A STUDY OF CASUAL AND SERIOUS GOLFERS:

TESTING SERIOUS LEISURE THEORY

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CHAPTER I

INTRODUCTION

Statement of the Problem

Leisure is no longer considered to be an insignificant part of people's lives – at least not by those who understand leisure and human life. Instead, leisure has played a prominent role in people's lives and has provided individuals with a way to harmonize the various parts of life (Kleiber, 1999). Kelly (1996) suggested that an individual's leisure may have greater impact on one's quality of life than any other area of behavior and experience. Mclean, Hurd, & Rogers (2008) also pointed out that leisure touches the lives of all people in one way or another, whether through sports and games, attending a theater production, visiting a museum, traveling to another country, or simply enjoying a local park.

A world without leisure is unfathomable. That is, leisure has become a necessity in people's lives, and one can gain tremendous benefits through participation in leisure activities. For example, Thompson and Sierpina (2001) suggested that leisure activities can improve health, increase opportunities for social interaction, provide self-awareness, improve body image, invoke greater feelings of usefulness, and improve moral and life

satisfaction. Engaging in leisure activities can benefit the leisure participants; however, not every participant will receive or can expect the same benefits. For example, some leisure participants might partake in an activity only to have fun, fill in time, hang out with friends, or other social reasons; others would join an activity as a lifelong pursuit. That is the attitudes of and reasons for participating in an activity among different participants are rather varied.

Robert Stebbins, a well-known pioneer in serious leisure, has spent his career doing research on leisure. He is the first researcher to show that leisure can range from casual and fleeting engagements to intensive short term projects, or more serious life time commitments that require a great deal of time, money, and energy (Stebbins, 1992). Later on, Stebbins (1992) developed a theory of serious leisure through extensive ethnographic research of musicians, astronomers, magicians, stand-up comics, and baseball players among others. He concluded that serious leisure can be distinguished by six qualities namely perseverance, personal effort, long-term career, durable benefits, identity, and unique ethos. Kane & Zink (2004) explained that the six qualities of Stebbins' serious leisure theory are intertwined and can be defined as:

- Perseverance: conquering adversity and gaining positive feelings
- Significant personal effort: efforts to acquire knowledge, training, and skills
- Long-term career: finding a career marked by turning points and stages of achievement
- Durable self benefits: obtaining long-lasting benefits and rewards
- Identity: identifying strongly with an activity
- Unique ethos: a unique ethos which exits within the activities is the special

social world within which enthusiasts in a particular field pursue their interests.

Since Stebbins' serious leisure theory has been established, a few researchers have applied Stebbins' theory to address different leisure activities in North America, including master swimming (Hastings, Kurth, Schroder, & Cyr, 1995), adult amateur ice skating (McQuarrie & Jackson, 1996), bass fishing (Yoder, 1997), dog sports (Baldwin, 1999), motor sport events (Harrington, Cuskelly, & Auld, 2000), soccer fandom (Jones, 2000), college football fandom (Gibson, Willming, & Holdnak, 2002), dancing (Brown, 2003), adventure tours (Kane & Zink, 2004), sport tourism (Green & Jones, 2005), quilting (Stalp, 2006), and museum volunteering (Orr, 2006). Research that apply Stebbins' theory to address leisure activities in Taiwan have included golfing (Lin, 2002), bicycling (Yu, 2003), rock climbing (Chang, 2005), tennis (Zung, 2005), morning swimming (Huan, 2005), motorcycling (Zan, 2006), and pan lover (Tsai, 2008). The above research has provided conceptual structures and helps us better understand Stebbins' serious leisure theory in diverse leisure activities; however, most of the researchers have applied a qualitative approach. Few of them have applied a quantitative approach to create a valid measurement to test Stebbins' leisure theory. Many researchers have applied Stebbins' serious leisure theory to explore its relationship with other leisure characteristics (such as leisure motivation, leisure constraints, and leisure benefits) without testing whether their designated research activities include the same factors as Stebbins' theory or not.

Similar to other leisure activities, golf has been selected by some researchers to investigate its connection to serious leisure (Lin, Lee, & Yeh, 2004). However, they

assumed that the characteristics of serious golfers are exactly the same as Stebbins'

theory. None of these previous studies examined the characteristics of serious golfers. It

could be doubtable that the characteristics of serious golfers are identical to Stebbins' six

factors, since golf activities are different from those activities that Stebbins investigated.

Besides, different from many other sports activities, golf is known as a very

intrapersonal-oriented activity and requires a lot of skills, knowledge, and effort to reach

a satisfying experience. Therefore, one of the main purposes of the current study is to test

if the characteristics of serious golfers are the same as the characteristics of Stebbins'

serious leisure theory by applying a quantitative approach. In addition, the differences of

characteristics between serious golfer and casual golfers will be explored throughout this

study.

Many studies have investigated the relationship among serious leisure and other

leisure characteristics without testing if the characteristics of the activities were the same

as Stebbins' six characteristics. For example, Lin, Lee, & Yeh (2004) attempted to

distinguish serious golfers and casual golfers in their study. They assumed that the

characteristics of serious golfers include perseverance, personal effort, long-term career,

durable benefits, strong identity, and unique ethos, which are exactly the same as the

characteristics of Stebbins' serious leisure. They gave each of these six characteristics the

same weight to test their research questions. They also used skill levels, frequency or

time of involvement in participation, money spending, equipment owning, and others as

criteria or standards to distinguish serious participants and casual participants. The

application included some serious golfers who were extremely busy or lacking money so

as not to be able to play golf frequently, or even unable to perform skills due to getting

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old, injured, but still kept participating in golf activities through different ways such as coaching or teaching golf through interpretation, reading golf magazines, watching golf channels, and collecting golf equipments.

To avoid possible misunderstandings and confusion between serious golfers and casual golfers, the author of the present study used the Serious Leisure Inventory and Measurement (SLIM) constructed by Gould (2005) as the instrument. The SLIM measures how much or how deeply a participant feels about the activity to which he or she devotes time and energy, rather than how much time or money he or she spends on an activity. Therefore, Gould developed two forms: an original form and a short form. The original form consists of 72 items, while the short form consists of 54 items. Both forms have been proven to be reliable and valid (the details of their information will be provided in Chapter Two); however, the short form will be used as the research instrument for the present study.

While one aim of the current study is to investigate if the characteristics of serious golfers appear similar to the characteristics of Stebbins' serious leisure theory, this study also discloses the characteristics of casual golfers by using the Gould's SLIM Short Form. In addition, exploring the differences between serious golfers and casual golfers and their involvement in golf activity is another purpose of this study. This study will apply Norman & Pigram's leisure specialization classification (Norman & Pigram, 1992) to analyze the differences between serious golfers and their leisure involvement. That is to divide leisure involvement into three different systems, namely cognitive, behavioral, and affective system. Based on the Pigram's leisure specialization theory, the cognitive system includes setting attributes, skills, and knowledge, while the behavioral system

includes prior experience, and familiarity, and the affective system includes enjoyment, importance, self-expression, and centrality. Through exploring the differences between serious leisure and leisure involvement of serious golfers, the researcher of this study hopes to contribute significant findings for further studies. However, there are two very important things that must be clarified for the applications of this study. First, since Stebbins' serious leisure theory has been developed and contributed to the field of leisure and recreation for almost thirty years, the researcher of this study applied Confirmatory Factor Analysis (CFA) to test Stebbins' serious leisure theory. Even though Stebbins discussed the potential nature of casual leisure, but there is not any theory that supports the characteristics of casual leisure. Therefore, the researcher of this study applied Exploratory Factor Analysis (EFA) to explore the theoretical structure of casual leisure.

Purpose of the Study

The purposes of this study are:

1. To test if the characteristics of serious golfers are the same as the characteristics of Stebbins' serious leisure theory;

2. To explore the theoretical structure of casual golfers' characteristics, and compare its difference with the characteristics of serious golfers.

3. To attain general information regarding the differences between serious golfers and casual golfers and their involvement in golf activity

4. To identify the differences of the characteristics of serious golfers among different levels of golf involvement; and

5. To identify the differences of the characteristics of serious golfers between or among different demographic variables.

Research Questions

1. Are the characteristics of serious golfers the same as the characteristics of Stebbins' serious leisure theory?

2. What is the theoretical structure of casual golfers' characteristics, and is it different from the serious golfers'?

3. What are the differences of demographic variables and golf involvement variables between serious and casual golfers?

4. Does any difference exit in the characteristics of serious golfers among different levels of golf involvements?

5. Is there any difference in the characteristics of serious golfers between/among different demographic variables?

Research Hypotheses

Based on the above research questions, the author proposes the following null hypotheses:

H1: There is no significant difference between the tested characteristics of serious golfers and the characteristics of Stebbins' serious leisure theory.

H2: There is no significant difference in leisure factors between serious golfers and casual golfers.

H3: There is no significant difference in the characteristics of serious golfers among different levels of golf involvements.

H4: There is no significant difference in the characteristics of serious golfers between or among different demographic variables.

Delimitations

According to Locke, Spirduso, and Silverman (1993), delimitations represent the populations to which generalizations may be safely made. The generalizability of a study can be affected by the sampling subjects and the analysis employed. This study will be delimited to the following:

1. A convenience sample of golfers will be drawn from target population of golfers who play golf at two golf courses in Stillwater (Lakeside, and the Links Country Club), one golf course in Choctaw (Choctaw Creek), four golf courses in Guthrie (Cimarron National, Aqua Canyon, Cedar International, and Cedar Augusta), and two golf courses in Oklahoma city (Lake Hefner North Course, and South course).

2. The Confirmatory Factor Analysis (CFA) was used to test Stebbins' serious theory for this study. One thing must be noted is that CFA is one of the statistical approaches to analyze data collected by researchers and is usually applied to validate well known or well proposed theories. Without a strong supported theory, CFA is nothing but a statistical technique; that is, CFA can only be applied to support a theory rather than to create a theory. Unlike CFA, the Exploratory Factory Analysis (EFA) is unable to support or validate theories. The EFA is usually applied by a researcher either to reduce data to a smaller set of summary variables (e.g., psychological questionnaires often aim to measure several psychological constructs, with each construct measured using multiple items which can be combined in a smaller number of factor scores) or to explore theoretical structure (e.g., is intelligence better described as a single, general factor, or as consisting of multiple, independent dimensions?). Therefore, the underlying purposes are to test whether Stebbins' serious leisure theory can be supported or validated by data collected from serious golfers, and to explore the

theoretical structure of casual golfers.

3. The participants are golfers who are older than 18 years old; therefore, the results of this study are not a good reference for similar researches using participants who are under 18 years old.

Limitations

This study is limited to the following:

1. In considering the expenses, time, distance, and other limited resources, the golf courses chosen for this study are not randomly selected. Therefore, the findings of this study will not be able to be generalized to all golfers in other regions or other countries.

2. Although the author of this study attempted to help the participants to clarify the questions listed in the questionnaire, the participants might perceive different levels of realization in the objects and importance of this study, so as not to response with accurate and well-thought answers.

Assumptions

The study will be based on the following assumptions:

1. Since the scale "six" and the scale "seven" represent "Slightly Agree" and "Moderately Agree" separately, respondents who score averagely equal or greater than six and half in Gould's SLIM scale are considered as serious golfers for this study.

2. Respondents who score averagely lower than six and half in Gould's SLIM scale are considered as casual golfers for this study.

3. The respondents are truthful and possessed the necessary knowledge to comprehend all the statements in the questionnaire.

Significance of the Study

Although qualitative inquiry usually provides a deeper understanding for research, it can only allow relatively small samples of groups to be targeted for data collection. Furthermore, in general, qualitative inquiry may not provide an effective and generally accepted measure for the public. Therefore, what is needed might be a valid and reliable measure to quantify, and ultimately aid in understanding the ambiguities of the serious leisure framework. The development of Stebbins' serious/casual leisure dichotomy is firmly grounded in qualitative research (Stebbins, 1979; 1982), and it facilitated further studies to better understand the realm of serious leisure.

Among different types of leisure activities, golf is a very popular leisure sport. According to National Golf Foundation (2007), in the U. S., the total number of golfers has reached 30 million in 2007. Every year, golfers have also increased in other countries, especially in developing countries. According to a report named "Analysis and Prediction of Golf Industry of China Market 2009-2012" published by QF Information Consulting Company (2009), there are about 20 million golfers in China by 2009, and it is estimated that golfer population in China will increase to 50 million by 2020 from the current population of 20 million. Considering the increasing population of golfers, the author believes that an increase in golf related research would be required urgently in the near future.

Golf is a lifetime leisure activity that is popular not only with young people, but also with older adults. According to Kim & Irma (2003), golf has the potential to contribute to successful aging because it requires a moderate degree of physical activity

and cognitive effort, and is typically played in groups of two, three, or four, thereby providing opportunities for social interaction. The characteristics of golf make it well suited for serious leisure; as a result, it makes sense that golf activity is realm for research in this particular field. However, in the past, few golf related researchers have defined serious golfers properly for their research, and the characteristics of serious golfers still remain unknown. Furthermore, most researchers distinguished the subjects of their studies based on the classifications set by United States Golf Association, which included serious golf completers, golf lovers, and dabblers. Among them, serious golf completers seem similar to golf professionals, which is not included in Stebbins' definitions for serious leisure. Therefore, it is necessary to clarify the differences between casual and serious golfers when conducting research related to Stebbins' serious leisure theory.

It is expected that the study will provide important information for further research in developing the relationship between serious leisure and golf activity. Moreover, it might facilitate future researchers to develop a foundation of research for serious leisure and other leisure sport activities.

Definition of Terms

The terms utilized in this study are identified and defined below:

Casual Golfers: The term "causal golfers" for this study refers to respondents whose mean scores are lower than six and a half in Gould's Serious Leisure Inventory and Measurement Scale.

Casual Leisure: is immediately intrinsically rewarding, relatively short-lived pleasurable activity requiring little or no special training for its enjoyment. (Stebbins, 1992)

Golfers' Leisure Involvement: The golfers' leisure involvement refers to levels to which a golfer has been involved in golf activity. It includes affective skill level, years spent playing golf, time spent on playing or practicing golf, time spent on acquiring golf information (such as reading golf magazines, watching or listening to golf channels, reading or studying golf rules or books, and discussing golf with other golfers), frequency of playing golf, and average annual expenditure for golf (including green fees, equipment, golf balls, golf accessories, and others).

Serious Golfers: The term "serious golfers" refers to respondents whose mean scores are equal or greater than six and a half in Gould's Serious Leisure Inventory and Measurement Scale.

Serious Leisure: "is the systematic pursuit of an amateur, hobbyist, or volunteer core activity that is highly substantial, interesting, and fulfilling and where, in the typical case, participants find a career in acquiring and expressing a combination of its special skills, knowledge, and experience" (Stebbins, 1992, p. 3).

Serious Leisure Inventory and Measurement Scale (SLIM): The current scale is a 54-item instrument developed by Gould, which served as the observatory variables to measure the factors (characteristics) of Stebbins' serious leisure theory.

CHAPTER II

REVIEW OF LITERATURE

The purposes of the current study are to examine and to explore the characteristics of serious and casual golfers and to test if the characteristics of serious golfers are similar to the characteristics of Stebbins' serious leisure theory. Once the characteristics of serious golfers have been determined, the researcher will compare the differences of leisure factors between serious golfers and casual golfers, identify the differences of the characteristics of serious golfers between/among different demographic variables, and identify the differences of the characteristics of serious golfers among different levels of golf involvement.

The literature review of this study is divided into four major sections: 1) serious leisure, 2) casual leisure, 3) golf, leisure involvement, and serious leisure, and 4) instruments to measure serious leisure.

Serious Leisure

Four subsections in this section consist of (1) history of serious leisure, (2) characteristics of serious leisure, (3) types of serious leisure participants, (4) benefits of serious leisure, and (5) past research related to serious leisure.

History of serious leisure. Stebbins is a sociologist who has pursued qualitative research to find out the classification of leisure. He has set up a solid foundation for Serious Leisure Perspective (SLP) (Stebbins; 1982; 1992; 1997; 2001; 2004; 2005; 2007). In 1974, Stebbins saw an amateur musical flyer posted on a bulletin outside of a library. The flyer has intrigued his interest in studying what he entitled "serious leisure." Later on, in 1995, Stebbins received funding and started his research in the Dallas-Fort Worth area. He continued his studies for 15 years, which included studies of amateurs in fields such as archaeology, baseball, theater, and music, as well as the studies of amateurs and professionals in many other fields such as astronomy, magic, comedy, and Canadian football.

In his first published statement, Stebbins (1982) distinguished two different types of leisure: serious leisure and casual leisure. By serious leisure, Stebbins meant a sense of the level of importance of the activity to a person rather than a sense of gravity. He (1993) defined the term as a core activity that individuals find substantial and interesting, and they feel accomplished when they acquire and express special skills, knowledge, and experience by engaging in those preferred activities. He classified three categories of participation in serious leisure: amateurs, hobbyists, and career volunteers. He argued that serious leisure could be best understood when it is examined in contrast to the quality of casual leisure, which is opposite to serious leisure.

Stebbins (1997) identified casual leisure as "immediately, intrinsically rewarding, relatively short lived pleasurable activity requiring little or no special training to enjoy it" (p. 18). Stebbins emphasized that leisure activities change and grow around individuals' central life interest. Individual's central life interest is associated with individual's

subcultural aspects including particular norms, values, beliefs, and morals. One's

subculture is related to not only institutionalized club or group activities, but also to

individualized informal activities that included personal communication modes (e.g.,

personal face to face discussion, phone conversations, emails, or internet postings).

Later, Stebbins (2007) expanded his classifications by including deviant casual

and deviant serious perspectives of leisure. He argued that the classification and the

definition of leisure are not fixed, but dynamic. That is because every individual has

different viewpoints about their leisure experiences depending on his/her own

sociocultural situations and values, thus, the distinctions between different types of

leisure are not absolutely clear-cut. Stebbins also pointed out that further research is

required to understand more cases of subjective experiences of leisure.

Characteristics of serious leisure. As mentioned earlier, Stebbins (1982; 1997;

1999; 2001; 2004; 2007) described six qualities or characteristics of serious leisure:

perseverance, significant personal effort, long-term career, durable self benefits, identity,

and unique ethos, which distinguish serious leisure from casual leisure.

Perseverance means the qualities that people persist determinedly when they

pursue leisure activities, usually over a long period of time, and despite problems or

difficulties in order to gain positive feelings. Perseverance can range from persistence to

occasional. Stebbins found that serious participants of leisure activities often endure

difficult stages, such as anxiety, fatigue, injury, embarrassment, and stage fright through

the rigors of learning, training, and practice.

The concept of significant personal effort that distinguishes serious leisure

pursuers from casual ones centers on acquiring knowledge, abilities, and skills. These

special abilities or skills are devoted to the pursuit of a career in a serious leisure activity. Examples of significant personal effort include achievement of showmanship, athletic prowess, scientific knowledge, and long-term experience in a leisure activity (Stebbins, 2006).

The third characteristic of serious leisure leads to a long-term career marked by a progression of stages. By "career", Stebbins meant the progression of responsibilities within roles, not just institutionalized roles. Career is characterized as initiation, development, maintenance, and decline (Stebbins, 2007). According to Stebbins (1992), serious leisure players seek a long-term career through different stages of development, including the moments, contingencies, turning points, or future progress. Stebbins (1992) argued that serious leisure participants are committed to their work progress in different stages, including the beginning, development, establishment, maintenance, and decline stages. Serious leisure participants make progress along these stages. For example, they have continuous interests at the beginning level, next they move on to development stages with clear goals and systematic routines, followed by establishing their proficiency levels, maintaining their expertise, and then endure declining interest.

The fourth characteristic of serious leisure, according to Stebbins (1992), is durable self benefits and rewards. Stebbins discovered from the research on amateurs that serious leisure participants receive personal enrichment through leisure activities, so they can grow their spiritual or intellectual resources. Serious leisure participants reach self-actualization by developing and using their abilities, skills, or knowledge. Thus, Stebbins pointed out that as a result of serious leisure, participants gain self benefits and rewards through self-enrichment and self-actualization. As a result of serious leisure activities, the

participants are able to express their positive self-image as part of their personalities. Serious leisure results in enhanced self-image that is associated with their satisfactions of their desires. Stebbins (2001) pointed out that social attraction is one of the most significant rewards from serious leisure whereas financial return is one of the least important rewards. Enriched and enhanced self-image, along with benefits and rewards from serious leisure, spur group efforts in accomplishing goals as part of social benefits and rewards. Social rewards are among the most important reasons that serious leisure participants maintain and develop their skills and abilities through leisure activities.

The fifth quality of serious leisure that Stebbins listed is identity. Serious leisure is distinguished from casual leisure in terms that serious leisure participants identify themselves strongly with their selected goals in leisure activities. Thus, serious leisure participants play their strong roles in leisure activities and others recognize them as serious leisure players.

Finally, Stebbins pointed out that unique ethos was the sixth quality or characteristic of serious leisure. Stebbins (1999) defined unique ethos as the construction from serious leisure participants on their shared ideals, values, or beliefs, which are characterized as their enthusiasm in particular leisure activities over several years. Serious leisure players develop their own social worlds along with their special ethos or spirits and thus construct their leisure community based on the ethos.

Types of participants of serious leisure. Stebbins (2001b) classified three types of participants of serious leisure as amateur, volunteer, and hobbyist. Amateurs are different from professionals in relation to their roles. Professionals are engaged in the same leisure activities; however, they pursue leisure activities as a vocation, and they are

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rewarded for their performance. Contrastingly, amateurs can be found in the same leisure activities in many fields, such as arts, science, sports, or entertainment. Nevertheless, they neither seek jobs as professional leisure players nor get rewarded for their performance. Amateurs can also have audience like professionals do, but one thing that is different from the professionals is, they can be seen in voluntary community based groups.

Volunteers are a type of leisure participant who provide voluntary support for leisure activities without payment or with minimal payment (Stebbins, 2007). Volunteers develop their career in leisure activities in many different ways and settings. For example, they can be found in community based organizations such as emergency response teams, local sports teams, libraries, or museums.

The third type of serious leisure participants is hobbyists, whom are different from both amateurs and volunteers in terms of their degree of professionalism or un-coerced support. Stebbins (2007) provided five examples of hobbyists as serious leisure participants: collectors, activity participants in non-competitive activities, makers or tinkerers, players of sports and games without their professional counterpart, and enthusiasts. Collectors seriously and continuously seek to collect any objects that are important to them. Activity participants in non-competitive activities include bird-watchers or scout masters. Makers or tinkers may knit, make quilts, or work with wood to craft furniture. Sports and game players without their professional counterpart may participate in jogging, running, swimming, or golf playing. Enthusiasts are interested in liberal arts and they systematically construct and develop their knowledge about music, sports, politics, science, or literature.

Benefits of serious leisure. For his earlier research, Stebbins (1992; 1999) had listed eight benefits or rewards of serious leisure activities: self-actualization, self-enrichment, enhancement of self-image, feelings of belonging, self-expression, self-renewal, feelings of accomplishment, and lasting physical products. Later on, Stebbins (2002; 2004) modified his original list of benefits or rewards of serious leisure. He categorized them into two different types of benefits or rewards: personal and social rewards. Personal rewards include personal enrichment, self-actualization, self-expression, self-image, self-gratification, re-creation, and financial return. Social rewards consist of social attraction, group accomplishment, and group maintenance and development. Detailed definitions and explanations in each sub-category of rewards are presented in Table 2.1.

Table 2.1

Rewards Associated with Serious Leisure

Rewards	Description
Personal Rewards	● Personal enrichment (e.g., cherished experiences)
	● Self-actualization or self-development (e.g., developing skills, abilities, knowledge, acquiring experience)
	● Self-expression (e.g., expressing skills, abilities, knowledge)
	● Self-image (e.g., known to others as a particular kind of serious leisure participant)
	● Self-gratification (e.g., combination of superficial enjoyment and deep fulfillment)
	● Re-creation or regeneration of oneself through serious leisure
	● Financial return from a serious leisure
Social Rewards	● Social attraction (e.g., associating with other serious leisure participants, with clients as a volunteer, participating in the social world of the activity)
	● Group accomplishment (e.g., group effort in accomplishing a serious leisure project; sense of helping, being needed, being altruistic)
	● Contribution to the maintenance and development of the group (e.g., sense of helping, being needed, being altruistic in making the contribution)

(Source: Stebbins, 2004, p. 64)

Past research related to serious leisure. After Stebbins introduced the concepts of serious leisure, many researchers have focused on research related to serious leisure. Hou (2008) aimed to verify Serious Leisure Inventory and Measure Short Form by Gould (2005), and to identify that the framework of serious leisure contains six qualities: perseverance, personal effort, durable benefits, a strong identity, a unique ethos, and a career. The author had also chosen 18 potential variables: perseverance, efforts, personal enrichment, self-actualization, self-expression abilities, self-expression individual, self-image, self-satisfaction, self-enjoy, re-creation, financial return, group attraction, group accomplishments, group maintenance, identity, a unique ethos, career progress and career contingencies, from which these were adopted from Stebbins (1982). Using a nine-point Likert scale, her study employed an item analysis and a confirmatory factor analysis. Golf participants were selected by the purposive sampling method in this study. A total of 627 questionnaires were collected, of which 301 valid questionnaires qualified for the criteria of Stebbins's serious leisure and were analyzed.

Hou (2008) found the original six qualities were reduced to four qualities (perseverance, personal effort, durable benefits, and an identity). The results showed first impact of serious leisure is personal efforts and its factor loading is 0.96, followed by perseverance (0.93), strong sense of identity (0.93), and durable benefits (0.74). As a result of the confirmatory factor analysis, 18 potential variables with 54 measurement items were reduced to eight potential variables and 20 measurement items (perseverance, efforts, self-expression individual, self-enjoy, re-creation, group attraction, group accomplishments, and an identity).

