A QUALITATIVE STUDY OF PHYSICAL EXERCISE BETWEEN AMERICAN AND CHINESE GRADUATE STUDENTS

By

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The purpose of this study was to examine and explore behavioral, normal and control beliefs of Chinese participants through comparison with American participants with guidance from the theory of planned behavior. Moreover, the leisure constraints model was used to explore social and cultural factors impeding Chinese students' exercise participation. Thirdly, this study also sought ways to initiate theory integration between these two theories. Fifteen University of Florida graduate students, including eight Chinese and seven Americans, were interviewed to discuss their past and current exercise experience. Consistent with previous study, it was found that Chinese participants were more interpersonally constrained than American participants. In addition, body image issues emerged as a major barrier for female Chinese participants. Moreover, sport-oriented physical education curriculum and lack of college recreation facility in universities in China were identified as two social factors impeding Chinese participants' exercise behavior. This study suggested exercise workshops targeted at Chinese international students being arranged to provide Chinese participants with basic exercise knowledge and familiarity with campus recreational

facilities in US. Also, it was imperative for decision makers in China higher education to initiate physical education reform and increase funding to improve sport and fitness programs in universities. Furthermore, health and fitness clubs in US with Chinese immigrants as a target market could incorporate a healthy body image in their marketing campaigns and customer education to influence Chinese participants' beliefs on ideal body image and consequently their exercise participation and preference.

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CHAPTER 1
INTRODUCTION

In the past two decades, China has witnessed impressive economic development, which not only sped up its urbanization and industrialization, it also exerted international influence as a rising power and affected the overall lifestyle of the Chinese people. Among many consequences, obesity as a global epidemic began inflicting China, the country with the largest population in the world. Using the World Health Organization body mass index cut points; a study revealed that between 1992 and 2002, the combined prevalence of overweight and obesity increased from 14.6 to 21.8% in China (Wang et al., 2007). Moreover, each year the increase rate was highest among men aged 18-44 and women between the ages of 45-59. Obesity and weight gain in children are also on the rise. According to Ji and Cheng's (2008) twenty-year study on excess weight and obesity among Chinese youth, the 2005 national estimate indicated that 7.73% of Chinese youth are overweight and 3.71% are obese, representing an estimated 21.37 million Chinese children total. The situation should no longer be overlooked; policies and programs are needed to educate and advocate the public in an effort to improve people's lifestyle.

Physical activity is widely regarded as an effective way to implement weight control and healthier conditions. According to Physical Activity and Public Health recommendations from the American College Sports Medicine Association and the American Heart Association to promote and maintain health, "All healthy adults aged 18 to 65 need moderate-intensity aerobic (endurance) physical activity for a minimum of 30 minutes on five days each week or vigorous-intensity aerobic physical activity for a minimum of 20 minutes on three days each week"(William et al., 2007, p. 1081). To

prevent the development of excessive weight and obesity, a scientific statement issued by American Heart Association (Kumanyika et al., 2008) stresses the important of effective inventions to reduce obesity; physical activity becomes an essential strategy to both weight control and long-term healthy lifestyle.

As the problem becomes more urgent over the years, policy makers, physical exercise educators and fitness club managers seek methods and strategies to tackle this challenge. In 1995, the Physical Health Law of the People's Republic of China was adopted. In the same year, the State Council promulgated the Outline of Nationwide Physical Fitness Program, followed by a series of rules and regulations with the aim to improve sport and fitness facilities and service across the country. Since physical activity participation during childhood is critical to children's future exercise engagement, reform on physical education is carried out to meet the demand of the changing lifestyle. In 2001, the new Chinese National Curriculum Standard was released with Physical Education & Health as one of its 18 subjects. It shifted the focus on "the development and the demonstration of physical skill and discipline" to population heath with emphasis on participation (Christopher, p. 20).

Moreover, during the past decade, China's fitness industry flourished along with the expansion of Chinese middle class, whose increased health awareness and financial ability make the fitness industry boom possible. According to Li's research (2006) on fitness retailers in five major cities in China, on average, consumers from Beijing spent around $120 per person annually on fitness-related expenses, adding up to $11.7 billions in the Beijing fitness market, alone. Commercial fitness centers introduced western exercise concepts and approaches to China and served as an

educator for a healthy lifestyle. It is through the development of commercial fitness clubs that people become familiar with strength and conditioning exercise, cardio dancing, yoga and personal training. At the same time, traditional exercise methods such as urban park visiting still remain as popular leisure and exercise choices. These options are favored by certain group of people, contributing to the development in exercise and physical activity participation at the community level.

However, inactivity among youth and adults remains a problem. According to Tudor-Locke's 2003 study, only 8% of children participate in any moderate/vigorous physical activity outside of school. Household chores are not expected from youth in China and approximately72% students engage in sedentary study-related activities outside of school for a median of 420 min/week. Another study conducted by Keri (2007) found that, as industrialization and technology advances liberate people for traditional labor activity, work-related physical activity of adults was greatly reduced. It indicated that "men had 68% greater odds, and women had 51% greater odds, of light versus heavy occupational activity given the mean change in urbanization over the 6-year period. " (p. 859). Unlike the popular culture of sport and leisure participation in US, leisure-time physical activity is as of yet, not common among Chinese adults, leading to a dramatic decrease in physical activity overall.

Although exercise and physical activity is an effective way to prevent increases in weight and obesity, leading to a healthier lifestyle, many people still fail to implement these changes in their everyday life due to lack of motivation or certain leisure constraints. The perception and beliefs people have towards physical activity, which are

strongly influenced by social and cultural norms and conditions, play an important role in directing their exercise intention and behavior.

Researchers and scholars have conducted motivational and behavioral studies on exercise for decades. These studies have introduced social-cognitive theories and behavior theories, such as the theory of planned behavior and self-determination theory, to examine and explain people's exercise motivation, intention and behavior. However, as most of the studies were conducted in the context of North American society and among American or Canadian participants, different social and cultural norms may bring cultural considerations into the well-established model. This study intends to address these issues, shedding light upon the physical exercise behavior among Chinese participants.

Statement of Problem

Previous studies on exercise behavior were largely conducted among North America population, while a large account of research conducted by Chinese researchers are kept within the Chinese academic circle even without English translation provided. Thus, lack of academic communication leads to inadequate understanding of physical exercise behavior among Chinese participants. In addition, although most of the exercise behavior studies guided by the theory of planned behavior and leisure constraints model adopt a quantitative approach, they were limited in such approach's capacity to explore factors other than established constructs within the theory. Factors such as social norms and cultural values may contribute to the formation of behavioral, control and normative beliefs, which ultimately leads to unique exercise behavior, motivation and constraint within their cultural and social context.

Therefore, the adaptation of qualitative approach is necessary to further the understanding of physical activity among Chinese participants.

Purpose of the Study

The purpose of this study contains three components: a) To reach a better understanding of behavioral, normal and control beliefs of Chinese participants through comparison with American participants with guidance from the theory of planned behavior, b) To explore social and cultural factors impeding Chinese students' exercise participation, as well as their negotiation strategies and methods to overcome exercise barriers, against the framework of leisure constraints theory, c) To examine the relationship between the theory of planned behavior and leisure constraints model, identify the similarities between the constructs within each theory, and provide theory integration suggestions to improve theoretical development in exercise behavior study.

Theoretical Framework

The theoretical underlying of this study are the theory of planned behavior (PBT), developed by Ajzen and Fishbein (1991,1993) and used to predict behavior based on behavioral intention, which is further affected by attitude, subjective norms and perceived behavior control; Leisure constraints theory, a series of studies applying hierarchical model of leisure constraints with a focus on cross-cultural difference. The theory of planned behavior (Ajzen, 1991), as one of the most influential theories in social cognitive psychology, was an extension of the reasoned action theory, which was originally proposed by Ajzen and Fishbein in 1975. The reasoned action theory implies that one's attitude and the subjective norms one perceives are closely related to one's behavioral intention; the more positive of the evaluation on one activity (attitude) and the

more pressure one receives from the significant others (subjective norms), the more likely the person will form intention to perform the behavior (Fishbein & Ajzen, 2010).

