Structural Equation Modeling

The statistical theory underlying structural equation modeling (SEM), began in 1970 when Swedish statistician Karl Jöreskog conceived combining features of econometrics and psychometrics into a single model. During the past two decades, SEM has gained popularity among researchers across many disciplines, especially in the social and behavioral sciences, due perhaps to its comprehensive method for the quantification and testing of theories (Lei & Wu, 2007). In general, SEM is an approach used to evaluate the validity of substantive theories with empirical data which can be viewed as a combination of factor analysis and path analysis (Lei & Wu, 2007). The interest in SEM is often on theoretical constructs, which are represented by latent variables.

Components of a Structural Equation Model: Variables and Parameters

In the social and behavioral sciences, researchers often study theoretical or hypothetical constructs that cannot be observed directly. These constructs are named latent variables or factors within the context of SEM methodology (Klem, 2000). Because the latent variables are not directly observable, it follows that they cannot be measured directly. To make measurement possible, the unobserved variable is linked to one or more variables that are observable. The measured scores (i.e., measurements) are termed observed or manifest variables (Klem, 2000) and serve as indicators of the underlying construct that they are presumed to represent. For example, the Price Sensitivity Scale

(PSS) contains five items that measure a consumer's price sensitivity level. Price sensitivity is the latent variable and the five items are its observed variables.

Model parameters reflect those aspects of a model that are usually unknown to the researcher, at least at the beginning of the analysis, yet are necessary for testing the model. The parameters may describe the relationship between unobserved variables, between observed variables, or between unobserved and observed variables. In SEM, parameters are often the coefficients, variances, and covariances among variables. In a SEM path diagram, regression coefficients are represented by single-headed arrows that describe the hypothesized relationships between two variables. Covariates are indicated by double-headed curved arrows that point to two variables or error terms (Kline, 2015).

Measurement Model

As mentioned previously, latent variables are not directly measurable but perhaps are indicated, or inferred, by responses to a number of observed variables. Statistical techniques, such as exploratory or confirmatory factor analysis, have been widely used to examine the covariation among a set of observed variables in order to gather information on their underlying latent constructs. A measurement model in SEM is evaluated through confirmatory factor analysis (CFA; Klem, 2000). In contrast to exploratory factor analysis, CFA is used when the researcher has some knowledge of the underlying latent structure which he or she is interested in studying. Based on the knowledge of theory, the researcher postulates the relationship between each latent construct and its indicators and then tests the hypothesized structure statistically. Using the perceived value measurement as an example, the measurement model (Figure 3.1) has one latent variable (ξ, xi) and five observed variables (*x*). The paths between the latent variable and the five observed

variables indicate the factor loadings (λ, lambda). The arrows pointing toward the observed variables are residuals or measurement errors (δ, delta). The measurement model may be specified either in terms of endogenous notation with causal indicators, or in terms of exogenous notation with effect indicators (Bollen & Lennox, 1991; Bollen & Bauldry, 2011). Effect indicators are variables that are believed to be affected by some underlying latent variables. Expressed in mathematics, the observed variables and unobserved constructs are linked by one of two factor equations in an effect indicator model, as follows:

$$X = \Lambda_x \xi + \delta$$
$$Y = \Lambda_y \eta + \varepsilon$$

wherein Λ_x is a $m \times n$ regression matrix relating *m* exogenous latent variables to each of the *n* observed variables designed to measure them;
ξ is a vector of latent variables;
δ is a vector of measurement errors in x.

Similarly, Λ_y is a $m \times n$ regression matrix relating *m* endogenous latent variables to each of the *n* observed variables designed to measure them;
η is a vector of latent variables;
ε is a vector of measurement errors in x.

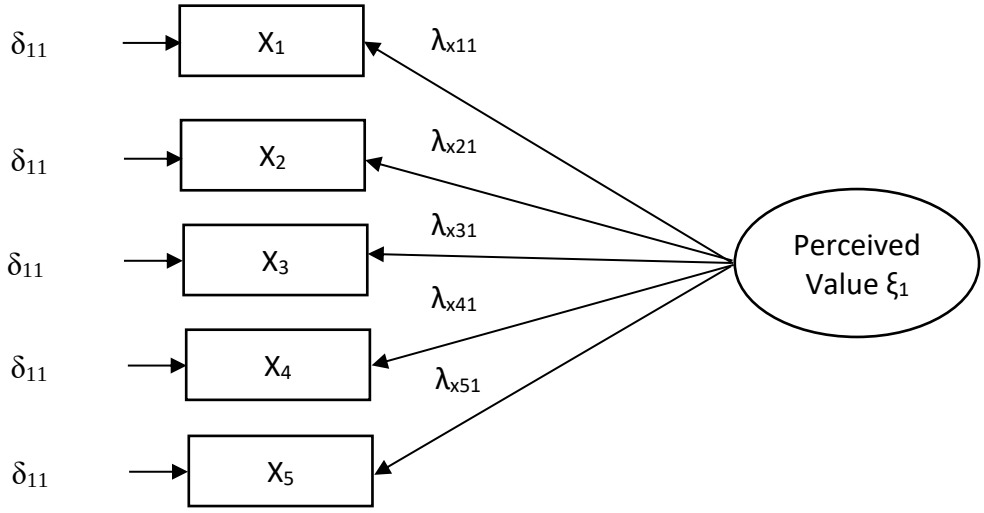

Figure 3.1. A Sample of a Measurement Model

Structural Model

Within the structural model, researchers specify the causal relationships among the exogenous and endogenous variables. Exogenous variables are determined outside of the model, or they are not explained by the model. On the other hand, endogenous variables are explained by specifying that they are causally dependent on other endogenous variables and/or exogenous variables. Figure 3.2 represents a structural model using customer satisfaction and perceived value to explain a customer's level of price sensitivity (this is a part of the hypothesized structural equation model of the current study). In the figure, the observed exogenous variables are represented by X; the latent exogenous variables are represented by xi (ξ); and the measurement errors are labeled delta (δ). The observed endogenous variables are represented by Y; the latent endogenous variable is represented by eta (η); and the measurement errors are labeled epsilon (e). The correlation between the two exogenous variables is labeled phi (φ). The structural model can be expressed algebraically as:

$$\eta = B\eta + \Gamma\xi + \zeta$$

where η is a vector of latent endogenous variables;
B is an $m \times m$ matrix of coefficients relating the m endogenous variables to one another;
Γ is an $m \times n$ matrix of coefficients relating the n exogenous variables to the m endogenous variables;
ξ is a vector of latent exogenous variables;
ζ is a vector of errors in equations ε_1

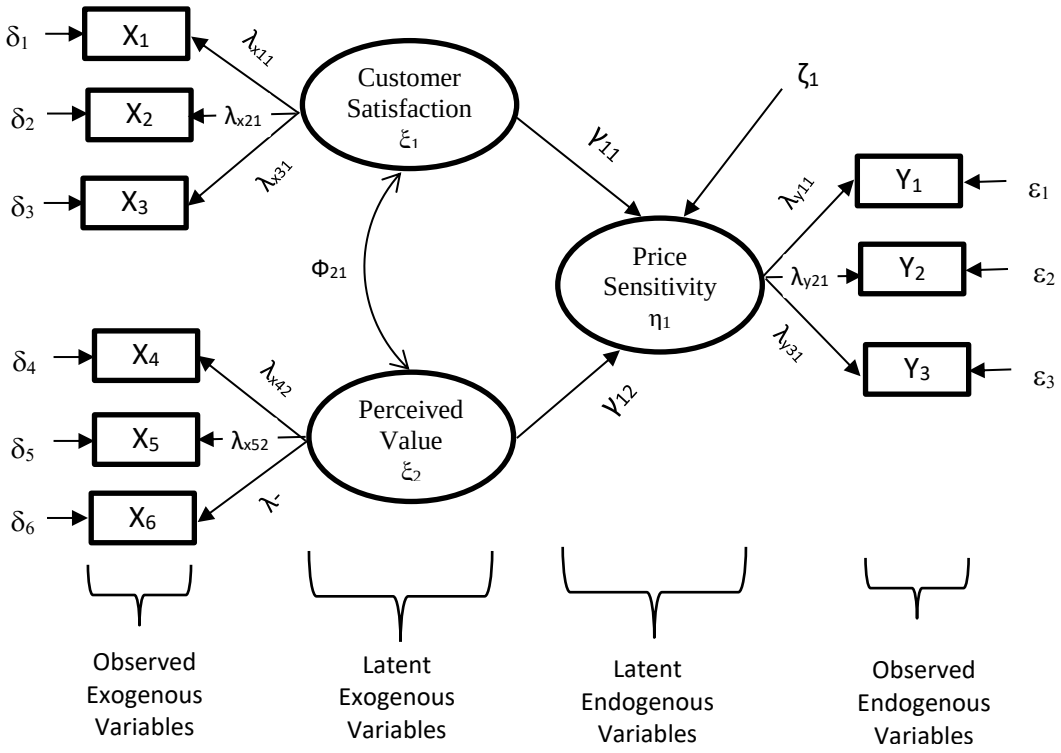

Figure 3.2 A Sample of a Full Structural Model

Test of Model Fit

In structural equation modeling, with both measurement and structural models, the primary interest of researchers is to ensure that the hypothesized model fits the collected data. There has been no consensus on the operational definition of fit, which has resulted in a variety of alternative methods for assessing model fit, each based on a different definition (Browne & Cudeck, 1993; Fornell & Larcker, 1981). Test of model fit comprises both global and component aspects of fit. Global fit pertains to how well the model fits the data overall, and component fit is related to plausibility of the solution based on examination of parameter estimates and specific components within the model (Schmitt, 2014; Sivo, Fan, Witta, & Willse, 2006). When checking for the component fit, three major aspects should be examined: Are parameter estimates within the theoretically

possible range? Are parameter estimates of the expected magnitude? In the hypothesized direction, are estimates statistically significant? (Schmitt, 2014).

When checking for the global fit, the first statistic usually given in the output is the Likelihood Ratio (LR) chi-square ($\chi 2$) test. The LR chi-square is used to assess plausibility of the Ho: $\Sigma = \Sigma(\theta)$ where Σ (Σ is the population covariance matrix) is estimated by S (S is the sample covariance matrix) and $\Sigma(\theta)$ is estimated by the model-implied covariance matrix. ($\Sigma(\theta)$ is the restricted covariance matrix implied by the hypothesized model). So, a non-significant chi-square indicates the model fits the data in that the model can reproduce the observed covariance matrix (Bentler & Chou, 1987; Kline, 2015). The chi-square test has been found to be sensitive to sample size, leading to inaccurate results. Byrne (1998) and many others have reported that unless the null hypothesis is true the LR chi-square will be inflated by the sample size, so that even with minimal discrepancy between the observed and model-implied covariance matrix, the LR chi-square will be large, suggesting poor fit. Therefore, additional tests of goodness of fit are recommended. Hu and Bentler (1999) made recommendations about combinations of fit indices for determining adequacy of fit. They suggested the following fit indices should be used: comparative fit index (CFI), non-normed fit index (NNFI), normed fit index (NFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR).

Bentler (1990) proposed the comparative fit index (CFI), an incremental fit index, that measures the proportionate improvement in fit by comparing the researcher's model with a baseline model, typically the independence model. Values of CFI can range from 0 to 1. Based on the work by Tucker and Lewis (1973), Bentler and Bonett (1980)

proposed two other incremental fit indices, which were the normed and non-normed fit indexes (NFI and NNFI). The NFI can be calculated by comparing the difference between the χ_0^2 (chi-square of the independence null model) and χ_t^2(chi-square of the hypothesized model of interest), divided by the χ_0^2. For example, an NFI of .95 indicates the hypothesized model of interest improves the fit by 95% relative to the independence null model. The NNFI can be calculated by comparing the difference between χ_0^2/df_0(the ratio of chi-square of independence model to its degrees of freedom) and χ_t^2/df_t (the ratio of chi-square of hypothesized model of interest to its degrees of freedom, divided by $\frac{\chi_0^2}{df_0} - 1$). To indicate a good fit, CFI, NFI, and NNFI are recommended to be above .95 (Bagozzi & Yi, 1988; Hu & Bentler, 1999).

Unlike many indices, the RMSEA is based on analysis of the residuals, not requiring a baseline model and is relatively insensitive to sample size. A smaller RMSEA value indicates a better fit to the data. According to Byrne (1998), the RMSEA takes into account the error of approximation in the population and is sensitive to the number of estimated parameters in the model or the complexity of the model. The RMSEA has a lower bound of zero which indicates perfect fit, with values increasing as fit deteriorates. Browne and Cudeck (1993) suggested that values of .05 and below indicate good fit, values between .05 to .08 indicate reasonable fit, values between .08 to .10 indicate mediocre fit, while values up to .10 indicate poor fit. Hu and Bentler's (1999) study also supported these cutoff criteria. Another residual based statistic is the standardized root mean squared residual (SRMR). The value of SRMR ranges from 0 to 1, and less than or equal to .06 seems to indicate a good fit if used in conjunction with cutoffs of .05 for RMSEA (Hu & Bentler, 1999).

Sample

Population

The target population of this study was adult (18 years of age or older) health and fitness club members in the United States. The sample was the adults who are members of health and fitness clubs in West Virginia and Colorado. According to Centers for Disease Control and Prevention (CDC)'s 2018 state-by-state obesity levels, Colorado has the lowest Body Mass Index (BMI) and West Virginia is one of the highest BMI states. The age restriction was to ensure that all participants were able to understand, interpret, and properly complete the survey instrument used in the study.

Description of Participants

The participants of the current study were 529 adult health and fitness club members from two clubs in Colorado and three clubs in West Virginia. See the detailed information of each club in Table 3.1. I used two methods to collect data. In the first method, email invitations were sent to members of two health and fitness clubs by club managers in West Virginia. With this method, 1,893 email invitations were sent out with a Qualtrics link to the consent form and online survey. An email reminder was sent out two weeks after the survey began. Over a one-month data collection time frame, a total of 129 questionnaires (6.8%) were completed and submitted. In the second method, a convenient sampling approach was used. Survey questionnaires were administered on site; participants completed them at a convenient place (e.g., front desk, lobby). I delivered a total of 400 questionnaires, of which 388 (96.7%) were returned. After omitting respondents younger than 18 and respondents who did not answer over half of the questions, there was a total of 507 usable cases from the two sampling methods: 129

subjects from the online data collection and 378 subjects from the on-site data collection. Among the 507 respondents, 183 were from Colorado (onsite) and 324 were from West Virginia (195 from onsite and 129 from online).

Table 3.1

Information of the Five Clubs

Clubs	Amenities	Membership Prices
Vasa (Greeley, CO)	group fitness, free weight, sauna, spa, steam room, pool, basketball court, racquetball	Basic: $9.99 Fitness: $21.99 Studio: $49.99
Planet fitness (Greeley, CO)	group fitness, free weight, cardio equipment, HydroMassage	Classic: $10 Blackcard: $22.9
Planet fitness (Barboursville, WV)	group fitness, free WIFI, free fitness training, free weight, cardio equipment, spa	Classic (commitment): $10 Classic (no-commitment): $15 Blackcard: $22.9
Snapfitness (Barboursville, WV)	group fitness, nutrition consultants, strength training, personal trainer, free weights, cardio equipment, 24-hour access	Single: $39.95 Joint: $54.95 Family: $69.95
Limitless (Barboursville, WV)	group fitness, nutrition consultants, personal trainer, free weights, cardio equipment, turf room, sauna	Single: $25 Family: $45

The participants' ages ranged from 18 to 79 years old. The mean age was 36 years (M = 36, SD = 13.9). This closely compared with the IHRSA (2017), which is based on 31,000 interviews conducted in 2016, where the mean age was 40 years. The participants of this survey were nearly evenly split on gender, with 54.2% of participants indicating their gender as male (n = 275), 45.5% as female (n = 230), and .4% did not answer (n =

2). Of the 507 respondents, 8.3% (*n* = 42) were Asian/Pacific Islander, 10.7% (*n* = 54) were Black/African American, 64.5% (*n* = 327) were Caucasian/White, 12.6% (*n* = 64) were Hispanic, .4% (*n* = 2) were Multiracial, and 3.6% (*n* = 18) were classified as Other. In terms of length of membership at the health and fitness club, a total of 24.4% (*n* = 124) of the participants had been members for less than six months, 46.6% (*n* = 236) had been members for 7-11 months, 21.5% (*n* = 109) had been members for 1-3 years, and 7.5% (*n* = 38) had been members for over three years. According to a Statista survey (2016), 36 percent of survey respondents reported that their gym membership contract length was 7 to 12 months long. Respondents' gross household income was categorized into five groups: less than $20,000 *(n* = 50, 9.9%), $20,001 to $40,000 (*n* = 44, 10.1%), $40,001 to 60,000 (*n* = 90, 20.7%), $60,001 to $80,000 (*n* = 148, 33.8%), $80,001 to $100,000 (*n* = 92, 21.2%), over $100,001 (*n* = 21, 5.0%). The respondents of the current study were further asked how many times they visited the health and fitness club per week. A total of 47.3% of participants reported that they worked out at their clubs three times a week.