Chung (2009) investigated the relationship among serious leisure characteristics, participating motivation, leisure constraints, and leisure satisfaction. He developed a questionnaire and 250 students from three universities of the University Basketball Association (UBA) in Taipei County were chosen to participate in his survey. Two hundred and twenty-two questionnaires were collected and 208 of them were valid. His research showed that intrinsic motivation was the main driving force of basketball sport participation while structural constraint, perseverance, physiological satisfaction were the key factors of leisure constraint, serious leisure characteristics, and leisure satisfaction, respectively. Correlation analysis indicated that intrinsic motivation and intrapersonal constrain were mostly related to perseverance, while perseverance was mostly related to psychological satisfaction. Path analysis indicated that participating motivation, leisure constraint, and serious leisure characteristics influence leisure satisfaction in a direct or indirect way. He hound that serious leisure characteristics played not only as a completely intervening variable between participating motivation and leisure satisfaction, but also as a partially intervening variable between leisure constraint and leisure satisfaction.

Yen, Hsueh, and Huang (2006) applied serious leisure theory to voluntary interpreters in Taroko National Park. In order to seek appropriate management strategies of voluntary interpreters, they applied Stebbins' serious leisure characteristics to explore the relationship between leisure involvement and serious leisure characteristics in voluntary interpreters, and the relationship between serious leisure characteristics and service effectiveness of voluntary interpreters. One hundred and forty-four valid questionnaires were received from voluntary interpreters and 208 from visitors' samples.

In their study, they determined that 27 **s**erious leisure specialties can be reduced to six factors through factor analysis: personal benefit, perseverance, unique ethos, identification, career development, and personal effort. Using these six factors, the voluntary interpreters in Taroko National Park can be classified into two segments, which are social involvement and acquisition involvement. From this research, it showed that there are significant differences between serious leisure characteristics and leisure involvement.

Unique ethos is affected by participation frequencies and days; career development is affected by participation frequencies, days, years of service and interpretation techniques; perseverance is affected by participation frequencies; personal benefit is affected by interpretation techniques and owning related books. The 15 service performance items of voluntary interpreters can be reduced into two factors, which are attitude and organized interpretation.

Chan (2006) conducted a research that used motorcycle riders in "Motorcycle Gathering" as samples. A total of 450 questionnaires were issued and 406 were valid. The result of his study showed that the majority of the attendees were male, between 21 and 40 years old, with a monthly income between 20,001 and 60,000 New Taiwan Dollar (NTD). The majority of the attendees participated in motorcycle activities every week, each with 2 to 3 years of experience, and they usually spent less than 5,000 NTD in motorcycles every month. They usually joined a group of four or more, rode in the morning, and participated in motorcycle activities on the weekends. More than half of the attendees possessed more than one motorcycle.

Tsai (2007) applied Grounded Theory Methods to explore the serious leisure

characteristics of pen-users (pen-lovers) for his qualitative research. The major steps in

his study included open coding, axial coding, and selective coding. Based on the results

of his study, Tsai defined serious leisure as "the outward behaviors of leisure participants

which could reflect their inward attitudes under some needs or motivations in order to

pursue certain temporary or enduring benefits." (p. 123). He also discovered that serious

leisure participants developed a positive association with their leisure participation and

had strong demands, motivations, and desires for pursuing temporary or enduring

benefits. Besides, serious leisure participants concentrated on the participation and

overcame the possible constraints which impede them from pursuing the benefits.

Lin, Lee, and Yeh (2006) investigated the differences in leisure constraints

between serious leisure participants and non-serious leisure participants. They also

analyzed the relationships of leisure constraints and serious leisure. On-site structured

questionnaires and purposive sampling were used to gather data. In his study, 550

questionnaires were distributed to parting parties in Xing-Nong Golf Country Club. Two

hundred and seventy-six forms were obtained, and 224 of them were valid. They found

significant differences (*t* values ranged from 4.40 to 10.06) on leisure constraints between

serious leisure participants and non-serious leisure participants. The serious leisur**e**

participants experienced constraints lower than non-serious leisure participants,

especially in intrapersonal constraints and interpersonal constraints ($t = 11.06$, $p < .05$).

Significant differences also exist on the factors (perseverance, personal effort, durable

benefits, long-term career, identity, and unique ethos) of serious leisure (*t* values ranged

from 4.40 to 10.06; all *p* values are less than .05) between serious leisure participants and

non-serious leisure participants. The serious leisure participants experienced constraints higher than non-serious leisure ones. Canonical correlation analysis was utilized to inspect the relationships between serious leisure and leisure constraints. They found that three significant linear relationships (Pillar's trace = 3.56, p < .05) exist between serious leisure and leisure constraints.

Most of the above studies are quantitative researches and were all conducted in Taiwan. In North America and New Zealand, except the Gould's SLIM study, all other studies related to serious leisure are qualitative research. Brief discussions related to those researches are as follows:

Baldwin (1999) conducted a descriptive study to examine the meaning of leisure experience, and to explore the issues of personal identification with the pursuits, especially the personal interpretation of costs and benefits associated with participation. She conducted an in-depth qualitative interview to survey 38 American Kennel Club (AKC) members who raised pets as a form of serious leisure. She concluded that this serious leisure pursuit differs from other previously examined because amateurs and professionals compete together. Hobbyists and amateurs support the formal AKC activity pursuit by fulfilling multiple club roles. In addition, the volunteer action serves to diversify the nature of the pursuit and supports intense levels of involvement.

Jones (2000) argued against Stebbins' suggestion that the 'profit hypothesis', whereby the perceived benefits of participating in an activity exceed the perceived costs, can be used to explain continued engagement in serious leisure activities. He adopted a social identity perspective to investigate why football fandom continued their participation when the perceived costs exceed the perceived benefits. He demonstrated

the role of four compensatory behaviors (in-group favoritism, out-group derogation, unrealistic optimism, and voice) in ensuring continued participation in serious leisure. A model of serious leisure participation was presented upon these behaviors.

Drawing on unstructured interviews with 70 American women quilters, Stalp (2006) examined both the leisure constraints those quilters experience and the acts of resistance they engage in while practicing serious leisure quilting. She found that though these American women are faced with constraints to their serious leisure quilting in the form of time and space, they do not fully resist the posed constraints from family activities, but instead integrated quilting into carpooling while watching television with family. Quilters, therefore, found the space and the time to quilt, and continued to spend time and share apace with their family.

Gibson, Willming, and Holdnak (2002) applied Stebbins' serious leisure concept to examine the meanings, rituals, and practices associated with being a football fan of the University of Florida. They conducted face-to-face and in-depth interviews to survey four female and 16 male fans. The transcribed interviews were analyzed using constant comparison and Ground Theory Methods. Themes derived from the data confirmed Stebbins' six characteristics of serious leisure. The results also suggested that being a football fan provides both a source of identity for the fan as an individual and a sense of belonging in an increasingly fragmented postmodern society.

Jones and Green (2005) discussed the relationship among serious leisure, social identity, and sport tourism. They concluded that sport tourism can provide serious leisure participants with (a) a way to construct and confirm one's leisure identity, (b) a time and place to interact with others sharing the ethos of the activity, (c) a time and place to

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parade and celebrate a valued social identity, (d) a way to further one's career, and (e) a way to signal one's career stage.

Kane and Zink (2004) conducted a research that based on observations of participation, conversations, and in-depth interviews with nine tourists on a 14-day white-water kayaking package tour of the South Island of New Zealand. Observation of and discussion with the tour participants revealed that their kayaking involvement demonstrated many of the qualities and attributes of serious leisure, which includes qualities of perseverance, skill acquisition, identity, career commitment and ethos of kayaking. Furthermore, they concluded that the package adventure tour experience could be a significant marker in serious leisure careers.

Hastings, Kurth, Schloder, and Cyr (1995) investigated the motivation of serious swimmers in continually participating in swimming activity. The results found that motivation of participation for serious male swimmers includes feelings of self-accomplishment, physical fit, and relaxation; while physical fit, social function, and enjoyment are the motivation of continuing participation for serious female swimmers.

Casual Leisure

In contrast to serious leisure, casual leisure may be defined residually as all leisure not classifiable as amateur, hobbyist, or career volunteering; that is, casual leisure can be understood as all leisure falling outside the realm of serious leisure (Stebbins. 2001). Casual leisure can be defined as an "immediately, intrinsically rewarding, and relatively short-lived pleasurable activity, which requires little or no special training to enjoin it" (Stebbins, 1997, p. 49).

Stebbins' preliminary observations of casual leisure afforded at least six types: play, relaxing, passive entertainment, active entertainment, sociable conversation, and sensory stimulation. Casual leisure may be described as the practice of doing what comes naturally to the individual (1997).

The types of casual leisure appear to share, according to Stebbins (2001), at least one central property; they are all hedonic. Casual leisure participation produces a significant level of pure pleasure or enjoyment; thus, casual leisure is considered satisfying and rewarding. Stebbins identified five benefits of casual leisure participation. One benefit is that it is sometimes engenders creativity and discovery. Casual leisure also affords the benefits of participating in mass entertainment such as watching films and television, sometimes known as *edutainment* (Stebbins, 2001). Casual leisure affords regeneration or re-creation of the sort as well that is not commonly found in serious leisure pursuits which may be intense. A fourth benefit of casual leisure is the development and maintenance of interpersonal friendships, especially within sociable conversation. Quality of life and well-being constitute yet serve as another benefit of engaging in casual leisure (2001).

Golf, Leisure Involvement, and Serious Leisure

Stebbins (1992) suggested that the involvement in leisure activity can vary along a continuum of seriousness. He used the terms devotees, participants, and dabblers to describe degrees of seriousness. Devotees are highly dedicated to their leisure pursuit. Their involvement is systematic and continual. Devotees acquire and maintain knowledge and skill through perseverance. Unlike devotees, participants enjoy the challenge of the leisure activity not for competition, but for personal enrichment. The enjoyment comes

from participating and a sense of belonging rather than from the leisure activity itself. The participants are moderately interested in the leisure activity. Different from devotees and participants, dabblers are casual in their involvement. It might not be easy to distinguish a dabbler from a nonparticipant because a dabbler's involvement, knowledge, and skill are usually low (Stebbins, 1982; 1992).

Measure Instrument for Serious Leisure

Gould (2005) developed Serious Leisure Inventory and Measure (SLIM) Form based on Stebbins' serious leisure theory. To develop the SLIM, Gould and 40 graduate students who majored in leisure and recreation program applied Q-sort to create 120 reliable statements, and then they discussed these questions with his research panel, of which Robert Stebbins was a member. The panel added 21 questions to the original 120 questions to form Gould's first questionnaire (141 items) for his study. In Gould's study, data were collected from two samples: a convenience sample *(n* = 256) of university students and a target sample (*n* = 276) of three pursuits (U. S. Adventure Racing Association, All American Trail Running Association, and Paddling.net). With the use of structural equation modeling, the items were analyzed using Confirmatory Factor Analysis (CFA) and 67 items were kept. To have four items in each sub-factor (18 factors), Gould added five items to make a total of 72 items in his SLIM.

To simplify his SLIM form, Gould eliminated one item from each sub-factor to make a 54 items SLIM Short Form. As a result, as mentioned in the Introduction, there are two SLIM forms developed by Gould: the original form and short form. The original form consists of 72 items; while the short form consists of 54 items (see Appendixes. A).

Both the original form and short form demonstrated excellent model fit. A summary of the fit indices for both forms is reported in Table 2.2.

Table 2.2

Model Fit Indexes and Model Comparisons of Gould's SLIM

Model	X^2	df	SRMR[a]	RMSEA[a]	NNFI[b]	CFI[b]
Convenience Model (67 items)	2875.9	1911	0.048	0.042	0.92	0.93
Targeted Pursuits (67 items)	3092.9	1991	0.053	0.045	0.091	0.92
SLIM (72 items)	3580.5	2331	0.055	0.044	0.91	0.91
SLIM short form (54 items)	1755.5	1224	0.048	0.04	0.94	0.95

Note. [a] Standardized rot mean square (SRMR), root mean square error of approximation (RMSEA)(Steiger,1990): Values < 0.05 indicate excellent fit. [b]Non-normed fit index (NNFI), Comparative Fit Index (CFI) (Bentler,1990): Values > 0.95 indicate excellent fit.

The 54 items in SLIM short form were served as the observable variables for 18 latent variables, which were derived from Stebbins' six serious leisure factors. There are three observable variables in each latent factor of the first order model. In short, the highest order (the third order) latent variable is "Serious Leisure" which conveyed six latent factors namely perseverance, personal efforts, durable benefits, identity, long-term career, and unique ethos. The second order latent variables consist of durable benefits and long-term career. The durable benefits factor includes 12 latent variables, which are personal enrichment, self-actualization, self-expression abilities, self-expression

individual, self-image, self-satisfaction, self-enjoy, re-creation, financial return, group

attraction, group accomplishments, and group maintenance; while the long-term career

factor includes two sub-factors that are career progress and career contingencies. (See

Figure 2.1)
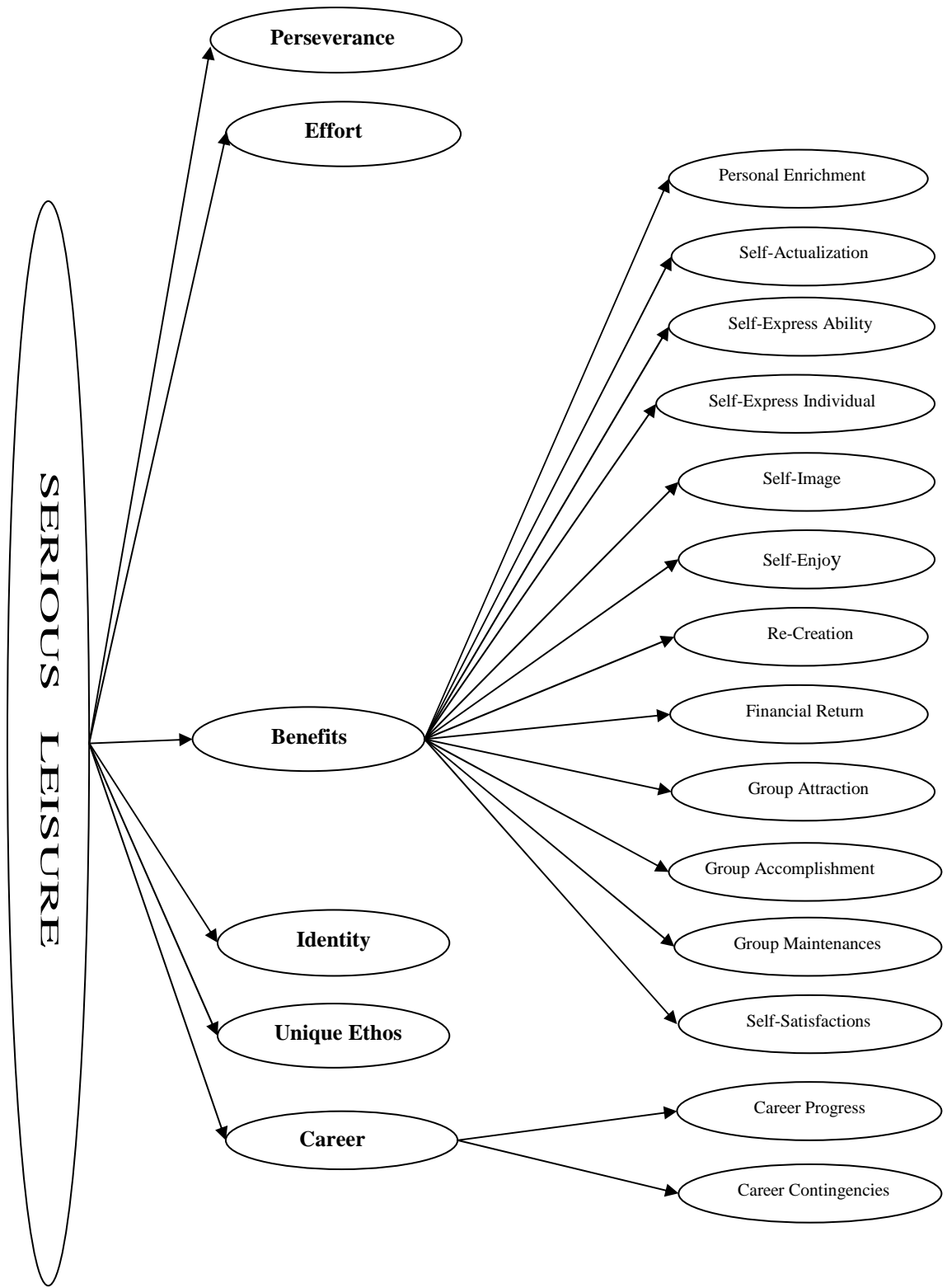
Figure 2.1 Structure of Gould's Serious Leisure Inventory Measure

CHAPTER III

METHODOLOGY

Statement of the Purpose

The main purposes of this study are to test if the characteristics of serious golfers are the same as the characteristics of Stebbins' serious leisure theory, and to explore the theoretical structure of casual golfers' characteristics. After achieving these two main purposes, the researcher then investigates the differences of the characteristics of serious golfers among different levels of leisure involvement, and compares the differences of the characteristics of serious golfers between/among different demographic variables.

Overview

This chapter will provide a description of the methods and procedures that will be used to examine the research questions. This information will be presented in the following sequence: (1) research frame, (2) selection of the subjects, (3) instrumentation, (4) survey procedures, and (5) data analysis.

Research Frame

The research structure of this study is depicted in Figure 3.1. One of the main purposes of this study is to examine if the model for serious golfer is the same as the Stebbins' serious leisure theory and the model that Gould (2005) has developed. Another purpose is to investigate the differences among different levels of leisure involvement and the difference between/among different demographic variables based on the tested characteristics (factors) of serious golfers.

IF

Characteristics of Serious Golfers

=

Characteristics of Stebbins' Serious Leisure

CFA

Persevera

Effort

Gould's SLIM (54 items)

Benefits

Identity

Unique

Leisure

Demographic variables (*t- test, ANOVA*)

Descriptive Analysis

Leisure Involvement (*ANOVA*)

Casual Golfers

EFA

Structure Of Casual Golfers' Characteristic
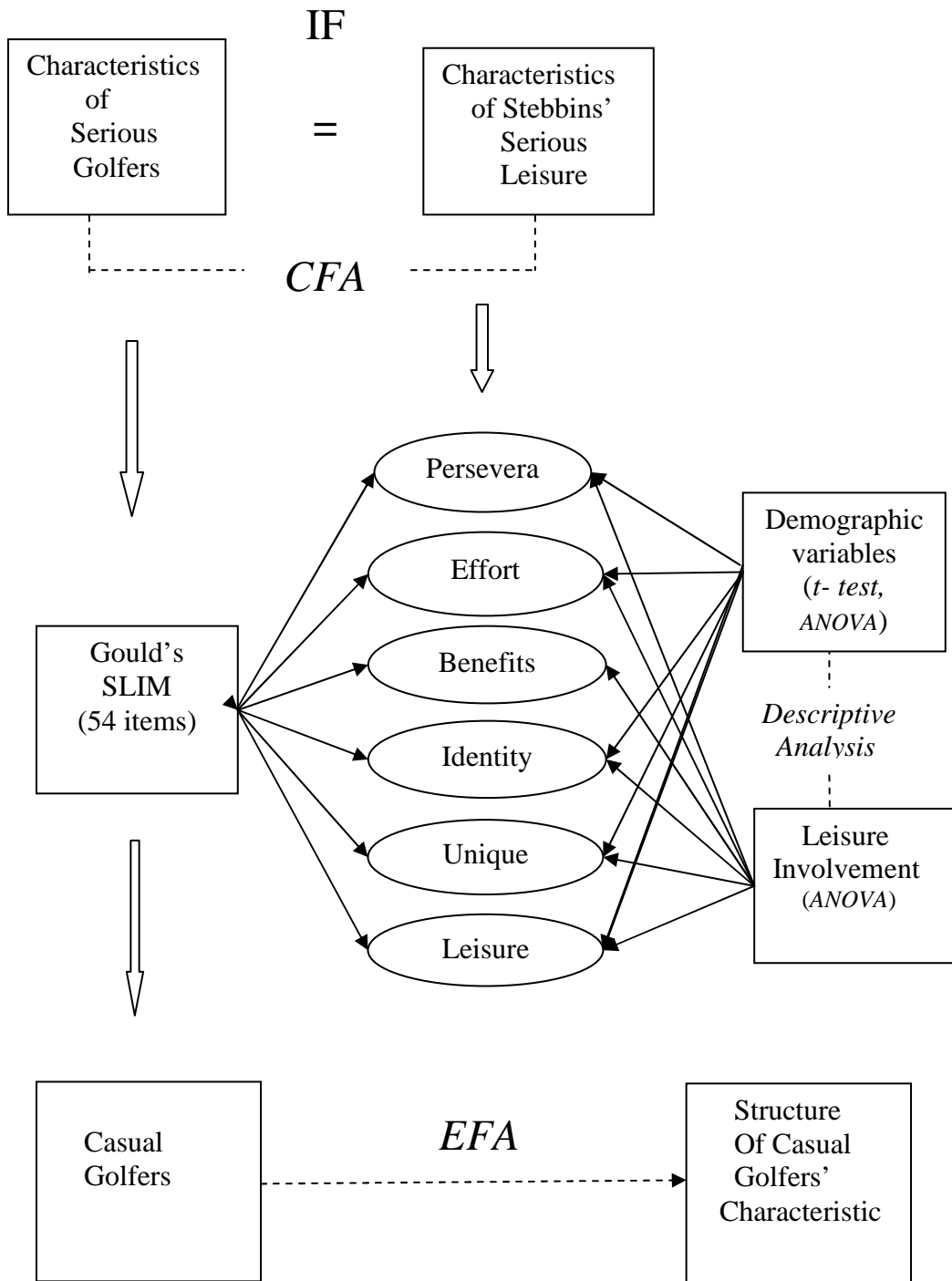
Figure 3.1 Research Frame of the Sturdy

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Selection of the Subjects

When Structure Equation Model (SEM) or confirmatory factor analysis (deemed as a part of SEM) is applied, there are always disagreements in the selection of sample size among different SEM researchers. However, according to Hair, Anderson, Tham, and Black (1998), the number of samples should be more than 100 but less than 400 when applying Structure Equation Model (SEM). To test if the characteristics of serious golfers are the same as the characteristics of Stebbins' serious leisure theory, and to explore the characteristics of casual golfers for this study, a convenience sample of golfers were drawn from target population of central Oklahoman golfers who play golf at two golf courses in Stillwater (Lakeside, and the Links Country Club), one golf course in Choctaw (Choctaw Creek), four golf courses in Guthrie (Cimarron National, Aqua Canyon, Cedar International, and Cedar Augusta), and two golf courses in Oklahoma City (Lake Hefner North Course, and South course). Since all data will be distributed and collected at the golf courses, all subjects who are golfers and showed up at the surveying golf courses were asked to answer the questionnaire. Data were collected from August 26 to September 21, 2009. Three hundred and thirty-two questionnaires were collected. Among them, 40 questionnaires were invalid due to either having missing data (n = 22) or being responded by golfers who never play at an 18 holes golf course (n = 12, they are beginners, taking golf lesson and have played only at golf range). Therefore, 292 valid questionnaires were used and analyzed for this study.

Instrumentation

The instrument for this study consists of three sections that include: (a) Serious Leisure Inventory and Measure established by Gould (2005), (b) level of mastery and

levels that golfers devote to golf activity (leisure involvement), and (c) demographic

information. Detailed information for the instrument is discussed as follows.

Serious Leisure Inventory and Measure

The first section of the instrument for this study is the Serious Leisure Inventory

and Measure (SLIM) established by Gould (2005). Gould developed two forms for

convenience and target samples. The first SLIM form includes 72 items, which

demonstrated acceptable fit, reliability, and equivalence across samples (see Table. 2.2.).

Another form, the SLIM short form, contained 54 items, also demonstrated good model

fit and construct validity (See Table. 2.2.).

The SLIM short form was used for this study to test if the characteristics of

serious golfers are similar to the characteristics of Stebbins' serious leisure theory. The

multidimensional framework of the SLIM short form contains six qualities from which

18 operations were employed. The 54 items in SLIM short form were served as the

observable variables for 18 latent variables that were derived from Stebbins' six serious

leisure factors. There are three observable variables in each latent factor of the first order

model. In short, the highest order (the third order) latent variable is "Serious Leisure"

which conveyed six latent factors namely perseverance, personal efforts, durable benefits,

identity, long-term career, and unique ethos. The second order latent variables consist of

durable benefits and long-term career. The durable benefits factor includes twelve latent

variables, which are personal enrichment, self-actualization, self-expression abilities,

self-expression individual, self-image, self-satisfaction, self-enjoy, re-creation, financial

return, group attraction, group accomplishments, and group maintenance; while the long-

term career factor includes two sub-factors, which are career progress and career

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contingencies. The Likert-type items developed for the SLIM utilized a nine-point response scale ("Completely Agree", "Mostly Agree", "Moderately Agree", "Slightly Agree", Neither Agree nor Disagree", Slightly Disagree", Moderately Disagree", "Mostly Disagree", "Completely Disagree"). According to Gould (2005), the reason for the nine-point response scale is to ensure that the respondents had multiple options (four, plus a "neutral" option) for agreement (serious orientation). To achieve symmetry, Gould also developed options for those in disagreement (casual orientation). It is reasonable to provide multiple items for agreement to increase the variation in response options for those likely to score high/low on any given variable (Gould, 2008). The details of the 54 items and the six qualities are provided in Appendix A; it also indicates the quality assigned to each item.

Levels of Leisure Involvement

The purpose of the second section of the questionnaire is to collect data regarding golfers' involvement in golfing activity. This includes cognitive system (skill level, levels of understanding of golf knowledge), behavioral system (years playing golf; time spent on playing or practicing golf; time spent acquiring golf information such as reading golf magazines, watching or listening to golf channels, reading or studying golf rules or books, and discussing or talking about golf with other golfers; frequency of playing golf; average yearly expenditure for golf such as green fees, equipment, golf balls, golf accessories, and others), and affect system (how much like golf). Table 3.1 indicates the status or the range for each item.