In addition to attitude and subjective norms, Ajzen later added a new component "perceived behavior control" (PBC) into the model, which finally became the theory of planned behavior. Perceived behavior control is the degree to which people believe their capacity to perform a given behavior or their control over performing it (Fishbein & Ajzen, 2010, p. 154). Assume that one has a favorable attitude towards an activity, his friends and family encourage or even give pressure on him to engage in the activity, and at the same time he has a high degree of control over his performance, then he is very likely perform the activity. It's also noted that the addition of PBC benefits from the development of self-efficacy concept, which was proposed by Bandura (1991). According to Bandura (1991, p. 257), self-efficacy is defined as "people's belief about their capability to exercise control over their own level of functioning and over events that affect their lives." Though comparisons have been made between PBC and Bandura's self-efficacy concept, with their similarities and difference discussed and addressed, Fishbein and Ajzen (2010, p. 161) finally conclude, "from a theoretical perspective, self-efficacy and perceived behavioral control are virtually identical." Therefore, a better understanding of Bandura's theoretical framework is critical to the understanding and application of the theory of planned behavior, which will be discussed in details in the next chapter.

The theory of planned behavior has been widely applied in physical activity and exercise domain to further the knowledge of human exercise motivation and to predict participation behavior. A cross-cultural study testing the general applicability of the

theory of planned behavior (Hagger et al., 2002) revealed that cross-cultural difference in structural relations among the TPB constructs was insignificant; however, the effect of PBC on intentions was remarkable except in Hungarian sample. In addition, this study also supports the general applicability of the measures and patterns of effects for TPB among young people in a physical activity context.

However, recent research has suggested that PBT is insufficient in addressing all the antecedents of physical activity participation, which limits its predictive capacity of exercise behavior. Chatzisarantis and Hagger (2008) examined the combined effect of personality traits and continuation intentions on exercise behavior within the theory of planned behavior. The findings indicated that among the five personality traits in the five factors model (extroversion, neuroticism, openness to experience, agreeableness and conscientiousness), people with higher conscientiousness trait tend to have higher continuation intention for physical activity. Similarly, another research suggests the inclusion of self-identity and social influence constructs, particularly those influences related to “membership of a behaviorally relevant reference group” (Hamilton & White, 2008, p. 56). Unlike the subjective norms construct, group norms refer to the perception regarding one’s appropriate attitude and behavior as a member of a specific group in a specific context. Moreover, since positive emotions may facilitate the translation of intention to actual exercise participation and increase duration and frequency of the activity, it’s also suggested that emotion be added into the model, since it serves as a bridge linking the intention-behavior gap (Mohiyeddini et al, 2009). For the purpose of this study, the original constructs proposed by Ajzen will be applied in the research,

while other factors suggested by previous scholars will be taken into consideration in data collection and analysis stages.

Compared to the theory of planned behavior, leisure constraints study is a relatively new area, though numerous empirical studies on leisure activity participation were conducted in the past decade. According to Crawford and et al. (1991), the hierarchical model of leisure constraints suggests that there are three discrete levels of constraints, intrapersonal, interpersonal, and structural constrains, which are encountered by participants hierarchically. The first level of constraint is intrapersonal constraints, which refers to an individual's psychological states, such as stress, anxiety or depression, and it's in this level that activity preferences are formed. Next, if the participant successfully overcomes the intrapersonal constraints, more barriers may emerge in interpersonal level. Interpersonal constraints are the results of "interpersonal interaction or the relationship between individuals' characteristics" (Crawford & Godbey, 1987, p. 123). Finally, structural constraints represent factors that intervene between leisure preferences or choices and actual participation. Examples include financial resources, available time, climate, transportation and so forth. It's also noteworthy that in addition to the hierarchal nature of the model, people's leisure activity participation "is dependent not on the absence of constrains but on negotiation through them" (Jackson et al., 1993, p. 1). Instead of passively reacting to constraints, people actually modify their choice or initiate strategies to overcome the barriers in order to finalize their leisure activity participation.

When it comes to empirical application of leisure constraints model, Walker and his colleagues' (2007) research on physical activity participation is highlighted with its

discussion of cultural constraints. The cross-cultural validity of leisure constraints model is tested through several comparison studies between Canadian and Chinese participants. The findings indicate the general applicability of the model across cultures, but at the same time some of the variance is attributable to cultural difference.

Triantis and his colleagues' (1988) construct of horizontal and vertical individualism and collectivism has been frequently used to explain leisure participation across cultures. According to Triantis' construct matrix, vertical collectivism refers to the perception that self is part of the collective and inequalities within the group are accepted. Horizontal collectivism regards self as part of the collective, but sees all individuals within the collective as the same. Vertical individualism entails an autonomous individual and accepts inequality. Horizontal individualism includes the conceptions of autonomous individual, but emphasizes on equality (Singelis et al., 1995). This construct serves as an important link between culture and leisure constraints model (Walker et al., 2008), through which we could understand and explain certain leisure preferences, constraints and participation patterns in different cultural settings.

Both the theory of planned behavior and leisure constraints model are designed to examine and understand the motivation of physical activity participation and further to predict actual behavior based on the knowledge of various internal and external factors. Inevitably, there are overlaps concerning interpersonal influences (subjective norms and interpersonal constraints) and internal factors (perceived behavior control and intrapersonal constraints). However, the theory of planned behavior tends to examine "push factors" from motivational perspective, while leisure constraints theory focuses on

“pull barriers” from constraint perspective. Moreover, leisure constraints model tends to answer questions prior to the decision making process. In other words, before we use the theory of planned behavior to predict behavior, leisure constraints perspective may help to answer questions concerning the formation of beliefs that are ultimately translated into attitude and subjective norms. Nevertheless, the theory of planned behavior is unique and powerful in its intention-behavior predictive ability based on its examination of attitude, subjective norms and perceived behavior control.

A combination of planned behavior theory and leisure constraints model as the underlying theoretical framework is novel but essential to obtain a comprehensive understanding of physical exercise participation between American and Chinese students. In addition, recent leisure constraints studies, with a cross-cultural perspective and incorporation of cultural pattern theories, shed light upon the study on exercise behavior among participants with different cultural and social background. These literatures provide valuable tools and perspectives for this paper to develop research measurement. At the same time, this study could contribute to theory integration through building connections between constructs.

CHAPTER 2
REVIEW OF LITERATURE

Education, Public Policy and Development on Sport and Exercise Participation in China

Physical Education and its Current Challenge in China

Physical Education plays a critical role in providing students with an understanding of the scientific approaches to exercise, in addition to opportunities to engage in physical activity under the guidance of teachers and/or trainers. Early experiences that involve physical activity can have a far-reaching impact on a student's overall leisure-time physical activity due to the quality of physical education that a student receives, the qualification of teachers as well as the breadth of the curriculum and resources allotted to physical education (Meyer et al., 2011). Therefore, scrutiny of China's physical education through a study of the history and heritage of such education programs, focuses and practice, reforms and limitations, would shed light upon a better understanding of Chinese participants' attitude and constraints towards physical activity.

Since the founding of People's Republic of China, physical education has become a significant part of communist education in schools (Jarvie et al., 2008). Under Chairman Mao's Physical Culture Movement, physical education was a compulsory subject that incorporating health education, recreation activities and ethics training with an emphasis on the cultivation of physical culture nationwide. At the time, it was believed that the movement would enable students to better work on their academic studies, participate in productive labor and enter the military in the future. Students would be capable of shouldering heavier burdens required of them to better serve their country. Therefore, early physical education programs in China were approached in a similar manner to military training that emphasized conformity with collective interests,

endurance training, competiveness fostering and communist doctrine and ideology educating.