In the current study, there were three different data collection modes. To determine if participants who responded based on the different data collection modes represent similar populations, ANOVA tests were performed with the continuous variables and chi-square tests were performed with categorical variables. For ANOVA test, the six constructs mean scores (price sensitivity, service quality, customer satisfaction, switching costs, perceived value, and customer loyalty) and age were dependent variables, and data collection mode was independent variable. The AVONA test results found that there were no significant differences on mean scores of the six constructs and age among the three different data collection modes (see table 3.2). Chi-

square test were performed to test whether the data collection modes and race, household income, membership length, and participation frequency are dependent. The chi-square test results indicated there were no significant relationships between data collection modes and household income, membership length, and participation frequency (see table 3.3). Race was the only variable found to have a significant relationship with data collection modes ($p < .01$). Overall, the ANOVA and chi-square test results suggested the participants completing the survey using a different mode of data collection represented similar populations. It provided support to the decision of combining the groups into one sample for the SEM analyses.

Table 3.2

Summary of ANOVA Results

		Data Collection Modes			AVONA Test
		CO-onsite	WV-onsite	WV-online	
Mean	PS	3.9	4.1	4.3	F (2, 504) = 1.17 p = .31
	CL	5.5	5.4	5.4	F (2, 504) = 0.54 p = .58
	SC	4.3	4.0	3.9	F (2, 504) = 1.76 p = .17
	PV	5.4	5.2	2.1	F (2, 504) = 0.90 p = .41
	CS	5.4	5.3	5.1	F (2, 504) = 1.23 p = .30
	SQ	5.5	5.5	5.4	F (2, 504) = 0.07 p = .93
	Age	37	35	34	F (2, 504) = 2.62 p = .07

Notes: PS = price sensitivity, CL = customer loyalty, SC = switching costs, PV = perceived value, CS = customer satisfaction, SQ = service quality.

Table 3.3

Summary of Chi-square Test Results

		Data Collection Modes			Chi-square Independence Test
		CO-onsite	WV-onsite	WV-online	
Race (*N*)	Asian/Pacific Islander	16	18	8	$p < .01$
	African American	17	22	15	
	White	102	134	91	
	Hispanic	40	14	10	
	Multiracial	1	0	1	
	Other	7	7	4	
Household Income (*N*)	$20,000 or less	27	26	13	$p = .67$
	$20,001 to $40,000	16	18	10	
	$40,001 to $60,000	31	37	22	
	$60,001 to $80,000	57	59	22	
	$80,001 to $100,000	39	30	23	
	Over $100,000	1	1	2	
Gender (*N*)	Male	99	104	72	$p = .83$
	Female	84	90	56	
Membership Length (N)	Less than 6 months	50	46	28	$p = .43$
	7 to 11 months	74	93	69	
	1 to 3 years	45	42	22	
	Over 3 years	14	14	10	
Participation Frequency (N)	1 time/week	10	15	5	$p = .53$
	2 times/ week	69	71	41	
	3 times/week	81	90	69	
	4 times/ week	22	18	12	

Table 3.4

Demographic Characteristics of the Participants (N=507)

Age	*M* = 36	*SD* = 13.9
Gender	N	%
Male	275	54.2
Female	230	45.4
No-indication	2	.4
Gross Household Income		
Less than $20,000	43	9.8
$20,001 to $40,000	44	10.0
$40,001 to 60,000	90	20.5
$60,001 to $80,000	148	33.8
$80,001 to $100,000	92	21.2
Over $100,001	21	5.0
Race		
Asian/Pacific Islander	42	8.3
Black/African American	54	10.7
Caucasian/White	327	64.5
Hispanic	64	12.6
Multiracial	2	.4
Other	18	3.6
Length of Membership		
Less than 6 months	124	24.5
7 to 11 months	236	46.6
1-3 years	109	21.5
Over 3 years	38	7.5
Frequency of Use		
1 time/week	30	5.9
2 time/week	181	35.7
3 times/week	240	47.3
4 times/week	52	10.3

Sample Size

According to McQuitty (2004), researchers should first calculate and carefully determine the minimum sample size before conducting data collection in order to achieve a desired level of statistical power. It is understood that SEM is a large sample size technique and the prescriptions about adequate sample size in SEM vary. There is no unique standard to determine how large the sample size is required to be. Jöreskog and

Sörbom (1996, p. 171) suggested a minimum sample size requirement of $(p + 1)(p + 2)/2$, where p is the number of observed variables when using maximum likelihood estimation. In the current, study, the full structure model includes 23 observed variables. Based on the above formula, a minimum sample size of 300 was required. Another factor that needs to be considered to determine the minimum sample size is what estimator will be used. Depending on the nature of the data, in terms of normality and sample size, the relevant estimator should be applied. When the data are ordinal the weighted least squares means and variance (WLSMV) estimator is recommended. Muthén, du Toit, and Spisic (1997) evaluated WLSMV estimation by means of a simulation study. The results indicated that it was acceptable even for sample size of 200 cases. Based on the requirements of using structural equation modeling and findings of previous health and fitness club industry research, a minimum sample size of 400 was desired for the current study.

Instrumentation

The survey instrument was comprised of eight sections, for a total of 47 items: demographic and membership-related information (6 items), customer loyalty (4 items), price sensitivity (3 items), customer satisfaction (5 items), switching costs (3 items), perceived values (5 items), and service quality (21 items). The estimated time for completing the questionnaire was 5 to 8 minutes.

Service Quality

To measure health and fitness club members' perceived service quality, Alexandris et al.'s (2004) framework was used. Its three constructs measured a total of 21 items: interaction quality (9 items), physical environment quality (7 items), and outcome

quality (5 items). Alexandris et al.'s service quality scale was originally designed to measure health and fitness club members' perceptions of service quality. This instrument was developed based on Rust and Oliver's (1994) three-component service quality model which assessed customers' service perception from three dimensions: service product, service delivery, and service environment. Items were measured on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). See example questions assessing respondents' perceived service quality in Appendix A. The instrument was chosen because it has been widely used in the sport leisure and tourism field, and reliability and validity of scores based on this instrument have been supported by previous studies. (See González, Comesaña, & Brea, 2007; Kouthouris & Alexandris, 2005; Polyakova, & Mirza, 2016; Tsitskari, Tsiotras, & Tsiotras, 2006). For example, Tsitskari, Antoniadis, and Costa (2014) used Alexandris et al.'s three-dimension service quality scale (interaction quality, physical environment quality, and outcome quality) to measure perceived service quality of fitness center members, finding good reliability estimates for scores on the subscales with Cronbach's alpha values between .77 and .91. With a sample of 345 skiers, Howat, Crilley, and McGrath (2008) further showed the convergent validity evidence with AVE values for all subscales ranged from .54 (physical environment quality) to .74 (interaction quality) and discriminant validity evidence with no squared correlations exceeding the AVE values for any constructs. Cronbach's alpha values for scores on all subscales exceeded .85 (physical environment quality). In the current study, reliability estimates for scores on the subscales ranged from .85 (interactional quality) to .92 (environment quality). For confirmatory factor analysis the 21 individual items served as observed indicator variables and the latent variables were

the three constructs. For full structural equation modeling analysis, composite scores for each subscale served as indicator variables and latent variable was service quality. The composite score for each indicator variable ranged from 1 to 7, where higher scores indicated better service quality.

Customer Satisfaction

Customer satisfaction was measured by using a 5-item scale defined by Chang (1998). This scale was developed to quantitatively assess a customer's evaluation of being a member of a health and fitness club. Chang's customer satisfaction scale was chosen because it has been heavily used in the context of the health and fitness club industry, and the reliability and validity of its scores have been consistently supported by previous studies. For instance, Choi (2001) utilized the scale to measure customer satisfaction in the South Korean fitness industry and reported a Cronbach's alpha value of .95. With a sample of 434 golf players, Kim (2005) further found that scores from the customer satisfaction scale were internally consistent (with a Cronbach's value of .91) and contained reasonable factorial validity. The internal consistency reliability for scores on the customer satisfaction scale in the current study was good (Cronbach's alpha value = .94).

Participants in the current study were asked to rate their level of agreement on the following statements: "I am satisfied with my decision to be a member of my current club"; "I am satisfied with the services in my current health and fitness club"; "Being a member in my current club is usually a satisfying experience"; "I am satisfied with my current club as a service provider"; and "In general, I am satisfied with the services of my club." The responses to each question range from 1 (strongly disagree) to 7 (strongly

agree). The observed indicator variables are the above five individual items and customer satisfaction is the latent variable.

Perceived Value

Researchers have argued whether a unidimensional measure of perceived value (Byon, 2008; Gale, Gale, & Wood, 1994) or multiple dimension measures (Lee & Lin, 2005) are more appropriate for assessing customers' perceived value. Rokeach (1973) defined value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). The list of values (LOV) is a values measurement scale developed by Kahle (1983) to evaluate perceived values within a consumer behavior framework. Homer and Kahle (1988) first used the LOV in the sports marketing field to analyze sport consumption motives as social values. They determined that eight social values would represent the LOV theory, which would be used to predict sport-related behaviors. The eight social values represent three dimensions: 1) external values: a sense of belonging, warm relationships with others, security, and being well-respected; 2) internal values: self-fulfillment, sense of accomplishment and self-respect values; and 3) fun and enjoyment. While acknowledging its multi-dimensional aspects, many research results have demonstrated that utilitarian aspects such as perceived value for cost were found to be more related to consumption behavior (Kwon et al., 2007; Lee & Lin, 2005). Netemeyer et al. (2004) defined perceived value as "the customer's overall assessment of the utility of the brand based on perceptions of what is received and what is given relative to other brands. Perceived value for the cost was considered a cornerstone of the most consumer-based-brand-equity frameworks" (p. 211). Kwon et al. (2007) further

supported Netemeyer et al.'s statement by stating that sport consumers tend to make a purchase based on the ratio of cost versus benefits. Consistent with the empirical suggestions, in this study I measured customer perceived value using a 4-item unidimensional measure which is derived from Zeithaml's (1988) framework. All four items were slightly modified to be relevant to the health and fitness club setting. In the current study, the four individual items served as observed indicator variables and perceived value was the latent variable. Example items include: "the programs and services of my current club has great value"; "The programs and services of my current club are worth what they cost"; "What I get from my club and what it costs, offers me value" and "In general, the value of the programs and services in my club is high." Items were measured on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). This 4-item measurement was chosen because of the consistent findings supporting the convergent and discriminant validity and reliability. For instance, Theodorakis, Howat, Ko, and Avourdiadou (2014) conducted a study to compare three competing service evaluation models and examine the relative roles of antecedents to behavioral intentions in sport and fitness center. They adopted Zeithaml's 4-item perceived value scale and reported a Cronbach's alpha value of .83 and AVE value of .62 with 332 members of four commercial sport and fitness center. García-Fernández et al. (2018) measured health and fitness club members' perceived values according to Zeithaml's 4-item perceived value scale and found that scores of the 4-item perceived value scale showed a good reliability and validity (Cronbach's alpha value = .89, AVE = .74). In the current study, the reliability estimate for scores on the perceived value scale was good (Cronbach's alpha value = .92).

Switching Costs

Switching costs are regarded as the loss or sacrifice in time, money, and effort when a customer switches from one service provider to another (Lam, Shankar, Erramilli, & Murthy, 2004). In the current study participants' perceived switching costs (latent variable) were measured using Back and Lee's (2009) 4-item switching costs scale which includes four observed indicator variables. Back and Lee developed this 4-item scale based on studies of Burnham et al. (2003) and Yang and Peterson (2004). Back and Lee, in a study of country club members, found adequate to good reliability and validity with a Cronbach's alpha value of .89 and AVE value of .69. In the current study, the internal consistency reliability for the switching cost scores was good (Cronbach's alpha value = .87).

Participants in the current study were asked to respond to the following statements concerning the loss or sacrifice they would experience when switching to other health and fitness club: "It is risky to change as the new club may not give good service"; "The cost for terminating membership with this club and start up with a new club would be high"; "Even if I have enough information, comparing the operators with one another takes a lot of energy, time, and effort"; and "In general, it would be a hassle switching to another club." Responses ranging from 1 (strongly disagree) to 7 (strongly agree)

Customer Loyalty

Customer loyalty refers to a behavioral intention stage noted by someone who repeatedly purchases a product or service over time, and holds favorable attitudes toward a good or service, or the company supplying the good or service (Oliver, 1997). Four scale items adapted from Zeithaml et al.'s study (1996) and measured on a 7-point Likert-

type scale (1 = strongly disagree, 7 = strongly agree). All items were moderated by wording to fit the current study's contextual objective. Participants were asked to respond to the following statements: "I intend to renew my membership at my current club again"; "I intend to recommend this club to my friend"; "I will speak positively to people about my current club"; and "When I want to buy a health and fitness club membership, my current club is the first choice to consider." These four items served as the observed indicator variables for customer loyalty.

This 4-item customer loyalty scale has been heavily used in the sport industry. For example, a recent study by Hungenberg (2016) tested the reliability of scores elicited from the scale in a sample of 380 athletes who participated in the 2014 GoPro Mountain games in Vail, Colorado. He reported reliability evidence with a Cronbach's alpha value of .89. In the current study, a reliability analysis of the four items revealed that the customer loyalty scale had a good Cronbach alpha ($\alpha = .93$).

Price Sensitivity

Price sensitivity was assessed by the health and fitness club members' response to a price change. Three scale items, serving as the indicator variables for the price sensitivity latent variable, were adapted from Zeithaml et al.'s framework (1996) and measured on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree). Items for the current study included: "Will you take some of your business to other health and fitness club that offers better price?" "Will you continue to do business with your current health and fitness club if its price increase somewhat?" and "Will you pay a higher price than other competitors charge for the benefits you currently receive from your club?" All items were slightly changed to fit the current study's contextual objective, but the overall

scheme remained the same. For example, one original question from Zeithaml et al.'s price sensitivity scale is "Will you continue to do business with XYZ if its price increase somewhat?" In the current study this question was changed by replacing "XYZ" with "your current health and fitness club." Zeithaml et al.'s 3-item price sensitivity scale was originally developed to measure three general service sectors: retail chain, automobile insurer, and life insurer.

With a random sample of 2,400 customers, Zeithaml et al. provided evidence that responses to the 3-item scale were reliable and valid in measuring price sensitivity. Ouyang et al. (2018) recently applied the 3-items price sensitivity scale to measure commercial martial arts school members' price sensitivity. Ouyang et al. demonstrated that scores from the 3-items price sensitivity scale were internally consistent (Cronbach's alpha =.85) and contained convergent validity (AVE = .55) and discriminant validity. In the current study, the Cronbach's alpha value for price sensitivity scale was .87 indicating that the 3-item price sensitivity scale had a good internal consistency.