Table 3.1

Items with Range of Golfers' Involvements

Item	Range
Skill level	1. No handicap (72 or under for Par 72 golf course) 2. Handicap 1 ~ 9 (73 ~81 for Par 72 golf course) 3. Handicap 10 ~ 18 (73 ~82 for Par 72 golf course) 4. Handicap 18 ~ 36 (90 ~108 for Par 72 golf course) 5. Handicap over 36
Golf experience	1. less than one year 2. 1 ~ 2 years 3. 3 ~ 9 years 4. 10^+ years
Time spent on playing or practicing golf per week	1. less than 4 hours 2. 4 ~ 8 hours 3. 8^+ ~ 16 hours 4. 16^+ ~ 24 hours 5. more than 24 hours
Time spending on acquiring golf information per week	1. less than 1 hour 2. 1 ~ 4 hours 3. 5 ~ 8 hours 4. more than 8 hours
Rounds of playing per week	1. less than 1 round 3. 3 ~ 4 rounds 2. 1 ~ 2 rounds 4. 5 rounds and above
Average annual expenditure for golf	1. less than $500 2. $500 ~ $1000 3. $1001 ~ $2000 4. more than $2000
Golf is	1. my favorite activity 2. one of my favorite activities 3. one of my casual activities (play golf only 1~2 times a month) 4. nothing but a leisure activity (play golf less than 6 times a year)
My knowledge about golf is	1. excellent (familiar with golf rules, golf equipments, and golf knowledge) 2. very good (know most of golf rules, golf equipments, and golf knowledge) 3. okay (understanding some golf rules, golf equipments, and golf knowledge) 4. poor (know few golf rules, golf equipments, and golf knowledge) 5. very poor (know nothing about golf rules, golf equipments, and golf knowledge)

Demographic Information

The final section of the questionnaire is the demographic information that is designed to collect data concerning gender, marital status, race, age, household income, educational background, and golf course membership. Table 3.2 indicates the status or the range for each demographic variable.

Table 3.2

Items with Status or Range for Demographic Information

Item	Range			
Gender	(1) Male	(2) Female		
Marital status	(1) Married/cohabiting	(2) Single		
Race	(1) White	(2) African American	(3) Others	
Age	(1) Under 21	(2) 21 ~ 39	(3) 40 ~ 65	(4) 65 and over
Household income	(1) Under $35K	(2) $35K ~ $59,999	(3) $60K ~ $100,000	(4) $100K+
Education background	(1) High school or less	(2) College degree	(3) Graduate or professional degree	
Gold club membership or not	(1) Yes	(2) No		

Research Procedure

To ensure the reliability and the validity of the last two sections (demographic and leisure involvement) of the instrument, a panel of experts was formed to ensure if the items included in these two sections are proper, and if the range distributions are reasonable or acceptable for each item. The panel consisted of two golf professionals, one

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serious golfer, two professors who are dissertation committee members of the researcher for this study. Table 3.3 provides the detail information of the panel for this study.

Table 3.3

Backgrounds of the Expert Panel

Dr. Debra Jordan	Professor in the Leisure Department at Oklahoma State University
Dr. Lowell Caneday	Professor in the Leisure Department at Oklahoma State University
Mr. Darrel Evans	Golf instructor. 22 years golf experience.
Mr. Blake Bergman	Golf professional and Course Manager at the Links, Stillwater, OK.
Mr. Ed Reinke	Head Golf Professional at Lake Hefner Golf Club, Oklahoma City, OK

The Serious Leisure Inventory and Measure Form (SLIM) was developed by Gould to test serious participants in diverse leisure activities; this includes golf, but, it is still necessary to check whether the SLIM is appropriate for testing serious golfers (e.g. whether each question in SLIM makes sense to golfers who are the proposed participants for the present study.) Therefore, a pilot study will be conducted. Twenty golfers, who are membership of the Links at Stillwater, were selected to fill out the questionnaires. The pilot study was conducted to assess whether the wordings and the order of the questions are appropriate. Following the completing of the proposed questions, the 20 participants were asked to discuss with the researcher about their opinions on the

questionnaire. After collecting all information from those participants, the researcher of the current study discussed his ideals with dissertation committee members and revised the questionnaire to complete study.

Data Collection

Convenience sampling was used for this study. Questionnaires were distributed to golfers in front the clubhouse of each survey golf course. Every golfer who showed up at designated survey golf courses were asked to voluntarily participate in the survey. Golfers who had previously filled out the survey were not requested to answer the questionnaire again. Before answering the questionnaire, each respondent was informed of the purpose of the study and brief definition of serious leisure. All data was collected by one of the following persons: the researcher of this study, Mr. Evans, or Mr. Braden. A sample copy of the Questionnaire, the Cover Letter, and Survey Script are provided in Appendix B.

Data Analysis

After all the responses were gathered, all valid data was transferred into Statistical Package for the Social Science software program (SPSS) 16.0, and Lisrel 8.70 for analysis.

Demographic Data and Leisure Involvement Information

Descriptive statistics were utilized to analyze demographic information and leisure involvement information among surveyed golfers. The analyses have included other descriptive measures, such as mean scores, standard deviations, and percentages, when appropriate.

Testing Stebbins' Serious Leisure Theory

The second set of analyses was conducted to test if the characteristics of serious golfers are similar to the characteristics of Stebbins' serious leisure theory. Since the scale "six" and the scale "seven" represents "Slightly Agree" and "Moderately Agree" separately, respondents who score averagely equal or greater than six and half in Gould's SLIM scale are considered as serious golfers for this study. Data with a mean higher than six and a half will be analyzed through Confirmative Factor Analysis (CFA) to test the first hypothesis of this study. The processes of conducting the CFA are discussed as follows:

1. Data Screen: Whether a set of data can be applied to CFA or not, first, it is necessary to test all items within SLIM through the following processes.

    (i) Missing values: With regard to coding missing data, Little and Rubin (1987) claimed that there is no simple rule which can decide to leave the data as they are, to drop cases with missing values, or to impute values in order to replace missing values. However, they suggested that when the number of cases with missing data is less than five percent in a large sample, it is common to drop these cases from analysis because imputation can distort coefficients of association and correlation relating variables. In this study, since convenience sampling will be used, the missing values will be eliminated from analysis no matter whether the number of missing values is higher than five percent or not. Because convenience sampling does not employ the randomly selecting method, it will not violate the rules of probability sampling.

    (ii) Normal distribution: To test the univariate normality of each item, the researcher

inspected the frequency distributions to check the standard deviation, skewness, and kurtosis. For skewness and kurtosis, Kline (2005) suggested that the Skewed coefficient (SK_B) should be between 3 and -3, and the absolute values of the kurtosis index should be less than 8.0. However, kurtosis index that is not greater than ten is still acceptable.

(iii) Item analysis: Item analysis refers to the ability of an item to differentiate among respondents on the basis of how well they know the material being tested. The independent *t*-test can be used to compare item responses to total test scores using high and low scoring groups of respondents. Items for which the *t* value does not reach the significant level should be eliminated.

(iv) Internal consistency reliability: The internal consistency reliability of a test is to test whether several items that propose to measure the same general construct produce similar scores, and it is usually measured with Cronbach's alpha (a statistic calculated from the pairwise correlations between items). The criteria for the acceptable reliability varied among statistical researchers. For example, Cuieford (1965) proposed that Cronbach's alpha coefficient greater than 0.7 is considered as high reliability; Cronbach's alpha coefficient between 0.7 and 0.35 is acceptable; Cronbach's alpha coefficient below 0.35 is not acceptable. While, Kline (2002) proposed that 0.90 and above is considered as "excellent" reliability; 0.80 - 0.90 is "very good"; 0.70 - 0.80 is "Good." A score 0.60 - 0.70 is "somewhat low" and the test needs to be supplemented by other measures. If scores range between 0.50 and 0.60, it is suggested that the test be revised. A score of 0.50 or below is considered as questionable reliability, and this test is not

acceptable.

2. Confirmatory factor analysis of observed variables and latent variables: Having passed the above procedures, data (serious respondents) then can be processed through the following processes:

(i) Assessment of composite reliability structure of factors: The composite reliability was the index of assessing fit of internal structure of model. According to Fornell (1982), the value of the composite reliability should be greater than 0.60.

(ii) Assessment of convergent validity: According to Joreskog and Sorbom (1989), the factor loadings of the observed variables must statistically reach the significant level, and their values must be greater than 0.45. Besides, the values of the average variance extracted must be greater than 0.05. However, Hair, Anderson, Tatham, and Black (1998) suggested that as long as the factor loading is greater than 0.45 and reaches the significant level ($t > 1.96$; $p < 0.05$), then a tested model possesses convergent validity.

3. Offending estimates: According to Bagozzi and Yi (1998), before overall model fit is tested, it is required to inspect the following criteria:

(i) Variances of error must be greater than 0.

(ii) Standardized factor loadings cannot neither greater than 1 nor close to 1.

(iii) The values of the standard error must be small.

4. Assessment of overall mode fit: According to Hu and Bentler (1998), there is a minimal set of fit indexes that should be reported and interpreted when employing CFA. These fit indices should include measure of absolute fit as well as measures of relative fit. Absolute fit indices, which measure the difference between the observed

and implied models, include the model chi-square, the Root Mean Square Error of the Residual (RMSEA) (Steiger, 1990), and the standardize Root Mean Square Residual (SRMR). The relative fit index is the qualification of the extent to which a model substantially differs from a null model that does not specify the relationship among the items and variables. It is recommended that relative fit indices should include Non-Normed Fit Index (NNFI) and Comparative Fix Index (CFI). Table 3.4 indicates the acceptable values for each index.

Table 3.4

Indexes of Overall Model Fit

Indexes		Acceptable values
Overall Model Fit	Chi-square	p value > 0.10
	Root Mean Square Error of Approximation (RMSEA)	< 0.10
	Non-Normed Fix Index (NNFI)	> 0.90
	Comparative Fit Index (CFI)	> 0.90
	Standard Root Mean Square Residual (SRMR)	< 0.08
	Goodness of Fit Index (GFI)	> 0.90
Relative Model Fit	Comparative Fit Index (CFI)	> 0.90

Explore the Characteristics of Casual Golfers

Respondents whose mean of the SLIM is equal or lower than 6.5 will be classified as casual leisure oriented, and their data are no longer suitable for SLIM scale. Therefore, the Exploratory Factor Analysis will be applied for these data to construct the dimensions of characteristics for casual golfers. The Primary Component Analysis will be used to construct those dimensions.

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Comparisons of Characteristics Difference between/among Different Demographic or Leisure Involvement Variables

T-test and ANOVA will be applied to test the differences in tested items or constructed dimensions between (or among) different demographic variables, and different levels of leisure involvement.

CHAPTER IV

Data Analysis

Chapter Four reports and discusses the results of the study with to respect to each research question and demographic information. The purpose of this study was: (1) to test if the characteristics of serious golfers are the same as the characteristics of Stebbins' serious leisure theory; (2) to explore the theoretical structure of casual golfers' characteristics, and compare its difference with the characteristics of serious golfers; (3) to identify the differences of characteristics of serious golfers among different levels of golf involvement; and (4) to identify the differences of characteristics of serious golfers between or among different demographic variables.

The questionnaire used for this study consisted of three parts which included: (1) the Serious Leisure Inventory and Measure established by Gould (2005), (2) level of mastery and levels that golfers devote to golf activity (leisure involvement), and (3) demographic information. A nine-point Likert scale ranged from "Completely Disagree" to "Completely Agree" was applied to test the degrees to which a golfer felt how deeply he or she devoted.

This chapter is divided mainly into three sections based on the research questions. The first section presents data and results collected from golfers who possess the characteristics of serious leisure; while the second section shows the data and results

collected from the golfers who are more inclined to casual leisure. The third section provides conclusions of finding for this study. In each subsequent section of the first two sections, demographic information, descriptive data, and statistical results are reported.

Testing of Serious Golfers

In this section, demographic information, leisure involvement situation, serious leisure theory testing, and characteristics differences between/among different variables are discussed.

Demographic information. Table 4.1 presents the demographic information of serious golfers for this study. The total number of participants of this study was 292 golfers. Among them, 191 participants scored greater than six and one half points on Gould's SLIM short form and are considered as serious golfers for this study. The descriptive data indicated that 89.5% of the serious golfers of this study were male (n = 171), and 10.5% were female (n = 20). In marital status, 61.3% of serious golfers (n = 117) were married, and 38.7% were single (n = 74). The majority of the sample (serious golfers) was White (n = 163, 85.3%), followed by other races (n = 21, 11.0%), and only 3.7% of the sample was African American (n = 7). Golfers aged from 40 to 65 ranked the as the largest portion of the sample (n = 85, 44.5%), followed by age 21-39 (n = 70, 36.6%). Yearly household income between $60,000 and $100,000 comprised the largest group of the sample (n = 68, 35.6%), while the other three groups were distributed roughly evenly (number was around 40, and percentage was around 20%). Around 35% of the sample (n=67) attained a level of education of high school or less, 45% of the sample (n=85) graduated from college, and about 20% of the sample (n=?) attended graduate school. The last variable, indicating whether or not the selected participant is a

current member of a golf club yielded results that 61.3% of the sample (n=117) were not

members of any golf club, while 37.7% (n=72) were members of at least one golf club.

A reason that only 37.7% of the serious golfers are currently members of a golf club

might be that serious golfers opt to play at various golf courses, rather than restricting

themselves, financially, to only one golf course or club.

Table 4. 1

Demographic Profile of the Serious Golfers

Categorical variables	Freq.	Percentage
Sex		
Male	171	89.5%
Female	20	10.5%
Marital Status		
Married/Cohabiting	117	61.3%
Single	74	38.7%
Race		
White	163	85.3%
African American	7	3.7%
Others	21	11.0%
Age		
Under 21	17	8.9%
21-39	70	36.6%
40-65	85	44.5%
65 and over	19	9.9%
Income		
Under $35K	47	24.6%
$35K - $59,999	39	20.4%
$60K - $100,000	68	35.6%
$100K$^+$	37	19.4%
Education background		
High school or less	67	35.1%
College degree	85	44.5%
Graduate or above	39	20.4%
Member of golf club or not		
Yes	72	37.7%
No	117	61.3%

Note. Total sample size (n = 191)

Leisure involvement information. Table 4.2 demonstrates the leisure

information of the serious golfers in the sample. Categories of leisure involvement that

were used in this study includes skill levels, golf experience, time spent on playing or

practicing golf per week, time spent on acquiring golf information per week, rounds of

playing golf per week, average annual expenditure for golf, degrees of a golfer devotes to

golf activity, and proficiencies about golf knowledge. For skill levels, the group with

handicap between ten and 18 was the largest population for this sample (n = 64, 33.5%),

followed by the group with handicap between one and nine (n = 57, 29.8%). About 33

percent of the sample (n = 33) was golfers with handicap between 19 and 36. Only 9.4%

of the sample (n = 18) had handicap of zero.

In terms of golf experience, the majority of the serious golfers have played golf

more than ten years (n = 102, 53.4%), followed by the group with three to nine years of

golf experience, while less than 10% of the golfers have played between one to two years

(n = 19, 9.9%). Upon analyzing the data one can conclude that nearly 80.0% of serious

golfers have more than three years of golf experience. In terms of time spending on

playing golf, 41.4% of the serious golfers spent around four to eight hours a week (n =

79), followed by the group who played less than four hours a week (n = 45, 23.6%), and

only 7.3% of this population spent more than 24 hours on playing golf a week (n = 14).

For time spent on acquiring golf information, the majority of the serious golfers

spent between one to four hours a week to acquire golf information (n = 96, 50.3%),

while less than 10% of the population spent more than eight hours to acquire golf

information (n = 19, 9.9%). Serious golfers differed in the number of rounds of golf play

per week. Golfers that played one to two rounds per week made up 44.0% (n=84) of the

total sample. Golfers that played three to four rounds per week made up 26.2% (n=50) of

the total sample. Finally, golfers that played five or more rounds per week were the

smallest group and made up 7.8% (n=15) of the sample. In terms of annual expenditure

for golf, 35.6% of the serious golfers spent between 500 U.S. dollars and 1,000 U.S.

dollars a year on golf (n = 68), while only 12.6% of the population spent more than 2,000

U. S. dollars a year on golf (n = 24). Around half of the serious golfers considered golf as

one of their favorite activities (n = 93. 48.7%), and about 40% of the serious golfers

deemed golf to be their favorite activity (n = 77, 40.3). In terms of proficiencies about

golf knowledge, more than 50% of the serious golfers thought their golf knowledge was

excellent (n = 96, 50.3%), and 45.5% of the serious golfers reported that their golf

knowledge was "okay" (n = 87).

Table 4.2

Leisure Involvement Information of Serious Golfers

Categorical variables	Freq.	Percentage
Skill levels		
No handicap	18	9.4%
Handicap 1-9	57	29.8%
Handicap 10-18	64	33.5%
Handicap 19-36	33	17.3%
Over 36	19	9.9%
Golf experience		
Less than one year	23	12.0%
1-2 years	19	9.9%
3-9 years	47	24.6%
10 years and more	102	53.4%
Time spent on playing or practicing golf per week		
Less than 4 hours	45	23.6%
4^+ - 8 hours	79	41.4%
8^+ -16 hours	33	17.3%
16^+ - 24 hours	20	10.5%
More than 24 hours	14	7.3%

Table 4.2 (*continued*)

Leisure Involvement Information of Serious Golfers

Categorical variables	Freq.	Percentage
Time spent on acquiring golf information per week		
Less than one hour	47	24.6%
1-4 hours	96	50.3%
5-8 hours	29	15.2%
More than 8 hours	19	9.9%
Rounds of playing golf per week		
Less than one round	42	22.0%
1-2 rounds	84	44.0%
3-4 rounds	50	26.2%
5 rounds and above	15	7.8%
Average annual expenditure for golf		
Less than $500	49	25.7%
$500-$1000	68	35.6%
$1001-$2000	50	26.2%
More than $2000	24	12.6%
Golf is		
My favorite activity	77	40.3%
One of my favorite activities	93	48.7%
One of my casual activities	19	9.9%
Nothing but a leisure activity	1	.5%
My golf knowledge is		
Excellent	96	50.3%
Okay	87	45.5%
Poor	5	2.6%
Very poor	2	1.0%

Note. Total sample size (n = 191)

Descriptive information of serious leisure factors. Stebbins' serious leisure theory consists of six factors (second order), and Gould's SLIM includes 18 factors (first order). Descriptive information such as means, standard deviations and rankings for both measurements is discussed to provide what serious leisure factors would be more important than other factors in this study.

1. Descriptive information of Stebbins' six factors

Table 4.3 presents means and standard deviations of serious leisure factors in descending order. It shows that effort factor has the greatest mean (8.11), followed by perseverance factor (7.99), while unique ethos has the smallest mean (7.36). It could be implicated that the "personal effort" factor is considered as the most important one among Stebbins' six serious leisure theory factors.

Table 4.3

Descriptive Information of Stebbins' Six Factors

Factor	N	Mean	Std. Deviation	Ranking
Effort	191	8.11	.87	1
Perseverance	191	7.99	.85	2
Leisure Career	191	7.64	.98	3
Identity	191	7.51	1.17	4
Benefits	191	7.44	.71	5
Unique Ethos	191	7.36	1.04	6

2. Descriptive information of Gould's 18 factors

Table 4.4 demonstrates means, standard deviations, and ranking of Gould's 18 first-order serious leisure factors. Self-enjoy factor has the greatest mean (8.51) among all factors, while financial return factor has the smallest mean (5.95) among all factors. It could be implied that the "self-enjoy" factor is the most important factor and the "financial return" factor is the least important factor among the 18 sub-factors of Gould's SLIM.

Table 4.4

Descriptive Information of Gould's 18 Serious Leisure Factors

Factor	N	Mean	Std. Deviation	Ranking
Self -Enjoy	191	8.51	.83	1
Career Progress	191	8.19	.91	2
Effort	191	8.11	.87	3
Perseverance	191	7.99	.85	4
Personal Enrichment	191	7.98	.90	5
Self-Satisfaction	191	7.92	.90	6
Group Attraction	191	7.87	.87	7
Re-Creation	191	7.82	1.03	8
Career Contingencies	191	7.64	.98	9
Identity	191	7.51	1.17	10
Self-Express Ability	191	7.44	1.09	11
Unique Ethos	191	7.36	1.04	12
Self Image	191	7.27	1.23	13
Self-Express Individual	191	7.24	1.13	14
Group Maintenances	191	7.19	1.33	15
Group Accomplishment	191	7.16	1.38	16
Self-Actualization	191	6.99	1.16	17
Financial Retune	191	5.95	2.04	18

Testing of Stebbins' serious leisure theory. In this section, Confirmatory Factory Analysis (CFA) was used to test if the characteristics of serious golfers of the sample of this study are the same as the characteristics of Stebbins' serious leisure theory. To apply the CFA, the discussions of the process procedures are as follows:

Test for common method bias. According to Podsakoff, MacKenzie, and Lee (2003), common method variance could be a problem when a researcher applies a self-developed scale to measure variables. To check for the presence of common method

variance, Harman's single-factor test was used to analyze the sample of serious golfers based on Podsakoff, MacKenzie, and Lee's (2003) discussion. The basic assumption of Harman's single-factor solution is that when a substantial amount of common method variance in a set of data exists, either a single factor could emerge or a single factor could account for the majority of the covariance among the variables.

To test the potential threat that common method bias could bring to the validity of the study, an exploratory factor analysis with unrotated factor solution was applied to test the data collected from serious golfers. The results of the unrotated factor solution indicated 12 factors with eigenvalues greater than one that were necessary to account for the variance in the variables. Both the Kaiser-Meyer-Olkin's (KMO) value (.740) and Bartlett's value (<.001) reached the basic criteria (the criteria to pass the test is that KMO value must be greater than .05, and the Bartlett has to be less than .05). More importantly, the researcher checked the total variance each factor explained and found no single factor was dominant (the first factor explained 27.6% of variance and the total variance explained by the 12 factors was 74.6%). Therefore, common method variance is not a significant problem in this data set.

Item analysis. Item analysis refers process to determine the ability of an item to differentiate among respondents on the basis of how well they know the material being tested. It is usually calculated by ranking the respondents according to the total score, and then selecting the top 27.0% and the lowest 27.0% in terms of the total score. The independent *t*-test is usually used to compare item responses to total test scores between these two groups of respondents. Items for which the *t* value does not reach the significant level should be eliminated. Since all *t* values are greater than 1.96 (p < .05),

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all 54 items can be kept in this process.

Test of normal distribution. To test the univariate normality of each item, the researcher inspected the frequency distributions to examine the skewness and kurtosis values of each variable. According to Kline's (2005) guidelines, the interpretation of the absolute values of standardized skew or kurtosis indexes is useful in larger samples. Kline (2005) suggested that variables with absolute values with a skew index greater than 3.0 are considered to be extremely skewed, and those with absolute values with a kurtosis index greater than 10.0 should be eliminated. Appendix C provides means, standard deviations, skewness, and kurtosis values for all items. It showed that Q25 (Golf has enriched my self-image) has the greatest mean (mean = 8.36), while Q33 (I am often recognized as one devote to golf) has the smallest mean (mean = 5.37).Table 4.3 indicates that most variables were distributed normally except for five variables, which include Q1 (kurtosis index = 10.53), Q4 (kurtosis index = 14.58), Q7 (skewness index = -3.1), Q31 (kurtosis index = 11.22), and Q54 (skewness = -3.1). Therefore, these five variables were removed from the pool of item measures.

Internal consistency of scales. The internal consistency of a test is to assess whether items that propose to measure the same general construct produce similar scores. It is usually measured with Cronbach's alpha. Table 4.5 shows Cronbach's alphas of the SLIM scales used in this study. Most of the sub-scales demonstrated good reliability (Cronbach's alphas ranged from 0.64 to 0.85) except the re-creation subscale (Q34, Q35, Q36; Cronbach's alphas = .48) and the career contingencies subscale (Q52, Q53, Q54; Cronbach's alphas = .50). However, since both Cronbach's alphae are greater than .35, these two subscales were considered acceptable.

Table 4.5

Cronbach's alphas of the SLIM Scale for Serious Golfers

Scale	Factor	Sub-factor	Cronbach's α	
Serious Leisure	Perseverance (Q1, Q2, Q3)		.63	
	Individual Effort (Q4, Q5, Q6)		.64	
	Durable Benefits	Personal Enrichment (Q7, Q8, Q9)	.67	.90
		Self-Actualization (Q10, Q11, Q12)	.58	
		Self-Express Ability (Q13, Q14, Q15)	.73	
		Self-Express Individual (Q16, Q17, Q18)	.72	
		Self-Image (Q19, Q20, Q21)	.85	
		Self-Satisfaction (Q22, Q23, Q24)	.66	
		Self-Enjoy (Q25, Q26, Q27)	.83	
		Re-creation (Q28, Q29, Q30)	.72	
		Financial Return (Q31, Q32, Q33)	.64	
		Group Attraction (Q34, Q35, Q36)	.48	
		Group Accomplishments (Q37, Q38, Q39)	.76	
		Group Maintenance (Q40, Q41, Q42)	.72	
	Identity (Q43, Q44, Q45)		.67	
	Unique Ethos (Q46, Q47, Q48)		.66	
	Leisure Career	Career Progress (Q49, Q50, Q51)	.76	.68
		Career Contingencies (Q52, Q53, Q54)	.51	

Confirmatory factor analysis of observed variables and latent variables.

Measurement model for serious leisure theory. The measurement model for the serious leisure theory is a three-order and multi-factor model. There are 54 observed variables, 18 first-order endogenous latent variables, six second-order endogenous latent variables, and one third-order endogenous latent variable. Unlike observer variables, latent variables cannot be measured directly. Latent variable measurements have to be

reflected by observed variables. The relationship among different variables is displayed

in Figure 4.1, and is explained as followed:

Observed variables are represented by rectangles, and factors (latent variables) are

represented by ovals. A straight, single-headed arrow represents a unidirectional casual

path. The ʼs (Greek gamma) are structural parameters relating the endogenous variables

to the exogenous variables. The λʼs (Greek lambda) represent factor loadings relating

observable indicators to latent variables. The εʼs (Greek epsilon) represent measurement

error in the endogenous indicators. The followings are the relationships among different

variables:

(1) The latent factor of perseverance is reflected by two observed variables (Q2,

Q3; Q1 was eliminated).

(2) The latent factor of effort is reflected by two observed variables (Q5, Q6; Q4

was eliminated).

(3) The latent factor of personal enrichment is reflected by two observed

variables (Q8, Q9; Q7 was eliminated).

(4) The latent factor of self-actualization is reflected by three observed variables

(Q10, Q11, and Q12).

(5) The latent factor of self-express-ability is reflected by three observed

variables (Q13, Q14, and Q15).

(6) The latent factor of self-express-individual is reflected by three observed

variables (Q16, Q17, and Q18).