In 1999, the Ministry of Education started launching a new basic curriculum to meet the demands of education in the 21st Century (Hua, 2011). Among the many changes that were carried out in China's national education system, physical education (PE) reform was highlighted with the objective of constructing and implementing a new physical education (PE) curriculum. Released in 2001, the new Chinese National Curriculum Standard consists of 18 subjects, one of which is Physical Education & Health (PE&H). The new curriculum features a shift in focus from performance to participation. Prior to the reform, China's physical education had long concentrated on the demonstration and development of physical skills and excellence surrounding sports like gymnastics, track and field, soccer, basketball and volleyball (Christopher & Jin, 2010). The new curriculum encourages teachers to "provide students with opportunities to, and experiment with, a wide range of movement possibilities" (p. 20). Moreover, the inclusion of health classes shows a focus on the promotion of healthy lifestyle that is critical to the long-term health education to the public.

A recent study (Christopher & Jin, 2010) conducted to gauge Chinese PE teachers' perception of the reform and its implementation, reveals a structural barrier to achieve the initial purpose of the reform. The first barrier is the low status of PE teachers in education system compared to teachers of other subjects. In today's Chinese education system, two exams are the center of middle school and high school education, the High School Entrance Examination and the College Entrance Examination. Due to severe competition, the evaluation of these examinations

determines the admission to high school and university. Unfortunately, PE plays a minor role in the high school Entrance Examination and is not even a component in the College Entrance Examination. As a result, both students and teachers of other subjects attach less value to PE class from the outset, resulting in PE teachers' low status in both students' mind and the education system. Consequently, discouraged PE teachers are not motivated to carry out the curriculum reform (Christopher & Jin, 2010). Moreover, lack of training and education in health education further made it difficult for PE teachers to achieve the expectations embodied in the new PE curriculum.

The struggle faced by PE teachers under the guise of the new curriculum has several implications in regards to mass sports participation or general physical activity in China. First and foremost, as suggested the overall low status of Physical Education and PE teachers in middle and high school system, is largely due to the severe competition of and emphasis on the High School Entrance Examination and the College Entrance Examination. Consequently, it discourages students from treating physical activity as an integral part of life from an early stage, while academic achievement is far more valued and acknowledged.

Secondly, the overemphasis on skills and performance of the sports-based physical education approach, regardless of it being an advocate of a shift to a participation-orientated approach of the new curriculum, still dominates physical education practices. When it comes to exercise motivation, such approach fails to provide high autonomous support for students. Consequently, lack of choice combined with the strong emphasis on performance and skills likely discourages some students from future exercise participation. According to the theory of planned behavior (Ajzen,

1991), past physical activity experience or habit plays an important role in predicting future exercise intention and behavior. The flaws of China's current physical education policy create an obstacle that inhibits Chinese students from actively engaging in leisure-time physical activities in the future.

Policy on Sport and Fitness: "Sports for All"

Government policy plays an important role in the promotion and development of sports and fitness programs in China, unlike most western countries. Government policies help: increase the awareness of the benefits of leading a healthy lifestyle and frequently exercising, encourage physical activity participation through media coverage of health and fitness programs, provide financial and human resources to support the development of health and fitness initiatives, and create tax benefits for the construction and operation of sports and fitness facilities. To a large extent, China's public policy is attributable to the rapid development of sports and fitness facilities and programs over the past few decades (Xiang-ru, 2001).

The National Fitness Program (NFP), initiated in 1995, aimed at improving health and overall physical conditions of the general population. The National Fitness Program was designed to be implemented over a 15-year period through the enactment of a set of rules and regulations. The objective of the NFP was to engage 40 percent of the population in regular physical exercise. It was presumed that the program would result in a noticeable improvement in the physique of the population and increase in the number of sports and fitness facilities across the country. Additionally, the NFP recommended that people learn at least two ways of keeping fit and have a routine check-in once a year. In 2001, there were more than 850,000 gymnasiums and

stadiums in China, most of them are open to the public and frequently visited (People's Daily, 2001). In 2002, The National Fitness Program was included in the Cultural Environment Construction Plan initiated by the Beijing Municipal Government and the Beijing Olympic Games Organizing Committee as an effort to develop "a mass sport movement" in China (Chinese Law and Government, 2009, p. 24).

According to the National Fitness Program's 2011-2015 guidelines released on February 24, 2011, by 2015 the NFP's target is for 32 percent of the population to be engaged in at least 30 minutes of exercise at least three times a week, which is 3.8 percent higher than the percentage of the population that was exercising in 2007. The plan also calls for the number of gymnasiums and stadiums to increase from the current 1 million facilities open as of 2011 to 1.2 million facilities by 2015.

Such top-down government mandated policy for sports and fitness programs is unique compared with the policies seen in US. The political purpose behind this and its pros and cons are under discussion by scholars. Luo (1995) argued that both Mao's emphasis on mass physical training for the "purpose of unifying the nation into his political service" (p. 53) and Deng Xiaoping's shift of focus to the socialization of the masses into a communist political culture have provided China with distinct political and financial advantages over other countries. The government's use of mass media helps to increase the population's awareness of healthy-living and at the same time provides funding for facility construction. This type of support from government at the national level accelerates sports and fitness industry development and facilitates physical activity participation amongst the populace.

Physical Activities and Sports Participation in China

With China's government support for the construction and development of sports and fitness facilities and programs, together with China's Reform and Open Policy carried out since 1978, China has developed its unique sports and fitness business environment and market features. These features combine traditional health and exercise concepts and methods rooted in Chinese culture as well as more current Western exercise approaches and trends.

Since the beginning of the 1990s, economic development has been followed by rapid urbanization that has not only drastically transformed the urban landscape, but has also fundamentally reshaped people's sport participation in terms of concept, form and space (Xiong, 2007). First, the concept of health is introduced and well received by the public, which is largely due to increased awareness of one's physical and mental well-being. As fast food culture is overtaking traditional Chinese diet and transportation advancements decrease people's overall engagement in physical activities, the Internet, mass media and entertainment industry encourage a sedentary lifestyle which can result n health disorders such as obesity and heart disease. A healthy lifestyle combining physical and mental wellbeing should be promoted. In Xiong's study, it has been noted that people's exercise motivation has been diversified. Rather than a political purpose, people actively participate in sport and physical activities "for keeping fitness, for entertainment, for communication with friends, for mental health and for increasing individual physical capacity" (Xiong, 2007, p. 447).

In addition to the expansion of the concept of sport and exercise, institutional and structural changes have emerged especially at the grassroots level. Unlike decades ago, when sport participation mainly served political functions and people were

mandated to join in certain sport activity and events, the increased autonomy of sport participation encourages voluntarily involvement that in turn contributes to the formation and development of community sports (or of sports in communities). As a product of the community service system, a form of a traditional welfare system tied to work unit, today's community sports benefit from the increased park, squares and gymnasium facilities in urban China. The structural uniqueness of China community sports sets the stage for certain features of sports and exercise participation at grassroots level. According to Wong (2009), for urban park users, they mostly engaged in group workout and jogging. In particular, elderly residents walk or ride their bikes to urban parks for Tai Chi practice, while young people go to parks during the afternoons and evenings for active sport activities.

In addition to community grassroots sports in China, Chinese cities have witnessed a boom in commercial fitness centers and clubs since late 1990s due to the growth of the middle class. With the increasingly openness of the Chinese market, oversea fitness companies have opened new branches in China, including companies like Bally Total Fitness ®, 24 Hour Fitness, LA Fitness ®, etc. Due to the success of Beijing Bally Total Fitness ®, the Western health and fitness concept and its approach, which incorporates group fitness class, personal training, dietetic consulting and strength and conditioning, was introduced to Chinese urban dweller as an alternative form of exercise and leisure activity. Additionally, fitness centers and clubs also pursue marketing strategies to make their core products more appealing to the Chinese market and expand their costumer-base through the introduction of their traditional products with a Chinese spin to them, such as Tai Chi group fitness class and Chinese traditional

dance classes. The various exercise choices that they provide, the convenience of their location and the encouraging environment they create have begun to reshape people's lifestyles to become healthier and more active (Xiao-fen, 2006).