Demographic and Membership Related Information

Demographic data include information regarding respondents' gender, age, race, and household income, while membership-related information solicited respondents' length of membership (number of months they have been a member in their clubs) and participation frequency (how many times a week they go to work out at their club). Each descriptive question was measured with one item. Except for questions of age and length of membership which were asked as an open-ended question, all other demographic questions were asked by offering several choices. For example, there were two choices for gender question (male and female), six choices for race question (Asian/Pacific

Islander, African American, White, Hispanic, multiracial, and other), and six choices for household income question ($20,000 or less, $20,001 to 40,000, $40,001 to 60,000, $60,001 to 80,000, $80,001 to 100,000, and $100,001 or more).

Design and Procedures

A non-experimental research design was employed in the current study because this study did not involve random assignment of subjects to groups and did not use manipulated independent variables. Instead, this study was conducted by administering a self-report survey questionnaire consisting of scales and items described above. The descriptive nature of this study allowed for the investigation of the direction and strength of the paths between the constructs of interest.

Pilot Study

A pilot study was conducted in the summer of 2019 at one health and fitness club in West Virginia and one in Colorado. The pilot study was designed to test the questionnaire format, the reliability of scores obtained on each multi-item scale, and the potential presence of non-normal data before the actual study. For the purpose of the pilot study and full study, the research protocol, including research design and data collection procedures, was submitted to the University of Northern Colorado's Institutional Review Board (IRB) for approval. After the IRB application was approved, the managers at each club were contacted and informed of the study purpose and data collection procedures. Once verbal approval for collecting data were received from the managers, in-person paper and pencil survey questionnaires were distributed to club members before or after their exercising. A total of 104 responses were collected (66 were from West Virginia and 38 were from Colorado). Among the 104 responses, 59.6 were male (n = 62) and

40.4% were female (n = 44). The average age of participants was 33 years old (M = 33, SD = 11.8).

Estimates of Cronbach's alpha were used to examine the internal consistency of the items comprising each measurement. Based on John and Benet-Martinez's criterion (2000), the results indicated that the internal consistency was acceptable for all measurements, having Cronbach's alpha values of .90 (interaction quality), .92 (physical and environment quality), .86 (outcome quality), .87 (switching costs), .89 (perceived value), .92 (customer loyalty), .94 (customer satisfaction), and .86 (price sensitivity). No deletion of any item would improve the values of Cronbach's alpha.

Full Study

In order to capture the study's target population, a convenient sampling approach was used in which a questionnaire was administered to members from two health and fitness clubs in Greeley, Colorado and three health and fitness clubs in Barboursville, West Virginia on site and through an online survey platform. The five health and fitness clubs were chosen based on the similarities of facility amenities and services provided (e.g., group fitness, Olympic lifting, cycle, cardiovascular deck, free weight area). To reach the desired sample size of 500, I used an incentive to assist with response rate. Participants were notified that upon completing the survey, they would have a chance to win a one-month free membership if they provided an email address on a separate form (for on-site participants) or a separate link (for online participants). Following acceptance from the health and fitness club managers, data collection took place between August 1, 2019 and August 29, 2019. The club front desk staff and I provided the self-administered survey to participants before or after exercising or training to prevent disrupting their

exercising environment. All participation was voluntary and anonymous, as no forms of personal identification were required. An online survey, using Qualtrics, was disseminated to participants through emails by the club managers. Due the lack of permission, online data collection only took place at two clubs in West Virginia. Once data collection was complete, two email addresses provided by the on-site and online participants were randomly selected for each club. Then an email was sent to each winner notifying them that they were one-month free membership winners.

Data Analysis

Following the collection of survey information, the data were coded for statistical analysis. M*plus* 7.4 (Muthén & Muthén, 2015) was used to conduct confirmatory factor analysis (CFA) on the six measurement models and to test the hypothesized full structural model. IBM Statistical Package for the Social Sciences (SPSS) 25.0 was used for all other statistical analysis including descriptive analysis, normality analysis, reliability analysis, and also for the analysis to answer the last research question.

Descriptive Analysis

Descriptive analysis is useful for a better understanding of the overall characteristics of the participants, such as gender, age, household income, and length of membership. Moreover, running frequencies, descriptive analysis, and correlations can be used to check the accuracy of the data for all variables in the study. In the current study, the descriptive analysis was performed by checking data means, standard deviations, ranges, frequencies, and normality.

Before conducting confirmatory factor analysis and structural equation modeling analysis, it is necessary to screen the data (Byrne, 1998). One major assumption in

structural equation modeling is that the measured variables have a multivariate normal distribution when using maximum likelihood estimation (Kline, 2015). Multivariate normality means that each measured variable, as well as all possible linear combinations of measured variables, are normally distributed (West, Finch, & Curran, 1995). Because the most common estimation methods (i.e., maximum likelihood and generalized least squares) are based on normal theory, violations of this assumption using these functions may distort parameter estimates and their standard errors. For instance, Kline (2015) stated that with excessive kurtosis, maximum likelihood and generalized least square estimates are no longer efficient and tests of statistical significance are affected due to incorrect standard errors. According to Tabachnick and Fidell (1996), skewness and kurtosis among the data can threaten multivariate normality. In the current study, the normality of each observed variable was examined by skewness and kurtosis values. However, it should be noted that the determination of non-normality is not clear-cut. Byrne (1998) suggested that a normally distributed response should have skewness and kurtosis absolute values less than plus or minus 1; moderately non-normal data demonstrate skewness values ranging from plus or minus 2.00 to 3.00, kurtosis absolute values from plus or minus 5.00 to 21.00; and extreme non-normality is defined by skewness > plus or minus 3.00 and kurtosis values > 21.00. Kline suggested that variables with skewness absolute values greater than 3.0 are severely skewed and kurtosis absolute values from about 8.0 to 20.0 have been described as indicating severe kurtosis. If some items or indicators are found as severely non-normal, WLSMV is a way to deal with this problem (Liang & Yang, 2014). In addition, there are other solutions for dealing with non-normal data: to combine choices or categories, remove the non-normal

variables, or use item parceling (Hau & Marsh, 2004; Kline, 2015). In the current study, WLSMV was applied to deal with nonnormal data.

Examination of Reliability

Reliability gives information about the consistency with which a person scores on a series of measurements (Pallant, 2007). A series of responses is obtained generally in one of two ways. One method is to use the same test in a test-retest situation; the other is to use different forms for the same test for obtaining scores for the same individual or sample. Internal consistency reliability estimate is an approach to estimate test score reliability if using summated rating scales or other measures requiring a total score. The most common way of measuring internal consistency is to check Cronbach's alpha value. In this study, the Cronbach's alpha values using SPSS 25.0 were calculated to estimate the reliability of scores on the observed indicators for each latent variable. According to John and Benet-Martinez (2000), Cronbach's alpha with values greater than .70 is considered adequate reliability for demonstrating internal consistency, values greater than .80 are considered good reliability, and values greater than .90 are considered excellent reliability. The item-total correlation should be greater than .30 (John & Benet-Martinez, 2000). Therefore, Cronbach's alpha value of .70 and an item-total correlation value of .30 were set as the minimum standard for all scales in this study.

Confirmatory Factor Analysis

M*plus* version 7.4 was used to perform confirmatory factor analyses separately for all scales. CFA, unlike exploratory factor analysis, allows the researcher to specify the number of latent variables, if the latent variables are correlated, and which items should load on each latent variables (Kline, 2015). In the current study, the five unidimensional

constructs (customer satisfaction, perceived value, switching costs, customer loyalty, and price sensitivity) were examined by performing five first-order CFAs. And service quality, the multidimensional construct, was examined by conducting a second-order CFA, where service quality is the second-order factor and interaction quality, physical environment quality, and outcome quality are the first-order latent factors. All 21 individual items are the first-order observed variables.

Maximum likelihood estimation is the most widely used estimation procedure in structural equation modeling, while it is not conceptually appropriate for dealing with ordinal data (Kline, 2015). Survey data, typically Likert-type scales, fall within the ordinal level of measurement (Jamieson, 2004). Because Likert-type scales are designed to "measure a theoretically continuous construct, the response categories have a rank order" (Jamieson, 2004, p. 1217). WLSMV, a robust WLS estimator designed for use primarily with ordinal data in conjunction with polychoric correlations, has been suggested as an alternative when the researcher is presented with nonnormal ordinal data (Kline, 2015). Therefore, WLSMV was used as the estimation procedure for both CFA and SEM analysis in the current study. To identify the CFA model, the first indicator of each latent variable was assigned to one (Kline, 2015). In other words, the unstandardized factor loading for the first item in each latent variable was set as one. The model fit was identified by the combination of fit indices (see *Test of Model Fit* earlier in this chapter). If the model did not show an acceptable fit, post hoc model modification was made based on the modification indices (MI; Kline, 2015). The MI provides an estimate of the reduction in overall LR chi-square associated with addition of a particular parameter. Larger MI values suggest that adding a particular parameter (e.g., factor loading,

correlated residual, or path coefficient) would improve the fit of the model. Thus, the MI is used as a tool for improving model fit at the expense of parsimony. The typical approach is to identify the largest MI that the researcher can theoretically justify and free the parameter associated with the MI; re-estimate the model; and continue this procedure until the model has reached an acceptable fit (Arbuckle, 2011). Modifications need to be plausible and theoretically justified. For example, it would not make conceptual sense to free parameters related to switching costs and price sensitivity. Changes made to the measurement models were also used in testing the full structural model.

Structural Equation Modeling

CFA within the measurement model provides a means of testing the researcher's hypothesized factor structure for a set of measured variables. The end result is a set of latent variables which are reliable and account for measurement error, and which represent the constructs of theoretical importance to the researcher (Anderson, & Gerbing, 1988; Volk & Flori, 1996). Within the structural model, researchers can specify and analyze the relationships among the latent variables. These relationships may be either directional (causal) or non-directional (correlational). As in the measurement model, hypotheses about the relationships among latent variables are made a priori based on theory. If the researcher's hypothesized relationships among the latent variables are congruent with observed relationships in the data, the theory underlying the researcher's structural model is supported**.** M*plus* 7.4 was used to test model fit by SEM. The procedure of performing SEM by M*plus* was similar to performing CFA. First, M*plus* syntax was built to read the data to be analyzed and to specify the hypothesized model of interest, and then the syntax was submitted to the M*plus* engine for processing. Then the

model parameters were estimated using the same WLSMV approach that was used for the CFAs. Next, model fit was examined by checking the combination of fit indices. If the model showed poor fit, then post hoc model modification were made based on examination of the MI values. Although the MI values provide an easy way to modify models to fit into observed data. Chin and Todd (1995) suggested that the model modification made by MI values may become date-driven and meaningless without rationale. Therefore, "it is of utmost important that any modifications made to an origical model must be substantively meaningful and justifiable" (MacCallum, 1995, p.33).

After establishing an adequately fitting baseline model, a 2-group SEM analysis was conducted to examine whether the model was invariant across male and female subjects (research question 2). According to Sass and Schmitt (2013), there are five hierarchical steps in conducting invariance testing: (1) configural invariance test; (2) metric (loading) invariance test; (3) scalar invariance test: threshold invariance test for ordinal indicator and intercept invariance test for continuous indicators; (4) test of latent means; and (5) test of invariant path coefficients.

The criteria for the equivalence of the number of underlying factors were based on multiple goodness of fit indices mentioned in test of the model fit. These indices included the overall chi-square, CFI, NFI and NNFI. The chi-square difference test was used to examine the equivalences for factor loadings, indicator thresholds for the ordinal indicators and intercepts for the continuous indicators, and structural regression paths (Kline, 2015). For example, metric invariance test was based on chi-square difference test between model with ladings constrained to be equal verse model without equality constraints. Threshold invariance test was based on the chi-square difference test between

model with all thresholds of ordinal indicators and factor loadings constrained to be equal across groups verse metric model. The significance of chi-square test was set at the 95% confidence level ($\alpha = .05$).

ANOVA

ANOVA is a statistical technique to assess differences in means between groups or conditions. Prior to utilization of ANOVA, the three assumptions underlying ANOVA must be reasonably satisfied (Pallant, 2007). The first assumption assumes that the dependent variable is normally distributed in the population. Normality of variables is assessed by examining the values of the skewness and kurtosis (see Descriptive Analysis earlier in this chapter). The second assumption poses that the population variance for each group of independent variables is equal (Pallant, 2007). For the current study, the two independent groups are male participants ($n = 275$) and female participants ($n = 230$). Homogeneity of variance seeks to test if the variance between the two groups is equal or have any deviation. Levene's Test of equality of error variances assesses this assumption. Significance levels of .05 or lower indicate that the variances of the dependent variables are not equal and hence, the assumption is violated. The third assumption states that the observations that make up the data must be independent of one another. To answer research question three, a two way between-groups analysis of variance (ANOVA) was conducted to determine the difference in consumer price sensitivity among gender (male and female) and household income groups (low, middle, and high). In the current study, the main effects and interaction effects were tested at .05 significance level. The benefits of using a two-way ANOVA is that it allows the researcher to test the main effect for each independent variable and also explore the possibility of an interaction effect. An

interaction effect occurs when the effect of one independent variable on the dependent variable depends on the level of a second independent (Pallant, 2007). For example, in the current study the influence of household income on price sensitivity may be different for males and females. For males, price sensitivity may decrease with household income, while for females it may increase. If that is the case, it means there is an interaction effect of gender and household income on price sensitivity. A recommended approach to deal with interaction effect in ANOVA is to conduct simple effects tests (Pedhazur & Schmelkin, 2013). This approach breaks the interaction effect into component parts and examines the difference between groups within one level of one of the independent variables. In the current study, if there was a significant interaction between gender and household income, differences in levels of factor A (household income) would be tested at B_1 (male) and then at B_2 (female). When the interaction effect is not significant, the main effects can be safely reported. If a significant household income effect was identified, a post-hoc Tukey comparison was completed to determine which levels of the household income difference exists.

CHAPTER IV

RESULTS

This chapter presents the findings of the statistical analyses performed on the data collected in the current study. To help in the presentation of findings, this chapter is structured into four sections. First, the normality of the data is examined for the purpose of the type of estimation method used for conducting confirmatory factor analysis and structural equation modeling analysis. The second section includes (1) confirmatory factor analyses and reliability analyses of each scale, (2) the descriptive analyses for each observed variable, and (3) the test of fit for the endogenous and exogenous latent models. The third section reports the structural equation modeling for the hypothesized model of consumer price sensitivity. The fourth section reports the findings on whether the hypothesized model is invariant across gender. The last section covers the findings of ANOVA analysis, which examines the difference in consumer price sensitivity among gender and household income groups.

Data Normality and Item Descriptive Analysis

Structural equation modeling (SEM) has been found to be sensitive to non-normal data (Kline, 2015). Therefore, testing for data normality and choosing the correct estimation method is necessary before running confirmatory factor analysis and structural equation modeling. Each observed variable was examined by its mean, standard deviation, skewness, and kurtosis value (Table 4.1). According to Byrne (1998), a normally distributed response should have skewness and kurtosis absolute values less

than plus or minus 1. Similar to the results from the pilot study, many items were found to be moderately non-normal.