(7) The latent factor of self-image is reflected by three observed variables (Q19,

Q20, and Q21).

(8) The latent factor of self-satisfaction is reflected by three observed variables (Q22, Q23, and Q24).

(9) The latent factor of self-enjoy is reflected by three observed variables (Q25, Q26, and Q27).

(10) The latent factor of re-creation is reflected by three observed variables (Q28, Q29, and Q30).

(11) The latent factor of financial return is reflected by two observed variables (Q32, Q33; Q31 was eliminated).

(12) The latent factor of group attraction is reflected by three observed variables (Q34, Q35, and Q36).

(13) The latent factor of group attraction is reflected by three observed variables (Q37, Q38, and Q39).

(14) The latent factor of group accomplishment is reflected by three observed variables (Q40, Q41, and Q42).

(15) The latent factor of identity is reflected by three observed variables (Q43, Q44, and Q45).

(16) The latent factor of unique ethos is reflected by three observed variables (Q46, Q47, and Q48).

(17) The latent factor of career progress is reflected by three observed variables (Q49, Q50, and Q51).

(18) The latent factor of career contingencies is reflected by two observed variables (Q52, Q53; Q54 was eliminated).

(19) The second-order endogenous latent variable of durable benefits is reflected

by 12 first-order endogenous latent factors (personal enrichment, self-actualization, self-express ability, self-express individual, self-image, self-satisfaction, self-enjoy, re-creation, financial return, group attraction, group attraction, group accomplishments, and group maintenance).

(20) The second-order endogenous latent variable of leisure career is reflected by two first-order endogenous latent factors (career progress and career contingences).

(21) The third-order endogenous latent variable of serious leisure is reflected by six second-order endogenous latent factors (perseverance, individual effort, durable benefits, identity, unique ethos, and leisure career).
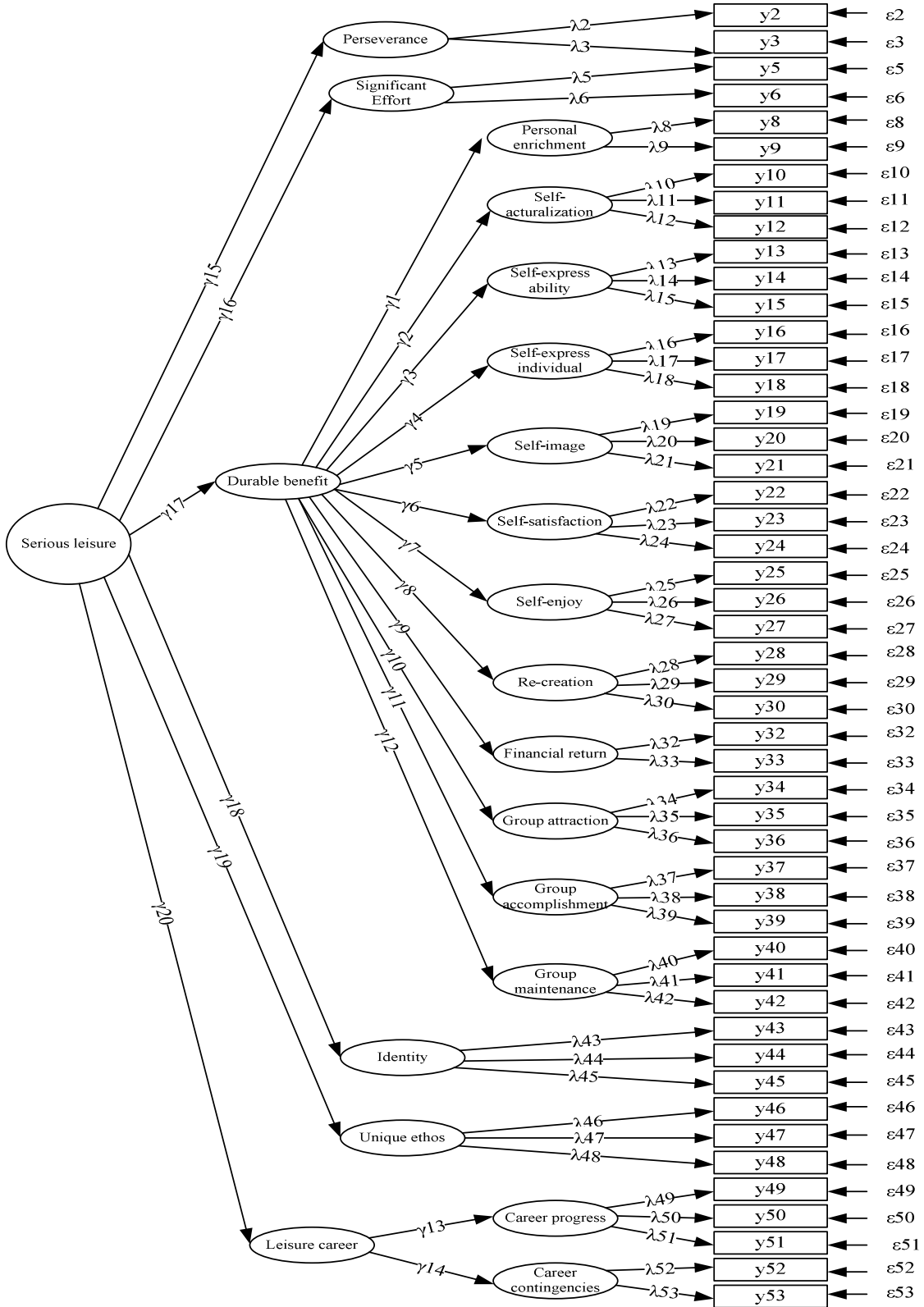
Figure 4.1 Measurement Model of Serious Leisure Theory: A straight, single-headed arrow represented a unidirectional causal path.* represents t>1.96, p<.05.

Offending estimates. Figure 4.2 below displays the path diagram of the Serious

Leisure Model and standardized parameter estimates. Standardized parameter estimates

are provided in Table 4.6. All standardized coefficients of λ (λy_2 to λy_{53}) ranged from

.45 to .95 (neither greater than 1 nor close to 1), and all ε values (measurement error in

the endogenous indicators) ranged between .10 and .80 (greater than 0). Therefore, the

Serious Leisure Model can be tested through the assessment of overall mode fit.

Table 4.6

Standardized Parameter Estimate of Serious Leisure Model

λn	Standardized Loading	Observed Variable	Measurement Error
λ_2	.80	y2	.36
λ_3	.64	y3	.59
λ_5	.65	y5	.58
λ_6	.83	y6	.31
λ_8	.63	y8	.60
λ_9	.84	y9	.29
λ_{10}	.57	y10	.67
λ_{11}	.45	y11	.79
λ_{12}	.79	y12	.37
λ_{13}	.72	y13	.48
λ_{14}	.69	y14	.52
λ_{15}	.68	y15	.53
λ_{16}	.64	y16	.59
λ_{17}	.65	y17	.57
λ_{18}	.78	y18	.46
λ_{19}	.84	y19	.29
λ_{20}	.85	y20	.28
λ_{21}	.77	y21	.40
λ_{22}	.65	y22	.58
λ_{23}	.72	y23	.48
λ_{24}	.59	y24	.65
λ_{25}	.81	y25	.34
λ_{26}	.88	y26	.23
λ_{27}	.70	y27	.70
λ_{28}	.78	y28	.39
λ_{29}	.76	y29	.43
λ_{30}	.54	y30	.70

Table 4.6 *(continued)*

Standardized Parameter Estimate of Serious Leisure Model

λn	Standardized Loading	Observed Variable	Measurement Error
λ_{32}	.81	y32	.34
λ_{33}	.95	y33	.10
λ_{34}	.50	y34	.75
λ_{35}	.66	y35	.57
λ_{36}	.49	y36	.76
λ_{37}	.49	y37	.76
λ_{38}	.85	y38	.27
λ_{39}	.86	y39	.27
λ_{40}	.57	y40	.67
λ_{41}	.83	y41	.31
λ_{42}	.69	y42	.52.
λ_{43}	.61	y43	62
λ_{44}	.69	y44	.52
λ_{45}	.70	y45	.51
λ_{46}	.75	y46	.44
λ_{47}	.70	y47	.51
λ_{48}	.45	y48	.80
λ_{49}	.59	y49	.65
λ_{50}	.77	y50	.40
λ_{51}	.79	y51	.37
λ_{52}	.65	y52	.58
λ_{53}	.65	y53	.57

Figure 4.2 Standardized Parameters of the Measurement Model: A straight, single-headed arrow represented a unidirectional causal path.* represents t>1.96, p<.05.

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Assessment of overall model fit. The overall model fit indexes are presented in Table 4.7. Overall model fit indexes can be classified into absolute, relative, and parsimonious normed fit indexes. In this study, Chi-square (χ^2), chi-square divided by degree of freedom (χ^2/df), and Root Mean Square Error of Approximation (RMSEA) indexes were provided to assess absolute fit; Non-normed Fit Index (NNFI), Comparative Fit Index (CFI), and Normed Fit Index (NFI) were calculated to the assess relative fit; the Parsimonious Normed Fit Index (PNFI) was computed to assess parsimonious normed fit. An overall model chi-square value is determined for the initial measurement model using the maximal likelihood method. The value of the χ^2 (3141.29, p < .001) indicated that the model is not acceptable; however, reliance on Chi-square test as the sole measure of fit is not recommended because it is excessively sensitive to the sample size. For larger samples, even trivial deviation of a hypothesized model from a true model can lead to rejection of the hypothesized model. Therefore, the RMSEA was used to test absolute fit for this study. The value of RMSEA (.098) is slightly less than the cutoff value (0.10). It indicated that the Serious Leisure Model of this study is marginally acceptable.

PNIF (.75) is greater than .5, and χ^2/df is less than 3. It indicated that the test model is acceptable for parsimonious fit measure. However, for relative fit measure: Both NFI (.85) and CFI (.86) are less than .90; therefore, the tested model needs to be modified.

Table 4.7

A Summary of Overall Model Fit Indexes

Index	χ^2 (df)	P	RMSEA	NNFI	CFI	NFI	PNFI	χ^2/df
Value	3141.29 (1107)	<.001	.098	.85	.86	.80	.75	2.84

Model modification. The most popular techniques for model modification include

Likelihood Ratio (LR), Lagrangian Multiplier (LM), and the Wald test. The LM test is

also called as "model index" (MI), and is the most popular and usually recommended by

most researchers, so it was applied to model modification in this study. Statistically, a

MI is the Chi-squire distribution with one degree of freedom. The value of χ^2 with one

degree of freedom is equal to 3.84 (p = .05), and that is why most researchers use MI =

3.84 as the criteria to modify a model. However, the current study selected a more

conservative value (MI>15) as the criteria to modify the model. According to Joreskog

(1993), only one parameter can be freed at a time when model modification is applied.

Table 4.8 demonstrates fit indexes when each parameter is freed at a time. The researcher

freed 13 MI values (MI>15) one at a time, in order. The standardized parameters of the

modified model (final model) are provided in Figure 4.3, on page 69.

The overall fit indexes of the final model are provided in Table 4.9. The value of

the χ^2 (2574.23, p < .001) indicated that the model is not acceptable; however, as

mentioned above, reliance on Chi-squire test as the sole measure of fit is not

recommended because it is excessively sensitive to sample size. Therefore, the RMSEA

was used to test absolute fit for this study. The value of RMSEA (.084) is improved

from .098 to .084. This indicates that the Serious Leisure Model is more acceptable after

model modification. For relative fit measure, both NFI (.88) and CFI (.88) are also

improved but are still less than .90, indicating that the model is marginally acceptable,

but still needs to be improved. For parsimonious fit measure, PNIF (.76) is greater than

.5, and χ^2/df is less than 3. This indicates that the test model is acceptable. In general,

although CFI is less than .90, its value (.88) almost reached the criteria. As a result, the final model is acceptable, but improvement is needed.

Table 4.8

Model Modification Indexes

Model	Free parameters	MI	χ^2 (df)	P	RMSEA	CFI
Mo	Baseline model		3141.29 (1107)	<.001	.098	.86
M1	X11-X14	44.09	3098.00 (1106)	<.001	.097	.86
M2	X43-X46	37.26	3058.40 (1105)	<.001	.096	.86
M3	X37-X40	36.65	3020.78 (1104)	<.001	.096	.87
M4	X18-X21	33.94	2923.76 (1103)	<.001	.093	.87
M5	X39-X42	27.49	2869.53 (1102)	<.001	.092	.87
M6	X24-X30	24.32	2800.53 (1101)	<.001	.090	.87
M7	X39-X45	27.34	2718.18 (1100)	<.001	.088	.88
M8	X34-X35	19.25	2709.33 (1099)	<.001	.088	.88
M9	X21-X24	19.00	2681.38 (1098)	<.001	.087	.88
M10	X38-X42	17.60	2673.12 (1097)	<.001	.087	.88
M11	X13-X16	17.54	2635.95 (1096)	<.001	.086	.88
M12	X12-X44	17.27	2616.98 (1095)	<.001	.086	.88
M13	X14-X35	17.17	2574.23 (1094)	<.001	.084	.88

Table 4.9

Overall Fit Indexes of Final Model

Index	χ^2 (df)	P	RMSEA	NNFI	CFI	NFI	PNFI	χ^2/df
Value	2574.23 (1094)	<.001	.084	.88	.88	.82	.76	2.35
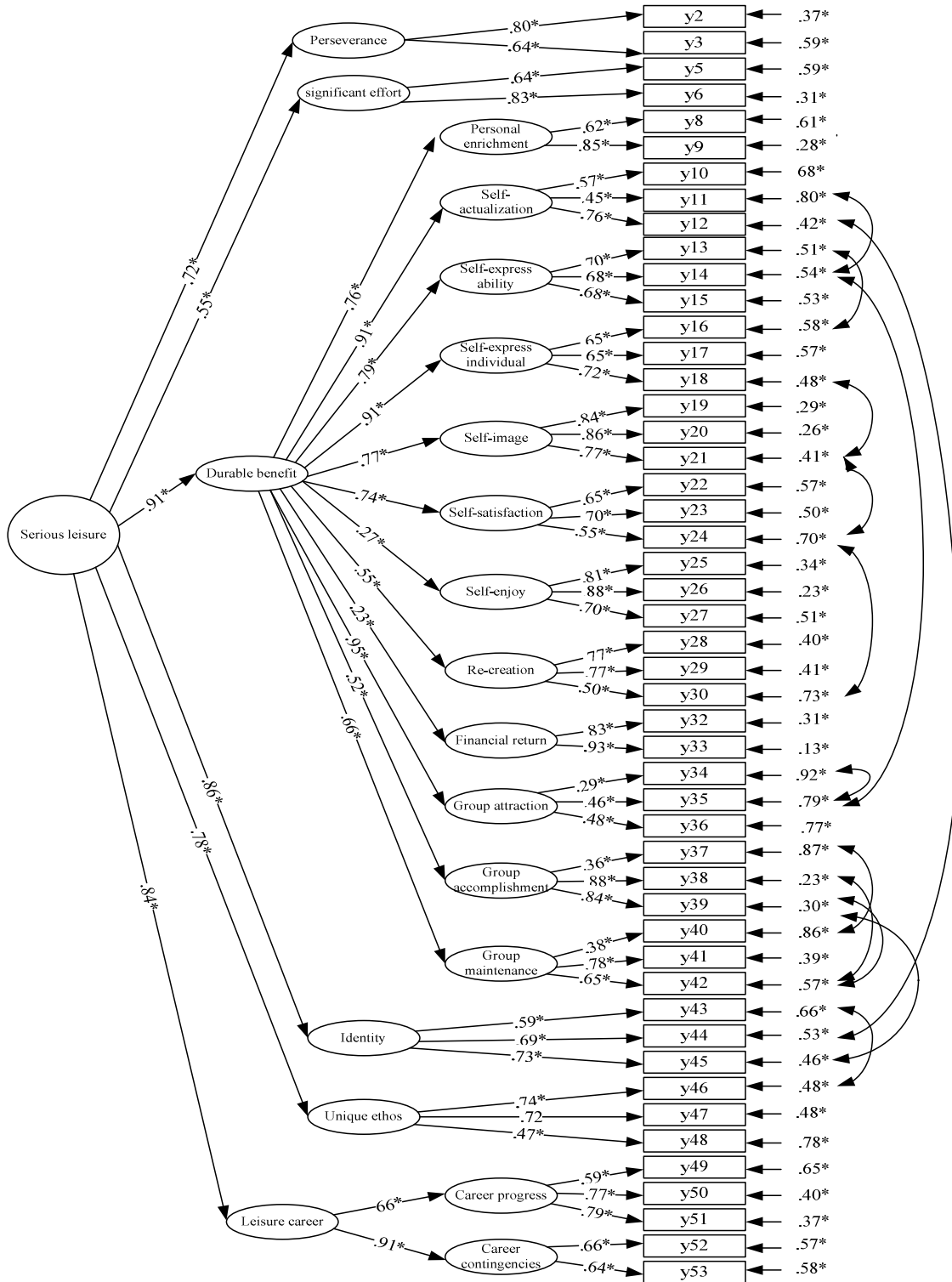
Figure 4.3 Standardized Parameters of the Final Model: A straight, single-headed arrow represents a unidirectional causal path, whereas a curved, double-headed arrow represented correlation or covariance between the two variables.* represents *t* > 1.96, p < .05.

Reliability and validity of the final model of serious leisure. Construct reliability

was assessed using the Composite Reliability (CR) measures. According to Fornell

(1982), composite reliability is a measurement of the overall reliability of a collection of

heterogeneous, but similar items. It tests whether the specified indicators are sufficient in

their representation of the constructs. Table 4.10 displays the composite reliability for

individual measured variables and constructs of the final model. It shows that only the

CR value of group attraction (.38) is less than 0.6. All other CR values of latent variables

(ranged from .60 to .91) are either equal or greater than .60. The entire CR value is .90.

This indicates that the final model for serious leisure possesses excellent reliability. The

R^2 value indicates the percentage of the variance for the factor is accounted for by those

factors that are directly antecedent to them. The value is derived from the sum of the

squares of the path loadings for all paths that lead to a given factor. Table 4.10 shows that

all items except Y34 (.08), Y37 (.13), and Y40 (.14) reached reliability criteria ($R^2 > .20$)

with R^2 values greater than .20.

Fornell and Larcker (1981) suggested that the value of the average variance

extracted should be greater than 0.5. Table 4.10 indicates that seven latent variables have

average variance extracted values less than 0.5, including durable benefits, self-

actualization, self-express ability, self-satisfaction, group attraction, identity, unique

ethos, and career contingencies (average variance extracted value = .45, .40, .47, .46, .36,

.48, and .38 respectively). However, after being rounding the above figures, only self-

actualization, group attraction, and career contingencies variables did not reach the

criteria of significant (p < .05) discriminate validity. Since the self-actualization, group

attraction, and career contingencies variables did not reach the criteria of significance (p<

.05) for discriminate validity, therefore discriminating validity of the final model is not

perfect. Overall the final model is considered reliable and validated for this study.

Table 4.10

Composite/Construct Reliability and Discriminating Validity of Final Model

Variables	R^2	Composite Reliability	Average Variance Extracted
Serious Leisure		.90	.54
Perseverance		.68	.53
Y2	.63		
Y3	.41		
Significant effort		.71	.56
Y5	.41		
Y6	.69		
Durable benefit		.92	.45
Personal enrichment		.71	.51
Y8	.49		
Y9	.72		
Self-actualization		.63	.40
Y10	.42		
Y11	.20		
Y12	.58		
Self-express ability		.73	.47
Y13	.49		
Y14	.46		
Y15	.47		
Self-express individual		.71	.50
Y16	.42		
Y17	.43		
Y18	.52		
Self-image		.86	.70
Y19	.71		
Y20	.74		
Y21	.59		
Self-satisfaction		.67	.46
Y22	.43		
Y23	.50		
Y24	.30		
Self-enjoy		.84	.52
Y25	.66		
Y26	.77		
Y27	.49		

Table 4.10 (*continued*)

Composite/Constructs Reliability and Discriminating Validity of Final Model

Variables	R^2	Composite Reliability	Average Variance Extracted
Re-creation		.73	.54
Y28	.60		
Y29	.59		
Y30	.27		
Financial return		.88	.53
Y32	.69		
Y33	.87		
Group attraction		.38	.36
Y34	.08		
Y35	.21		
Y36	.23		
Group accomplishment		.76	.56
Y37	.13		
Y38	.77		
Y39	.70		
Group maintenance		.64	.51
Y40	.14		
Y41	.61		
Y42	.43		
Identity		.71	.47
Y43	.34		
Y44	.47		
Y45	.54		
Unique ethos		.80	.48
Y46	.52		
Y47	.52		
Y48	.32		
Leisure career		.77	.52
Career progress		.76	.65
Y49	.35		
Y50	.60		
Y51	.63		
Career contingencies		.60	.38
Y52	.43		
Y53	.42		

Characteristic differences between/among different variables. After testing

Stebbins' Serious Leisure Theory, the researcher proceeded to compare the differences of

each serious leisure quality among/between different levels of golf involvement and

demographic variables. Either an independent *t*-test or ANOVA procedure was used to

test if any difference existed in each quality of serious leisure among/between groups. If

any difference was found in the ANOVA procedure, a LSD post-hoc comparison of

group scores was conducted to locate the source of the significant difference. Appendix D

and Appendix E provide means and standard deviations of different levels of involvement

and demographic variables.

        Comparisons among different levels of golf involvement.

        Skill levels. Table 4.11 below presents a summary of the results for the

comparison among golfers of different skill levels. The omnibus F test showed that

statistically significant differences were only found in the identity factor (F = 10.12, p

<.01). The LSD post-hoc reveals that serious golfers' identity of group one (no handicap),

group two (handicap 1-9), and group three (handicap 10-18) were significantly higher

than the golfers' identity of group four (handicap 18-36) and group five (over 36).

Serious golfers' identities of group one (no handicap) was significantly higher than

golfers' identities of group three (handicap 10-18). Usually golfers with handicaps lower

than 10 are called single digit golfers; handicaps between 10 and18 are called a middle

handicap; handicaps higher than 18 are called a high handicap. In general, the results of

LSD post-hoc imply that the lower the handicap, the stronger the identity is of serious

golfers.

Table 4.11

Analysis of Variance for Skill Level

Factor	Sources	Sums of Square	df	Mean Square	F	Sig.	LSD Post Hoc
Perseverance	Between	6.03	4	1.50	1.97	0.10	
	Within	142.14	186	0.76			
	Total	148.17	190				
Effort	Between	3.62	4	0.90	0.84	0.49	
	Within	199.11	186	1.07			
	Total	202.73	190				
Benefits	Between	3.00	4	0.75	1.41	0.23	
	Within	98.77	186	0.53			
	Total	101.78	190				
Identity	Between	46.78	4	11.69	10.12	<0.01	1＞3
	Within	214.92	186	1.15			4＜1、2、3
	Total	261.70	190				5＜1、2、3
Unique Ethos	Between	8.15	4	2.04	1.88	0.11	
	Within	200.89	186	1.08			
	Total	209.05	190				
Leisure Career	Between	5.50	4	1.37	2.10	0.08	
	Within	121.32	186	0.65			
	Total	126.82	190				

Note. 1 = No handicap. 2 = Handicap 1-9. 3 = Handicap 10-18. 4 = Handicap 18-36. 5 = Over 36.

Golf experience. Table 4.12 presents a summary of the results for the comparison among golfers in different golf experience levels. The omnibus F test revealed that the statistically significant differences were found in three factors, which included identity (F = 4.34, p < .01), unique ethos (F = 3.11, p < 0.01), and leisure career (F = 2.66, p < 0.05). The LSD post-hoc showed that serious golfers' identity of group two (1-2 years of golf experience), group three (3-9 years of golf experience), and group four (10^+ years of golf experience) were significantly higher than golfers identities of group one (less than one year of golf experience).

Comparison of unique ethos indicated that group two (1-2 years of golf experience) and group four (10^+ years of golf experience) are significantly higher than group one (less than one year of golf experience). In addition, group three (3-9 years of golf experience) was also significantly higher than group two (1-2 years of golf experience). Comparison in leisure career revealed that group three (3-9 years of golf experience) is significantly higher than group one (less than one year of golf experience), group two (1-2 years of golf experience) and group four (10^+ years of golf experience).

Table 4.12

Analysis of Variance for Golf Experience

Factor	Sources	Sums of Square	df	Mean square	F test	Sig.	LSD Post Hoc
Perseverance	Between	3.46	3	1.15	1.49	0.21	
	Within	144.70	187	0.77			
	Total	148.17	190				
Effort	Between	5.18	3	1.72	1.63	0.18	
	Within	197.55	187	1.05			
	Total	202.73	190				
Benefits	Between	2.36	3	0.78	1.48	0.22	
	Within	99.41	187	0.53			
	Total	101.78	190				
Identity	Between	17.06	3	5.68	4.34	<0.01	1<2、3 、4
	Within	244.64	187	1.30			
	Total	261.70	190				
Unique Ethos	Between	9.95	3	3.31	3.11	0.02	1<2、4 2<3
	Within	199.10	187	1.06			
	Total	209.05	190				
Leisure Career	Between	5.20	3	1.73	2.66	0.04	2<3 3>1、4
	Within	121.62	187	0.65			
	Total	126.82	190				

Note: 1=(less than one year). 2 = (1-2 years). 3 = (3-9 years). 4 = (10^+ years).

Time spent playing or practicing golf per week. Table 4.13 displays a summary of the results of the comparisons among golfers who spent different amounts of time playing or practicing golf per week. The omnibus F test revealed that the statistically significant differences were found in three factors, including effort ($F = 4.37$, $p < .01$), identity ($F = 5.82$, $p < 0.01$), and leisure career ($F = 2.65$, $p < 0.05$). The LSD post-hoc

revealed that those golfers who spent more than four hours per week playing or practicing golf were significantly higher in factor of effort than the group of golfers who spent less than four hours playing or practicing golf a week. Comparison in identity revealed that group two (4-8$^+$ hours per week playing or practicing golf), group three (8$^+$-16 hours per week playing or practicing golf), group four (16$^+$-24 hours per week playing or practicing golf), and group five (more than 24 hours per week playing or practicing golf) were significantly higher than group one (less than four hours per week playing or practicing golf). In addition, group three (8$^+$-16 hours per week playing or practicing golf) was also significantly higher than group two (4-8$^+$ hours per week playing or practicing golf). Comparison in leisure career revealed that group one (less than four hours per week playing or practicing golf) is significantly lower than any other group.