Theories on Exercise Behavior

Based on China's distinctive public policy with regards to mass sports participation, the physical education system, current commercial and community sport development, the population's sports and physical exercise behavior may exhibit unique characteristics. This study is carried out within the framework of the theory of planned behavior (TPB) and leisure constraints model. In this section, the self-efficacy and self-determination theories are also discussed in order to explore the difference and similarities between those constructs, which will help to better understand the application and limitations of the TPB and leisure constraints models. Moreover, theories in cultural studies are introduced to serve as an exploratory tool to understand the difference in physical activity participation between two cultural groups. It is then followed by a brief review of literature on China's physical cultural and values.

The Theory of Planned Behavior

The theory of planned behavior (TPB) as a social cognitive model received considerate attention during the past two decades, particularly contributing to empirical study of physical exercise behavior. According to Ajzen (1991), the theory of planned behavior proposes that individual behavior is determined by behavioral intention that is further influenced by three independent components, attitude, subjective norms and perceived behavior control. Intention is the immediate predictor of behavior; the stronger the intention to engage in a behavior, the more likely it is that it will be performed. An individual's attitude toward a behavior refers to the evaluation of the target behavior; it

could be favorable or unfavorable. Subjective norms reflect the pressure one receives from significant others to participate or avoid an activity. Perceived behavior control measures individual self-evaluation of the capability to implement the task and the control over one's behavior. As a general rule, the more favorable one's attitude towards the activity, the more pressure from significant others to participate and the higher the perceived behavior control, the stronger one's intention to perform the behavior during a given situation.

It is noticeable that the theory of planned behavior is a conceptual expansion of Ajzen and Fishbein's (1980) initial social cognitive model the Reasoned Action Theory by incorporating "perceived behavior control" into the model. It is based on the fact that "not all behavior are under the individual's complete volitional control" (Hagger et al., 2002, p. 4), and perceived behavior control reflects an individual's evaluation of one's capacity and the ease or difficulty of engaging in an activity. In several meta-analytic reviews conducted by previous scholars (Blue, 1995; Hausenblas et al., 1997; Hagger et al., 2002), the predictive ability of the reasoned action theory and the theory of planned behavior are compared. It has been suggested that perceived behavioral control contributes to prediction beyond attitude and subject norms (Blue, 1995), and in the physical activity context the theory of planned behavior is found to be superior to the reasoned action theory in accounting for variance in intention (Hausenblas et al., 1997; Hagger et al., 2002).

The perceived behavior control concept is not novel when compared to other cognitive behavior theories; it is widely identified as a development of Bandura's (1977, 1982) self-efficacy theory. Ajzen (1991) noted that "the present view of perceived

behavioral control is most compatible with Bandura's concept of perceived self-efficacy" (p. 184), and that "from a theoretical perspective, self-efficacy and perceived behavioral control are virtually identical" to one another (Fishbein & Ajzen, 2010, p. 161). Thus, a discussion on self-efficacy could help to reach a better understanding of the perceived behavior control construct. Self-efficacy refers to an individual's belief about his/her own capacity to perform a specific task, involving in the direction of motivation, utilization of various resources and organization of the course of action (Bandura, 1977, 1982). Consequently, an individual's self-efficacy beliefs can influence their preference of activities, preparation for an activity, effort spent during performance, as well as thought patterns and emotional reactions (Bandura, 1982). Furthermore, self-efficacy's influence could go beyond an individual's intention to become a mediating factor that affects behavior directly, which is referred to as actual control (Ajzen, 1991; Hausenblas et al., 1997). When resources are available and constraints are overcome, actual control is proven to be a strong factor determining exercise participation.

In the past decade, efforts directed at the development of the theory of planned behavior suggest the inclusion of new constructs in order to enhance its predictive capacity of behavior. The frequency of past behavior is revealed to be a valid factor exhibiting an attenuation effect on attitude-intention and intention-behavior relationships (Hagger et al., 2002). When the theory of planned behavior was just introduced, the impact of past behavior has been acknowledged by Fishbein and Ajzen, They stated that past behavior's impact on future behavior is independent of other constructs, attitudes, subjective norms and intention. Ajzen (1991), however, does not consider it as a causal factor in its own right. Conner and Armitage's (1998) review of previous studies

reveals that frequent performance of a behavior may set the stage for the formation of a new habit, but a behavior, in and of itself, does not necessarily become a habit.

In addition to past behavior, social influence is also suggested as a variable within the planned behavior model. Compared with attitude and perceived behavior control, subjective norms are a less significant predictor (Hausenblas et al., 1997), and consequently, the value of subjective norms in explaining and predicting physical activity is questionable (Hamilton & White, 2008; Chatzisarantis et al., 2009, 2010). The subjective norms construct focuses on the particular influence on an individual via social pressure from significant others and/or group norms as a social influence; while on the other hand, group norms affect an individual's participation intention as he or she identify with the group and receive support and guidance from friends and peers (Hamilton & White, 2008). Similarly, Chatzisarantis et al. (2009) note that from a social identity perspective, social influence has been recognized as a complementary variable to subjective norms, and the inclusion of social influence could further enhance the accuracy of productivity. However, their findings also reveal that the influence group norms have on physical activity attitude and behavior is only valid to the degree that people identify strongly with the group. The introduction of perceived autonomous support from the self-determination theory addresses this problem. It assumes that whether it is one's significant other, friends or peers, the degree of motivation depends on the antonymous support one receives in a given context (Chatzisarantis et al., 2010).

In addition to past behavior and social influence, several other variables have been studied and examined as potential constructs that could be added to the theory of planned behavior. These constructs include emotion (Mohiyeddini et al., 2008),

personality traits (Chatzisarantis & Hagger, 2008), self-identity (Hamilton and White, 2008; Rise et al., 2010) and perceived antimony support (Chatzisarantis et al., 2010). Although these studies contribute to the overall development of the theory of planned behavior through providing new interpretations, different perspectives and theory integration, one issue addressed by Ajzen (1991) still remains uncertain. Ajzen states that there are appropriate sets of salient behavioral, normative and control beliefs associated with attitude, subjective norms and perceived behavior control. There is no causal relationship established between these beliefs and their corresponding constructs, but their influence on the formation of the three constructs, intention and behavior deserves further scrutiny.

Therefore, based on the review of current literature it is suggested that rather than seeking potential constructs, more attention should be directed at examining salient beliefs (behavioral beliefs, control beliefs and normative beliefs) of individuals. It is possible that variables suggested by current studies could be explained away by their influence on the belief-construct relations. Moreover, another limitation is the scarcity of literature in cross-cultural contexts. One study has proven the cross-cultural generalizability of the theory of planned behavior in physical context (Hagger et al., 2007), but more studies of this topic are needed, not only to test the predictive capacity of the model in different cultural contexts, but also to examine and even expand current constructs. For instance, Trafimow and Finlay (1996) argue that norms are more important determinants of social life in collective cultural systems and hence are stronger predictors of behavior in countries like China, Japan and Singapore. Similarly, Blue's (1995) meta-analytic review questions whether elicited beliefs are similar to a

particular behavior or within a particular population under investigation. Finally, though quantitative approach is well-established as a measurement of attitude, subjective norms and perceived behavior control's predictive ability of indention and behavior, qualitative approach still merits exploration as a means of examining beliefs and values that contribute to the formation of attitude, subjective norms and perceived behavior control, particularly in a different cultural contexts.

Leisure Constraints Theory

The leisure constraints theory has emerged as an influential theoretical framework in leisure studies in the past two decades. Early studies categorized constraints in three models of barriers – structural barriers, intrapersonal barriers and interpersonal barriers – that inhabit recreational active participation and satisfaction (Crawford & Godbey, 1987). This barrier model contributed to the development of constraint research by explaining the operation of constraints in the context of preference and participation relations (Crawford et al., 1991). It put forth that through affecting leisure activity preference the barriers influence participation on leisure activities. Nevertheless, the constraint barrier model failed to address the process of how people might encounter and negotiate the barriers.