Table 4.1

Descriptive Analysis for Each Item

	M	SD	Skewness	Kurtosis
Service Quality (*Interaction Quality*)				
Employees respond quickly to members' requirement.	5.28	1.53	-0.76	-0.19
Employees provide individualized attention	5.04	1.61	-0.75	-0.03
Employees work enthusiastically	5.61	1.48	-1.34	1.38
Employees are polite	5.69	1.54	-1.58	2.10
Employees respect members' needs	5.41	1.69	-1.17	0.64
Employees help members feel comfortable	5.26	1.63	-0.95	0.37
Employees are knowledgeable	5.61	1.51	-1.46	2.00
Employees are trustful	5.28	1.58	-1.06	0.58
Employees are reliable	5.33	1.60	-1.08	0.63
Service Quality (*Physical Environment Quality*)				
Facilities are attractive	5.56	1.41	-1.46	2.23
Facilities have up-to-date equipment	5.75	1.35	-1.32	1.77
Facilities are spacious	5.66	1.48	-1.44	1.80
Facilities are clean	5.74	1.42	-1.58	2.38
Equipment is in good condition	5.66	1.39	-1.53	2.44
There is a nice atmosphere in the facility	5.49	1.41	-1.02	0.73
Other customers do not affect the service negatively	5.30	1.44	-0.97	0.72
Service Quality (*Outcome Quality*)				
Increase my energy	5.48	1.44	-1.13	1.28
Improve my health	5.56	1.35	-1.27	1.98
Improve my mood	5.62	1.51	-1.40	1.71
Improve my psychological well-being	5.37	1.60	-1.14	0.78
Improve my fitness level	5.54	1.39	-1.35	2.21
Customer Satisfaction				
I am satisfied with my decision to be a member of my current club	5.13	1.35	-1.21	1.73
I am satisfied with the services in my current club	5.32	1.40	-1.23	1.37
Being a member in my current club is usually a satisfying experience	5.42	1.37	-1.21	1.47
I am satisfied with my current club as a service provider	5.47	1.40	-1.21	1.19
In general, I am satisfied with the services of my club	5.25	1.44	-1.19	1.31

Table 4.1, continued

Descriptive Analysis for Each Item

	M	SD	Skewness	Kurtosis
Perceived Value				
The programs and services of my current club have great value	5.15	1.46	-1.03	0.57
The programs and services of my current club are worth what they cost	5.42	1.34	-1.17	1.24
What I get from my club and what it costs, offers me value	5.40	1.42	-1.14	1.20
In general, the value of the programs and services in my club is high	5.05	1.50	-0.93	0.34
Switching Costs				
It is risky to change as the new club may not give good service	3.81	1.28	-0.21	0.15
The cost for terminating membership with this club and start up with a new club would be high	4.04	1.19	0.38	-0.18
Even if I have enough information, comparing the operators with one another takes a lot of energy, time, and effort	4.29	1.45	0.23	-0.87
In general, it would be a hassle switching to another club	4.20	1.55	0.08	-0.61
Customer Loyalty				
I intend to renew my membership at my current club again	5.02	1.53	-1.01	0.60
I intend to recommend this club to my friend	5.76	1.31	-1.40	2.27
I will speak positively to people about my current club	5.92	1.26	-1.60	3.02
When I want to buy a health and fitness club membership, my current club is the first choice to consider	5.07	1.53	-0.97	0.63
Price Sensitivity				
Will you take some of your business to other club that offers better price	4.22	1.47	-0.16	-0.51
Will you continue to do business with your current club if its price increase somewhat	4.06	1.20	-0.11	-0.02
Will you pay a higher price than other competitors charge for the benefits you currently receive from your club	3.63	1.37	0.02	-0.87

Results for Research Question One

Research question one asked, "Does the hypothesized model fit the data, and will the relationship shown in the proposed model be supported?" Prior to the tests of model fit to answer research question one, preliminary analyses were required. These analyses included internal consistency reliability analysis and confirmatory factor analysis of all endogenous and exogenous latent variables in the hypothesized model. Examining the internal consistency helps to tell how well the items on a scale intended to measure the same construct produce similar results. Conducting CFA allows for the assessment of the fit between the study data and theoretically grounded measurement models that specify the hypothesized structures between observed indicator variables and latent variables.

Confirmatory Factor Analysis of Measurement Constructs

Service quality. It is hypothesized by Rust and Oliver (1994) that the three identified component factors of interaction quality, physical and environment quality, and outcome quality together form a second-order factor. Thus, a second order factor analysis using the WLSMV estimation method was utilized to test the service quality measurement model, which includes three first order factors (interaction quality, physical and environment quality, and outcome quality) and one second order factor (service quality). The second order service quality measurement model provided a reasonable fit to the data; chi-square (186, $N = 507$) = 673.89, $p < .001$; RMSEA = .072, CFI=.98, NFI=.97, NNFI=.98. The CFA results indicated that all factor loadings were statistically significant at the .01 level, and standardized factor loadings ranged from .69 (item 7) to .85 (item 5). The CFA results also showed that all modification indices were relatively small, and no further action was suggested. Therefore, no post hoc model modification

was performed to develop a better fitting, less parsimonious model. The internal consistency analyses revealed that all three subscale scores of service quality showed good reliability estimates. The Cronbach's alpha values for interaction quality, physical and environment quality, and outcome quality scores were .85, .90, and .92, respectively. Figure 4.1 shows the final service quality measurement model and the standardized factor loadings.

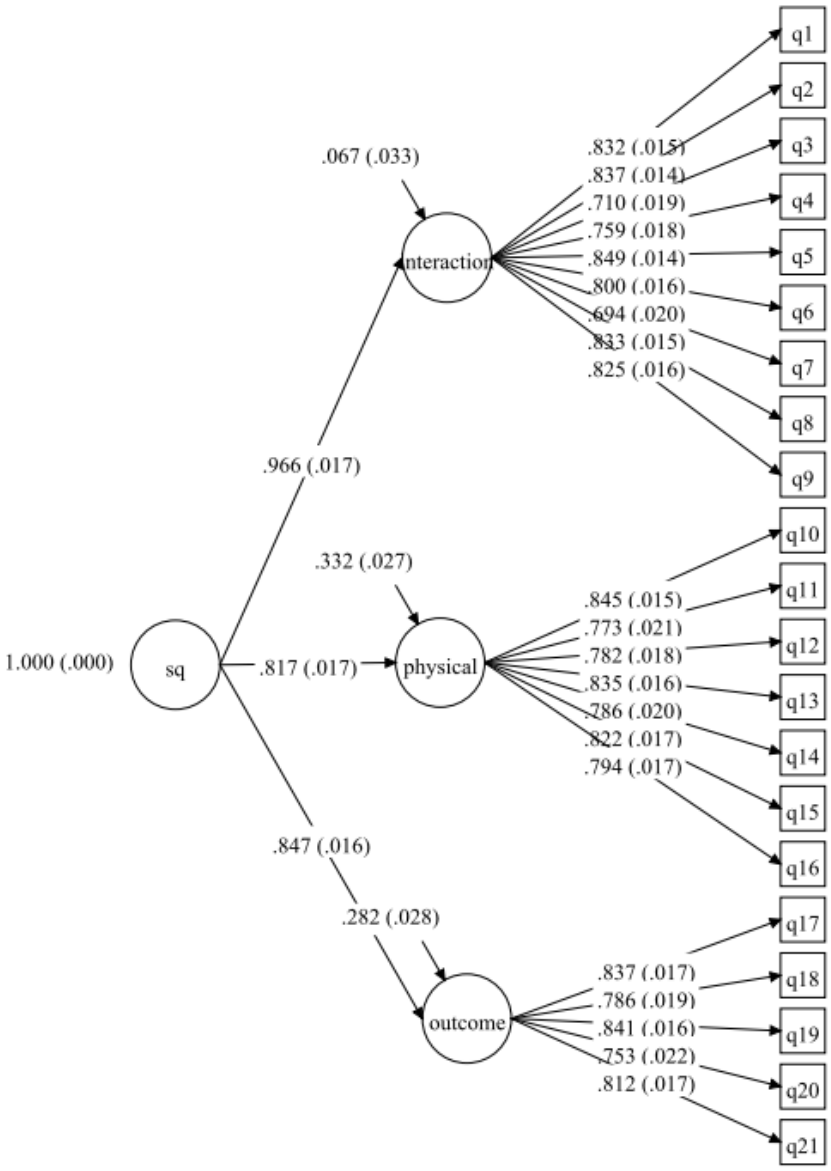

Figure 4.1 Measurement Model of the Service Quality Scale

Customer satisfaction. The 1-factor customer satisfaction measurement model with five indicator variables was tested via confirmatory factor analysis. The initial model fit was not good (chi-square [5, *N = 507]* =92.86, $p < .001$; CFI=.93, NFI=.92, NNFI=.85; RMSEA=.019); therefore, post hoc model modification was made. Two correlations among observed-variable residuals were added to the model: item 2 with item 5 ($r = .84$) and item 1 with item 5 ($r = .83$). Item 2 is "I am satisfied with the services in my current club," and item 5 is "In general, I am satisfied with my current club." Item 1 is "I am satisfied with my decision to be a member of my current club." The final modified model showed a significant improvement in model fit (chi-square [3, *N = 507]* =6.61, *p = .09*; CFI=.99, NFI=.99, NNFI=.99; RMSEA=.049). All factor loadings were significant at .05, and the standardized factor loadings ranged from .86 (item 1) to .96 (item 4 & 3). Figure 4.2 shows the final customer satisfaction measurement model and the standardized factor loadings. The internal consistency reliability for the customer satisfaction scores was good (Cronbach's α=.94).

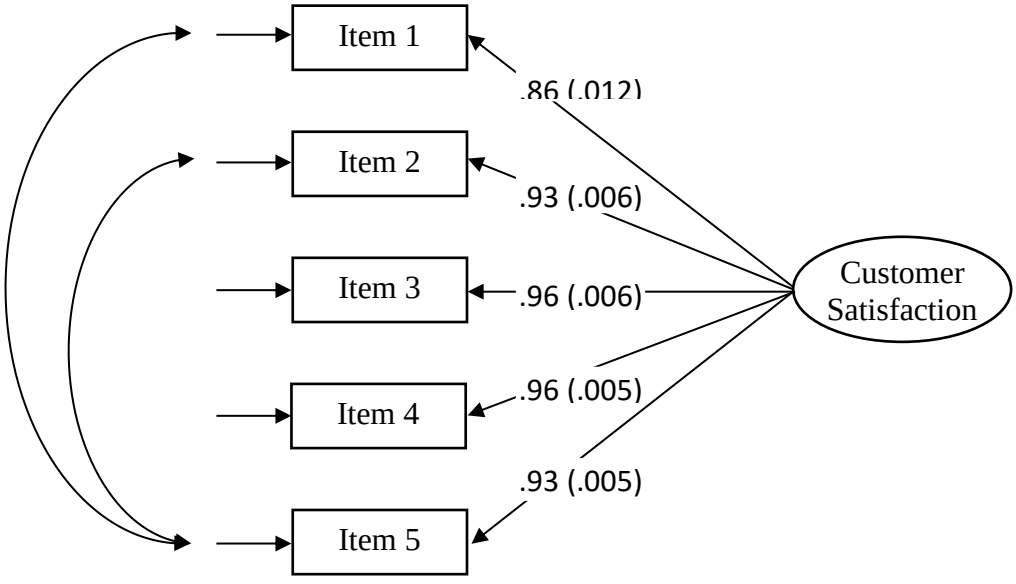

Figure 4.2. Measurement Model of the Customer Satisfaction Scale

Perceived value. Confirmatory factor analysis was conducted on the four items that measure perceived value. The CFA results indicated that the initial model fit was not good (chi-square [2, *N = 507*] =79.62, *p < .001*; CFI=.93, NFI=.92, NNFI=.77; RMSEA=.276); therefore, post hoc model modification was made. One correlation among observed-variable residuals was added to the model: item 1 with item 4 (*r* = .83). The reason is that items 1 and 4 both ask a similar type of question. Item 1 is "The programs and services of my current club have great value." Item 4 is "In general, the value of the programs and services in my club is high." The modified model showed a significant improvement in model fit (chi-square [1, *N* = 507] =3.01, *p < .01*; CFI=.99, NFI=.99, NNFI=.98; RMSEA=.060). All factor loadings were significant at .05, and the standardized factor loadings ranged from .88 (item 1) to .96 (item 2). Figure 4.3 shows the final customer satisfaction measurement model and the standardized factor loadings. The internal consistency reliability for the customer satisfaction scores was good (Cronbach's α=.92).

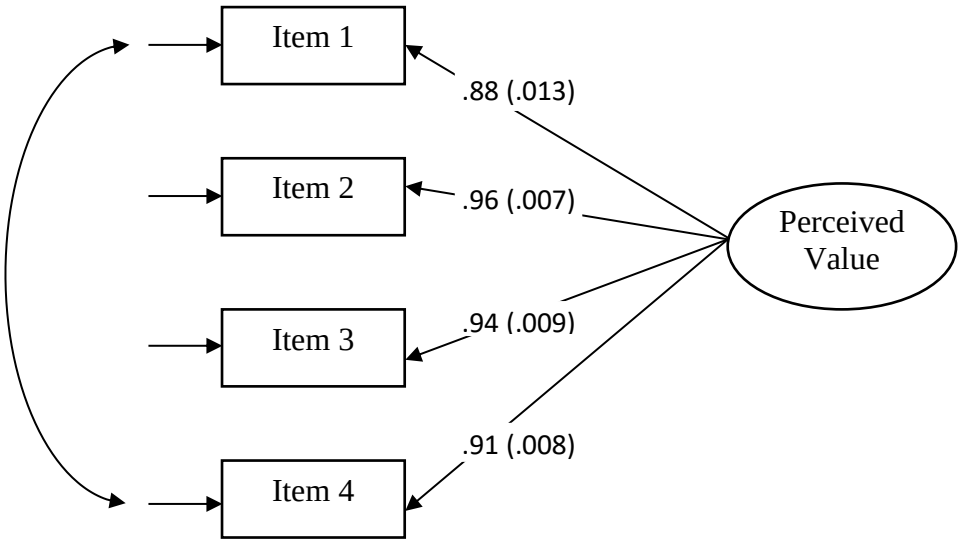

Figure 4.3. Measurement Model of the Perceived Value Scale

Switching costs. The 1-factor measurement model and the 4-item switching costs scale was tested via confirmatory factor analysis. The initial model fit was not good (chi-square [2, *N* = 507] = 26.36, *p* < .001; CFI=.99, NFI=.99, NNFI=.97; RMSEA=.155); therefore, post hoc model modification was made. The correlation between the residuals on item 1 and item 3 was freed (based on the large MI value). The Pearson correlation coefficient was .79 between scores of item 1 and item 3. The modified model showed a significant improvement in model fit (chi-square 1, *N* = 507] = 2.60, *p* = .11; CFI=.99, NFI=.99, NNFI=.99; RMSEA=.056). All factor loadings were significant at .05, and the standardized factor loadings ranged from .79 (item 2) to .86 (item 3). Figure 4.4 shows the final switching cost measurement model and the standardized factor loadings. The internal consistency reliability for the switching cost scores was good (Cronbach's α=.87)

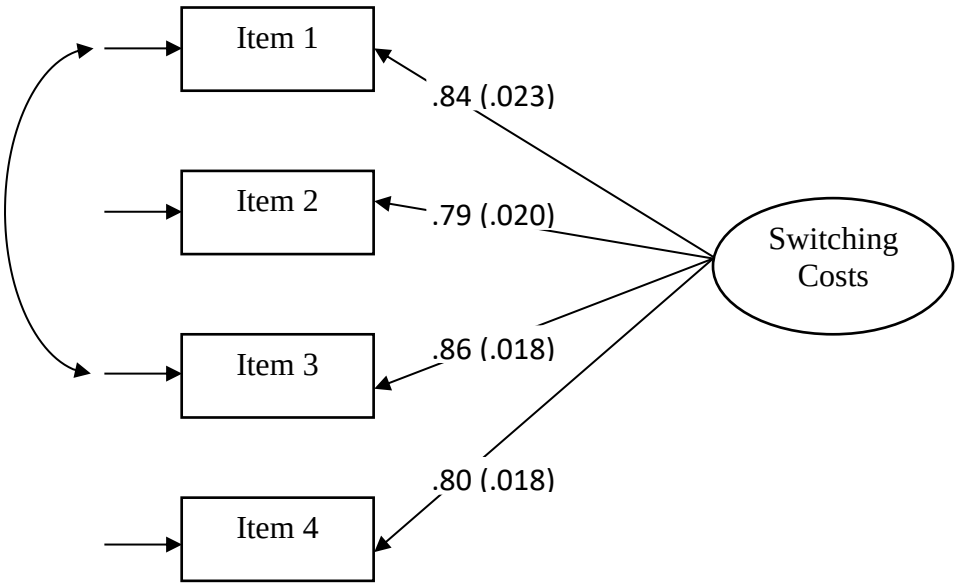

Figure 4.4 Measurement Model of the Switching Costs Scale

Customer Loyalty. Confirmatory factor analysis was conducted on the four items that measure customer loyalty. The CFA results indicated that the initial model fit was not good based on the high RMSEA value (chi-square [2, *N* = 507] = 42.79, *p* < *.001*; CFI=.99, NFI=.98, NNFI=.98; RMSEA=.201); therefore, post hoc model modification was made. One correlation among observed-variable residuals was added to the model: item 1 with item 4 (*r* = .83). These two items have a similar literal meaning. Item 1 is "I intend to renew my membership at my current club again." Item 4 is "when I want to buy a health and fitness club membership, my current club is the first choice to consider." The final model showed a good model fit (chi-square [1, *N* = 507] = .22, *p* = 64; CFI=.99, NFI=.99, NNFI=.99; RMSEA < .001). All factor loadings were significant at .05, and the standardized factor loadings ranged from .85 (item 3 & 4) to .94 (item 2). Figure 4.5 shows the final customer loyalty measurement model and the standardized factor loadings. The internal consistency reliability for the customer loyalty scores was good (Cronbach's α=.93).