Table 4.13

Analysis of Variance for time spent on playing or practicing golf

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
	Between	6.48	4	1.62	2.12	0.07	
Perseverance	Within	141.68	186	0.76			
	Total	148.17	190				
	Between	17.43	4	4.35	4.37	<0.01	1＜2、3、
Effort	Within	185.30	186	0.99			4、5
	Total	202.73	190				
	Between	1.16	4	0.29	0.53	0.70	
Benefits	Within	100.61	186	0.54			
	Total	101.78	190				
	Between	29.11	4	7.27	5.82	<0.01	1＜2、3、
Identity	Within	232.59	186	1.25			4、5
	Total	261.70	190				2＜3

Table 4.13 (*continued*)

Analysis of Variance for time spent on playing or practicing golf

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Unique Ethos	Between	5.29	4	1.32	1.20	0.30	
	Within	203.76	186	1.09			
	Total	209.05	190				
Leisure Career	Between	6.83	4	1.70	2.65	0.03	1＜2、3、4、5
	Within	119.98	186	0.64			
	Total	126.82	190				

Note: 1 = (less than four hours). 2 = (4-8$^+$ hours). 3 = (8$^+$-16 hours). 4 = (16$^+$-24 hours). 5 = (more than 24 hours)

Time spent on acquiring golf information per week. Table 4.14 displays a summary of the results of the comparisons among golfers who spent different amounts of time acquiring golf information per week. The omnibus F test revealed that the statistically significant differences were found in two factors, which included effort (F = 2.87, p < .05), and leisure career (F = 3.10, p < 0.05). The LSD post-hoc revealed that the group in which golfers spent less than one hour acquiring golf information per week was significantly lower in effort than any other group in which golfers spent more than one hour on acquiring golf information a week. Comparison of the leisure career factor revealed that both group two (1-4 hours acquiring golf information per week) and group four (more than 8 hours acquiring golf information per week) were significantly higher than group one (less than one hours acquiring golf information per week). In addition, group four (more than 8 hours acquiring golf information per week) was also significantly higher than group three (5-8 hours acquiring golf information per week).

Table 4.14

Analysis of Variance of Time Spent on Acquiring Golf Information per Week

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Perseverance	Between	0.31	3	0.10	0.13	0.94	
	Within	147.86	187	0.79			
	Total	148.17	190				
Effort	Between	8.92	3	2.97	2.87	0.03	1＜2、3
	Within	193.81	187	1.03			
	Total	202.73	190				、4
Benefits	Between	2.25	3	0.75	1.41	0.24	
	Within	99.52	187	0.53			
	Total	101.78	190				
Identity	Between	4.38	3	1.46	1.06	0.36	
	Within	257.32	187	1.37			
	Total	261.70	190				
Unique Ethos	Between	0.69	3	0.23	0.20	0.89	
	Within	208.36	187	1.11			
	Total	209.05	190				
Leisure Career	Between	6.01	3	2.00	3.10	0.02	1＜2、4
	Within	120.80	187	0.64			
	Sum	126.82	190				3＜4

Note: 1= (less than one hour). 2 = (1-4 hours). 3 = (5-8 hours). 4 = (more than 8 hours)

Rounds of playing golf a week. Table 4.15 presents a summary of the results for the comparison among golfers who play different numbers of golf rounds a week. Since the number of participants in group four (five rounds and above) is only 15 (7.8%), this group was merged with group three. Therefore, group three consisted of 65 players who played three or more rounds of golf a week (34.0%). The omnibus F test revealed that

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statistically significant differences were found in four factors, including effort (F = 6.20, p < 0.01), identity (F = 14.27, p < 0.01), unique ethos (F = 2.97, p = 0.05), and leisure career (F = 6.12, p < 0.01). The LSD post-hoc showed that serious golfers' effort of group two (played 1-2 rounds per week) and group three (played three or more rounds per week) were significantly higher than golfers' effort of group one (played less than one round per week). Comparison in identity factor showed that group three (played three or more rounds per week) was significantly higher than group one (played less than one round per week) and group two (played 1-2 rounds per week). Comparison in unique ethos demonstrated that group two (played 1-2 rounds per week) was significantly higher than group one (played less than one round per week). Comparison in leisure career indicated that group two (played 1-2 rounds per week) and group three (played three or more rounds per week) were significantly higher than group one (played less than one round per week).

Table 4.15

Analysis of Variance of Rounds of Playing Golf per Week

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Perseverance	Between	1.05	2	0.52	0.67	0.51	
	Within	147.11	188	0.78			
	Total	148.17	190				
Effort	Between	12.54	2	6.27	6.20	<0.01	
	Within	190.19	188	1.01			2、3>1
	Total	202.73	190				
Benefits	Between	0.43	2	0.21	0.40	0.67	
	Within	101.35	188	0.53			
	Total	101.78	190				

Table 4.15 (*continued*)

Analysis of Variance of Rounds of Playing Golf per Week

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Identity	Between	34.49	2	17.24	14.27	<0.01	
	Within	227.21	188	1.20			3>1、2
	Total	261.70	190				
Unique Ethos	Between	6.42	2	3.21	2.97	0.05	
	Within	202.63	188	1.07			1<2
	Total	209.05	190				
Leisure Career	Between	7.76	2	3.88	6.12	<0.01	
	Within	119.06	188	0.63			1<2、3
	Sum	126.82	190				

Note: 1 = (less than one round). 2 = (1-2 rounds). 3 = (three or more rounds).

Average expenditure for golf a year. Table 4.16 presents a summary of the results for the comparison among golfers who spent different ranges of money a year in golf. The omnibus F test revealed that statistically significant differences were found in three factors, which included perseverance (F = 4.20, p < 0.01), effort (F = 3.37, p = 0.02), and unique ethos (F = 2.91, p = 0.03). The LSD post-hoc revealed that group two ($500-$1,000) was significantly higher than any other groups in perseverance factor, and both group three ($1,001-$2,000) and group four (more than $2,000) were higher than group one (less than $500). Comparison in effort factor showed that group four (more than $2,000) is significantly higher than group one (less than $500) and group two ($500-$1,000). Comparison in leisure career indicated that group two ($500- $1,000) was significantly lower than group three ($1,001- $2,000) and group four (more than $2,000).

Table 4.16

Analysis of Variance of Average Expenditure for Golf a Year

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Perseverance	Between	8.99	3	2.99	4.02	<0.01	1<3、4
	Within	139.17	187	0.74			2>1、3、4
	Total	148.17	190				
Effort	Between	10.41	3	3.47	3.37	0.02	
	Within	192.32	187	1.02			4>1、2
	Total	202.73	190				
Benefits	Between	0.09	3	0.03	0.06	0.98	
	Within	101.68	187	0.54			
	Total	101.78	190				
Identity	Between	7.67	3	2.55	1.88	0.13	
	Within	254.03	187	1.35			
	Total	261.70	190				
Unique Ethos	Between	1.28	3	0.43	0.38	0.76	
	Within	207.76	187	1.11			
	Total	209.05	190				
Leisure Career	Between	5.67	3	1.89	2.91	0.03	
	Within	121.15	187	0.64			2<3、4
	Total	126.82	190				

Note: 1 = less than $500. 2 = $500-$1,000. 3 = $1,001-$2,000. 4 = more than $2,000.

Levels of preference for golf. Levels of preference in golf refers to how much a golfer loves playing golf, including "golf is my favorite leisure activity", "golf is one of my favorite activities", "golf is one of my casual activities", and "golf is nothing but a leisure activity". Table 4.17 presents a summary of the results for the comparison among golfers who showed different levels of preference for golf. Since the number of

participants in group four (golf is nothing but a leisure activity) was only 1 (.50%), this group was merged with group three. Therefore, group three consisted of 20 players (10.50%) who considered golf as one of their casual activities. The omnibus F test revealed that statistically significant differences were found in four factors, which include effort (F = 4.45, p = 0.01), benefits (F = 4.21, p = 0.01), identity (F = 15.26, p < .01), and leisure career (F = 4.75, p < 0.01). The LSD post-hoc showed that serious golfers' effort of group three (golf is one of my casual activities) was significantly lower than golfers' effort of group one (golf is my favorite activity) and group two (golf is one of my favorite activities). Comparison in benefits factor showed that group one (golf is my favorite activity) was significantly higher than group two (golf is one of my favorite activities). Comparison in identity factor revealed that group one (golf is one of my favorite activities) was significantly higher than group two (golf is one of my favorite activities) and group three (golf is one of my casual activities). In addition, group two (golf is one of my favorite activities) was significantly higher than group one (golf is one of my casual activities). Comparison in leisure career demonstrated that group three (golf is one of my casual activities) was significantly lower than group one (golf is my favorite activity) and group two (golf is one of my favorite activities).

Table 4.17

Analysis of Variance of Different Preferences for Golf

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Perseverance	Between	4.22	2	2.11	2.76	0.06	
	Within	143.05	187	0.76			
	Total	147.27	189				
Effort	Between	9.21	2	4.60	4.45	0.01	
	Within	193.26	187	1.03			3＜1、2
	Total	202.47	189				
Benefits	Between	4.37	2	2.18	4.21	0.01	
	Within	96.90	187	0.51			1＞2
	Total	101.27	189				
Identity	Between	36.06	2	18.03	15.26	<0.01	1＞2、3
	Within	220.86	187	1.18			
	Total	256.92	189				3＜2
Unique Ethos	Between	3.77	2	1.88	1.71	0.18	
	Within	205.28	187	1.09			
	Total	209.05	189				
Leisure Career	Between	6.09	2	3.04	4.75	0.01	
	Within	119.76	187	0.64			3＜1、2
	Sum	125.85	189				

Note: 1 = Golf is my favorite activity. 2 = Golf is one of my favorite activities. 3 = Golf is one of my casual activities.

Golf knowledge. Table 4.18 demonstrates a summary of the results for the comparison among golfers who reported different levels of knowledge about golf. Since the number of participants in group four (my golf knowledge is very poor) was only two (1.0%), this group was merged with group three. Therefore, group three (my golf knowledge is poor) consisted of seven players (3.6%) The omnibus F test revealed that

statistically significant differences were only found in the factor of identity ($F = 11.98$, $p < 0.01$). The LSD post-hoc showed that group one (my golf knowledge is excellent) was significantly higher than group two (my golf knowledge is okay) and group three (my golf knowledge is poor).

Table 4.18

Analysis of Variance of Golf Knowledge Level

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.	LSD Post Hoc
Perseverance	Between	3.48	2	1.74	2.26	0.10	
	Within	144.68	188	0.77			
	Total	148.17	190				
Effort	Between	0.18	2	0.09	0.08	0.91	
	Within	202.55	188	1.07			
	Total	202.73	190				
Benefits	Between	2.96	2	1.48	2.81	0.06	
	Within	98.82	188	0.52			
	Total	101.78	190				
Identity	Between	29.59	2	14.79	11.98	<0.01	
	Within	232.11	188	1.23			1>2、3
	Total	261.70	190				
Unique Ethos	Between	3.41	2	1.70	1.56	0.21	
	Within	205.63	188	1.09			
	Total	209.05	190				
Leisure Career	Between	3.89	2	1.94	2.97	0.05	
	Within	122.93	188	0.65			
	Sum	126.82	190				

Note: 1 = my golf knowledge is excellent. 2 = my golf knowledge is okay. 3 = my golf knowledge is poor.

Comparison among/between different demographic variables

Sex. Table 4.19 presents the results of *t*-tests between males and females in each serious leisure factor. Results show no significant difference between male and female serious golfers in any serious leisure factor.

Table 4.19

T-test between Male and Female

Factor	Sex	N	Mean	S. D.	t	P value
Perseverance	Male	171	7.93	0.89	-0.56	0.57
	Female	20	8.05	0.82		
Effort	Male	171	8.01	1.06	0.378	0.70
	Female	20	7.92	0.76		
Benefits	Male	171	7.38	0.72	-1.57	0.11
	Female	20	7.65	0.79		
Identity	Male	171	7.53	1.17	0.52	0.59
	Female	20	7.38	1.22		
Unique Ethos	Male	171	7.35	1.06	-0.39	0.69
	Female	20	7.45	0.93		
Leisure Career	Male	171	7.97	0.82	-0.27	0.78
	Female	20	8.03	0.72		

Marital status. Table 4.20 presents the results of *t*-test between married and single golfers in each serious leisure factor. The results showed that there was no significant difference between married and single people who golf in any serious leisure factor.

Table 4.20

T-test for Marital Status

Factor	Marital status	N	Mean	S. D.	*t*	P value
Perseverance	Married	117	7.98	0.89	0.74	0.45
	Single	74	7.88	0.86		
Effort	Married	117	7.89	1.07	-1.87	0.06
	Single	74	8.18	0.94		
Benefits	Married	117	7.41	0.68	-0.05	0.95
	Single	74	7.41	0.81		
Identity	Married	117	7.59	1.10	1.23	0.21
	Single	74	7.38	1.27		
Unique Ethos	Married	117	7.47	1.02	1.78	0.07
	Single	74	7.19	1.07		
Leisure Career	Married	117	7.96	0.88	-0.37	0.71
	Single	74	8.01	0.70		

Race. Table 4.21 presents a summary of the results for the comparison among different races of golfers. The results revealed that there was no significant difference among different races of golfers in any serious leisure factor.

Table 4.21

Analysis of Variance for Race

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.
Perseverance	Between	1.84	2	0.92	1.18	0.08
	Within	146.32	188	0.77		
	Total	148.17	190			
Effort	Between	0.91	2	0.45	0.42	0.55
	Within	201.82	188	1.07		
	Total	202.73	190			
Benefits	Between	2.62	2	1.31	2.48	0.14
	Within	99.16	188	0.52		
	Total	101.78	190			
Identity	Between	18.34	2	9.17	7.08	0.38
	Within	243.36	188	1.29		
	Total	261.70	190			
Unique Ethos	Between	10.90	2	5.45	5.17	0.83
	Within	198.14	188	1.05		
	Total	209.05	190			
Leisure Career	Between	6.16	2	3.08	4.79	0.39
	Within	120.66	188	0.64		
	Sum	126.82	190			

Age. Table 4.22 displays a summary of the results for comparison among different ages of golfers. The results showed that there was no significant difference among different aged golfers in any serious leisure factor.

Table 4.22

Analysis of Variance of Age

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.
Perseverance	Between	0.89	3	0.29	0.38	0.76
	Within	147.27	187	0.78		
	Total	148.17	190			
Effort	Between	4.41	3	1.47	1.38	0.24
	Within	198.31	187	1.06		
	Total	202.73	190			
Benefits	Between	2.86	3	0.95	1.80	0.14
	Within	98.92	187	0.52		
	Total	101.78	190			
Identity	Between	3.44	3	1.14	0.83	0.47
	Within	258.26	187	1.38		
	Total	261.70	190			
Unique Ethos	Between	1.46	3	0.48	0.43	0.72
	Within	207.59	187	1.11		
	Total	209.05	190			
Leisure Career	Between	2.04	3	0.68	1.02	0.38
	Within	124.78	187	0.66		
	Sum	126.82	190			

Household income. Table 4.23 presents a summary of the results for the comparison among golfers with different household incomes. The results revealed that group three ($60K-100K) was significantly higher than group four ($100k⁺) in the factor of leisure career (F = 3.75, p < 0.05).

Table 4.23

Analysis of Variance of Household Income

Factor	Source	Sums of Square	df	Mean Square	F	Sig.	LSD Post Hoc
Perseverance	Between	0.26	3	0.08	0.11	0.95	
	Within	147.90	187	0.79			
	Total	148.17	190				
Effort	Between	6.46	3	2.15	2.05	0.10	
	Within	196.27	187	1.05			
	Total	202.73	190				
Benefits	Between	1.89	3	0.63	1.17	0.31	
	Within	99.89	187	0.53			
	Total	101.78	190				
Identity	Between	0.26	3	0.08	0.06	0.98	
	Within	261.44	187	1.39			
	Total	261.70	190				
Unique Ethos	Between	1.87	3	0.62	0.56	0.63	
	Within	207.18	187	1.10			
	Total	209.05	190				
Leisure Career	Between	7.20	3	2.40	3.754	0.01	
	Within	119.62	187	0.64			3>4
	Sum	126.826	190				

Note: 1 = under $35K. 2 = $35K-$59,999. 3 = $60K-$100K. 4 = $100K⁺

Education background. Table 4.24 presents a summary of the results for the comparison among golfers who have different educational backgrounds. The results showed that there was no significant difference among golfers who have different educational backgrounds in any serious leisure factor.

Table 4.24

Analysis of Variance of Education Background

Factor	Source	Sums of Square	df	Mean Square	F value	Sig.
Perseverance	Between	1.40	2	0.70	0.90	0.40
	Within	146.76	188	0.78		
	Total	148.17	190			
Effort	Between	0.45	2	0.22	0.21	0.80
	Within	202.28	188	1.07		
	Total	202.73	190			
Benefits	Between	1.17	2	0.58	1.10	0.33
	Within	100.60	188	0.53		
	Total	101.78	190			
Identity	Between	1.88	2	0.94	0.68	0.50
	Within	259.82	188	1.38		
	Total	261.70	190			
Unique Ethos	Between	0.83	2	0.41	0.376	0.68
	Within	208.22	188	1.10		
	Total	209.05	190			
Leisure Career	Between	1.96	2	0.98	1.47	0.23
	Within	124.86	188	0.66		
	Total	126.82	190			

Golf course membership. Table 4.25 presents a summary of *t*-tests between golf club members and non-members. The results showed that golf club members ware significantly higher than non-members in four factors, which included benefits ($t = 2.45$, $p < 0.05$), identity ($t = 3.09$, $p < 0.01$), unique ethos ($t = 2.23$, $p < 0.05$), and leisure career ($t = 3.90$, $p < 0.01$).

Table 4.25

T- test for Golf Course Membership or not

Factor	Membership or not	N	Mean	S. D.	*t*	P value
Perseverance	Yes	72	8.09	0.84	1.91	0.05
	No	117	7.84	0.89		
Effort	Yes	72	8.10	0.92	1.11	0.26
	No	117	7.93	1.09		
Benefits	Yes	72	7.57	0.75	2.45	0.01*
	No	117	7.30	0.70		
Identity	Yes	72	7.83	1.04	3.09	0.00*
	No	117	7.30	1.20		
Unique Ethos	Yes	72	7.574	1.13	2.23	0.02*
	No	117	7.228	0.96		
Leisure Career	Yes	72	8.261	0.61	3.90	<0.01*
	No	117	7.800	0.87		

Note: * p < .05

Testing of Casual Golfers

In this section, demographic information, leisure involvement situation, and exploratory structure of casual golfers' characteristics are discussed.

Demographic information. Table 4.26 presents the demographic information of casual golfers for this study. The total number of participants of this study was 292

golfers. Among them, 101 participants scored equal to or less than six and one half points on Gould's SLIM short form and were considered as casual golfers for this study. The descriptive data indicated that 83.2% of the serious golfers of this study were male (n = 84), and 16.8% were female (n = 17). In marital status, 54.5% of this sample population (n = 55) were married, and 45.5% were single (n = 46). Similar to the serious golfers' sample, the majority of the casual golfers were White (n = 84, 83.2%), followed by other races (n = 15, 14.9%); only 2.0% of the sample was African American (n = 2). Again, same as the serious golfers' sample, golfers aged from 40 to 65 ranked the largest population for this sample (n = 45, 44.6%), followed by age 21-39 (n = 43, 42.6%). The group with a yearly income under $35,000 comprised the largest population (n = 38, 37.6%). A yearly household income between $60,000 and $100,000 ranked second in terms of size of the sample (n = 33, 32.7%), which differed from the serious golfers' sample, in which the same yearly household income made up the largest percentage of golfers (n=68, 35.6%). Around 52.0% of the sample graduated from college (n = 53), and 24.8% graduated from high school or less (n = 25); almost 23.0% graduated from graduate schools. The last variable, club membership, showed that 69.3% of the sample (n = 70) did not belong to any golf club, while 30.7% (n = 31) were members of a golf club.

Table 4. 26

Demographic Profiles of the Casual Golfer (N = 101)

Categorical variables	Freq.	Percentage
Sex		
Male	84	83.2%
Female	17	16.8%
Marital Status		
Married/Cohabiting	55	54.5%

Table 4. 26 (*continued*)

Demographic Profiles of the Casual Golfer (N = 101)

Categorical variables	Freq.	Percentage
Single	46	45.5%
Race		
White	84	83.2%
African American	2	2.0%
Others	15	14.9%
Age		
Under 21	9	8.9%
21-39	43	42.6%
40-65	45	44.6%
65 and over	4	4.0%
Income		
Under $35K	38	37.6%
$35K - $59,999	16	15.8%
$60K - $100,000	33	32.7%
$100K$^+$	14	13.9%
Education background		
High school or less	25	24.8%
College degree	53	52.5%
Graduate or above	23	22.8%
Member of golf club or not		
Yes	31	30.7%
No	70	69.3%

Leisure involvement information. Table 4.27 demonstrates the leisure

information of the casual golfers in this study. Categories of leisure involvement used in

this study included skill levels, golf experience, time spent on playing or practicing golf

per week, time spent on acquiring golf information per week, rounds of playing golf per

week, average annual expenditure for golf, levels of a golfer devotes to golf activity, and

proficiencies about golf knowledge. For skill levels, the group with a handicap between

18 and 36 was the largest population for this sample (n = 34, 33.7%), followed by the

group with handicap over 36 (n = 28, 27.7%). Golfers with a handicap between 10 and 18 made up about 26.7% of the sample (n = 27). Only 5.0% of the sample (n = 5) had a handicap between one and nine.

In terms of golf experience, 38.6% of the casual golfers reported playing golf more than ten years (n = 39, 38.6%), followed by the less-than-one-year group (n = 28, 27.7%). In terms of time spent playing golf, the majority of the casual golfers spent less than four hours a week (n = 62, 61.4%), followed by the group playing between four and eight hours a week (n = 29, 28.7%); only 1.0% of this population spent more than 24 hours a week playing golf (n = 1).

For time spent on acquiring golf information, the majority of the casual golfers spent less than one hour a week to acquire golf information (n = 68, 67.3%), and only 5.0% of the population spent more than 24 hours to acquire golf information (n = 5). For number of rounds of playing golf a week, 54.5% of the casual golfers played less than one round of golf a week (n = 85), followed by the group of playing one or two rounds a week (n = 35, 35.6%). In terms of expenditure for golf a year, 64.4% of the casual golfers spent less than $500 U.S. dollars (n = 65) on golf each year, while only 4.0% of the population spent more than $2,000 U. S. dollars a year on golf (n = 4). Around half of the casual golfers considered golf as one of their favorite activities (n = 48, 47.5%), and only 9.9% of the casual golfers deemed golf as their favorite activity (n = 10). In terms of proficiencies about golf knowledge, more than 60.0% of the casual golfers thought their golf knowledge was "Okay" (n = 62, 61.4%), and 17.8% of the casual golfers reported that their golf knowledge was excellent (n = 18).

Table 4. 27

Leisure Involvement Information of the Casual Golfer (N = 101)

Categorical variables	Freq.	Percentage
Skill levels		
No handicap	7	6.9%
Handicap 1-9	5	5.0%
Handicap 10-18	27	26.7%
Handicap 19-36	34	33.7%
Over 36	28	27.7%
Golf experience		
Less than one year	28	27.7%
1-2 years	15	14.9%
3-9 years	19	18.8%
10 years and more*	39	38.6%
Time spent on playing or practicing golf per week		
Less than 4 hours	62	61.4%
4^+ - 8 hours	29	28.7%
8^+ -16 hours	9	8.9%
16^+ - 24 hours	1	1.0%
More than 24 hours	0	0.0%
Time spent on acquiring golf information per week		
Less than one hour	68	67.3%
1-4 hours	23	22.8%
5-8 hours	5	5.0%
More than 8 hours	5	5.0%
Rounds of playing golf per week		
Less than one round	55	54.5%
1-2 rounds	36	35.6%
3-4 rounds	5	5.0%
5 rounds and above	5	5.0%
Average annual expenditure for golf		
Less than $500	65	64.4%
$500-$1,000	21	20.8%
$1001-$2,000	11	10.9%
More than $2,000	4	4.0%
Golf is		
My favorite activity	10	9.9%
One of my favorite activities	48	47.5%
One of my casual activities	27	26.7%

Table 4. 27 (*continued*)

Leisure Involvement Information of the Casual Golfer (N = 101)

Categorical variables	Freq.	Percentage
Nothing but a leisure activity	16	15.8%
My golf knowledge is		
Excellent	18	17.8%
Okay	62	61.4%
Poor	17	16.8%
Very poor	4	4.0%

Exploratory factory analysis for casual golfers.

Test of normality. To test the univariate normality of each item, the researcher inspected the frequency distributions to examine the skewness and kurtosis values of each variable. According to Kline's (2005) guidelines, the interpretation of the absolute values of standardized skew or kurtosis indexes is useful in larger samples. Kline (2005) suggested that variables with absolute values with a skew index greater than 3.0 are considered to be extremely skewed, and those with an absolute value of the kurtosis index greater than 10.0 should be eliminated. Appendix C provides the mean, standard deviation, skewness, and kurtosis scores. It showed that Q11 (golf is enjoyable to me) had the greatest mean (mean = 7.33), while Q29 (I have received financial payments as a result of my golf efforts.) had the smallest mean (mean = 2.74). Appendix C indicates that all absolute values of skew index were less than 3.0, and all kurtosis indexes were less than 10.0. Therefore, it can be inferred that all variables were normally distributed.

Item analysis. Item analysis refers to a varied group of statistics that are computed for each item on a test. These item statistics help to determine the role each item plays with respect to the entire test. It is usually calculated by ranking the

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respondents according to the total score, and then selecting the top 27.0% and the lowest

27.0% in terms of the total score. An independent *t*-test is used to compare item

responses to the total test scores between these two groups of respondents. Items for

which the *t* value does not reach the significant level should be eliminated. Appendix G

shows that all *t* values except Q32 (financial return-2; $t = 0.58$), Q33 (financial return-3; *t*

$= 0.32$), and Q48 (unique ethos-3; $t = 1.68$) were greater than 1.96 (p < .05). Therefore,

these three items were eliminated from Exploratory Factor Analysis.