The development of the hierarchical model of leisure constraints addressed this problem. Crawford, Jackson and Godbey (1991) extended the barrier model by constructing a hierarchical leisure constraints process that proposed that constraints are encountered hierarchically. The first two levels, intrapersonal constraints (individual psychological states and qualities that may affect leisure preference) and interpersonal constraints (social factors that affect the formation of preference), affect activity

preference, while the third and final level structural constraints (factors encountered after the first two level of constraints) intervene between preference and participation.

In addition to the hierarchical constraints encounter process, an implicit proposition of the model was further defined and conceptualized and it became a main focus of later leisure constraints literature. Crawford, Jackson and Godbey (1993) argued that "leisure participation is dependent not on the absence of constraints but on negotiation through them" (p. 1). Instead of passively encountering the constraints, people are likely to actively engage in negotiation efforts to minimize inhibiting factors and initiate leisure participation. Constraints negotiation studies draw more attention as strategies and resources are identified and developed by researchers. Jackson and Rucks (1995) were among the earliest researchers to investigate the negotiation of constraints through empirical research. Their research revealed that problems of commitment, time, lack of skills, health and physical fitness limitations, facilities, cost and lack of money are encountered by high school students during their recreation participation or non-participation. Moreover, though both cognitive and behavioral strategies are effective in alleviating constraints, behavioral strategies, including time management, skills acquisition, commitment enhancement, interpersonal relation improvement and financial management, are widely adopted strategies (Hubbard & Mannell, 2001).

Based on the leisure constraints negotiation concept, more recent studies have begun to explore the role of motivation in the constraints negotiation process. The inclusion of motivation is not new in the interpretation of leisure constraints negotiation. In Jackson et al. (1993), the sixth balance proposition of "both the initiation and outcome of the negotiation process are dependent on the relative strength of, and interaction

between, constraints on participating in an activity and motivation for such participation”(p. 9). Recent research focuses on the examination of the interaction between leisure constraints, negotiation, motivation and activity participation. One study that tested the four competing leisure constraint negotiation models in a corporate employee recreation setting revealed findings that support the constraint-effects-mitigation model. Employees with strong health and enjoyment motives were more likely to have increased level of negotiation effort (Hubbard & Mannell, 2001). By incorporating a negotiation-efficacy construct, White’s (2008) study on outdoor recreation concluded that negotiation demonstrated a minor positive impact on outdoor recreation, while motivation, as a form of desire for satisfying recreation experiences, exhibited a strong impact on participation and was also a strong predictor of future participation. However, examination of motivation’s role in the leisure constraints negotiation process is still limited. More efforts are needed to investigate the links between well-established motivation theories, such as the theory of planned behavior and self-determination theory, with the motivation concept within leisure constraints model in order to initiate potential theory integration so as to reach a better understanding of motivation, constraint and negotiation.

Though the leisure constraints model has been well-established over the past two decades through conceptual development and empirical validation, little research has been done concerning how the formation and negotiation of leisure constraints vary in different cultures, thus it has been argued that the model is culturally bound (Chick & Dong, 2005). In response to this argument, recent studies give more attention to the model’s validity in cross-culture contexts and explore potential cultural variables. Arab-

Moghaddam and his colleagues' study (2007) on Iranian women's sport participation ranked community structure as the most constraining area, followed by high family expectations as a personal constraint, which is influenced by cultural and religious values. The study suggested that social security and culture dimension constructs be added to the model to increase the theory's cross-cultural applicability.

In response to the criticism on the "culture bound" nature of leisure constraints theory, Crawford, Jackson and Godbey (2011) argue that the intrapersonal constraints level adequately incorporate such macro level differences" (p. 121). Rather than including cultural dimension among all three categories, they suggest, "culture determines the very operational definition of each category" (p.121). Alexandris and Carroll's (1997) study on the demographic differences in perception of constraints on recreational sport participation of Greeks produced results consistent with those conducted in North American and UK. It confirmed that there are similarities in people's perception of constraints in different cultural contexts. Similarly, in Walker and others' (2007) comparison studies on the leisure constraints perceived by Canadian and mainland Chinese university students, they discovered that the Chinese students were more affected by intra- and interpersonal constraints, while Canadian students were more structurally constrained. Regardless of such differences, the findings of this study support the applicability of this framework across two cultures. In summary, the hierarchical leisure constraints model is cross-culturally applicable, though there might be different constraint patterns in different cultures.

This brings up several questions concerning behavioral theories' cross-cultural applicability. First, what cultural factors contribute to these differences in patterns?

Second, how the interpretation of the diverse value and belief systems of different societies could help us to reach a better understanding of different constraint patterns? These questions will be discussed later in this chapter along with the introduction of the self-construal concept. In this study, it is noted that the hierarchical model of leisure constraints is a well-established theoretical framework, especially with its cross-culture applicability. To apply the leisure constraints model to my study is due to the potential that it could provide insights from previous cross-culture research, especially those based on Chinese samples. At the same time, leisure constraint perspective, with its focus on barriers and inhibitors, complements to the motivational perspective provided by the theory of planned behavior.

Culture Studies and Chinese Physical Culture

In the realm of cross-culture psychology, theories have been developed to explain how cultural contexts through their norms and values affect person's self-perception, personality, emotion, motivation and behavior. A better understanding of cultural patterns, as an explanatory tool, is necessary to investigate the difference of physical exercise preference and participation between Americans and Chinese sport and exercise participation.

The Collectivistic and Individualistic Construct

The distinction between collectivism and individualism societies is of great interest to cross-cultural psychology and sociology researchers. Individualism is a cultural notion that dictates that individuals within a culture/society perceive themselves as an autonomous entity from the group, and able to pursue individual goals to advance their own self-interests. In these societies the uniqueness of each individual, as well as each individual's right to self are respected and valued. Collectivism, on the other hand,

entails individuals' sense of belonging to a group, with their goals overlapping with those of the group. In collectivistic societies, conformity to social norms and values and compromise or sacrifice of individuals is expected for the harmony of the group (Markus & Kitayama, 1991; Traindis, 1995).

However, the collectivism and individualism distinction is restricted in its measurement accessibility. As Singelis et al. (1995) pointed out, " measuring aspects of culture requires obtaining a great deal of information from each respondent, yet the users of the individualism and collectivism constructs often ask for the simplest [shortest] way to measure these constructs" (p. 242). To address this problem, further categorization, consisting of two distinct sub-groups (vertical individualism, vertical collectivism, horizontal individualism and horizontal collectivism) of the individualism and collectivism construct, was conceptualized by Trandis et al. in their 1995 study. The distinguished two sub-groups of the individualism and collectivism construct through the creation of a matrix that differentiates between vertical and horizontal societies. Vertical collectivism refers to the perception of oneself as an interdependent part of a group and acceptance of the inequalities within the group. Horizontal collectivism defines the perception of oneself as an interdependent part of the group, but regards equality within the group. Vertical individualism defines the perception of an autonomous self within a group and accepts existing inequalities within the group. Horizontal individualism defines the perception of an autonomous self but seeing all individual with equality. For instance, Walker, Jackson and Deng's study (2011) on university students' leisure constraints found that Canadian university students were characterized more as

horizontal individualists; whereas Chinese students were more on both vertical collectivism and vertical individualism.

Triandis's (1995) individualism and collectivism matrix not only provides measurement advantages, but also reveals the dynamic, yet consistent nature of culture patterns. A society may consist of people defined as different categories among the matrix, but there is one category with dominating proportion. Take for example what Triandis (1995) noted regarding a vertical individualistic culture like the United States, it "may be composed as follow: horizontal individualism 40 percent; vertical individualism 30 percent; horizontal collectivism 20 percent; and vertical collectivism 10 percent" (p. 47). This implication of this study is that it provided valuable insights into studies on societies and cultures that are undergoing changes or becoming more diversified, like those happening in China and America.