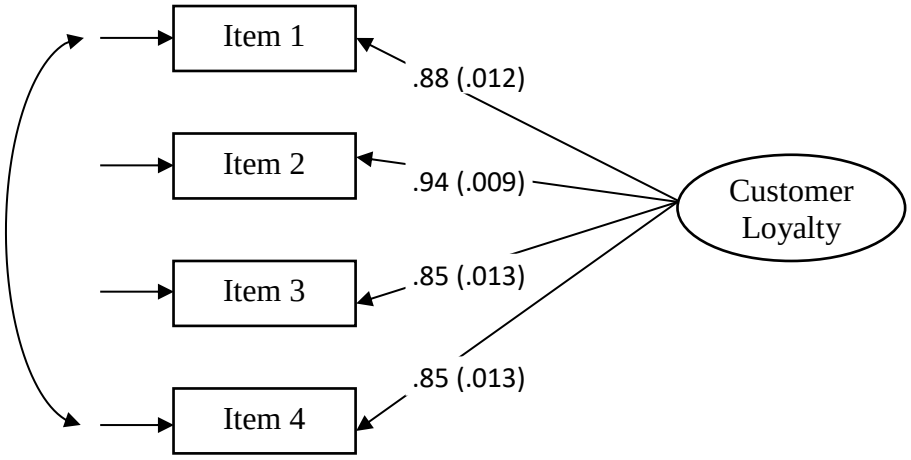

Figure 4.5 Measurement Model of the Customer Loyalty Scale

Price sensitivity. The confirmatory factor analysis for the 3-item price sensitivity measure was found to create a saturated model in which the number of parameters equals the number of free elements in the covariance matrix. The 3-item CFA model with zero chi square and degree of freedom represents a perfect model fit. Due to the inability to test the saturated model, exploratory factor analysis (EFA) was conducted on measure the price sensitivity scale to determine the amount of variance explained by the items. According to Bruin (2006), a measurement model is considered acceptable if the items in the EFA explained a minimum of 50% of the variance. Results of the EFA indicated that the single latent variable emerged with a total of 80.10% variable explained, indicating the price sensitivity measurement model was acceptable. The Cronbach's alpha value for the price sensitivity scale was .87. Figure 4-6 shows the price sensitivity measurement model and the standardized factor loadings.

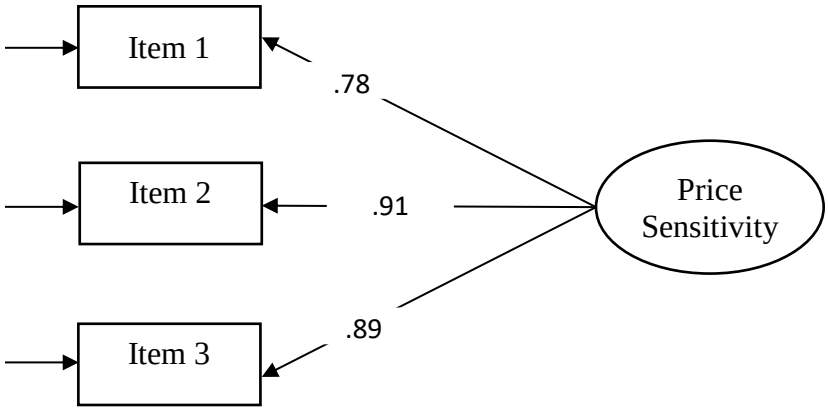

Figure 4.6 Measurement Construct of the Price Sensitivity Scale

Table 4.2

Internal Consistency of the Constructs in the Hypothesized Model

Construct	Number of Items	Cronbach's Alpha
Interaction Quality	9	.85
Physical and Environment Quality	7	.90
Outcome Quality	5	.92
Customer Satisfaction	5	.94
Customer Loyalty	4	.93
Switching Costs	4	.87
Perceived Value	4	.92
Price Sensitivity	3	.87

Structural Equation Modeling Testing of the Hypothesized Model

After all measurement models were confirmed in the CFAs with an adequate model fit, structural equation modeling analysis of the hypothesized model for determinants of price sensitivity was tested by specifying the WSLMV estimation method. The original hypothesized model showed an acceptable fit to the data (chi-square [211, N = 507] = 838.37; RMSEA= .076; NFI = .98; NNFI = .98; CFI = .98). The values of CFI, NFI, and NNFI were all above the suggested value (>.95; Hu & Bentler, 1999). Only RMSEA was slightly above the suggested standard, with a value of .076. According to Cangur and Ercan (2015), RMSEA value tends to be sensitive to model complexity (i.e., number of estimated parameters), which may explain why the value of RMSEA increased, when compared to the separate measurement model assessments for service quality, customer satisfaction, perceived value, switching costs, customer loyalty, and price sensitivity. Although a specification was needed to further improve the overall model fit, a decision was made not to further conduct post hoc analysis due to two reasons. The first one was that except for RMSEA value, all other alternative model fit

indices indicated good values. The second reason was that the hypothesized model might lose theoretical values from the specified model when a re-specification was initiated. For example, the model modification indices suggested that a path should be added from a latent variable service quality to an indicator variable of switching costs.

The hypothesized structural model was estimated to examine the hypotheses with regard to the effects of service quality and perceived value on switching costs, customer satisfaction, and price sensitivity; the effects of switching costs and customer satisfaction on customer loyalty and price sensitivity; and the effect of customer loyalty on price sensitivity. The tested model included a total of six latent constructs (Figure 4.7). More specifically, there were two exogenous variables (service quality and perceived value) and three endogenous mediator variables (switching costs, customer satisfaction, and customer loyalty) representing determinants of price sensitivity (which was the fourth endogenous variable).

When analyzing the paths among endogenous and exogenous latent variables, three paths were not statistically significant (customer loyalty to price sensitivity, service quality to customer loyalty, and perceived value to customer loyalty). Therefore, hypotheses 3, 4, and 11 were not supported. The standardized direct effect of switching costs had the strongest negative influence on price sensitivity (β=-.91, p<.01), indicating that when perceptions toward perceived value increased by one standard deviation, price sensitivity would decrease by .91 standard deviations. Customer satisfaction (β=-.85, p<.01) was the second strongest significant predictor of customer price sensitivity, followed by perceived value (γ=-.58, p<.01) and service quality (γ=-.42, p<.01). Therefore, hypotheses 1, 7, 9 and 12 were supported. The SEM results also indicated that

switching cost (β=.21, p<.01) and customer satisfaction (β=.63, p<.01) had a significant positive impact on customer loyalty. Service quality and perceived value positively influence switching costs (γ=.31, p<.01; γ=.49, p<.01) and customer satisfaction (γ=.51, p<.01; γ=.49, p<.01). Therefore, hypotheses 2, 5, 6, 8, 11, and 13 were supported (Table 4.3).

Service quality, perceived value, customer satisfaction, customer loyalty, and switching costs accounted for 86% of the variance in price sensitivity, R^2=.86. Service quality, perceived value, customer satisfaction, and switching costs accounted for 53% of the variance in customer loyalty, R^2=.53. Service quality and perceived value accounted for 56% of the variance in customer satisfaction, R^2=.56. Service quality and perceived value accounted for 60% of the variance in switching costs, R^2=.60.

Table 4.3

Summary of Hypotheses

Hypotheses	Supported/Unsupported	Standardized Coefficients
H_1: CS→PS	Supported	-.85**
H_2: CS→CL	Supported	.63**
H_3: CL→PS	No	-.13
H_4: SQ→CL	No	.11
H_5 SQ→SC	Supported	.31*
H_6: SQ→CS	Supported	.51*
H_7: SQ→PS	Supported	-.42*
H_8: PV→CS	Supported	.49*
H_9: PV→PS	Supported	-.58**
H_{10}: PV→SC	Supported	.49**
H_{11}: PV→CL	No	.06
H_{12}: SC→PS	Supported	-.91**
H_{13}: SC→CL	Supported	.21**

Note. CS = Customer Satisfaction, PS = Price Sensitivity, CL = Customer Loyalty, SQ = Service Quality, SC = Switching Costs, PV = Perceived Value

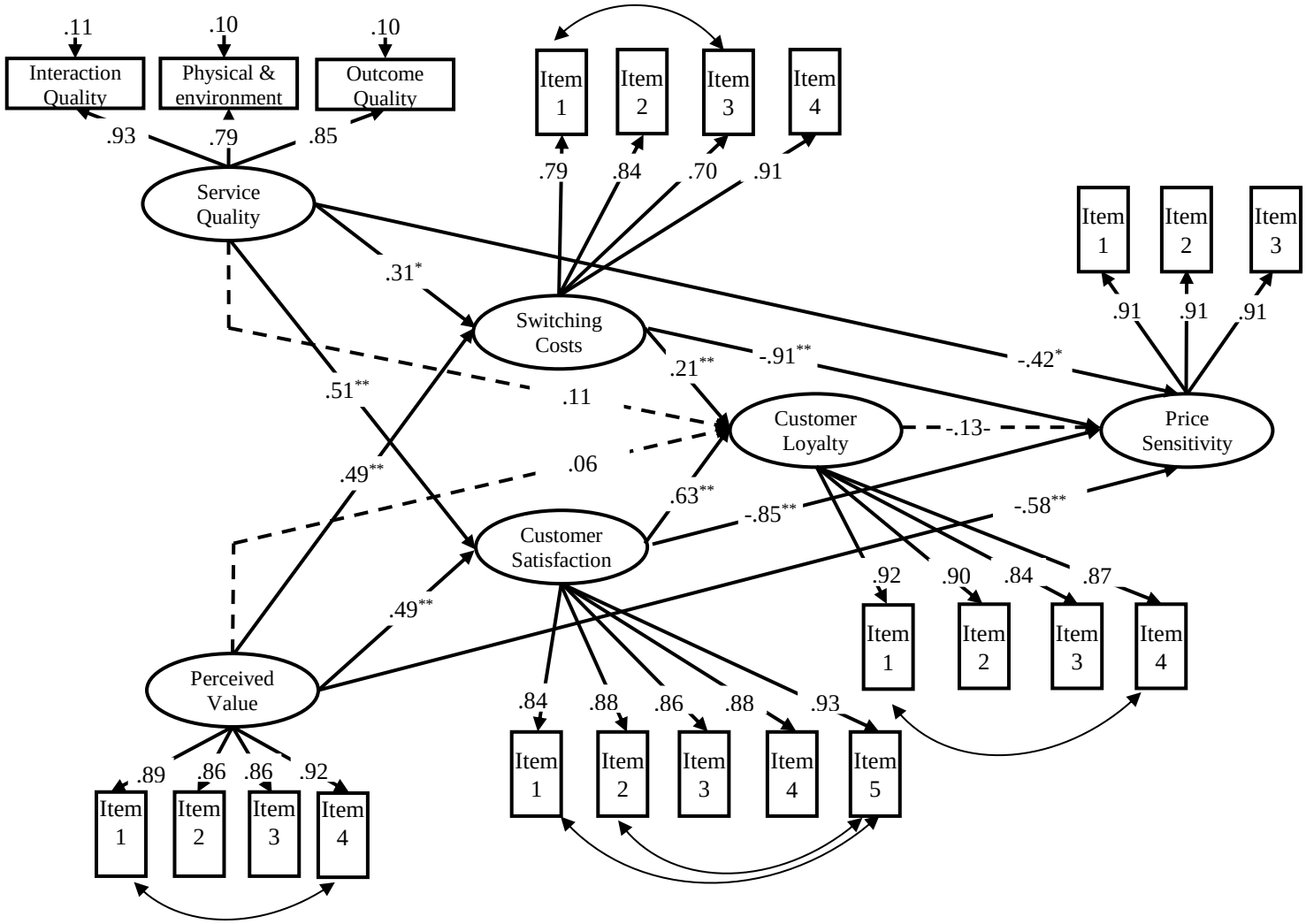

Figure 4.7. The Final Structural Model for Determinants of Price Sensitivity

Data Analysis for Research Question Two

In order to answer research question two, I sought to examine if the hypothesized structure model would be invariant between male and female groups. The invariance test was based on the final structural model revised in research question one (Figure 4.7).

Prior to conducting invariance testing, the hypothesized structural model was estimated separately for male group in comparison to female group to determine whether the model fit well for males and females considered separately. Table 4.4 includes the model fit information for males and females tested separately. For both male and female groups, the model demonstrated acceptable fit to the data. Although the RMSEA was slightly above the suggested value, the other three indexes (CFI, NFI, NNFI) indicated good fit. The model fit better for males than it did for females, as evidenced by the CFI and RMSEA values; however, the fit for females was still good. Following the estimation of the model separately with each gender group, the test of configural invariance was conducted, which was accomplished by estimating the model simultaneously with both males and females, allowing all parameters to vary freely across groups. The test of configural invariance fit well. The CFI, NFI, and NNFI all met the criteria for good model fit (see Table 4.4).

Knowing that the factor structure was tenable for both gender groups, the groups were then tested for metric (loading) invariance to determine if the items are being answered similarly across groups. To test metric invariance, the parameters of factor loadings were constrained to be equal across males and females. The fit of this model was compared with that of the model estimated with no equality constraints. The chi-square difference test was significant ($\Delta\chi 2 = 54.23$, $\Delta df = 17$, $P < .001$), indicating the one or

more factor loadings were not equivalent for males and females. I began the search for noninvariant factor loadings by backing up to the configural model. In order to narrow down which factor loading(s) was nonequivalent, I constrained all factor loadings on one factor at a time. For example, I constrained all factor loadings on the construct of customer satisfaction and freed all factor loadings on other constructs. The chi-square difference test between the configural model and the model with factor loadings constrained for customer satisfaction was not significant ($\Delta\chi 2 = 8.34$, $\Delta df = 4$, $p = .08$). I repeat the above process with subsequent factors and found that chi-square difference tests were significant between the configural model and the models with factor loadings constrained for customer loyalty and switching costs. The next step was to look systematically within customer loyalty and switching costs for one or more noninvariant factor loadings causing the significant chi-square difference tests. I backed up again to the configural model and constrained one factor loading on customer loyalty at a time. The same procedure was performed on switching costs by constraining one factor loading on switching costs at a time. The findings of chi-square difference tests (see Table 4.5) indicated that two items in switching costs ("even if I have enough information comparing the operators with one another takes a lot of energy, time, and effort" "In general, it would be a hassle switching to another club") and two items in customer loyalty ("I intend to recommend this club to my friend" "when I want to buy a health and fitness club membership, my current club is the first choice to consider") were not equivalent for males and females.