  Reliability assessment. The reliability of the SLIM for casual golfers was

evaluated for internal consistency using the Cronbach alpha statistic. Since the Cronbach

alpha coefficients of Q11, Q36, and Q47 (.944, .943, .944) were either equal or greater

than the Cronbach alpha coefficients of whole scale (.943), these three questions were

eliminated. By eliminating these six items, the Cronbach alpha coefficient of the

remaining 48 items was 0.94 (p < .05). It can be inferred that the internal consistency of

the SLIM for the casual golfers was very high.

  Exploratory factor analysis. After checking for normality, item analysis, and

internal consistency of the data, the researcher could conduct exploratory factor analysis

to explore the structure of the questionnaire. Factor analysis is often used to identify the

components underlying a large set of variables or to reduce large numbers of variables to

smaller groups. That is, exploratory factor analysis can be applied to determine the

underlying structure of an instrument. Therefore, the 48 items of the SLIM can be divided

into few broad groups of items. However, to determine the number of the factors is one of

the difficult tasks in factor analysis. Eigenvalues or scree plot tests are often used to

determine factors. An eigenvalue is a number that represents the amount of variance

accounted for in the factor (Kachigan, 1991). As a general rule, a researcher attempts to interpret only the factors that have eigenvalues greater than 1. A scree plot test is a visual plot of eigenvalues against all factors. Based on the rule of selecting factors that have eigenvalues greater than 1, the rule suggests leaving 12 factors for consideration. Reducing the data to 12 factors still leaves too many factors to be analyzed for this study. Based on the scree plot, only three factors are recommended and they can only explain 39.41% of the total cumulative variances. Therefore, the researcher decided to choose six factors that accounted for a total cumulative percentage of the variance of 60.65%. In addition, a Kaiser's Varimax rotation was applied to make the interpretation of factors easier.

Table 4.28 displays the factor loading of each item, and the total variances explained by each factor. The first factor includes 14 items (perservance-3; personal enrichment-1, self-enjoy-1, 2, and 3; recreation-1, 2, and 3; financial return-1; group attraction-1; career progress-1, 2, and 3; career contingencies-3), which explain 17.57% of the total variance. The second factor includes 13 items (personal enrichment-2, and 3; self-actualization-3; self-express ability-3; self-image-3; self-satisfaction-2, and 3; identity-1, 2, and 3; unique ethos-1, and 2; career contingencies-2), which explained 12.90% of the total variance. The third factor consists of four items (group accomplishments-2, and 3; group maintenance-2, and 3), which explain 8.95% of the total variance. The fourth factor includes eight items (self-actualization-1; self-express ability-2; self-express individual-1, 2, and 3; self-image-1, and 2; self--satisfaction-1), which all together explain 8.50% of the total variance. The fifth factor consists of five items (perseverance-1; effort-1, 2, and 3; self-express ability-1), which explain 6.86% of

the total variance. Finally, the sixth factor includes four items (perseverance-2; group

attraction-2; 3; group accomplishments-1; career contingencies-1), which explain 5.90%

of the total variance.

Table 4.28

Factor Analysis of Casual Golfers

Item	Total Variance Explained %	Cumulative %	Component					
			Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Perseverance-3			.587	.191	.206	.113	.329	.184
Personal-Erihment-1			.427	.095	-.333	.276	.310	.342
Self-Enjoy-1			.897	.063	-.040	.026	.143	-.024
Self-Enjoy-2			.885	.013	-.065	-.049	.184	-.100
Self-Enjoy-3			.869	.094	-.007	-.082	.166	-.165
Re-Creation-1			.663	.047	.005	.293	-.055	.263
Re-Creation-2			.617	.194	-.171	.120	.113	.282
Re-Creation-3			.617	.281	.054	.225	.058	.261
Financial Return-1	17.566	17.566	.329	.324	-.017	.236	.253	.257
Group Attraction-1			.728	-.062	.312	.077	-.049	.250
Career Progress-1			.697	.020	.034	-.017	.320	.015
Career Progress-2			.757	-.054	.024	-.084	.242	-.043
Career Progress-3			.754	-.079	.059	.087	.263	.004
Career Contingencies-3			.497	.210	.358	.007	-.025	.200
Personal-Enrichment-2			.208	.576	-.117	.124	.420	.267
Personal-Enrichment-3			.345	.496	-.065	.046	.288	.098
Self-Actualization-3			-.044	.514	.243	.336	.061	.168
Self-Express Ability-3			.217	.528	.091	.131	.282	-.297
Self-Image-3	12.896	30.461	-.049	.624	.214	.375	.011	.041
Self-Satisfaction-2			.429	.588	.005	.276	.160	-.031
Self-Satisfaction-3			.517	.557	-.058	.263	.016	.089
Identity-1			-.137	.585	.127	.229	.050	.503
Identity-2			-.105	.658	.399	.18	-.041	.002
Identity-3			.028	.740	.303	-.05	-.094	.072
Unique Ethos-1			-.045	.496	.366	.254	.202	.388
Unique Ethos-2			.003	.665	.298	.070	.038	.147

Table 4.28 (*continued*)

Factor Analysis of Casual Golfers

Item	Total Variance Explained %	Cumulative %	Component					
			Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Career Contingencies-2			.280	.504	.297	.147	-.019	.215
Group Accomplishment-2			.020	.290	.783	.097	.048	.157
Group Accomplishment-3	8.952	39.413	.165	.206	.738	.187	-.038	.005
Group Maintenance-2			-.069	.164	.775	.101	.110	.111
Group Maintenance-3			-.030	.207	.735	.218	.013	.051
Self-Actualization-1			.278	-.128	-.088	.433	.331	.335
Self-Express Ability-2			.166	.297	.201	.518	.283	-.292
Self-Express Individual-1			.046	.182	.083	.750	.190	.060
Self-Express Individual-2	8.489	47.902	.097	.518	.272	.539	-.009	.101
Self-Express Individual-3			-.066	.467	.287	.531	.063	-.061
Self-Image-1			.050	.132	.138	.693	-.131	.265
Self-Image-2			.035	.431	.263	.540	-.056	-.013
Self-Satisfaction-1			.479	.193	-.108	.486	.005	.330
Perseverance-1			.215	.21	-.115	-.01	.582	.316
Effort-1			.422	-.11	-.029	.164	.639	.141
Effort-2	6.855	54.756	.369	-.075	.148	.012	.695	.013
Effort-3			.245	.26	.185	.141	.723	-.164
Self-Express Ability-1			.091	.176	.150	.528	.384	.175
Perseverance-2			.186	.296	.391	-.053	.269	.435
Group Attraction-2			.416	.018	.344	.055	.038	.466
Group Accomplishment-1	5.889	60.645	.121	.165	.264	.298	.051	.562
Career Contingencies-1			.180	.222	.346	.124	.145	.482

Extraction method: Principal component analysis; Rotation Method: Varimax with Kaiser Normalization

Conclusions Based on Findings

     Research question one and hypothesis one. Are the characteristics of serious golfers the same as the characteristics of the Stebbins' serious leisure theory? H1: There is no difference between the tested characteristics of serious golfers and the characteristics of Stebbins' serious leisure theory.

     As shown in Figure 4.3, the final model of serious golfers of this study consisted of 48 items, 18 sub-factors, and all Stebbins' six serious leisure factors. Therefore, the null hypothesis was rejected. The results supported that the characteristics of serious golfers are the same as the characteristics of Stebbins' serious theory.

     Research question two. What is the theoretical structure of casual golfers' characteristics, and is it different from the serious golfers'?

     Through Exploratory Factor Analysis, the data collected from casual golfers could be categorized into five theoretical factors, which are "Enjoy Recreation Activities toward Career Progress", "Self-Satisfaction and Enrichment through Unique Identity", "Group Achievement and Maintenance", "Benefits received from Self-Express and Self-Image", and "Personal Effort". This theoretical structure is different from the structure of serious golfers' characteristics. In general, the obtained characteristics of the serious golfers in this study were validated through CFA. These obtained characteristics could truly represent the characteristics of serious golfers. Different from characteristics of serious golfers, however, the characteristics of casual golfers in this study were obtained through EFA. These characteristics should not be deemed to be the real characteristics of casual golfers which is why these five characteristics of casual golfers were emphasized as a theoretical structure of casual golfers in this study.

Research question three. What are the differences of demographic variables and golf involvement variables between serious and casual golfers?

The demographic distributions are similar to each other between serious and casual golfers. White males, aged 40-65, graduated from college, not a golf club member, with a household income between $60,000 and $100,000 consisted the biggest population for both serious golfers and casual golfers. However, considerable differences were found in leisure involvement variables between serious golfers and casual golfers. In general, serious golfers are more involved in golf activity than the casual golfers.

Research question four and hypothesis two. Does any difference exist in the characteristics of serious golfers among different levels of golf involvement? H2: There is no significant difference in the characteristics of serious golfers among different levels of golf involvement.

Overall, few differences existed in perseverance, benefits, and unique ethos factors among different levels of golf involvement, while many differences were found in effort, identity, and leisure career factors. Therefore, the null hypothesis that stated, "There is no significant difference in the characteristics of serious golfers among different levels of golf involvement" was rejected. The results supported that significant differences in the characteristics of serious golfers among different levels of golf involvement do exist.

Research question five and hypothesis three. Is there any difference in the characteristics of serious golfers between/among different demographic variables? H3: There is no significant difference in the characteristics of serious golfers between or among different demographic variables.

Significant differences existed in the characteristics of serious golfers between or among different demographic variables, and the null hypothesis was rejected. Membership status was the only demographic variable in this study that revealed differences in serious leisure factors. Table 4.24 showed that golf course memberships were significantly higher than non-membership golfers in benefits, identity, unique ethos, and leisure career factors.

CHAPTER V

DISCUSSION OF FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

This chapter is divided into three sections. The first section is a discussion of the

data analysis. Next, implications are outlined. Finally, recommendations for future

research are discussed.

Discussion of Findings

Comparisons of descriptive information between serious and casual golfers.

Comparisons of demographic information between serious golfers and casual golfers can

be achieved by referring to Table 4.1 and Table 4.26 in Chapter 4. Surprisingly, the

demographic distributions are similar to each other between serious golfers and casual

golfers. White males, aged 40-65, graduated from college, not a golf club member, with a

household income between $60,000 and $100,000 dollars comprised the largest portion

of the sample for both serious and casual golfers. However, significant differences could

be detected by comparing leisure involvement variables between serious golfers and

casual golfers. More than 72% of serious golfers had a handicap under 18. In contrast,

almost 60% of the casual golfers had a handicap over 18. More than 76% of the serious

golfers spent at least four hours a week in practicing golf, while less than 38% of the

casual golfers spent more than four hours a week practicing golf. More than 75% of the serious golfers spent at least one hour a week in acquiring golf information, while less than 30% of the casual golfers spent more than one hour a week in acquiring golf information. Further, more than 77% of the serious golfers played at least one round of golf a week, while less than 46% of the casual golfers play more than a round of golf weekly.

Nearly 65% of casual golfers reported that they spent less than $500 dollars a year on golf, whereas almost 75% of serious golfers claimed that they spent at least $500 dollars in golf annually. More than 40% of serious golfers claimed that golf was their favorite activity, but only 10% of the casual golfers reported that golf was their favorite activity. More than 50% of the serious golfers reported that their golf knowledge was excellent, and another 45% of the serious golfers deemed their golf knowledge as okay. In contrast, fewer than 18% of the casual golfers considered their golf knowledge to be excellent. Obviously, the serious golfers are more involved in golf activity than the casual golfers.

Serious golfers. Stebbins (2001) pointed out that social attraction is one of the most significant rewards from serious leisure whereas financial return is one of the least important rewards. The present study also found that financial return (mean = 5.95) was the least important benefits (reward). However, unlike Stebbins' claim, self-enjoy (mean = 8.51) rather than group attraction was ranked as the most significant reward in this study. This finding is same as Hou's (2008) study, which also ranked self-enjoy as the first among 18 serious leisure factors; financial return was ranked as the last.

A comparison of Hou's study and the present study, ranking various factors, is provided in Table 5.1. In general, the rankings of these two studies are similar. Only four factors (self-actualization, unique ethos, career progress, and career contingence) had a ranking difference greater than four. The reason for the difference between Stebbins' finding and Hou's and the present study's findings might be due to the research subjects. Subjects in Stebbins' research included archaeologists, baseball players, hockey players, and music lovers. Hou and the researcher of this study used golfers as the research subjects in their studies. Both baseball and hockey are known as team oriented sports, while golf is a very intrapersonal-oriented activity and requires a lot of skills, knowledge, and effort to reach a satisfying experience. Therefore, Stebbins finding that group attraction as the most significant reward seems reasonable, but is not supported by data in this research. The researcher of this study, along with Hou, found self-enjoyment as the most important benefit in their studies.

Table 5.1

Comparison of Factors Ranking between Hou's and the Present Study

Factor	The present study		Hou's Study	
	Mean	**Ranking**	**Mean**	**Ranking**
Self –Enjoy	8.51	1	7.87	1
Career Progress	8.19	2	7.58	7
Effort	8.11	3	7.82	2
Perseverance	7.99	4	7.55	8
Personal Enrichment	7.98	5	7.46	9
Self-Satisfaction	7.92	6	7.68	5
Group Attraction	7.87	7	7.72	4
Re-Creation	7.82	8	7.62	6
Career Contingencies	7.64	9	7.14	16

Table 5.1 (*continued*)

Comparison of Factors Ranking between Hou's and the Present Study

Factor	The present study		Hou's Study	
	Mean	**Ranking**	**Mean**	**Ranking**
Identity	7.51	10	7.22	15
Self-Express ability	7.44	11	7.46	10
Unique Ethos	7.36	12	7.00	17
Self Image	7.27	13	7.32	14
Self-Express Individual	7.24	14	7.41	11
Group Maintenance	7.19	15	7.33	13
Group Accomplishment	7.16	16	7.34	12
Self-Actualization	6.99	17	7.46	9
Financial Return	5.95	18	6.35	18

Gould's SLIM short form was developed based on Stebbins' serious leisure theory. The SLIM consists of 54 items which was used to measure 18 sub-factors of serious leisure theory, and these 18 sub-factors were then used to measure Stebbins' six serious leisure factors. However, only 20 items, eight sub-factors, and four of Stebbins' six serious leisure factors were kept as serious leisure characteristics in Hou's study. Hou (2008) suggested that the reason for the different results between her study and Gould's study might be due to the racial differences of the subjects. The subjects in Hou's study were 301 Taiwanese golfers, while most subjects of Gould's study were Americans who were either college students or members of racing, running, and paddling associations. This study suggested that the 54 items in Gould's SLIM could be reduced to 48 items (Q1, Q4, Q7, Q10, Q31, and Q54 were eliminated); all 18 sub-factors and Stebbins' six serious leisure factors were kept as the characteristics of serious leisure. Table 5.2

presents a summary and comparison among Stebbins' theory, Gould's, Hou's, and the present study.

Table 5.2

Comparisons among Stebbins' Theory, Gould's, Hou's, and the Present Studies

Study	Method	Nationality of Subjects	Activities	Items left	Number of Sub-factors	Number of factors
Stebbins	Qualitative research	N/A	Archaeology, baseball, music	N/A	N/A	6
Gould's	CFA	American	Racing, paddling, trail running	54	18	6
Hou's	CFA	Taiwanese	Golf	20	8	4*
The present study	CFA	American	Golf	48	18	6

Note: * Unique ethos and leisure career were eliminated from Stebbins' serious leisure theory.

Theoretical structure of characteristics of casual golfers. One of the purposes of this study was to explore the theoretical structure of casual golfers' characteristics. Table 4. 28 shows that the 48 SLIM items can be categorized into six factors. Therefore, it is necessary for the researcher to give names for each obtained category. Since some same-category variables (items) were distributed into different factors, it was difficult to distinguish these factors by giving each of them a specific name. However, many same-category variables were located in the same factor. For example, self-enjoy, recreation, career progress, identity, self-express individual, and effort all have their three items distributed to the same factor. Factors that own two same-category items include the

variables of personal enrichment, self-satisfaction, unique ethos, group accomplishment, group maintenance, self-image, and group attraction. Therefore, the researcher gave each factor a general name as the result of the exploratory factory analysis of the casual golfer.

The first factor was more enjoyment, recreation oriented and with a career progress characteristic; hence, it can be named "Enjoy Recreation Activities toward Career Progress". The second factor had tendency to be self-centered toward enrichment and satisfaction with strong identity and unique ethos, so it can be named as "Self-Satisfaction and Enrichment through Unique Identity". The third factor was more group oriented, and can be named as "Group Achievement and Maintenance". All variables of the fourth factor belonged to the factor of durable benefits in Gould's SLIM, and these variables were more self-express and self-image oriented. Therefore, it was named "Benefits received from Self-Express and Self-Image". The fifth factor mainly consisted of three items of personal effort, which was similar to one of the six Stebbins' serious leisure characteristics "personal effort". Therefore the fifth factor was named "Personal Effort". The sixth factor included four items (perseverance-2; group attraction-2; 3; group accomplishments-1; career contingencies-1), since neither the same sub-factors nor the similar tendency toward a same leisure characteristic could be found from the sixth factor, it was called "other" and eliminated from the theoretical structure of characteristics of casual golfers.

Differences in serious leisure factors among different levels of golf involvement. Table 5.3 provides a summary of differences in serious leisure factors among different levels of golf involvement. In sum, few differences existed in perseverance, benefits, and unique ethos factors among different levels of golf

involvement, while many differences were found in effort, identity, and leisure career

factors. Since identify is the only factor that showed differences (by checking the

involvement level) among different skill levels and golf experiences, one can infer that

these two variables might not be good indices to differentiate among Stebbins' six serious

leisure factors. In contrast, rounds of playing golf, and golfers' favor in golf could be

better indices to distinguish differences among serious leisure factors.

Table 5.3

Summary of Differences in Serious Leisure Factors among Different Levels of Golf Involvement

Factor Variables	Perseverance	Effort	Benefits	Identity	Unique Ethos	Leisure Career
Skill Level				X		
Golf Experience				X	X	X
Hours spent practicing		X		X		X
Hours spent acquiring information		X				X
Rounds /week		X		X	X	X
Money spent /year	X	X				X
Golf preference		X	X	X		X
Golf knowledge				X		

Note: X means significant difference exists with p < .05.

Differences in serious leisure factors between/among different demographic

variables. Seven demographic variables were included in this study: sex, marital status,

race, age, household income, education background, and golf course membership. No

difference was found in all demographic variables except household income and

membership status. For household income, golfers with yearly incomes between $60,000 and $100,000 were significantly higher than golfers with yearly incomes over $100,000 in leisure career factor. This result was very surprising in that it is hard to find the reason why the higher the income, the lower the career progress and career contingencies between these two groups of income-earning golfers. Overall, membership status was the only demographic variable in this study that could reveal differences in serious leisure factors. Table 4.24 showed that golf course memberships are significantly higher than non-membership golfers in benefits, identity, unique ethos, and leisure career factors. The reason why significant differences did not exist in personal efforts and perseverance factors between golfers which had club memberships and golfers that were non-members might be that both personal efforts and perseverance were more intrapersonal oriented characteristics, while the other four factors (benefits, identity, unique ethos, and leisure career factors) were more interpersonal oriented characteristics.

Implications for Further Studies

It is well known that a good measurement instrument needs to be tested and validated repeatedly to become a better one. Gould (2005) developed the SLIM and used a convenience sample (college students) and target sample (members from U.S. Adventure Racing Association, All American Trail Running Association, and Paddling.net) to cross-validate the SLIM. Hou (2008) applied Gould's SLIM to survey 301 golfers (valid) in Taiwan, and her finding showed that only four characteristics of serious leisure were validated. Only eight out of Gould's 18 sub-factors were verified in Hou's serious leisure model. Hou (2008) argued that the reason for the different results between her study and Gould's study might be due to either nationality or cultural

differences. However, it is possible that the difference could be partly due to using different activities for their studies (e.g. running vs. golf). Therefore, the present study could be offered as a comparison or contrast for Hou's and Gould's study.

The research for this study argued that the differences between Hou's results and Gould's, or the study of the researcher's might not be due to the nationality or cultural differences, because, as shown in Table 5.1, there was considerable similarity between Hou's and the present study. The researcher of this study strongly considered that differences could be due to social-economic status. For example, to play a round of golf in Taiwan normally costs more than $100 U.S. Dollars, while it costs only $25 to $30 U.S. Dollars in Oklahoma. Besides, the average income of Americans is nearly double the average income of Taiwanese. That is, American golfers' income should be close to the average income of American, whereas, Taiwanese golfers could be the top 20% of money makers in Taiwan.

In addition to validating Gould's SLIM and offering a comparison between Gould's and Hou's studies, the present study provided information regarding differences in serious leisure factors among different levels of golf involvement. For example, differences in factors such as identity, effort, and leisure career have been found in most golf involvement variables, while differences in factors like perseverance or benefits was only found in one involvement variable. Since these information (finding) was obtained after testing Stebbins' Serious leisure and Gould's SLIM, these information (finding) could serve as solid bases for further studies.

Recommendations for Future Studies

Based on the experiences of conducting this research, the researcher suggests the following recommendations for future studies:

1. Confirmatory Factor Analysis is a very popular statistical technique in social research world. However, many arguments related to CFA techniques still remain contested among scholars. If a researcher relies too much on statistical techniques, not only the robustness of a theory might not be improved, but there is also a high possibility of sacrificing the justice of a theory. Therefore, it is strongly recommended that a solid and well-developed theory have to be obtained before applying CFA.

2. Due to the difficulty of recruiting samples for this study, subjects were not randomly selected. Surveyed golf courses were not randomly chosen either. Therefore, if both time and budget are available, the subjects and surveyed places should be randomly selected.

3. Sample size could be a considerable element to accept or reject a model. In addition to attaining 100 subjects as the minimal criteria to apply CFA, a researcher has to increase the sample based on the size of the tested model. Gould's SLIM consists of 54 items that are belonged to 18 factors, and these 18 factors are sub-factors of another higher order factors. Furthermore, those six factors are sub-factors of another higher order factor. Therefore, 191 subjects for this study are still insufficient. Though the final model of this study passed most test criteria, nevertheless, two average variance extracted values did not meet the minimal criteria (though they are very close). If the sample size is big enough (for example, 400), the model could be accepted better.

4. The criterion to being categorized into serious golfers is to choose those whose average score was equal to or greater than 6.5 in Gould's SLIM. Therefore, most serious golfers would circle the numbers from 6 to 9. This will lead to a serious problem: the collected data for the serious golfers would be highly correlated and a collinear problem might occur. Fortunately, the SLIM is a nine point–Likert scale, so the collinear situation is not a serious problem for this study. However, for further studies, it is better to observe this problem when conducting research.

5. In this study, the SLIM was also applied to explore the theoretical structure of characteristics of casual leisure through Exploratory Factor Analysis. Statistically, the application of EFA to explore the theoretical structure of characteristics of casual golfers seems to be satisfactory; however, a new measurement instrument that is specific to test casual golfers is needed. Besides, the 54 items of SLIM are actually belonged to only 18 variables (three variables in each sub-factor) rather than 54 variables. It is probably more proper to explore the theoretical structure of characteristics of casual golfers by using 18 variables other than 54 variables.

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APPENDICES

Appendix A

Serious Leisure Inventory and Measure Short Form

Serious Leisure Inventory and Measure Short Form by Gould

Quality	Item

Perseverance

1. If I encounter obstacles in _____, I persist until I overcome them.
2. By persevering, I have overcome adversity in _____.
3. I overcome difficulties in _____ by being persistent.

Effort

1. I try hard to become more competent in _____.
2. I practice to improve my skills in _____.
3. I am willing to exert considerable effort to be more proficient at _____.

Durable benefits (including 12 sub-dimensions)

Personal Enrichment

1. I have been enriched by _____.
2. _____ has added richness to my life.
3. My _____ experiences have added richness to my life.

Self- Actualization

1. I make full of use of my talent when _____.
2. I reach my potential in _____.
3. _____ has enabled me to realize my potentials.

Self-Express Abilities

1. _____ is a way to display my skills and abilities.

2.   I demonstrate my skills and abilities when _____.
3.   My knowledge of _____ is evident when participating.

Self- Express Individual

1.   _____ for me is an expression of myself.
2.   My individuality is expression through participation in _____.
3.   _____ allows me to express who I am.

Self-Image

1.   My image of self has improved since I began _____.
2.   _____ has enriched my-self image.
3.   _____ has improved how I think about myself.

Self-Grat-Satisfaction

1.   _____ provides me with a profound sense of satisfaction.
2.   My _____ experiences are deeply gratifying.
3.   I find deep satisfaction in _____.

Self-Grant-Enjoy

1.   _____ is enjoyable to me.
2.   _____ is fun tome.
3.   I enjoy _____.

Re-Creation

1.   I feel renewed after _____ time.
2.   I feel revitalized after _____time.
3.   _____ is invigorating to me.

Financial Return

1.   Finally, I have benefited from my _____ from my financial return involvement.
2.   I have received financial payment as a result of my _____ efforts.
3.   I have received monetary compensation for my _____ expertise.

Group Attraction

1.   I enjoy interacting with other _____.
2.   I value interacting with others that are also involved in _____.
3.   I prefer associating with others that are devoted to _____.

<u>Group Accomplishments</u>

1. A sense of _____ is important to me in group accomplishments.
2. Having helped my _____ group accomplish something makes me feel important.
3. I feel important when I am a part of my _____- group's accomplishments.

<u>Group Maintenance</u>

1. The development of my _____ group is important to me.
2. I contribute to the unification of my _____ group.
3. It is important that I perform duties which unify my _____ group.

Identity

1. Others that know me understand that _____ is part of who I am.
2. I am often recognized as one devote to _____.
3. Others recognized that I identify with _____.

Unique Ethos

1. I share many of the sentiments of my fellow _____ devotees.
2. Other _____ enthusiasts and I share many of the same ideals.
3. I share many of my _____ group's ideals.

Career Progress

1. I have improved at _____ since I began participating.
2. Since I began _____, I have improved.
3. I feel that I have made progress in _____.