At the micro level, underlying the concept of collectivism and individualism are differences in values and beliefs that result in two divergent perceptions about the relation between self and others, called self-construal by Markus & Kitayama (1991). The independent construal features self-reference in terms of goal setting and self-evaluation, which requires the construction of a well-organized self with its own internal thoughts, feelings and actions. The interdependent construal entails behaviors that are determined and dependent on the reference of others and motivated by the purpose to fit in. The independent self-construal is seen more in people from Canada, United States and Western Europe, while people from Asia, Eastern Europe and Africa exhibit more interdependent self-construal. As Markus and Kitayama (1991) noted, an important function of self-construal is that of motivating actions. People with

independent construct of self are more motivated to engage in activities of self-expression and in displaying inner attributes, while the interdependent construal orientated individuals are driven more by social norms and others' expectations with the purpose of enhancing closeness and connection with others. The introduction of the self-construal, though not a widely applied concept, sheds light upon the understanding of exercise motivation and constraint in cross-culture contexts in addition to further explain the difference in behavior.

In empirical research, Walker and his colleagues' cross-cultural comparison studies (2001, 2005, 2011) highlighted the incorporation of a self-construal instrument in the application of the theory of planned behavior and the self-determination theory in exercise participation, as well as leisure constraints studies. Consistent with Markus and Kitayama's (1991) proposition that two types of self-construal affect the formation of individual motivation, Walker, Deng and Deiser (2005) pointed out that the difference in self-construal type would result in different levels of intrinsic motivation. The need for autonomy and relatedness are two of the three basic psychological needs indicated by self-determination theory. The tendency to pursue self-expression and uniqueness (independent self-construal) corresponds with the need for autonomy, while the tendency to live up to others' expectation and the pursuit of belonging reflects the need for relatedness. Walker, Deng and Deiser (2005) finally suggest that as the recognition of culture and self-construal contribute to a better understanding of the need for autonomy and relatedness, which subsequently facilitates intrinsic motivation, is necessary to account for the self-construal in the development of a theoretical framework (p. 87).

Walker, Jackson and Deng (2011) also argue that the self-construal is an intervening variable between culture and leisure constraints. Since the two self-construal types differ in their relation between self and others, as well as amongst interdependent construal individuals, the interpersonal relationship may exhibit a constraining effect on an individual's recreation participation since others' expectations, social norms or the very reference of others is valued and examined. The result suggests that for Chinese vertical collectivists, the need for autonomy is a greater constraint than more horizontally collectivist students. Finally, Walk, Jackson and Deng suggest in their study that the inclusion of self-construal could extend the knowledge on how culture impacts the interpersonal constraint as well as structural constraints.

The self-construal is still a relatively new concept in cross-cultural motivation and behavior research, and some scholars are skeptical about the validity of the self-construal as a cross-cultural explanatory construct (Levine et al., 2003). Levine and his colleagues' (2003) in their meta-analysis of published cross-cultural self-construal studies argued that, "the evidence for the predicted cultural difference is weak, inconsistent or nonexistent" (p. 200). Moreover, self-construal's two-dimensional construct is also questionable; an independent and interdependent self-construal construct should be considered. Regardless, the concept of self-construal provides a valuable insight into different cultural patterns' impact on motivation and behavior. It serves as a link between well-established social cognitive behavior theories and culture theories. Furthermore, the numerous empirical studies by Walker and his colleagues' based on the Chinese culture context lay the foundation for this paper. Their research findings may help to examine and explain questions that will emerge in this study.

Chinese Culture and its Impact on Physical Activity Participation

To better understand Chinese people's physical exercise preference, motivation, constraints and participation it is necessary to examine the philosophies, ideologies and personality traits that shape the Chinese culture and behavior of the Chinese people. First and foremost, the influence of Confucianism on the cognitive process of the Chinese people, behavior and society cannot be overrated. As a doctrine, Confucianism has existed in China for approximately two thousand years and is deeply rooted in Chinese cultural psychology, exhibiting lasting influence on people's lifestyle, interpersonal relationships, self-perception, social norms and societal values. Few studies on Confucianism's impact on physical activity and leisure behavior have been conducted, and its influence is noticeable. The first critical element pointed by Yu and Bairner (2011) is the anti-physical culture implied in Confucian literature and practice that is reflected in distinguishing between Wen and Wu, which mean "cultural attachment" and "physical valour," respectively (p. 220). Though both Wen and Wu were subjects used in the selection process of government officials in ancient China's bureaucratic system, the demonstration of literary knowledge, as implied by Wen, was held in high regard in ancient Chinese society compared to Wu, which represents physical strength and skills. Even Wu, crucial in military strategy and martial merits, was still not upheld as a Confucian ideal. The mind over body ideal (Wen over Wu) could also be seen in the academic setting, resulting in liberal arts and physical training either-or mindset. As Yu and Bairner (2011) have pointed out, that in present-day Chinese society, physical education receives similar treatment as Wu in ancient China; it could be "reasonably" ignored while academic pursuits are prioritized.

In addition to anti-physical culture, the implications of Confucianism particularly affect women's physical and leisure participation. As the "appreciation of the beauty of human body is non-existent in Confucianism" (Tsai, 2006, p. 269), combined with the overall low status of women in Chinese culture/society, the physical and leisure activity of women is further constrained by economic, domestic, social and cultural aspects. According to Tsai, Taiwanese women are supposed to be "fragile, gentle and passive" (p. 473), showing "diligence" by spending most of their time in domestic tasks rather than leisure activities. However, Tsai's conclusion lacks validity since Taiwanese society is undergoing transformation, where Western culture is increasingly valued and upheld by the Taiwanese people. More research is on younger Chinese generations is needed in order to examine the extent to which Confucianism still dictates the physical and leisure participation of women.

Finally, the social implications of the Confucianist construct are unique to Chinese interpersonal relationships and social interaction. The "Chinese expect people to anticipate others' needs or to know their feelings without asking or being told. To do otherwise indicates poor social skills or a characteristic deficit" (Gabreneya & Hwang, 1996, p. 315). This "attention to others" is explicitly reflected in the Chinese concept of "face", which entails moral character and social success. Underlying moral character and social success is compliance with in-group norms and the maintenance of the hierarchical power structure. Liao and Bond's (2011) study finds that norm violation, as a predictor of face loss, is more significant among Hong Kong Chinese than Americans. Confucianism dictates the norms that permeate all aspects of daily life (i.e. activities and interactions) from teacher-student relationships to wife-husband courtesy, from

knowledge acquisition to manner mastery in different social settings. For Chinese people, social norms have stronger impact on their behavior particularly in interpersonal relationships in order to save face.

To summarize, Confucianism still plays an important role in determining Chinese people's cognition, motivation and behavior. Within the context of physical exercise and leisure participation, a better understanding of Confucianism would help to decode the unique attitude, perception and behavior of Chinese people and further contribute to the understanding and development of social cognitive theories.

Theory Integration

The theory of planned behavior and leisure constraints theory from motivational and constraint perspective seek to examine and explain physical exercise behavior. Although each theory, with its well-established constructs and measurement method, has been confirmed and reinforced by empirical studies, there are still limitations in certain aspects that make theory integration a worthwhile and necessary effort. For instance, according to Fishbein and Ajzen (2010), the beliefs and values contributing to the formation of attitude, subjective norms and perceived behavioral control still remain uncertain. Moreover, as mentioned earlier, the predictive ability of the subjective norm construct has been widely questioned. It was also shown in leisure constraints research that more attention was directed to understand interpersonal and structural constraints, while less attention was given to intrapersonal issues, which entails personal beliefs that affect exercise nonparticipation and preference.

On the other hand, theory of planned behavior and leisure constraints model shared several underlying similarities. Firstly, intrapersonal constraints could be considered as negative behavioral beliefs, which contribute to the formation of negative

attitude towards exercise. Similarly, interpersonal constraints could have the same influence on exercise participation as negative normative beliefs when they are perceived as negative social pressure. It was believed that an integrated model of these two theories could help to minimize their limitations and contribute to the theoretical development in exercise behavior research.