By allowing for the partial invariance, the next step was to test scalar invariance. The fit of a model with all thresholds of ordinal indicator and factor loadings constrained

to be equal across the two gender groups was compared to the fit of the metric model. The change in chi-square was not statistically significant ($\Delta\chi2 = 91.23$, $\Delta df = 75$, $p = .10$), indicating that all thresholds of ordinal indicator were invariant across male and female groups. By testing the intercept invariances for continuous indicator, the fit of a model with all intercepts of continuous items constrained to be equal across the two gender groups was compared to the fit of the threshold model. The chi-square difference test was not significant ($\Delta\chi2 = 7.05$, $\Delta df = 3$, $p = .07$).

Overall, findings from the invariance tests of the price sensitivity model indicated that it had configural and scalar invariance, but not metric invariance (partial invariance) across male and female groups. The configural invariance result suggests that the structure of the price sensitivity model applied to both male and female groups. The scalar invariance finding shows that different agree levels of the five constructs (customer satisfaction, perceived value, switching costs, customer loyalty, and price sensitivity) corresponded to the same observed score across male and female groups. However, the finding of partial metric invariance suggests that individual items have similar weights and are equally salient to the constructs of price sensitivity, customer satisfaction, and perceived value for both male and female groups. Conversely, two items in the construct of customer loyalty, and two items in the construct of switching costs had different weights across males and females.

Table 4.4

Invariance Test of Determinants of Price Sensitivity Model by Gender

Model	$\chi 2$ (*df*)	$\Delta\chi 2$ (*Δdf*)	*p*	CFI	NFI	NNFI	RMSEA
Male (*n* = 275)	458.83 (211)			.95	.97	.97	.080
Female (*n* = 230)	384.05 (211)			.97	.98	.98	.068
Configural invariance model	842.82 (422)			.97	.99	.98	.066
Metric invariance model	883.13 (439)	54.23 (17)	.001	.97	.97	.97	.071
Threshold invaraince model	942.36 (514)	91.23 (75)	.10	.97	.97	.97	.069
Intercept invariance model	948.12 (517)	7.05 (3)	.07	.97	.97	.96	.69

Table 4.5

Factor Loading Invariance Tests of Determinants of Price Sensitivity Model Across Groups (only significant chi-square difference tests results were included in the table)

Model Description	CFI	NFI	RMSEA	$\Delta\chi 2$	Δdf	p
Invariance tests:						
All factor loadings	.97	.97	.71	54.23	17	<. 001
SC factor loadings	.97	.97	.71	17.43	3	=. 001
CL factor loadings	.96	.96	.71	18.82	3	< .001
SC item 3	.97	.97	.71	4.89	1	= .027
SC item 4	.97	.97	.71	17.00	1	< .001
CL item 2	.97	.97	.70	16.07	1	< .001
CL item 4	.97	.97	.71	9.81	1	= .002

Note. N = 505; n = 275 for male; n = 230 for female; SC = Switching Costs; CL = Customer Loyalty; SC items 3 = “Even if I have enough information comparing the operators with one another takes a lot of energy, time, and effort”; SC item 4 = “In general, it would be a hassle switching to another club”; CL item 2 = “I intend to recommend this club to my friend”; CL item 4 = “when I want to buy a health and fitness club membership, my current club is the first choice to consider”.

Date Analysis for Research Question three

Analysis of Variance (ANOVA)

In research question three I sought to understand the relationship between demographic variables (gender and household income) and levels of price sensitivity. A two-way between groups analysis of variance was conducted, using SPSS 25.0, to explore the impact of gender and household income on levels of price sensitivity, as measured by the Price Sensitivity Scale. The two independent variables were gender and household income, and the dependent variable was price sensitivity. The household income variable was recoded so the number of participants in each category was roughly close. Subjects were divided into three groups according to their household income levels (low: below $40,000; middle: $40,000 to 80,000; high: above $80,001). The classification of the three categories was based on the median household income in West Virginia and Colorado. According to U.S. Census Bureau (2018), median household income was $44,097 in West Virginia, $71,953 in Colorado, and $61,937 nationwide. Two observations had missing value on gender. Due to the large data sets (507) and less number of records (2) had missing values, the two observations were not included in the ANOVA test (Udell, Horn, Zadeh, & Boyd, 2014).

Levene's test of equality of error variances was found to be non-significant (F = 1.083, p = .369) for the two-way ANOVA indicating the assumption of homogeneity of variances was not violated. The skewness (.065) and kurtosis (-.89) values and histograms (Figure 4.8) for the dependent variable (price sensitivity) indicating the populations from which the samples were taken were normally distributed. Based on the gender and household income classification, respondents were identified with one of two

distinct gender groups and one of three distinct household income groups. Each participant was assigned to a single group, which met the independence of observations requirement. The results of the two-way ANOVA were found in Table 4.6. The interaction effect between gender and household income group (F (2, 426) = 2.87, p = .06, η^2 = .013) did not reach statistical significance. The main effects for both gender (F (1, 426) = 29.40, p < .01, η^2 = .06) and household income (F (2, 426) = 64.46, p < .01, η^2 = .232) were statistically significant. Males reported significantly lower price sensitivity levels compared to female counterparts. Post hoc comparisons using the Tukey HSD test revealed that the mean score for the low-household income group (M = 4.75, SD = 1.32) was significantly different from the middle-household income group (M = 3.24, SD = 1.03) and high-household income group (M = 3.21, SD = 0.87). Low-household income members reported a significantly higher price sensitivity level than middle-household income and high-household income members. Middle-household income members also reported a significant higher price sensitivity level than high-household income members.

Table 4.6

Results of Two-Way ANOVA

Source	DF	F	P-Value	η2
Gender	1	27.32	<.001	.060
Household Income	2	64.46	<.001	.232
Gender*Household Income	2	2.87	.06	.013

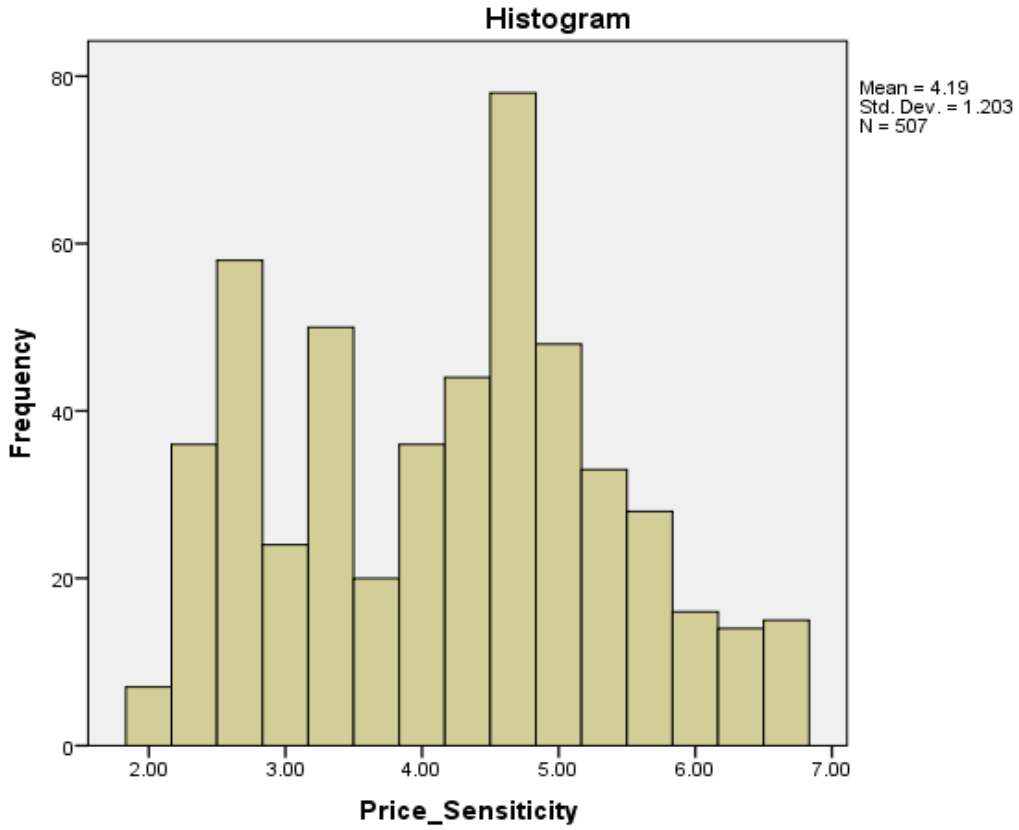

Figure 4.8 Histogram Depicting the Distribution of Price Sensitivity data

CHAPTER V

DISCUSSION

This final chapter includes a summary of study, discussion, implementations, limitation, and recommendations for further research.

Summary of Study

A questionnaire measuring the appropriate constructs was adapted from former research studies. Data for the pilot and full study were collected from three health and fitness clubs in West Virginia and two from Colorado. In order to reach the desired sample size, the current study applied a convenient sampling approach to administer survey questionnaires to club members on-site and through an online survey platform. This technique resulted in a final sample size of 507, which reached the minimum sample size identified in chapter three. The sample size of the current study appears comparable to other similar studies. For instance, Choi (2001) attained 468 usable surveys from two health and fitness club to investigate the impact of service quality on customer satisfaction and repurchase intention by using structural equation modeling analysis. Wright (2015) collected 393 samples from fitness and health clubs via Amazon's Mechanical Turk and Qualtrics to test a proposed model explaining the relationship among the marketing mix, brand equity, and purchase intention.

Demographics

The participants of the current study were between 18 and 79 years old; the average age was 36 years. Most were Caucasian (64.5%), followed by Hispanics

(12.6%), African American (10.7%), and Asian (8.3%). Respondents who had a less than 12 months membership length represented 71.1% of the sample while respondents who had more than 3 years membership length represented only 7.5% of the sample. More than 60 percent of the respondents reported an annual household income of $60,001 or above; approximately 30.5 percent reported an annual household income between $20,000 and $60,000.

The current study proposed and tested an integrated model to describe the extent to which customer price sensitivity is influenced by customer satisfaction, perceived value, service quality, switching costs, and customer loyalty. The relationships among the components in the hypothesized model were tested within a structural equation model derived from a review of the relevant literature on the topic of price sensitivity. In addition, this study tested the invariance of the hypothesized model based on participants' gender. Finally, a mean comparison analysis was conducted to test if there is a significant difference in the mean scores on the price sensitivity among gender and household income groups. The findings from the data analysis include the following:

Q1. Structural equation modeling of the health and fitness club member sample revealed that the hypothesized model fit the data well, e.g., comparative fit indices (CFI), normed fit indices (NFI), and non-normed fit indices (NNFI) were .98. The root mean square error of approximation (RMSEA) was found to be .076, slightly higher than Browne and Cudeck's (1993) recommendation (values of .05 and below indicates good fit, values between .05 and .08 indicate reasonable fit). The hypothesis test revealed that 10 of the 13 hypothesized relationships were supported. The five social/psychological factors (customer satisfaction, service

quality, perceived value, and switching costs) significantly and negatively influenced health and fitness club members' price sensitivity. With the increased perceptions of customer satisfaction, service quality, perceived value, and switching costs, health and fitness club member would be less price sensitive to the membership fees.

The path between customer loyalty and price sensitivity was found to be non-significant. Service quality and perceived value were found to significantly explain switching costs and customer satisfaction. The paths from service quality and perceived value to customer loyalty were not significant. Switching costs and customer satisfaction also significantly and positively influenced customer loyalty.

Q2. Invariance testing of the hypothesized model across male and female groups revealed that the baseline model demonstrated a good fit for both male and female subjects. However, the chi square difference test showed that the hypothesized mode was not congruent across male and female subjects. The patterns of factor loadings differed by gender. Post hoc analyses revealed that two items in the construct of customer loyalty, and two items in the construct of switching costs had different weights across males and females.

Q3. Two-way between-group analysis of variance (ANOVA) test revealed that the interaction effect of gender and household income on health and fitness club members' price sensitivity was not significant. The main effects of gender and household income were both significant. Female club members reported a significantly higher level of price sensitivity than male club members. High-

household income members reported a significantly lower level of price sensitivity than low and middle-household income members.

Discussion

The Hypothesized Model

This study utilized the social/psychological constructs as part of the price sensitivity model, including customer satisfaction, service quality, perceived value, customer loyalty, and switching costs predicting health and fitness club members' price sensitivity. The hypothesized model in the current study was the first attempt to develop and test an integrated model to explain how price sensitivity is influenced by the five social/psychological factors (customer satisfaction, service quality, perceived value, and switching costs).

Paths Between Constructs

Price sensitivity. The price sensitivity latent variable played a vital role as the central construct in the hypothesized model. Health and fitness club members' price sensitivity was explained by five exogenous latent variables. When looking at the explained variance of price sensitivity by the five exogenous latent variables, the results were better than the research findings of Ramirez and Goldsmith (2009). In Ramirez and Goldsmith's (2009) study, a hypothesized model with four latent constructs (brand parity, brand loyalty, consumer innovativeness, and involvement) to explain price sensitivity was tested. The results indicated that three significant paths explained 65% of the variance of price sensitivity. Zeng et al. (2011) conducted research in cell phone shoppers to examine whether the constructs used in customer relationship studies such as service quality, satisfaction, and perceived value explained a significant portion of price

sensitivity. The results indicated that all three constructs had a significant negative impact on price sensitivity, and together explained 53% of the variance of price sensitivity. In the current study, a large amount (86%) of the price sensitivity variance was explained by the five exogenous latent variables. These findings were expected since the hypothesized model in the current study included more price sensitivity influencing factors.

Switching costs. In the current study, the construct of switching costs was found to be the strongest predictor of consumer price sensitivity ($\beta = -.91$, $p < .01$); it also significantly and positively influenced customer loyalty ($\beta = .21$, $p < .01$). These significant relationships were supported by many previous studies (Dube et al., 2009; El-Manstrly, 2016; Oyeniyi & Abiodun, 2010; Strombom, Buchmueller, & Feldstein, 2002; Zeng et al., 2011). The concept of switching costs is defined as perceived economic and psychological expenses associated with changing from one service provider to another (Jones, Mothersbaugh, & Beatty, 2000). In the health and fitness club industry, switching costs could be both monetary and non-monetary. For example, the monetary switching costs could be a health and fitness club member who in switching to a different club is required to pay the registration fee. If the new club is further than the old one, customers will need to pay more transportation costs.

For health and fitness club members, the cost of learning is also very important. Once a customer decides to start a new membership with a different club, she or he needs to learn all the procedures as to how a facility and equipment works or spend extra time to develop relationships with the new club members and staff. Therefore, if the perceived switching costs are high, health and fitness club members are more likely to retain and

show loyalty to their current club, and less likely to bargain a lower price with the new service provider.

In the health and fitness club industry, the competition between different clubs is becoming more and more severe. In order to survive in this highly competitive field the marketing focus of most clubs is to differentiate their services and programs from their competitors. For example, the five health and fitness clubs in the current study all have their unique services with no charge. Vasa (Greeley, CO) is the only club among the five ones that provide childcare service. Snapfitness (Barboursville, WV) is the only one that provides 24-hour access. Limitless (Barboursville, WV) is the only one that provides professional nutrition consulting services. If the unique service or program plays a significant role in the members' decision-making process, then the members' switching costs will be high, and ultimately will influence their price sensitivity.

Customer satisfaction. The results indicated that customer satisfaction significantly and positively influenced customer loyalty ($\beta = .85$, $p < .01$) and negatively influenced price sensitivity ($\beta = .63$, $p < .01$). The results supported the previous research which found customer satisfaction significantly weakened price sensitivity (Low et al., 2013; Ouyang et al., 2018) and strengthened customer loyalty (Khan, 2012; Mohsan, Nawaz, Khan, Shaukat, & Aslam, 2011). If members are more satisfied with their club experience, they will be less price sensitive and more likely to form a loyal relationship with their service providers.