Career Contingencies

1. For me, there are certain _____ related events that have influenced my _____ involvement.
2. There are defining moments within _____ that have significantly shaped my involvement in it.
3. There have been certain high or low points for me in _____ that have defined how involved I am in _____.

Script

1. For those who are surveyed by the researcher will heard the following description:

   "Hi! Good morning (good evening), my name is Wan-Chung Lin. I am a doctoral student At OSU. I am conducting dissertation research regarding golf. Your experiences in golf will be very helpful for conducting my research. Would you mind spending around 7 to 10 minutes to fill in the questionnaire for me?"

2. For those who are surveyed by either the golf manager or other investigators will hear the following description:

   "Wan-Chung is a Ph. D student and golf instructor of OSU. He is working on his dissertation related to golf. Your experiences in golf will be very helpful for conducting his research. Would you mind spending around 7 to 10 minutes to fill in the questionnaire for him?"

3. Once the potential respondent hesitates to decide to do it, a follow-up description will be stated as following:

   "The results of this research could provide a better understanding of the characteristics of golfers, and you can be sure that your replies will remain anonymous. The confidentiality of your response will be assured by compliance with IRB approved processes".

4. For everyone who is willing to fill in the questionnaire will hear the following description:

   "Thanks for your kindness! Before you fill in the questionnaire, please read the cover letter. If you have any question, please let me know." (Once it is certain there is no question for the respondents, and then they will be asked to start to answer the questions.)

5. To make sure that all the respondents are older than 18, young-looking people will be asked if they are older than 18 years old.

   All questionnaires will be handout by surveyors either in clubhouses or somewhere between the clubhouse and the parking lots. To make sure that no respondent will answer the questionnaire twice, the surveyors will confirm whether the respondent had done it or not before.

Cover Letter

Dear golf lover:

  I am a doctoral student at Oklahoma State University in Stillwater, Oklahoma. As part of my degree requirements, I am conducting a research study titled *A Study of Casual and Serious Golfers: Testing Serious Leisure Theory.* The purpose of this research study is to test the Stebbins' Serious leisure Theory and to investigate the characteristics of serious golfers and the characteristics of casual golfers. Based on Stebbins' serious leisure theory, the characteristics of serious leisure include perseverance, personal efforts, long-term career, durable benefits, identity, and unique ethos. Your responses will be used in my research study to test if the characteristics of serious golfers are the same as Stebbins' theory, and to gain other important finding and information for further studies.

  As a very important individual in golf industry, you have been chosen to complete a survey for this research project. You can provide valuable information for this research. The research should involve no risk of your physical and psychological well-being. The answered questionnaire will be kept in a locked file cabinet. Data will be used for data analysis only. All collected data will be stored in my personal laptop, and be locked with a password. I am the only person who has access to the data. I will keep my laptop at the apartment where I am currently residing, and you can be sure that all responses will be anonymous. All data will be kept privately and be deleted when the research project is completed by the end of the fall semester of 2009.

    By answering this questionnaire, you agree to voluntarily participate in this research project. You also have the right to withdraw from this research study at any time. Any information related to your identity will be removed, and your response will be assigned a number for the purpose of data analysis only. You can be sure that your replies will remain anonymous; therefore, the confidentiality of your response is assured.

    The enclosed questionnaire contains (1) personal information, (2) levels of involvement in golf activity, and (3) Serious Leisure Inventory Measure which was developed by Gould in 2005. Please respond to each statement, as there are no right or wrong answers. Upon completion, please return the questionnaire to your investigator.

    If you have any questions or concerns, please feel free to contact me at wan.c.lin@okstate.edu or my dissertation advisor Dr. Deb Jordan at deb.jordan@okstate.edu

    If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu.

Thank you very much for assisting in this research study.

Sincerely yours,

Wan-Chung Lin

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Serious Leisure Characteristics Survey Questionnaire

Part 1

The following questions are designed by Gould to measure the degree of which you toward to serious leisure characteristics as a golfer. Please rate these statements based on the below indications.

Completely Agree -----9   Mostly Agree ---------- 8   Moderately Agree --- 7
Slightly Agree ------6   Neither Agree nor Disagree – 5   Slightly Disagree ----- 4
Moderately Disagree --3   Mostly Disagree --------- 2   Completely Disagree--- 1

1.	If I encounter obstacles in golf, I persist until I overcome them.	1 2 3 4 5 6 7 8 9
2.	I try hard to become more competent in golf.	1 2 3 4 5 6 7 8 9
3.	I have been enriched by golf.	1 2 3 4 5 6 7 8 9
4.	I make full of use of my talent when I golf.	1 2 3 4 5 6 7 8 9
5.	Golf is a way to display my skills and abilities.	1 2 3 4 5 6 7 8 9
6.	Golf for me is an expression of myself.	1 2 3 4 5 6 7 8 9
7.	My image of self has improved since I began golf.	1 2 3 4 5 6 7 8 9
8.	Golf provides me with a profound sense of satisfaction.	1 2 3 4 5 6 7 8 9
9.	Golf is enjoyable to me.	1 2 3 4 5 6 7 8 9
10	I feel renewed after golf time.	1 2 3 4 5 6 7 8 9
11	Finally, I have benefited from my golf from my golf involvement.	1 2 3 4 5 6 7 8 9
12	I enjoy interacting with other golfers.	1 2 3 4 5 6 7 8 9
13	A sense of golf is important to me in group accomplishments.	1 2 3 4 5 6 7 8 9
14	The development of my golf group is important to me.	1 2 3 4 5 6 7 8 9
15	Others that know me understand that golf is part of who I am.	1 2 3 4 5 6 7 8 9
16	I share many of the sentiments of my fellow golf devotees.	1 2 3 4 5 6 7 8 9
17	I have improved at golf since I began participating	1 2 3 4 5 6 7 8 9
18	For me, there are certain golf related events that have influenced my golf involvement.	1 2 3 4 5 6 7 8 9
19	By persevering, I have overcome adversity in golf	1 2 3 4 5 6 7 8 9
20	I practice to improve my skills in golf.	1 2 3 4 5 6 7 8 9
21	Golf has added richness to my life.	1 2 3 4 5 6 7 8 9
22	I reach my potential in golf.	1 2 3 4 5 6 7 8 9
23	I demonstrate my skills and abilities when I golf.	1 2 3 4 5 6 7 8 9
24	My individuality is expression through participation in golf.	1 2 3 4 5 6 7 8 9
25	Golf has enriched my self-image.	1 2 3 4 5 6 7 8 9
26	My golf experiences are deeply gratifying.	1 2 3 4 5 6 7 8 9
27	Golf is fun to me.	1 2 3 4 5 6 7 8 9

28	I feel revitalized after golf time.	**1 2 3 4 5 6 7 8 9**
29	I have received financial payment as a result of my golf efforts.	**1 2 3 4 5 6 7 8 9**
30	I value interacting with others that are also involved in golf.	**1 2 3 4 5 6 7 8 9**
31	Having helped my golf group accomplish something makes me feel important.	**1 2 3 4 5 6 7 8 9**
32	I contribute to the unification of my golf group.	**1 2 3 4 5 6 7 8 9**
33	I am often recognized as one devote to golf.	**1 2 3 4 5 6 7 8 9**
34	Other golf enthusiasts and I share many of the same ideals	**1 2 3 4 5 6 7 8 9**
35	Since I began golf, I have improved.	**1 2 3 4 5 6 7 8 9**
36	There are defining moments within golf that have significantly shaped my involvement in it.	**1 2 3 4 5 6 7 8 9**
37	I overcome difficulties in golf by being persistent.	**1 2 3 4 5 6 7 8 9**
38	I am willing to exert considerable effort to be more proficient at golf.	**1 2 3 4 5 6 7 8 9**
39	My golf experiences have added richness to my life.	**1 2 3 4 5 6 7 8 9**
40	Golf has enabled me to realize my potentials.	**1 2 3 4 5 6 7 8 9**
41	My knowledge of golf is evident when participating.	**1 2 3 4 5 6 7 8 9**
42	Golf allows me to express who I am.	**1 2 3 4 5 6 7 8 9**
43	Golf has improved how I think about myself.	**1 2 3 4 5 6 7 8 9**
44	I find deep satisfaction in golf.	**1 2 3 4 5 6 7 8 9**
45	I enjoy golf.	**1 2 3 4 5 6 7 8 9**
46	Golf is invigorating to me.	**1 2 3 4 5 6 7 8 9**
47	I have received monetary compensation for my golf expertise.	**1 2 3 4 5 6 7 8 9**
48	I prefer associating with others that are devoted to golf.	**1 2 3 4 5 6 7 8 9**
49	I feel important when I am a part of my golf group's accomplishments.	**1 2 3 4 5 6 7 8 9**
50	It is important that I perform duties which unify my golf group.	**1 2 3 4 5 6 7 8 9**
51	Others recognized that I identify with golf.	**1 2 3 4 5 6 7 8 9**
52	I share many of my golf group's ideals.	**1 2 3 4 5 6 7 8 9**
53	I feel that I have made progress in golf.	**1 2 3 4 5 6 7 8 9**
54	There have been certain high or low points for me in golf that have defined how involved I am in golf.	**1 2 3 4 5 6 7 8 9**

Part 2

The following questions are designed to ask you about your involvement levels in golf regarding your skill, experience, and knowledge. Please remember all answers will be confidential. Please check the response that applies to you.

A. Skill Level		
1.	( ) No handicap	(72 or under for Par 72 golf course)
2.	( ) No handicap 1~9	(73 ~81 for Par 72 golf course)
3.	( ) Handicap 10~18	(82 ~90 for Par 72 golf course)
4.	( ) Handicap 18~36	(90 ~108 for Par 72 golf course)
5.	( ) Over 36	Over 108 for Par 72 golf course

B. Golf Experience

1. ( ) less than one year	2. ( ) 1 ~ 2 years	3. ( ) 3 ~ 9 years	4. ( ) 10^+ years

C. Time spent on playing or practicing golf per week

1. ( ) less than 4 hours	2. ( ) 4^+ ~ 8 hours	3. ( ) 8^+ ~ 16 hours
4. ( ) 16^+ ~ 24 hours	5. ( ) more than 24 hours	

D. Time spent on acquiring golf information per week (such as reading golf magazines, watching or listening to golf channels, reading or studying golf rules or books, and discussing or talking about golf with other golfers.)

1. ( ) less than one hour	2. ( ) 1 ~ 4 hours	3. ( ) 5 ~ 8 hours	4.( ) more than 8 hours

E. Rounds of playing golf per week (One round = 18 holes)

1.( ) less than 1 round	2. ( ) 1 ~ 2 rounds	3. ( ) 3 ~ 4 rounds	4.( ) 5 rounds and above

F. Average expenditure for golf a year[Average expenditure for golf (including green fee, equipments, golf balls, golf accessories, golf trips and others)]

1. ( ) less than $500	2. ( ) $500 ~ $1000	3. ( ) $1001 ~ $2000	4. ( )more than $2000

G. Golf is

1. ( ) my favorite activity
2. ( ) one of my favorite activities
3. ( ) one of my casual activities (playing golf only 1 ~ 2 times a month)
4. ( ) nothing but a leisure activity (play golf less than 6 times a year)

H. My knowledge about golf is

1. ( ) <u>excellent</u> (familiar with golf rules, golf equipments, and golf knowledge)
2. ( ) <u>okay</u> (understanding some golf rules, golf equipments, and golf knowledge)
3. ( ) <u>poor</u> (know few golf rules, golf equipments, and golf knowledge)
4. ( ) <u>very poor</u> (know nothing about golf rules, golf equipments, and golf knowledge)

Part 3

The following is a demographic survey. Again, please remember all answers will be confidential. Please circle the response that applies to you.

_____

1. Gender   (1) Male   (2) Female

2. Martial status   (1) Married/Cohabiting   (2) Single

3. Race   (1) White   (2) African American   (3) Others

4. Age   (1) Under 21   (2) 21 ~ 39   (3) 40 ~65   (4) 65 and older

5. Household income   (1) Under $35K (2) $35K~$59,999   (3) $60K~$100,000

            (4) $100K+

6. Education background (1) High school or less   (2) College degree   (3) Graduate or
                                    profession
                                    al degree

7. Golf course membership or not   (1) Yes   (2) No

This is the end of this questionnaire. Thank you very much for your participation.

Appendix C

Normal Distribution Inspection of Data (Serious Golfers)

Descriptive statistics for inspecting normal distribution of serious golfers (N=191)

Item	Mean	S. D.	Skewness	Kurtosis
Q1	8.08	1.32	-2.36	10.53
Q2	7.78	1.02	-.60	.29
Q3	8.11	1.01	-1.34	2.32
Q4	8.33	1.07	-3.18	14.58
Q5	8.01	1.27	-1.61	3.23
Q6	8.01	1.08	-1.12	1.17
Q7	8.11	1.24	-3.76	3.68
Q8	7.96	1.09	-1.03	.65
Q9	7.82	1.22	-1.07	1.05
Q10	7.24	1.42	-.61	-.26
Q11	6.48	1.88	-.76	.40
Q12	7.25	1.38	-.63	.07
Q13	7.30	1.47	-.69	-.18
Q14	7.29	1.39	-.85	.77
Q15	7.71	1.28	-.91	.16
Q16	7.28	1.48	-.93	1.17
Q17	7.33	1.32	-.53	-.35
Q18	7.14	1.46	-.92	2.05
Q19	7.18	1.49	-.38	-.82
Q20	7.40	1.35	-.65	.09
Q21	7.22	1.38	-.93	1.98
Q22	8.05	1.04	-1.17	1.38
Q23	7.77	1.18	-.72	-.13
Q24	7.98	1.28	-2.42	9.04
Q25	8.59	.91	-2.96	6.32
Q26	8.48	.95	-3.589	21.00
Q27	8.46	1.04	-3.09	14.74
Q28	7.80	1.12	-.73	-.10
Q29	7.69	1.33	-1.18	2.40
Q30	7.98	1.40	-2.84	2.34
Q31	7.30	1.89	-1.57	11.22
Q32	5.41	2.79	-.20	-1.36
Q33	5.37	2.64	-.30	-1.14
Q34	8.34	.95	-1.58	2.57
Q35	7.84	1.20	-.87	-.04
Q36	7.35	1.53	-1.12	1.51
Q37	7.35	1.56	-1.25	2.63
Q38	7.18	1.61	-1.18	2.01

Q39	7.01	1.83	-1.43	2.37
Q40	7.38	1.68	-1.33	1.93
Q41	7.30	1.46	-1.00	1.21
Q42	6.92	1.78	-1.12	1.63
Q43	7.53	1.58	-1.28	1.76
Q44	7.45	1.44	-1.03	1.79
Q45	7.55	1.46	-1.35	2.79
Q46	7.50	1.24	-.44	-.84
Q47	7.51	1.21	-1.20	3.64
Q48	7.12	1.50	-1.37	2.92
Q49	8.28	1.06	-1.49	1.66
Q50	8.20	1.20	-1.79	2.82
Q51	8.11	1.08	-1.21	1.15
Q52	7.76	1.14	-.68	.01
Q53	7.57	1.35	-1.06	1.18
Q54	7.62	1.62	-3.32	4.84

Appendix D

Mean and Standard Deviation of different levels of Involvement (Serious Golfers)

		Perseverance		Efforts		Benefits		Identity		Ethos		Career	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Skill	1	8.05	1.25	8.11	1.58	7.63	0.73	8.18	0.74	7.00	1.42	8.13	0.91
	2	8.17	0.74	8.15	0.92	7.54	0.75	7.93	1.08	7.59	1.06	8.14	0.73
	3	7.86	0.86	7.99	0.80	7.33	0.68	7.55	1.08	7.39	0.94	8.00	0.71
	4	7.68	0.91	7.75	1.25	7.27	0.64	6.80	1.02	7.33	0.85	7.69	1.03
	5	7.86	0.77	7.94	0.95	7.33	0.91	6.71	1.31	6.98	1.12	7.78	0.74
Experience	1	7.67	0.68	7.95	0.89	7.15	0.90	6.71	1.09	7.00	0.98	7.71	0.70
	2	8.07	0.82	8.39	0.84	7.60	0.83	7.68	1.14	7.75	0.88	8.16	0.93
	3	7.83	1.00	8.13	0.90	7.42	0.68	7.64	1.17	7.12	1.24	8.20	0.70
	4	8.03	0.86	7.88	1.13	7.43	0.68	7.60	1.14	7.48	0.95	7.90	0.84
Time (playing)	1	7.622	0.98	7.51	1.13	7.35	0.674	6.94	0.94	7.13	0.93	7.65	0.93
	2	8.025	0.80	8.04	0.91	7.41	0.74	7.45	1.26	7.50	1.02	8.05	0.76
	3	8.061	0.93	8.37	1.14	7.38	0.79	7.93	1.03	7.21	1.24	8.06	0.70
	4	8.150	0.81	8.27	0.71	7.63	0.76	7.96	1.13	7.53	1.12	8.19	0.84
	5	7.964	0.82	8.14	0.94	7.38	0.70	8.04	0.83	7.42	0.84	8.17	0.63
Information	1	7.90	0.83	7.64	1.07	7.48	0.76	7.27	1.17	7.28	1.07	7.77	0.86
	2	7.96	0.85	8.07	0.87	7.43	0.70	7.55	1.16	7.42	0.96	8.08	0.70
	3	8.00	0.90	8.19	0.99	7.45	0.69	7.72	1.25	7.31	1.25	7.77	0.97
	4	7.86	1.12	8.28	1.49	7.09	0.80	7.59	1.06	7.35	1.10	8.28	0.85
Rounds	1	7.81	0.74	7.58	1.09	7.32	0.72	6.80	1.07	7.03	0.88	7.60	0.91
	2	7.96	0.90	8.00	0.89	7.44	0.71	7.52	1.20	7.50	1.02	8.07	0.78
	3	8.00	0.94	8.28	1.08	7.43	0.76	7.96	0.95	7.39	1.14	8.11	0.72
Expenditure	1	7.76	0.83	7.82	1.08	7.43	0.70	7.50	1.03	7.36	0.98	7.93	0.76
	2	7.77	0.91	7.86	1.05	7.42	0.76	7.35	1.32	7.46	0.99	7.80	0.93
	3	8.19	0.86	8.12	0.99	7.37	0.70	7.50	1.19	7.26	1.05	8.14	0.73
	4	8.27	0.75	8.54	0.75	7.42	0.79	8.01	0.84	7.27	1.33	8.27	0.62
Preference	1	8.06	0.89	8.20	1.04	7.59	0.72	7.99	0.98	7.52	0.96	8.11	0.73
	2	7.94	0.83	7.97	0.93	7.27	0.73	7.33	1.19	7.27	1.15	7.98	0.80
	3	7.55	0.99	7.45	1.26	7.44	0.63	6.63	0.89	7.15	0.78	7.50	0.99
Knowledge	1	8.06	0.88	7.98	1.14	7.53	0.74	7.87	1.01	7.43	1.18	8.05	0.84
	2	7.85	0.88	8.04	0.91	7.30	0.68	7.19	1.23	7.34	0.88	7.96	0.77
	3	7.50	0.70	7.92	0.78	7.13	0.95	6.42	0.60	6.71	0.82	7.28	0.55

Appendix E

Mean and Standard Deviation of Different Demographic Variables (Serious Golfers)

		Perseverance		Efforts		Benefits		Identity		Ethos		Career	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Race	1	7.98	0.89	7.98	1.07	7.44	0.72	7.62	1.12	7.42	1.04	8.05	0.78
	2	7.92	1.05	8.28	0.69	7.63	0.97	7.52	1.01	7.81	0.94	7.77	1.21
	3	7.66	0.71	8.11	0.74	7.09	0.67	6.63	1.24	6.71	0.85	7.49	0.75
Age	1	7.85	0.93	8.00	0.95	7.16	0.74	7.27	1.26	7.25	0.93	7.84	0.81
	2	8.02	0.81	8.17	0.87	7.55	0.79	7.58	1.15	7.27	1.24	8.11	0.77
	3	7.91	0.86	7.84	1.04	7.37	0.67	7.43	1.15	7.43	0.92	7.90	0.81
	4	7.84	1.15	8.10	1.49	7.29	0.67	7.80	1.27	7.47	0.91	8.00	0.98
Income	1	7.90	0.87	8.13	0.82	7.58	0.86	7.53	1.14	7.39	1.02	7.97	0.75
	2	8.01	0.83	7.80	1.15	7.31	0.68	7.44	1.28	7.29	1.02	7.93	0.89
	3	7.94	0.93	8.16	0.81	7.39	0.75	7.53	1.23	7.46	1.02	8.19	0.66
	4	7.93	0.87	7.75	1.39	7.34	0.52	7.51	1.01	7.20	1.15	7.65	0.96
Education	1	7.83	0.97	7.98	1.04	7.34	0.76	7.40	1.14	7.38	0.95	7.93	0.78
	2	8.02	0.82	8.05	0.82	7.50	0.72	7.62	1.23	7.29	1.19	8.08	0.71
	3	7.94	0.84	7.93	1.39	7.34	0.67	7.46	1.10	7.47	0.86	7.83	1.03

Normal Distribution Inspection of Data (Casual Golfers)

Descriptive statistics for inspecting normal distribution (N=101)

Item	Mean	S. D.	Skewness	Kurtosis
Q1	6.30	2.12	-.66	-.16
Q2	6.50	2.11	-.74	.14
Q3	6.10	2.15	-.54	-.64
Q4	5.60	1.88	-.15	-.30
Q5	4.84	1.90	-.27	-.58
Q6	4.40	1.84	-.23	-.58
Q7	4.48	1.65	-.50	-.15
Q8	5.57	1.94	-.38	-.19
Q9	7.33	2.01	-1.77	2.7
Q10	6.13	1.70	-.40	.11
Q11	5.72	1.80	-.62	.38
Q12	6.82	2.01	-1.30	.99
Q13	5.40	1.66	-.30	.10
Q14	4.90	1.32	-.84	.16
Q15	4.43	2.08	-.22	-.12
Q16	5.20	2.00	-.59	-.30
Q17	6.77	2.11	-1.18	.86
Q18	5.50	1.98	-.65	-.13
Q19	5.50	1.81	-.66	.17
Q20	6.00	2.17	-.57	-.43
Q21	5.70	1.79	-.84	.22
Q22	4.30	1.90	-3.17	-.81
Q23	5.00	1.63	-.27	.06
Q24	4.81	1.61	-.58	-.11
Q25	4.62	1.58	-.35	-.25
Q26	5.70	1.61	-.71	.15
Q27	7.10	1.91	-1.25	1.15
Q28	6.10	1.53	-.14	.05
Q29	2.74	2.40	1.03	-.35
Q30	5.90	1.94	-.72	-.20
Q31	4.70	1.97	-.38	-.55
Q32	4.70	1.86	-.35	-.52
Q33	4.40	2.07	-.30	-1.20
Q34	5.00	2.07	-.45	-.52
Q35	6.57	1.93	-.84	.11
Q36	5.44	2.05	-.45	-.30
Q37	6.00	1.87	-.55	-.30
Q38	5.63	1.85	-.52	-.03

Q39	5.54	1.92	-.28	-.60
Q40	4.87	1.66	-.72	.30
Q41	5.30	1.84	-.48	-.37
Q42	4.71	1.81	-.15	-.26
Q43	4.61	1.59	-.40	-.03
Q44	6.06	1.63	-.52	.16
Q45	7.23	2.03	-1.45	1.60
Q46	6.47	1.55	-.67	.60
Q47	2.93	2.44	-.85	-.61
Q48	5.24	1.94	-.28	-.44
Q49	4.83	1.82	-.57	-.02
Q50	4.75	1.94	-.60	-.73
Q51	4.88	2.02	-.49	-.28
Q52	4.89	1.85	-.54	-.21
Q53	6.42	1.80	-.71	.22
Q54	5.89	1.90	-.61	-.12

Variables	Equal variances assumed	Levens' test		t- test	
		F test	Sig.	t value	Sig.(2-tails)
Q1 Perseverance-1	Yes	2.3101	0.1347	4.313	7.38616E-05
	No			4.341	7.54713E-05
Q2 Perseverance-2	Yes	5.4887	0.0231	5.385	1.85212E-06
	No			5.424	2.13107E-06
Q3 Perseverance-3	Yes	18.352	8E-05	6.565	2.65267E-08
	No			6.647	8.44801E-08
Q4 Effort-1	Yes	12.428	0.0009	3.864	0.000316281
	No			3.897	0.000329228
Q5 Effort-2	Yes	10.783	0.0019	4.139	0.000130985
	No			4.176	0.00014167
Q6 Effort-3	Yes	3.2819	0.0759	5.727	5.46557E-07
	No			5.768	6.44867E-07
Q7 Personal-Erihment-1	Yes	3.8709	0.0546	3.143	0.002786791
	No			3.158	0.002724521
Q8 Personal-Erihment-2	Yes	11.689	0.0012	5.912	2.8177E-07
	No			5.985	6.45879E-07
Q9 Personal-Erihment-3	Yes	0.2322	0.632	4.903	1.0017E-05
	No			4.918	9.7697E-06
Q10 Self-Actualization-1	Yes	1.1683	0.2848	3.271	0.001924431
	No			3.287	0.001881536
Q11 Self-Actualization-2	Yes	11.257	0.0015	2.601	0.012143601
	No			2.621	0.011925813
Q12 Self-Actualization-3	Yes	2.0557	0.1577	4.428	5.0393E-05
	No			4.442	4.91227E-05
Q13 Self-Express Ability-1	Yes	1.3058	0.2585	6.29	7.18946E-08
	No			6.31	7.09553E-08
Q14 Self-Express Ability-2	Yes	5.031	0.0293	4.958	8.28534E-06
	No			5.001	9.95259E-06