The purpose of the study was to apply the theory of planned behavior and the leisure constraints model in order to examine and explore physical exercise participation among Chinese graduate students. The predictive capacity of its constructs has been widely confirmed by empirical studies. To incorporate the leisure constraints model in this study, the model could serve as a complementary model to the theory of planned behavior to explore factors behind nonparticipating. The theory of planned behavior addresses “push” factors, while leisure constraints model deals with “pull” factors. At the same time, leisure constraints literature with focus on cross-cultural issues, particularly within Chinese cultural contexts, lays a foundation for this cultural comparison study. Finally, cultural pattern studies with their recent development of self-construal concept bridges well-establish physical and leisure participation theories and their target cultural context. In the data analysis stage of this study, the concept of self-construal might help to explain the difference of participation and preference shown in research results.

CHAPTER 3
METHODOLOGY

Introduction

The purpose of this study was to examine American and Chinese graduate students' physical exercise participation under the guidance of the theory of planned behavior, with a focus on the exploration and examination of cultural and social norms contributing to Chinese participants' exercise beliefs. In addition, constraining factors from intrapersonal, interpersonal, and structural perspectives were retrieved from participants' past behavior to gain a better understanding of their exercise constraints. When constraints were successfully overcome, negotiation strategies were also examined and discussed. Furthermore, the theory of planned behavior and the leisure constraints model were compared to identify similarities and differences in an effort to initiate theory integration.

This chapter seeks to describe the following aspects of the research design in this study: (a) participants and sampling, (b) procedure, (c) instruments, (d) data analysis, and (e) trustworthiness.

Participants and Sampling

Criterion sampling was used in this study (Patton, 2002). Fifteen participants were selected based on the following criteria: (a) University of Florida (UF) graduate student, (b) balanced number of male and female participants, (c) half were Chinese students and half were American students, and (d) regular engagement in physical exercise, which was defined as activities performed at a vigorous intensity three or more times per week for at least 30 minutes per session. The Chinese participants were primarily contacted through the UF Chinese Fellowship Association, which largely consisted of

graduate students. American participants were selected from acquaintances of the researcher, including patrons and participants in UF Southwest Recreation Center and Student Recreation and Fitness Center. In addition, the snowball recruitment method was used to reach out to participants who met the research sample criteria.

Conducting a study of Chinese and American graduate students, this research approach facilitated the exploration of cultural and social influence on exercise motivation and constraint. As a great amount of theory of planned behavior research has been conducted among American participants, consistency with previous literature's results was expected among American subjects in this study, while variance that emerged from Chinese subjects were hoped to be valuable and constructive to theory development.

The purpose of selecting graduate students for this study was due to the fact that Chinese international students accounted for a large percentage of the graduate student population at UF. Chinese participants were screened so that they were both born and raised in China and only came to the United States to pursue higher education. Though Chinese students also accounted for a significant percentage of UF's undergraduate population, they were either Chinese Americans, or had attended high school in the US, which diluted Chinese social and cultural influences on their exercise participation. Thus, through the selection of Chinese participants in this manner, participants' past sports and exercise participation behavior would have occurred within Chinese cultural and social context, and were influenced by China's unique social norms and values. Therefore, their adjustment to or discomfort with America's sports and exercise culture

should reveal insights and reflections on the cultural differences, as well as their sports and exercise motivations and behaviors.

There were potential limitations concerning the sampling method of this study. First, interviews were conducted in English with all participants. While most Chinese graduate students were proficient in English, discrepancy could still exist when they use a second language to express their feelings and describe their behaviors and activities in China. Thus, in order to overcome this language barrier, it was advisable for the researcher to prepare a Chinese interview guide and interpret essential concepts in Chinese, so that participants could overcome potential language barriers. Secondly, some of the participants were personal acquaintances, and previous knowledge of the subjects may limit the exploration of their belief systems. To minimize this limitation, the majority of the subjects were people who were referred to this study by personal friends, or were participants or patrons encountered in a group fitness class or the weight and conditioning room at UF Campus Recreational Center, where the researcher worked as a group fitness instructor and fitness associate.

Procedure

A semi-structural interview approach was adopted for this study. The semi-structural interview is a simpler research tool that is better suited to novice researchers than other, more structured tools, due to its flexibility (Tenenbaum & Driscoll, 2005). By using this interview design, the exploratory nature of qualitative research design is maintained and the basic research questions are covered. Thomas et al. (2010) stated, “in the study of physical activity, qualitative research is the new kid on the block” (p. 21). To date, little qualitative research has been done on Chinese student’s physical activity participation within the framework of the theory of planned behavior and leisure

constraints model. Therefore, this study was expected to contribute new insight into physical exercise participation, particularly in regards to the current Chinese exercise belief system.

The interview questions were designed so that they were based on previous theory of planned behavior scales and the leisure constraints model. These questions were open-ended in order to obtain information and elicit responses from the participants about their beliefs concerning sport and exercise cultural differences. All interviews were conducted face-to-face, and lasted for approximately half an hour. The conversations were recorded using a digital voice recorder and later transcribed verbatim by the interviewer. The interview guide was translated into simplified Chinese by the researcher. This translated was utilized in case concepts needed to be explained or elaborated upon in Chinese to the participants for their accurate understanding of the interview questions. It was noted that though the interview was designed to use prepared questions, the flow of the interview and the order of the questions were subject to change. This encouraged an in-depth exploration that could possibly go beyond the scope of the prepared questions.

Finally, the recorded data were coded for themes. According to Tenenbaum and Driscoll (2005), coding data for themes entails “looking for patterns that will help the researcher make sense of the data” (p. 612). The coding process included the following steps: data inspection, descriptive data identification, codes comparison, theme development through codes aggregation, and the themes integration to evaluate the phenomenon under investigation. As coding continued, the method of constant

comparison was used to ensure that the coding was consistent throughout, by continually sifting and comparing elements (Richardson, 1996).

Instruments

The Theory of Planned Behavior

Based on Ajzen's (2011) suggestions on the theory of planned behavior, questionnaire construction and qualitative preliminary research design was referred to when developing interview questions. As elicitation studies have provided researchers with valuable information concerning people's feelings and reflections on a behavior, it was important to identify the control beliefs, behavioral beliefs, and normative beliefs determining perceived behavior control, attitude, and subjective norms. In the study, physical exercise was defined as activities performed at a vigorous intensity for at least 30 minutes, three or more times per week, for the next three weeks.

Attitude*.* Attitude is defined as an individual's positive or negative evaluation of a behavior. The first question was asked to obtain the subject's evaluation of physical exercise. The question was "In your opinion, what do you think of participating in physical activities at least three times per week and for approximately 30 minutes per session?" The second question was used to examine the subject's evaluation of the outcome and asked "To what extent do you believe that regular exercise participation in your free time would have positive or negative outcome, and what are they?" The last question asked participants to list the advantages and disadvantages of engaging in the exercise. The question inquired "What else comes to mind when you think about exercising for at least 30 minutes, three times per week, for the three consecutive weeks?" The previous question was designed to explore further the subject's behavioral beliefs.

Subjective norms. Subjective norms are defined as perceived pressure, with approval or disapproval, from significant others. There are two dimensions within this construct – significant others' pressure and participant's motivation to comply with the expectation. The following questions were to be asked:

- "What are your family and close friends' opinion and reaction to your regular physical activities?"
- "Do you think that their support or discouragement have influenced your decision and behavior?"
- "If your initial participation or adherence to an exercise schedule is affected by your significant others' opinion or reaction, what is your motivation to comply with their expectation?"

Moreover, in order to elicit normative beliefs, participants were asked to list the individuals or groups who approved or disapproved of the participants' behavior.