Customer loyalty. Customer loyalty was found to be a non-significant predictor of price sensitivity ($\beta = .85$, $p > .05$). These results do not support the previous research which found customer loyalty significantly lessened price sensitivity (e.g., Goldsmith et

al., 2010; Wieseke et al., 2014). The non-significant findings may have been due to the short length of respondents' membership. The descriptive results showed that the majority of respondents (71.1%) had a membership length of less than one year. Nearly 25 percent of respondents had a membership length of less than 6 months. Among the five health and fitness clubs, there was one club (Limitless at Barboursville WV) that started its business less than one year before. It was possible that a significant portion of respondents didn't have a true loyal relationship with their clubs.

Service quality. The results showed that service quality had a significant and negative effect on price sensitivity ($\gamma = -.42$, $p < .05$), that is, a member who has a high level of service quality perception tends to be less sensitive to the membership price. This result is consistent with previous studies. For example, González et al. (2007) developed a model to depict how service quality perceptions and customer satisfaction influence behavioral intention. The results demonstrated that positive perceived service quality had a significant negative impact on price sensitivity. The regression coefficient was -.84. The results of the current study also revealed that service quality had a significant effect on switching costs ($\gamma = .31$, $p < .05$) and customer satisfaction ($\gamma = .51$, $p < .01$). The path between service quality and customer loyalty was not significant ($\gamma = .11$, $p > .05$).

Perceived value. The results of the current study found that perceived value was a significant predictor of price sensitivity ($\gamma = -.58$, $p < .01$). Perceived value also positively and significantly influenced customer satisfaction ($\gamma = .49$, $p < .01$) and switching cost ($\gamma = .49$, $p < .01$). The path between perceived value and customer loyalty was not significant ($\gamma = .06$, $p > .05$). As touched upon earlier, the five health and fitness clubs all have unique services and programs to differentiate each one from the others.

This could be one of the reasons respondents' perceived value was high. A member who receives a service or program that other similar service providers do not offer could believe the service or program has a high value, which influences customer satisfaction and switching costs.

Finally, the determinants of price sensitivity model did show partial invariance across male and female members. The model in this dissertation demonstrated good fit for both male and female data. However, a total of four factor loadings in the constructs of switching costs and customer loyalty were not equivalent for males and females. Both Item 3 (Comparing the operators with one another takes me a lot of energy, time, and effort) and items 4 (it would be a hassle switching to another club) were important indicators in the measurement of switching costs. But, item 3 and item 4 had a stronger correlation with switching costs for females. Maybe, for male members, comparing the operators with one another does take them a lot of energy and time. Ultimately create a high level of hassle for switching to another club. In general, females are more likely to spend more time comparing competitive service providers than males. This is supported by a study from Wells and LoSciuto (1966). They conducted an observational study of shopping behavior with four shopper characteristics (adult male, adult female, adult couple with or without children, and children alone). Wells and LoSciuto (1966) posed the question: How much attention do shoppers pay to prices as they shop? They found that the highest observed price inspection activity was among adult females; one third of them were observed checking the price. Item 2 (I intend to recommend this club to my friend) and item 4 (when I want to buy a health and fitness club membership, my current club is the first choice to consider) in the construct of customer loyalty were answered

differently across male and female members. Item 2 had a stronger correlation with the factor of customer loyalty for females. According to ComScore report (2011), females who are 15 years or older spent more time social networking than their male counterparts. In North America, women spent an average of 1.9 hours more than men on social networking. Item 4 had a stronger correlation with the factor of customer loyalty for males. Maybe, for male members, when they want to buy a membership, their will first consider their current clubs.

ANOVA

The two-way analysis of variance found that low-household income members reported a significantly higher level of price sensitivity than mid-household income and high-household income members. Economic theory suggests that individual demand curves for a particular product may be elastic in some price ranges and inelastic in others (Maxwell, 1970). A consumer might be sensitive to the price when the expenditure on a product or service accounts for a significant portion of a consumer's budget. Morris and Morris (1990) later stated that a consumer's price sensitivity level might be relative to a person's own particular market basket. An individual is probably more price sensitive to a certain product or service that makes up a large portion of his market basket and less sensitive to a product making up a small portion of his market basket. The individual may not be particularly sensitive to the numerous other products not making up his market basket. For high-household income members, the amount of health and fitness club membership fees might be a small portion of their market basket, so they are less price sensitive. For low-household income members, membership fees might count as a significant portion or be a non-necessary category in their market basket, so they become

more price sensitive. Therefore, the findings of the current study fit into and can be explained within the constructs of economic theory.

The ANOVA analysis also revealed that female members were more sensitive to the price of membership fees than male members. This research finding is consistent with previous research studies. Radojka and Filipović (2017) investigated the effect of gender on price sensitivity and found that women are more sensitive to price than men. Another study by Bakewell and Mitchell (2003) also indicated that female consumers were more price sensitive than male consumers. Why are female consumers more price sensitive than males? One possible explanation could be that there are differences in shopping habits and buying decisions among males and females. Forsythe and Bailey (1996) found that female consumers spend more time per shopping trip than do males. Female consumers also reported a significantly higher score of shopping enjoyment than males. Also a high percentage of females are single heads of households, in addition to having lower household incomes and are thus more price sensitive.

The interaction effect between gender and household income was not statistically significant. This indicated that there was no significant different in the effect of household income on price sensitivity for males and females. The chi-square test was conducted on testing for evidence of a relationship between the two categorical variables of gender and household income. The value of the chi-square test statistic was 5.42 (df = 2, p = .07). Therefore, there was no significant association between gender and household income.

Implementation

Managerial Implementation

Pricing a product or service is one of the most essential decisions made by marketing managers because it is the only marketing mix component that directly captures value (Grewal & Levy, 2014). Therefore, consumer price sensitivity is important because marketing managers must take it into account when setting product or service prices. What is the consequence of raising prices for membership fees?

It is the managerial importance of pricing in general and price sensitivity in particular that make this dissertation important. Because information on what factors influence consumers to react to price changes is needed to guide pricing decisions, the results of the current study may be beneficial to marketing managers and other practitioners in the health and fitness club industry. By using the theoretical model to gain a better understanding of what factors influence price sensitivity, club managers can design more effective marketing campaigns and pricing tactics to cater to price sensitive and non-sensitive consumer segments. For instance, using the model suggests that health and fitness club managers can minimize the negative reactions expected from price increases by increasing perceptions of switching costs, customer satisfaction, service quality, and perceived value. In terms of increasing switching costs, club managers could increase members' economic switching costs by applying negative retention strategies that lock the customer in by penalizing their exit from the relationship. For example, club members could receive bonus scores for every dollar they spend in the club. The bonus score could be used for future purchases. However, if a member decides to switch to another club, all his or her bonus scores would be erased. The club managers could also

increase members' psychological switching costs by focusing on relationship marketing, which creates social and structural bonding for club members. For example, club managers could develop friendship-oriented behaviors on the part of the club members and club employees (e.g., addressing one another by name, showing familiarity with personal matters). In order to increase perceived value and ensure club members believe their purchases are worth buying, club managers need to maximally differentiate their services and programs from their competitors. For example, club managers could design some specific programs for different member segments (e.g., Taichi class for senior members, Zumba and yoga fitness class for female members, and Kongfu class for young members). Club managers should also give attention to customer satisfaction and may not be neglectful of increasing the level of customer satisfaction. By doing so, the health and fitness club would be able to gain a competitive advantage in performing price strategy (i.e., increasing price). Since more satisfied members will more likely be loyal to their service providers and less price sensitive to future purchases, the club can be relatively less restrictive in implementing price strategies. This enables the club to remain profitable even during economic downturns. In terms of service quality, club managers could invest more resources in employee professional development and club atmosphere in order to enhance service quality. Since high service quality will lead to high switching costs, and ultimately influence customer price sensitivity level. Eventually, the investment will be realized by being able to apply more competitive pricing on the members. In other words, club managers will have more managerial discretions in their pricing strategy implementation.In terms of the significant gender and household income

difference on price sensitivity, club managers could promote premium membership or VIP services more frequent to male and high household income members.

Theoretical Implementation

The current study has made a significant contribution to sport marketing theory simply by offering an integrated theoretical model focused specifically on the concept of price sensitivity. As mentioned in chapter one, there is a significant gap in sport marketing literature concerning the construct of price sensitivity. The sport marketing literature provides no comprehensive theoretical model of price sensitivity; it provides no theoretical model of the antecedents of price sensitivity; and it provides no theoretical model of the consequences of price sensitivity. The current study helps to close this gap in sport marketing literature by developing and testing a structural equation model of determinants of price sensitivity. This study could be a cornerstone of future research investigating what factors influence price sensitivity.

Limitation

The current study on price sensitivity for health and fitness clubs provides many useful contributions to extending research on price sensitivity for sport consumers. The characteristic of this study and of the data, however, provide some limitations on the external generalizability of the findings.

The intention of the current study was to have an equal proportion of subjects from Colorado and West Virginia. However, due to the low response rate from Colorado, subjects from West Virginia represented a large proportion of the sample data. Therefore, the model developed in the current study is more a representation of perceptions from subjects in West Virginia. Moreover, the current study utilized a convenient sampling

approach to increase the number of subjects. It is widely accepted that a random sampling approach has higher representativeness of the population than a convenient sampling approach (Remler & Van Ryzin, 2014). Also, the model may not be generalizable beyond the population of West Virginia and Colorado. However, the current study still adds more information in the understanding of customer price sensitivity to existing sport marketing literature.

The current study was also limited in the selection of variables tested. Other antecedent variables, such as advertisement and brand image, could have been included in the model but were not. The five social/psychological constructs were selected because they appeared to be the most important and commonly cited in the previous marketing studies of the price sensitivity topic. In addition, marital status was not collected in the current study, which has an effect on household income. Therefore, marital status could possibly influence members' price sensitivity as well.

Recommendation for Future Study

The current study of determinants of price sensitivity in the health and fitness club industry provides a starting point for future research on determinants of price sensitivity of other sport business sectors. An obvious area of future research concerns the issue of general price sensitivity. Is price sensitivity for one sport business sector (e.g., health and fitness club business) related to general price sensitivity? Future studies should be conducted to apply the price sensitivity model to other sport business sectors. For example, future studies could be conducted by testing the model in the current study for sporting goods. Price sensitivity is an important issue for product manufacturers since price changes can have a significant impact on the quantity of demand based on the law

of demand (Maxwell, 1970). It is possible that price sensitivity for sporting goods (i.e., sports gear) is greater than it is for sport services because heterogeneity means that consumers have less information and because tangibility makes price comparisons of different products available.

As mentioned in chapter two, there are four different ways to measure customers' price sensitivity. The current study applied the uncontrolled preferences and intentions measurement technique to estimate price sensitivity. Within this technique, it is possible that respondents underestimated their price sensitivity level. Therefore, future research could use different methods to measure sport consumers' price sensitivity.

Future studies should expand the model by including other variables not considered in this study. As already mentioned in the previous section on study limitation, other antecedent or consequence constructs, such as advertisement and brand image, could be included in future models. More of the consequence constructs, such as purchase and repurchase intention, could also be included for the testing of a comprehensive model of price sensitivity. Furthermore, other determinant factors of health and fitness club member price sensitivity may exist and could be uncovered in future research. The determinants of price sensitivity model includes three latent variables, which served as mediator variables (switching costs, customer satisfaction, and customer loyalty). However, these three mediator variables were not analyzed to test the mediation effect in the current study. Future studies could further explore how these three mediator variables cause mediation in the dependent and independent variables. For example, the construct of customer loyalty could explain the relationship between customer satisfaction and price sensitivity.

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APPENDIX A

CONSENT FORM FOR HUMAN PARTICIPATION

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: An Empirical Study of the Determinants of Consumer Price Sensitivity for the Health and Fitness Club Industry.

Researchers: Lei Ouyang, Sport Management Ph.D. Student at the University of Northern Colorado, lei.ouyang@unco.edu, 302-233-4297
Research Advisor: Dr. Alan Morse, School of Sport & Exercise Sciences, alan.morse@unco.edu,970-351-1722

PURPOSE AND DESCRIPTION:

The purpose of this research is to examine how social/psychological factors influence consumer price sensitivity in the context of health and fitness club industry. You are asked to fill out the survey to the best of your ability. The survey instrument is designed to take no longer than 10 minutes to complete.

All information reported in this survey will be kept confidential to the greatest extent possible.

Neither your name nor your information will be noted or collected. Completed surveys will be kept for a period of three years after which they will be destroyed. By filling out the survey, you are agreeing that the information supplied will appear in any professional report of this research.

Risks to you are minimal. You may initially feel anxious about giving responses dealing with your perceptions of your health and fitness club experience, but be assured that at no time will any individual, myself or others, know the identity associated with completed surveys, other than email address for individuals choosing to take part in the incentive raffle. The benefits to you for completing the survey are that you will be adding to an area of the sport literature that is substantially lacking.

At the end of the survey, you will be asked if you would like to be entered into a raffle for a chance to win a free membership at your current club. If so, you will have the opportunity to provide a working email address. Your email address will not be linked to your response.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask questions, please complete the questionnaire if you would like to participate in this research. By

completing the questionnaire, you will give us permission for your participation. You may keep this form for future reference. If you have any concerns about your selection or treatment as a research participant, please contact Nicole Morse, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

Your participation in this study is greatly appreciated. Once data have been analyzed and reported, feel free to contact the researcher for any findings or implications of the study. Thank you for your assistance with this research.

APPENDIX B

SURVEY INSTRUMENT

Section A

The following statements relate to your experience in your current health and fitness club. Please indicate the extent to which you agree or disagree with each statement by circling the appropriate number on the scale provided on the right. (1= Strongly Disagree, 7=Strongly Agree)

	Strongly Agree			Neutral			Strongly Disagree
At my current club:							
employees respond quickly to members' requirements.	1	2	3	4	5	6	7
employees provide individualized attention.	1	2	3	4	5	6	7
employees work enthusiastically.	1	2	3	4	5	6	7
employees are polite.	1	2	3	4	5	6	7
employees respect members' needs.	1	2	3	4	5	6	7
employees help members feel comfortable.	1	2	3	4	5	6	7
employees are knowledgeable.	1	2	3	4	5	6	7
employees are trustful.	1	2	3	4	5	6	7
employees are reliable.	1	2	3	4	5	6	7
At my current club:							
facilities are attractive.	1	2	3	4	5	6	7
facilities have up-to-date equipment.	1	2	3	4	5	6	7
facilities are spacious.	1	2	3	4	5	6	7
facilities are clean.	1	2	3	4	5	6	7
equipment is in good condition.	1	2	3	4	5	6	7
there is a nice atmosphere in the facility.	1	2	3	4	5	6	7
other customers do not affect the service negatively.	1	2	3	4	5	6	7
Participation in my current club's programs help me to:							
increase my energy.	1	2	3	4	5	6	7
improve my health.	1	2	3	4	5	6	7
improve my mood.	1	2	3	4	5	6	7
improve my psychological well-being.	1	2	3	4	5	6	7
improve my fitness level.	1	2	3	4	5	6	7
I am satisfied with my decision to be a member of my current club.	1	2	3	4	5	6	7
I am satisfied with the services in my current club	1	2	3	4	5	6	7
Being a member in my current club is usually a satisfying experience	1	2	3	4	5	6	7
I am satisfied with my current club as a service provider	1	2	3	4	5	6	7
In general, I am satisfied with the services of my club	1	2	3	4	5	6	7
The programs and services of my current club have great value.	1	2	3	4	5	6	7
The programs and services of my current club are worth what they cost.	1	2	3	4	5	6	7
What I get from my club and what it costs, offers me value.	1	2	3	4	5	6	7
In general, the value of the programs and services in my club is high.	1	2	3	4	5	6	7

	Strongly Agree			Neutral			Strongly Disagree
It is risky to change as the new club may not give good service	1	2	3	4	5	6	7
The cost for terminating membership with this club and start up with a new club would be high.	1	2	3	4	5	6	7
Even if I have enough information, comparing the operators with one another takes a lot of energy, time, and effort.	1	2	3	4	5	6	7
In general, it would be a hassle switching to another club.	1	2	3	4	5	6	7
I intend to renew my membership at my current club again.	1	2	3	4	5	6	7
I intend to recommend this club to my friend.	1	2	3	4	5	6	7
I will speak positively to people about my current club.	1	2	3	4	5	6	7
when I want to buy a health and fitness club membership, my current club is the first choice to consider.	1	2	3	4	5	6	7
	Very Likely			Neutral			Very Unlikely
Will you take some of your business to other club that offers better price?	1	2	3	4	5	6	7
Will you continue to do business with your current club if its price increase somewhat?	1	2	3	4	5	6	7
will you pay a higher price than other competitors charge for the benefits you currently receive from your club?	1	2	3	4	5	6	7

Section B

Age: _____

Sex: Male_____ Female_____

Race: Asian/Pacific Islander _____ Black/African American_____
Caucasian/White_____ Hispanic_____
Multiracial_____ Other_____

How many times per week do you go to work out at your current club?_____ _____

Membership length: Less than 6 months_____ 7 to 11 months_____
1-3 years_____ over 3 years_____

Household Income: $20,000 or less_____ $20,001 to 40,000_____
$40,001 to 60,000_____ $60,001 to 80,000_____
$80,001 to 100,000_____ $100,001 or more_____

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

DATE: July 29, 2019

TO:	Lei Ouyang
FROM:	University of Northern Colorado (UNCO) IRB
PROJECT TITLE:	[1453991-2] An Empirical Study of the Determinants of Consumer Price Sensitivity for the Health and Fitness Club Industry
SUBMISSION TYPE:	Amendment/Modification
ACTION:	APPROVAL/VERIFICATION OF EXEMPT STATUS
DECISION DATE:	July 29, 2019
EXPIRATION DATE:	July 29, 2023

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

APPENDIX D

RECRUITMENT EMAIL

Dear [MANAGER'S NAME],

My name is Lei Ouyang; I am currently working on a Ph.D. in Sport Administration from the
University of Northern Colorado under the supervision of my research advisor, Dr. Alan Morse,
I need your help!