Q14 Self-Express Ability-2	*Yes*	5.031	0.0293	4.958	8.28534E-06
	No			5.001	9.95259E-06
Q15 Self-Express Ability-3	*Yes*	0.081	0.7771	4.911	9.73732E-06
	No			4.924	9.47971E-06
Q16 Self-Express Individual-1	*Yes*	0.0176	0.8951	4.866	1.13789E-05
	No			4.868	1.13135E-05
Q17 Self-Express Individual-2	*Yes*	0.8788	0.353	6.33	6.21017E-08
	No			6.344	6.03323E-08
Q18 Self-Express Individual-3	*Yes*	2.787	0.1012	4.732	1.79966E-05
	No			4.755	1.79065E-05
Q19 Self-Image-1	*Yes*	1.7914	0.1867	3.606	0.000706548
	No			3.618	0.00068999
Q20 Self-Image-2	*Yes*	2.6387	0.1105	4.315	7.33866E-05
	No			4.34	7.36562E-05
Q21 Self-Image-3	*Yes*	5.1224	0.0279	5.764	4.79889E-07
	No			5.824	8.04815E-07
Q22 Self-Satisfaction-1	*Yes*	0.0868	0.7695	5.387	1.8379E-06
	No			5.412	1.86238E-06
Q23 Self-Satisfaction-2	*Yes*	6.4913	0.0139	7.264	2.08756E-09
	No			7.342	6.38298E-09
Q24 Self-Satisfaction-3	*Yes*	9.7759	0.0029	7.267	2.05886E-09
	No			7.322	3.28787E-09
Q25 Self-Enjoy-1	*Yes*	29.712	1E-06	4.659	2.31263E-05
	No			4.729	4.16925E-05
Q26 Self-Enjoy-2	*Yes*	18.388	8E-05	3.732	0.000479308
	No			3.779	0.000559933
Q27 Self-Enjoy-3	*Yes*	27.397	3E-06	4.624	2.60149E-05
	No			4.688	4.18034E-05
Q28 Re-Creation-1	*Yes*	2.6633	0.1088	5.009	6.93237E-06
	No			5.032	6.92042E-06
Q29 Re-Creation-2	*Yes*	0.3543	0.5543	4.657	2.32985E-05
	No			4.67	2.27053E-05
Q30 Re-Creation-3	*Yes*	1.4315	0.2371	6.756	1.32263E-08

	No			6.798	1.634E-08
Q31 Financial Return-1	*Yes*	0.154	0.6964	6.003	2.03158E-07
	No			6.005	2.01639E-07
Q32 Financial Return-2	*Yes*	0.623	0.4336	0.582	0.562806782
	No			0.581	0.564115648
Q33 Financial Return-3	*Yes*	0.3582	0.5522	0.32	0.750627801
	No			0.319	0.751064163
Q34 Group Attraction-1	*Yes*	36.778	2E-07	4.471	4.36499E-05
	No			4.535	6.82489E-05
Q35 Group Attraction-2	*Yes*	24.193	9E-06	4.749	1.70054E-05
	No			4.809	2.59543E-05
Q36 Group Attraction	*Yes*	7.4308	0.0088	3.974	0.000222704
	No			4.022	0.00026665
Q37 Group Accomplishments-1	*Yes*	1.4872	0.2283	4.333	6.90598E-05
	No			4.359	6.96491E-05
Q38 Group Accomplishments-2	*Yes*	8.6804	0.0048	5.474	1.35167E-06
	No			5.517	1.64242E-06
Q39 Group Accomplishments-3	*Yes*	6.3481	0.0149	4.369	6.1449E-05
	No			4.393	6.16654E-05
Q40 Group Maintenance-1	*Yes*	2.0479	0.1585	7.107	3.68907E-09
	No			7.137	3.89801E-09
Q41 Group Maintenance-2	*Yes*	6.3619	0.0148	4.087	0.000154863
	No			4.12	0.000161972
Q42 Group Maintenance-3	*Yes*	4.9363	0.0308	3.977	0.000220609
	No			3.999	0.000218111
Q43 Identity-1	*Yes*	0.2849	0.5958	4.878	1.08971E-05
	No			4.891	1.06094E-05
Q44 Identity-2	*Yes*	13.016	0.0007	5.185	3.75167E-06
	No			5.226	4.40399E-06
Q45 Identity-3	*Yes*	10.652	0.002	4.221	0.000100052
	No			4.247	0.00010062
Q46 Unique Ethos-1	*Yes*	17.571	0.0001	6.922	7.24022E-09

	No			6.995	1.84949E-08
Q47 Unique Ethos-2	*Yes*	12.5	0.0009	5.532	1.09693E-06
	No			5.584	1.53124E-06
Q48 Unique Ethos-3	*Yes*	9.4976	0.0033	1.684	0.10790543
	No			4.699	2.40996E-05
Q49 Career Progress-1	*Yes*	24.537	8E-06	4.722	1.8678E-05
	No			4.787	3.09525E-05
Q50 Career Progress-2	*Yes*	19.793	5E-05	4.2	0.00010728
	No			4.256	0.000145439
Q51 Career Progress-3	*Yes*	11.393	0.0014	5.035	6.32875E-06
	No			5.092	9.39704E-06
Q52 Career Contingencies-1	*Yes*	10.392	0.0022	5.27	2.77873E-06
	No			5.323	3.86471E-06
Q53 Career Contingencies-2	*Yes*	0.5954	0.4439	6.003	2.0294E-07
	No			5.999	2.10153E-07
Q54 Career Contingencies-3	*Yes*	18.046	9E-05	5.048	6.05174E-06
	No			5.109	9.66186E-06

Appendix H

Covariance Matrix of Observed Variables

	x2	x3	x5	x6	x8	x9
x2	1.05					
x3	0.53	1.01				
x5	0.46	0.47	1.62			
x6	0.35	0.48	0.74	1.17		
x8	0.40	0.29	0.22	0.22	1.19	
x9	0.60	0.42	0.30	0.26	0.70	1.48
x10	0.36	0.53	0.22	0.17	0.19	0.51
x11	0.46	0.25	0.34	0.28	0.28	0.64
x12	0.52	0.38	0.40	0.43	0.50	0.87
x13	0.39	0.34	0.46	0.29	0.12	0.46
x14	0.27	0.34	0.62	0.48	0.12	0.51
x15	0.57	0.41	0.27	0.32	0.42	0.69
x16	0.52	0.51	0.38	0.31	0.32	0.56
x17	0.29	0.13	0.29	0.43	0.50	0.54
x18	0.53	0.26	0.36	0.34	0.50	0.75
x19	0.38	0.24	0.36	0.26	0.60	0.61
x20	0.41	0.22	0.29	0.30	0.49	0.56
x21	0.31	0.20	0.25	0.24	0.44	0.58
x22	0.31	0.16	0.19	0.35	0.22	0.39
x23	0.43	0.28	0.14	0.42	0.33	0.40
x24	0.25	0.27	0.03	0.24	0.17	0.26
x25	0.09	0.12	0.03	0.12	0.05	0.03
x26	0.21	0.18	0.16	0.26	0.17	0.10
x27	0.25	0.36	0.20	0.20	0.22	0.21
x28	0.33	0.22	0.02	0.08	0.42	0.42
x29	0.42	0.32	0.28	0.29	0.43	0.42
x30	0.27	0.31	0.12	0.21	0.39	0.23
x32	0.09	0.16	0.44	0.39	-0.25	0.21
x33	0.11	0.01	0.19	0.13	-0.31	0.07
x34	0.18	0.18	0.12	0.10	0.09	0.11
x35	0.39	0.32	0.12	0.25	0.35	0.49
x36	0.14	0.17	0.20	0.49	0.42	0.64
x37	0.21	0.12	0.10	0.08	0.30	0.53
x38	0.25	0.21	0.18	0.18	0.35	0.76
x39	0.03	0.00	0.02	-0.02	0.63	0.77
x40	0.10	0.14	0.13	0.01	0.24	0.45
x41	0.46	0.27	0.02	0.03	0.52	0.75
x42	0.09	0.03	0.03	0.20	0.53	0.68
x43	0.40	0.44	0.28	0.21	0.44	0.57
x44	0.53	0.30	0.31	0.39	0.60	0.71
x45	0.29	0.27	0.27	0.25	0.49	0.63
x46	0.43	0.30	0.24	0.36	0.32	0.59
x47	0.36	0.26	0.05	0.20	0.37	0.64
x48	0.03	-0.02	-0.13	0.07	0.29	0.43
x49	0.28	0.30	0.42	0.40	0.18	0.15
x50	0.37	0.36	0.49	0.55	0.07	0.21
x51	0.34	0.42	0.54	0.47	0.17	0.41
x52	0.52	0.23	0.38	0.41	0.35	0.46
x53	0.41	0.35	0.43	0.48	0.14	0.36

Covariance Matrix

	x10	x11	x12	x13	x14	x15
x10	2.02					
x11	0.70	3.52				
x12	0.85	1.01	1.90			
x13	1.12	0.70	0.74	2.15		
x14	0.87	1.48	0.85	1.14	1.94	
x15	0.83	0.62	0.83	0.82	0.83	1.64
x16	0.71	0.50	0.71	1.17	0.74	0.73
x17	0.44	0.60	0.76	0.75	0.73	0.63
x18	0.63	0.43	0.86	0.79	0.48	0.61
x19	0.72	0.64	1.06	1.03	0.69	0.58
x20	0.55	0.78	1.05	0.81	0.74	0.61
x21	0.43	0.38	0.73	0.61	0.35	0.52
x22	0.36	0.33	0.53	0.49	0.36	0.37
x23	0.42	0.26	0.44	0.41	0.11	0.36
x24	0.35	0.05	0.26	0.28	0.12	0.23
x25	0.19	-0.26	-0.05	0.10	0.02	0.19
x26	0.06	-0.01	-0.01	0.05	0.00	0.12
x27	0.11	0.01	-0.06	0.06	0.00	0.14
x28	0.29	0.10	0.34	0.23	0.06	0.21
x29	0.46	0.59	0.58	0.32	0.35	0.37
x30	0.15	-0.09	0.13	0.18	0.12	0.26
x32	0.67	1.36	0.95	0.85	1.23	0.47
x33	0.73	0.84	0.92	1.09	1.03	0.80
x34	0.32	0.15	0.12	0.33	0.12	0.19
x35	0.34	0.48	0.34	0.28	0.05	0.37
x36	0.36	0.81	0.77	0.19	0.36	0.32
x37	0.19	0.32	0.50	0.12	-0.03	0.20
x38	0.52	0.55	0.92	0.41	0.48	0.51
x39	0.39	-0.03	0.74	0.39	0.22	0.44
x40	0.38	0.41	0.44	0.13	0.19	0.33
x41	0.57	0.46	0.61	0.43	0.18	0.67
x42	0.49	0.01	0.65	0.50	0.24	0.54
x43	0.67	0.49	0.61	0.75	0.60	0.62
x44	0.62	0.73	1.12	0.49	0.54	0.65
x45	0.71	0.40	0.72	0.78	0.59	0.69
x46	0.38	0.45	0.64	0.45	0.43	0.45
x47	0.56	0.31	0.62	0.60	0.34	0.39
x48	0.11	0.07	0.26	0.01	0.23	0.15
x49	0.25	0.20	0.22	0.14	0.45	0.30
x50	0.31	0.51	0.33	0.27	0.59	0.34
x51	0.46	0.35	0.42	0.34	0.52	0.47
x52	0.29	0.61	0.46	0.34	0.29	0.48
x53	0.27	0.20	0.38	0.44	0.24	0.22

Covariance Matrix

	x16	x17	x18	x19	x20	x21
x16	2.18					
x17	0.88	1.74				
x18	1.04	0.84	2.12			
x19	1.04	0.95	1.03	2.22		
x20	0.79	1.02	0.90	1.47	1.81	
x21	0.72	0.81	1.30	1.34	1.17	1.90
x22	0.53	0.36	0.47	0.74	0.56	0.53
x23	0.47	0.47	0.63	0.56	0.60	0.68
x24	0.58	0.34	0.82	0.51	0.37	0.88
x25	0.09	0.07	0.35	0.04	-0.02	0.39
x26	0.21	0.15	0.41	0.12	0.05	0.51
x27	0.25	-0.05	0.52	0.00	-0.03	0.44
x28	0.38	0.27	0.52	0.54	0.40	0.62
x29	0.56	0.49	0.42	0.64	0.60	0.47
x30	0.31	0.20	0.63	0.43	0.27	0.57
x32	0.53	-0.04	0.56	0.40	0.76	0.51
x33	0.72	0.18	0.67	0.62	0.70	0.81
x34	0.24	0.24	0.24	0.26	0.22	0.25
x35	0.21	0.35	0.50	0.21	0.30	0.42
x36	0.28	0.37	0.92	0.62	0.64	0.97
x37	0.21	0.46	0.52	0.54	0.45	0.63
x38	0.30	0.56	0.61	0.76	0.76	0.70
x39	0.23	0.59	0.89	0.70	0.66	1.09
x40	0.35	0.58	0.51	0.49	0.24	0.39
x41	0.35	0.60	0.70	0.57	0.54	0.59
x42	0.26	0.78	0.68	0.85	0.81	0.96
x43	1.15	0.60	0.67	0.58	0.76	0.30
x44	0.58	0.63	1.03	0.62	0.88	0.61
x45	0.88	0.73	1.14	0.70	0.74	0.88
x46	0.76	0.60	0.60	0.33	0.50	0.33
x47	0.56	0.43	0.76	0.52	0.46	0.47
x48	0.17	0.57	0.82	0.17	0.36	0.62
x49	0.17	0.11	0.09	0.16	0.15	0.02
x50	0.29	0.28	0.13	0.27	0.15	0.10
x51	0.41	0.26	0.49	0.28	0.25	0.30
x52	0.37	0.50	0.42	0.43	0.42	0.38
x53	0.54	0.44	0.52	0.36	0.53	0.41

Covariance Matrix

	x22	x23	x24	x25	x26	x27
x22	1.07					
x23	0.55	1.40				
x24	0.44	0.73	1.65			
x25	0.10	0.23	0.54	0.83		
x26	0.21	0.42	0.64	0.62	0.90	
x27	0.18	0.34	0.66	0.55	0.60	1.07
x28	0.42	0.46	0.55	0.37	0.43	0.42
x29	0.44	0.63	0.56	0.16	0.33	0.32
x30	0.36	0.45	0.88	0.61	0.73	0.80
x32	0.32	0.41	0.09	-0.28	-0.30	-0.07
x33	0.44	0.43	0.42	0.02	-0.02	-0.15
x34	0.05	0.21	0.13	0.13	0.20	0.12
x35	0.22	0.45	0.11	-0.03	0.20	0.21
x36	0.39	0.44	0.71	0.26	0.45	0.38
x37	0.14	0.27	0.17	-0.05	0.05	-0.05
x38	0.36	0.12	0.11	-0.20	-0.09	-0.07
x39	0.35	0.23	0.42	0.16	0.36	0.22
x40	0.02	0.24	0.02	-0.08	0.01	0.00
x41	0.23	0.26	0.11	-0.02	0.03	0.04
x42	0.30	0.36	0.36	-0.06	0.08	-0.17
x43	0.36	0.36	0.38	-0.10	0.10	0.21
x44	0.43	0.37	0.47	0.00	0.06	0.17
x45	0.50	0.53	0.69	0.39	0.58	0.36
x46	0.41	0.41	0.29	-0.01	0.23	0.17
x47	0.29	0.21	0.22	-0.06	0.06	0.08
x48	0.05	0.33	0.35	0.25	0.31	0.19
x49	0.17	0.20	0.17	0.17	0.20	0.28
x50	0.26	0.26	0.38	0.19	0.27	0.23
x51	0.27	0.35	0.34	0.23	0.31	0.36
x52	0.23	0.49	0.35	-0.05	0.10	0.08
x53	0.38	0.46	0.34	0.05	0.26	0.19

Covariance Matrix

	x28	x29	x30	x32	x33	x34
x28	1.24					
x29	0.88	1.77				
x30	0.68	0.75	1.95			
x32	-0.06	0.62	-0.34	7.80		
x33	0.07	0.28	0.04	5.70	6.98	
x34	0.18	0.27	0.06	0.19	0.02	0.90
x35	0.32	0.34	0.15	0.55	0.27	0.51
x36	0.32	0.35	0.44	0.65	0.78	0.26
x37	0.40	0.35	0.10	0.19	0.03	0.15
x38	0.25	0.29	-0.03	1.16	0.97	0.07
x39	0.45	0.18	0.36	0.23	0.57	0.04
x40	0.22	0.20	0.07	0.23	0.05	0.23
x41	0.33	0.16	0.00	0.32	0.53	0.23
x42	0.39	0.21	-0.02	0.56	0.80	0.03
x43	0.02	0.02	0.10	0.29	0.41	0.10
x44	0.15	0.26	0.20	0.82	0.85	0.16
x45	0.26	0.22	0.62	0.26	0.94	0.26
x46	0.25	0.23	0.16	0.47	0.45	0.18
x47	0.26	0.20	0.19	0.32	0.32	0.14
x48	0.33	0.23	0.28	0.19	0.40	0.13
x49	0.14	0.33	0.16	0.67	0.37	0.06
x50	0.15	0.29	0.10	0.40	0.07	0.12
x51	0.18	0.29	0.33	0.39	0.13	0.05
x52	0.10	0.29	0.09	0.39	0.37	0.27
x53	0.15	0.21	0.08	0.19	-0.02	0.18

Covariance Matrix

	x35	x36	x37	x38	x39	x40
x35	1.43					
x36	0.44	2.33				
x37	0.63	0.13	2.42			
x38	0.66	0.81	0.98	2.60		
x39	0.64	1.08	1.22	2.17	3.34	
x40	0.60	-0.06	1.63	0.89	1.01	2.81
x41	0.78	0.39	1.18	1.22	1.18	1.20
x42	0.66	0.74	1.30	1.74	2.22	1.18
x43	0.32	0.13	0.50	0.46	0.47	0.57
x44	0.42	0.86	0.27	0.70	0.50	0.33
x45	0.50	0.95	-0.01	0.43	0.97	0.16
x46	0.50	0.30	0.50	0.51	0.67	0.76
x47	0.56	0.38	0.47	0.75	0.84	0.53
x48	0.43	0.53	0.81	0.75	1.38	1.10
x49	-0.07	0.11	-0.02	-0.02	-0.16	-0.15
x50	0.16	0.21	-0.15	0.11	-0.11	-0.05
x51	0.16	0.38	0.05	0.25	0.27	0.12
x52	0.46	0.33	0.33	0.29	0.05	0.15
x53	0.38	0.32	0.36	0.35	0.30	0.24

Covariance Matrix

	x41	x42	x43	x44	x45	x46
x41	2.14					
x42	1.47	3.16				
x43	0.51	0.54	2.49			
x44	0.83	0.37	1.00	2.07		
x45	0.53	0.71	1.05	0.95	2.14	
x46	0.64	0.72	1.14	0.74	0.75	1.54
x47	0.81	0.96	0.48	0.61	0.74	0.75
x48	0.92	1.28	0.27	0.33	0.79	0.60
x49	0.04	-0.08	0.30	0.23	0.19	0.30
x50	-0.08	0.03	0.20	0.33	0.29	0.40
x51	0.13	0.13	0.41	0.28	0.63	0.42
x52	0.35	0.15	0.42	0.53	0.48	0.38
x53	0.55	0.27	0.60	0.62	0.57	0.52

Covariance Matrix

	x47	x48	x49	x50	x51	x52
x47	1.47					
x48	0.74	2.26				
x49	-0.03	0.10	1.13			
x50	0.15	-0.08	0.64	1.43		
x51	0.29	0.24	0.49	0.78	1.16	
x52	0.28	0.04	0.32	0.39	0.33	1.30
x53	0.58	0.29	0.27	0.49	0.55	0.65

Covariance Matrix

	x53
x53	1.83

Appendix I

Goodness of Fit Statistics of Serious Leisure Model

Degrees of Freedom = 1094
Minimum Fit Function Chi-Square = 2681.96 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square = 2574.23 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 1480.23
90 Percent Confidence Interval for NCP = (1335.90 ; 1632.22)

Minimum Fit Function Value = 14.12
Population Discrepancy Function Value (F0) = 7.79
90 Percent Confidence Interval for F0 = (7.03 ; 8.59)
Root Mean Square Error of Approximation (RMSEA) = 0.084
90 Percent Confidence Interval for RMSEA = (0.080 ; 0.089)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 14.93
90 Percent Confidence Interval for ECVI = (14.17 ; 15.73)
ECVI for Saturated Model = 12.89
ECVI for Independence Model = 33.32

Chi-Square for Independence Model with 1176 Degrees of Freedom = 6232.90
Independence AIC = 6330.90
Model AIC = 2836.23
Saturated AIC = 2450.00
Independence CAIC = 6539.26
Model CAIC = 3393.28
Saturated CAIC = 7659.03

Normed Fit Index (NFI) = 0.57
Non-Normed Fit Index (NNFI) = 0.66
Parsimony Normed Fit Index (PNFI) = 0.53
Comparative Fit Index (CFI) = 0.69
Incremental Fit Index (IFI) = 0.69
Relative Fit Index (RFI) = 0.54

Critical N (CN) = 86.42

Root Mean Square Residual (RMR) = 0.20
Standardized RMR = 0.10
Goodness of Fit Index (GFI) = 0.64
Adjusted Goodness of Fit Index (AGFI) = 0.60
Parsimony Goodness of Fit Index (PGFI) = 0.58

Appendix J

Serious Leisure Model Program

!Serious Leisure Model
Observed Variables:
 x1 - x54
Raw data from file c:/Lin/cfa392.dat
Sample size = 191
Latent variables: b1 b2 a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 b3 b4 b5 b6 aa cc tt
Relationship:
x2 - x3 = b1
x5 - x6 b2
x8 x9 = a1
x10 - x12 = a2
x13 - x15 = a3
x16 - x18 = a4
x19 - x21 = a5
x22 - x24 = a6
x25 - x27 = a7
x28 - x30 = a8
x32 - x33 = a9
x36 x35 x34 = a10
x37 - x39 = a11
x40 - x42 = a12
x43 - x45 = b3
x46 - x48 = b4
x49 - x51 = b5
x52 - x53 = b6
b5 = 1*cc
b6 = 1*cc
set the error between x11 and x14 to correlate
set the error between x43 and x46 to correlate
set the error between x37 and x40 to correlate
set the error between x18 and x21 to correlate
set the error between x39 and x42 to correlate
set the error between x24 and x30 to correlate
set the error between x39 and x45 to correlate
set the error between x34 and x35 to correlate
set the error between x21 and x24 to correlate
set the error between x38 and x42 to correlate
set the error between x13 and x16 to correlate
set the error between x12 and x44 to correlate
set the error between x14 and x35 to correlate
Paths:
aa -> a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12
cc -> b5 b6
tt -> b1 b2 aa b3 b4 cc
Path Diagram
LISREL output mi ss sc ad = 500
End of problem

Appendix K

Institutional Review Board Approval

Oklahoma State University Institutional Review Board

Date:	Wednesday, August 26, 2009
IRB Application No	ED09115
Proposal Title:	A Study of Casual and Serious Golfers: Testing Serious Leisure Theory

Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved   Protocol Expires: 8/25/2010

Principal
Investigator(s):

Wan-Chung Lin   Lowell Caneday
92 S. Univ. Place #12   184 Colvin Center
Stillwater, OK 74075   Stillwater, OK 74075

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.
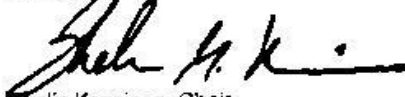
✗ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

VITA

Wan-Chung Lin

Candidate for the Degree of

Doctor of Philosophy

Dissertation: A STUDY OF CASUAL AND SERIOUS GOLFERS: TESTING
                SERIOUS LEISURE THEORY

Major Field: Health, Leisure, and Human Performance: Option in Leisure Studies

Biographical:

> Education: Received a Bachelor of Science degree physical Education from
> Chinese Culture University, Taiwan in 1989; received a Master of
> Science degree in Physical Education from Taxes A&M University,
> Commerce in December 1995; completed requirements for the
> Doctorate of Philosophy with a major in Health, Leisure, and Human
> Performance in December 2009.

> Experience: High school track and field coach, one year (1993-1994); Junior
> High School teacher, Taiwan, two years (1992-1994); Lecture, Taiwan
> Hospitality and Tourism College, one and a half years (1996-1997);
> Lecture, Nan-Kai University of Technology, Nantou, Taiwan (1997-
> present); Chairman of Continuing Education Center, Nan-Kai
> University of Technology, Nantou, Taiwan (2001-2003); Instructor and
> supervisor of table tennis Club (1996-1998), Instructor and supervisor of
> Basketball Club (1998-2006), Nan-Kai University of Technology,
> Nantou, Taiwan; Graduate teaching associate for Oklahoma State
> University, Stillwater, OK (2007-2009).

> Professional Memberships: National Recreation and Park Association, Taiwan
> Sports and Recreational Management Association.

Name: Wan-Chung Lin   Date of Degree: December, 2009

Institution: Oklahoma State University   Location: Stillwater, Oklahoma

Title of Study: A STUDY OF CASUAL AND SERIOUS GOLFERS: TESTING
                SERIOUS LEISURE THEORY

Pages in Study: 151   Candidate for the Degree of Doctor of Philosophy

Major Field: Health, Leisure and Human Performance

Scope and Method of Study: The purposes of this study were: (1) to test if the
     characteristics of serious golfers are the same as the characteristics of Stebbins'
     serious leisure theory; (2) to explore the theoretical structure of casual golfers'
     characteristics; (3) to investigate the differences of the characteristics of serious
     golfers among different levels of leisure involvement and demographic variables.
     The instrument of this study was SLIM short form which was developed by Gould
     in 2005. Participants who scored equal to or greater than six and a half averagely
     were classified into serious golfer group, while participants who scored less than six
     and a half were classified into casual golfer group. Confirmatory Factor Analysis
     was used to test if the characteristics of serious golfers are the same as the
     characteristics of Stebbins' serious leisure theory, while Exploratory Factor Analysis
     was applied to explore the theoretical structure of casual golfers' characteristics. In
     the end, either *t*-test or ANOVA was used to investigate the differences of the
     characteristics of serious golfers among different levels of leisure involvement and
     demographic variables.

Findings and Conclusions: The findings of this study suggested: (1) the characteristics
     of serious golfers are the same as the characteristics of Stebbins' serious theory; (2)
     characteristics of casual golfers could be categorized into five theoretical factors
     which are "Enjoy Recreation Activities toward Career Progress", "Self-Satisfaction
     and Enrichment through Unique Identity", "Group Achievements and
     Maintenances", "Benefits received from Self-Express and Self-Image", "personal
     effort", and "Personal Effort"; and (3) significant differences in the characteristics of
     serious golfers among different levels of golf involvements exit.

ADVISER'S APPROVAL: Dr. Deb Jordan