I am working on my dissertation looking at how social/psychological factors influence consumer price sensitivity in the context of health and fitness club industry. I would truly appreciate your help getting the word out about the study.

Would it be possible for you to send out the following link to a survey to your club members through e-mail, a website link, and/or on Facebook? I also would like to ask your permission to allow me to conduct the survey at the lobby area in your club. The survey should take no more than 5-10 minutes to complete. I appreciate you taking the time to help me out!
(LINK TO SURVEY HERE)
Anyone who completes the survey will have the option of providing their e-mail address for a chance to win a free membership from your club (I will pay for the free membership).

If you have any questions, please feel free to contact me at ouya2121@bears.unco.edu or my
research advisor, Dr. Alan Morse, at alan.morse@unco.edu.
Thanks very much!!

Lei Ouyang
Doctoral Student, Sport Administration
School of Sport and Exercise Science
University of Northern Colorado
Greeley, CO 80639
www.unco.edu/nhs/ses

APPENDIX E

MPLUS SYNTAX FOR INVARIANCE TEST

```
TITLE: scalar invariance by gender
DATA: FILE IS C:\Users\ouyangl\Desktop\1.dat;
VARIABLE: NAMES ARE
        sq1-sq3 cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3 gender;
USEVARIABLES ARE all;
CATEGORICAL ARE
         cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3;
GROUPING IS gender (0=male 1=female);
MISSING =ALL (-999)
ANALYSIS: TYPE = MGROUP;
Parameterization=theta;
ITERATIONS=3000;
ESTIMATOR=WLSMV;
MODEL:
        serq by sq1 sq2* sq3*;
        cus by cs1 cs2* cs3* cs4* cs5*;
        perv by pv1 pv2* pv3* pv4*;
         swc by sc1 sc2* sc3* sc4*;
        cul by cl1 cl2* cl3* cl4*;
        prs by ps1 ps2* ps3*;
        prs on cus serq perv swc cul;
         cul on swc cus serq perv;
        swc on serq perv;
        cus on serq perv;
        [ cs2$2* cs3$2* cs4$2* cs5$2* pv2$2* pv3$2* pv4$2* sc2$2* sc3$2* sc4$2*
        cl2$2* cl3$2* cl4$2*  ps2$2* ps3$2* cs2$3* cs3$3* cs4$3* cs5$3* pv2$3*
        pv3$3* pv4$3* sc2$3* sc3$3* sc4$3* cl2$3* cl3$3* cl4$3*  ps2$3* ps3$3*
        cs2$4* cs3$4* cs4$4* cs5$4* pv2$4* pv3$4* pv4$4* sc2$4* sc3$4* sc4$4*
        cl2$4* cl3$4* cl4$4*  ps2$4* ps3$4* cs2$5* cs3$5* cs4$5* cs5$5* pv2$5*
        pv3$5* pv4$5* sc2$5* sc3$5* sc4$5* cl2$5* cl3$5* cl4$5*  ps2$5* ps3$5*
        cs2$6* cs3$6* cs4$6* cs5$6* pv2$6* pv3$6* pv4$6* sc2$6* sc3$6* sc4$6*
        cl2$6* cl3$6* cl4$6*  ps2$6* ps3$6*];
        sc1 with sc3;
        pv1 with pv4;
        cs1 with cs5;
        cs2 with cs5;
        cl1 with cl4;
MODEL female:
        serq by sq1 sq2* sq3*;
        cus by cs1 cs2* cs3* cs4* cs5*;
        perv by pv1 pv2* pv3* pv4*;
         swc by sc1 sc2* sc3* sc4*;
        cul by cl1 cl2* cl3* cl4*;
        prs by ps1 ps2* ps3*;
        prs on cus serq perv swc cul;
        cul on swc cus serq perv;
```

```
        swc on serq perv;
        cus on serq perv;
        [ cs2$2* cs3$2* cs4$2* cs5$2* pv2$2* pv3$2* pv4$2* sc2$2* sc3$2* sc4$2*
        cl2$2* cl3$2* cl4$2*  ps2$2* ps3$2* cs2$3* cs3$3* cs4$3* cs5$3* pv2$3*
        pv3$3* pv4$3* sc2$3* sc3$3* sc4$3* cl2$3* cl3$3* cl4$3*  ps2$3* ps3$3*
        cs2$4* cs3$4* cs4$4* cs5$4* pv2$4* pv3$4* pv4$4* sc2$4* sc3$4* sc4$4*
        cl2$4* cl3$4* cl4$4*  ps2$4* ps3$4* cs2$5* cs3$5* cs4$5* cs5$5* pv2$5*
        pv3$5* pv4$5* sc2$5* sc3$5* sc4$5* cl2$5* cl3$5* cl4$5*  ps2$5* ps3$5*
        cs2$6* cs3$6* cs4$6* cs5$6* pv2$6* pv3$6* pv4$6* sc2$6* sc3$6* sc4$6*
        cl2$6* cl3$6* cl4$6*  ps2$6* ps3$6*];
        sc1 with sc3;
        pv1 with pv4;
        cs1 with cs5;
        cs2 with cs5;
        cl1 with cl4;
OUTPUT: standardized modindices (10);
SAVEDATA: DIFFTEST is step1.dat
```

```
TITLE: metric invariance by gender
DATA: FILE IS C:\Users\ouyangl\Desktop\1.dat;
VARIABLE: NAMES ARE
        sq1-sq3 cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3 gender;
USEVARIABLES ARE all;
CATEGORICAL ARE
         cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3;
GROUPING IS gender (0=male 1=female);
MISSING =ALL (-999)
ANALYSIS: TYPE = MGROUP;
Parameterization=theta;
ITERATIONS=3000;
ESTIMATOR=WLSMV;
DIFFTEST=step1.dat;
MODEL:
        serq by sq1 sq2* sq3*;
        cus by cs1 cs2* cs3* cs4* cs5*;
        perv by pv1 pv2* pv3* pv4*;
         swc by sc1 sc2* sc3* sc4*;
        cul by cl1 cl2* cl3* cl4*;
        prs by ps1 ps2* ps3*;
        prs on cus serq perv swc cul;
         cul on swc cus serq perv;
        swc on serq perv;
        cus on serq perv;
        [ cs2$2* cs3$2* cs4$2* cs5$2* pv2$2* pv3$2* pv4$2* sc2$2* sc3$2* sc4$2*
        cl2$2* cl3$2* cl4$2*  ps2$2* ps3$2*  cs2$3* cs3$3* cs4$3* cs5$3* pv2$3*
        pv3$3* pv4$3* sc2$3* sc3$3* sc4$3* cl2$3* cl3$3* cl4$3*  ps2$3* ps3$3*
        cs2$4* cs3$4* cs4$4* cs5$4* pv2$4* pv3$4* pv4$4* sc2$4* sc3$4* sc4$4*
        cl2$4* cl3$4* cl4$4*  ps2$4* ps3$4*          cs2$5* cs3$5* cs4$5* cs5$5*
        pv2$5* pv3$5* pv4$5* sc2$5* sc3$5* sc4$5* cl2$5* cl3$5* cl4$5*  ps2$5*
        ps3$5* cs2$6* cs3$6* cs4$6* cs5$6* pv2$6* pv3$6* pv4$6* sc2$6* sc3$6*
        sc4$6* cl2$6* cl3$6* cl4$6*  ps2$6* ps3$6*];
        sc1 with sc3;
        pv1 with pv4;
        cs1 with cs5;
        cs2 with cs5;
        cl1 with cl4;
MODEL female:
        serq*;
        cus*;
        perv*;
        swc*;
        cul*;
        prs*;
        prs on cus serq perv swc cul;
```

```
        cul on swc cus serq perv;
        swc on serq perv;
        cus on serq perv;
        [ cs2$2* cs3$2* cs4$2* cs5$2* pv2$2* pv3$2* pv4$2* sc2$2* sc3$2* sc4$2*
        cl2$2* cl3$2* cl4$2*  ps2$2* ps3$2*  cs2$3* cs3$3* cs4$3* cs5$3* pv2$3*
        pv3$3* pv4$3* sc2$3* sc3$3* sc4$3* cl2$3* cl3$3* cl4$3*  ps2$3* ps3$3*
        cs2$4* cs3$4* cs4$4* cs5$4* pv2$4* pv3$4* pv4$4* sc2$4* sc3$4* sc4$4*
        cl2$4* cl3$4* cl4$4*  ps2$4* ps3$4*          cs2$5* cs3$5* cs4$5* cs5$5*
        pv2$5* pv3$5* pv4$5* sc2$5* sc3$5* sc4$5* cl2$5* cl3$5* cl4$5*  ps2$5*
        ps3$5* cs2$6* cs3$6* cs4$6* cs5$6* pv2$6* pv3$6* pv4$6* sc2$6* sc3$6*
        sc4$6* cl2$6* cl3$6* cl4$6*  ps2$6* ps3$6*];
        sc1 with sc3;
        pv1 with pv4;
        cs1 with cs5;
        cs2 with cs5;
        cl1 with cl4;
OUTPUT: standardized modindices (10);
SAVEDATA is step2.dat;
```

```
TITLE: scalar (threshold) invariance by gender
DATA: FILE IS C:\Users\ouyangl\Desktop\1.dat;
VARIABLE: NAMES ARE
        sq1-sq3 cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3 gender;
USEVARIABLES ARE all;
CATEGORICAL ARE
        cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3;
GROUPING IS gender (0=male 1=female);
MISSING =ALL (-999)
ANALYSIS: TYPE = MGROUP;
Parameterization=theta;
ITERATIONS=3000
ESTIMATOR=WLSMV;
DIFFTEST is s2.dat;
MODEL:
        serq by sq1 sq2* sq3*;
        cus by cs1 cs2* cs3* cs4* cs5*;
        perv by pv1 pv2* pv3* pv4*;
         swc by sc1 sc2* sc3* sc4*;
        cul by cl1 cl2* cl3* cl4*;
        prs by ps1 ps2* ps3*;
        prs on cus serq perv swc cul;
         cl on swc cus serq perv;
         swc on serq perv;
         cus on serq perv;
        [ cs2$2* cs3$2* cs4$2* cs5$2* cs2$3* cs3$3* cs4$3* cs5$3* cs2$4* cs3$4*
        cs4$4* cs5$4*cs2$5* cs3$5* cs4$5* cs5$5* cs2$6* cs3$6* cs4$6*
        cs5$6*pv2$2* pv3$2* pv4$2* pv2$3* pv3$3* pv4$3*pv2$4* pv3$4* pv4$4*
        pv2$5* pv3$5* pv4$5* pv2$6* pv3$6* pv4$6* sc2$2* sc3$2* sc4$2* sc2$3*
        sc3$3* sc4$3*sc2$4* sc3$4* sc4$4* sc2$5* sc3$5* sc4$5* sc2$6* sc3$6*
        sc4$6* cl2$2* cl3$2* cl4$2* cl2$3* cl3$3* cl4$3*
        cl2$4* cl3$4* cl4$4* cl2$5* cl3$5* cl4$5* ps2$5* cl2$6* cl3$6* cl4$6* ps2$2*
        ps3$2* ps2$3* ps3$3* ps2$4* ps3$4* ps2$5* ps3$5* ps2$6* ps3$6*];
MODEL female:
        serq*
        cus*
        perv*
        swc*
        cul*
        prs*
        prs on cus serq perv swc cul;
        cl on swc cus serq perv;
        swc on serq perv;
        cus on serq perv;
OUTPUT: standardized modindices (10);
SAVEDATA is step3.dat
```

```
TITLE: scalar invariance by gender
DATA: FILE IS C:\Users\janxxx\Desktop\1.dat;
VARIABLE: NAMES ARE
        sq1-sq3 cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3 gender;
USEVARIABLES ARE all;
CATEGORICAL ARE
        cs1-cs5 pv1-pv4 sc1-sc4 cl1-cl4 ps1-ps3;
GROUPING IS gender (0=male 1=female);
MISSING =ALL (-999)
ANALYSIS: TYPE = MGROUP;
Parameterization=theta;
ITERATIONS=3000
ESTIMATOR=WLSMV;
DIFFTEST is step 3.dat;
MODEL:
        serq by sq1 sq2* sq3*;
        cus by cs1 cs2* cs3* cs4* cs5*;
        perv by pv1 pv2* pv3* pv4*;
         swc by sc1 sc2* sc3* sc4*;
        cul by cl1 cl2* cl3* cl4*;
        prs by ps1 ps2* ps3*;
        prs on cus serq perv swc cul;
         cl on swc cus serq perv;
         swc on serq perv;
         cus on serq perv;
        [ cs2$2* cs3$2* cs4$2* cs5$2* cs2$3* cs3$3* cs4$3* cs5$3* cs2$4* cs3$4*
        cs4$4* cs5$4*cs2$5* cs3$5* cs4$5* cs5$5* cs2$6* cs3$6* cs4$6* cs5$6*
        pv2$2* pv3$2* pv4$2* pv2$3* pv3$3* pv4$3*pv2$4* pv3$4* pv4$4* pv2$5*
        pv3$5* pv4$5* pv2$6* pv3$6* pv4$6* sc2$2* sc3$2* sc4$2* sc2$3* sc3$3*
        sc4$3* sc2$4* sc3$4* sc4$4* sc2$5* sc3$5* sc4$5* sc2$6* sc3$6* sc4$6*
        cl2$2* cl3$2* cl4$2* cl2$3* cl3$3* cl4$3*
        cl2$4* cl3$4* cl4$4* cl2$5* cl3$5* cl4$5* ps2$5* cl2$6* cl3$6* cl4$6* ps2$2*
        ps3$2* ps2$3* ps3$3*ps2$4* ps3$4* ps2$5* ps3$5* ps2$6* ps3$6*];
        [serq @0 cus @0 perv @0 swc @0 cul @0 prs @0
        sq1* sq2* sq3*];
MODEL female:
        serq*
        cus*
        perv*
        swc*
        cul*
        prs*
        prs on cus serq perv swc cul;
        cl on swc cus serq perv;
        swc on serq perv;
        cus on serq perv;
```

```
OUTPUT: standardized modindices (10);
SAVEDATA is step4.dat
```