Perceived behavior control. Perceived behavior control refers to the easiness or difficulty in maintaining regular physical and leisure activities. Subjects were first asked to evaluate whether it was difficult to engage in one or more physical activities over a consecutive three-week period, and to identify the perceived barriers that hamper or factors that facilitate the successful implementation of the task. Barriers could be income, leisure time, resources, physical conditions, etc. Finally, in order to further explore control beliefs, subjects were asked to indicate the possibility that those barriers could be overcome. Interview questions asked participants to list the following:

- "Please list any factors or circumstances that would make it easier for you to exercise at least 30 minutes, three times per week, for the next three weeks."
- "Please list any factors or circumstances that would make it difficult or prevent you from exercising for at least 30 minutes, three times per week, for the next three weeks."

Past behavior. While it is not a construct in the theory of planned behavior, past behavior or habit has been frequently incorporated into the planned behavior theory

research design in order to predict future behavior. Empirical research has supported the predictive ability of past behavior on future behavior. In the context of physical exercise participation, subjects were asked “How often have you participated in regular physical activities in your free time in the past six months?” Probes were used to further explore their favored activities, preferred time and location, and length of participation.

Leisure Constraints Model

Interview questions within the theoretical framework of the leisure constraints model follow the hierarchical order that leisure constraints encounter like intrapersonal constraints, interpersonal constraints, and structural constraints. Moreover, as negotiation efforts are highlighted in previous literature, when constraints are encountered, questions within each construct are followed by a discussion of subjects’ negotiation efforts, strategies, and resources. This is to overcome the constraints presented in their leisure-time physical exercise participation. It was noted that items from previous research questionnaires served as guidelines to lead the interview; however, subjects were expected to explore the barriers they perceived and experienced within their own frame of reference, as well as cultural and social settings.

In addition, since the subjects of this study were from two different cultural and social backgrounds, culture may have played an important role in the emergence and negotiation of leisure constraints. According to Chick and Dong (2005), “culture is logically prior to intrapersonal, interpersonal and most structural leisure constraints (p.170).” Therefore, while culture was not regarded as a separate construct in this study, it was necessary for the researcher to keep cultural factors as a reference when conducting the interviews.

Intrapersonal constraints. In this construct, subjects were asked to identify intrapersonal constraints that hampered their physical exercise. The following questions were asked:

- What makes you want to participate in exercise three or more times per week for at least 30 minutes each time?"
- "To what degree do you think interest plays an important role in your activity preference and participation?"
- "Which do you prefer; activities that are more adventurous or safer?"
- "Is safety a concern when you chose physical activities to participate?"

Interpersonal constraints. As the second level of leisure constraint model, interpersonal constraints included difficulties stemming from interpersonal relationships. Questions concerning interpersonal constraints included the following:

- "Which do you prefer, to work out by yourself or with friends, individual exercise like jogging or team activities like basketball game?"
- "Do you have any preference about the gender of the people you work out with?"
- "If a good friend of yours joins your physical activity, do you regard it as a source of motivation?"

Structural constraints. The last stage of leisure constraints is structural constraints, such as lack of time, lack of equipment, financial constraints, transportation etc. Subjects were asked to name and rank the obstacles they faced as follows.

- "Is there any activity you want to participate in, but the expenses of the equipment or facility discourages you?"
- "Are there times you compromise your exercise schedule due to lack of time?"
- "Does distance or inconvenience of transportation ever become the reason why you fail to carry out an exercise schedule or leisure activity?"

Negotiation strategies*.* When leisure constraints are encountered, active negotiation strategies may be developed to overcome the obstacle and realize exercise participation. Interview questions in this section included:

- “What time management strategies you have used to tackle the lack of time for certain exercise you want to participate?”
- “Have you ever planned and budgeted for a sport or leisure activity you find expensive but want to participate?”
- “If you prefer to workout with people you are familiar with, have you ever tried to make friends with people you meet during a team game or group activity?”
- “What other ways you come up with to remove the factors limiting your sport and exercise participation?”
- “What prevents you from overcoming these limitations?”

Data Analysis

Interview recordings were transcribed verbatim and prepared for data analysis. Data analysis is the process of making sense of the data. According to Shank (2002), in qualitative research, it is a misperception that notions and themes emerge from the data. Rather, qualitative research requires active endeavor and “data analysis is a process that requires astute questioning, a relentless search for answers, active observation and astute recall” (p. 129). Therefore, in addition to the method of coding for themes, constant comparison strategy and memoing techniques were also used to actively discover new themes and obtain meanings from the data.

As Rubin suggested in his 2005 study, the data analysis process starts with coding for concepts and notions explicitly presented in interview questions and theories, such as attitude towards physical activity and strategies used to overcome leisure constraints. It was noted that well-established quantitative research on physical activity participation provided well-defined concepts and constructs from which this qualitative study began. More attention and effort were directed at the identification and categorization of themes, the notions explaining the formation of beliefs, perceptions on constraints, and the decision-making process of physical activity participation. The

coding process started from specific to general, with codes fitting together and themes taking shape.

Following the initial coding for themes based on categorization of constructs, open coding was applied to obtain direct information from the subjects without imposing theoretical and categorical perception. Conducting an open coding content analysis, in addition to themes coding, allowed for flexible exploration of the participants' exercise motivation and constraints. Analysis grounded in actual data laid the foundation for theory integration. Moreover, the open coding approach helped to break down the boundaries of the theory of planned behavior and leisure constraints model to explore theory integration possibilities.

To ensure the consistency of coding, especially since two cultural contexts were involved in this study, the constant comparison coding technique was used throughout data analysis process. Constant comparison originates from the grounded theory methodology and is later applied as a content analytic strategy. According to Thorne (2000), the constant comparison strategy involves comparing one piece of data with all others that may share similarities or differences in order to conceptualize possible relation between different data and themes. Applying the constant comparison strategy also facilitated theory integration efforts between the theory of planned behavior and leisure constraints model, as suggested in literature review.

Trustworthiness

To enhance the validity and credibility of the qualitative research results, member checking, also known as respondent validation, was used to establish the level of correspondence between the researcher's interpretation and subjects' account. Member checking has been referred to as the procedure to take the data, including participants'

account and researchers' interpretation back to subjects for confirmation (Creswell & Miller, 2000). Member checking is considered as the most effective way of minimizing or even eliminating misinterpretation (Maxwell, 1996). After the interviews, the researcher contacted participants to recount her understanding and interpretation of the subjects' answers to the questions, in an effort to look for discrepancy and reduce errors generated from misinterpretation.

Furthermore, the memoing technique was adopted throughout the data collection and analysis process. Memoing refers to reflective notes including ideas and insights recorded by researcher during the data collection and analysis process. According to Birks et al. (2008), similar to the constant comparison strategy, "memoing serves to assist the researcher in making conceptual leaps form raw data to those abstractions that explain research phenomena in the context in which it is examined" (p. 68). The use of memoing contributed to the effectiveness of the research experience, as well as the exploration and interpretation of physical exercise participation within different social and cultural contexts. This is due to the fact that the researcher was able to stay true and close to the data during the qualitative research process.

CHAPTER 4
RESULTS

In this study, fifteen participants, eight Chinese and seven American graduate students, were interviewed and the data was recorded and transcribed. The data analysis stage started with coding based on the theoretical frameworks of the theory of planned behavior and leisure constraints model. Themes and categories were developed from constructs within each theory. Then, an open coding approach followed. This allowed the researcher to step back from the previously established themes and categories in order to give the data a fresh scrutiny for patterns and meanings. Recurring themes were identified, compared, and segmented into different categories. During the process of data collection and coding, memos were written to reflect the researcher's ideas and thoughts on new information, as well as relations and patterns perceived through comparison with old data. Moreover, interview techniques learned from previous interviews were also highlighted in the memos to be used in the coming interviews. In addition, member-checking in the form of follow-up phone interviews, was conducted to provide opportunities for participants to correct their response, as well as to allow the researcher to access the adequacy and validity of the preliminary findings.

This section describes the results of this study and identifies salient physical exercise through behavioral, normative, and control beliefs within the theory of planned behavior, and exercise constraints using the leisure constraints model. Moreover, the results of an open coding approach were also presented to provide a unified understanding of participants' exercise behavior, motivations, and constraints. In addition, beliefs and constraints specific to the Chinese participant's population were

identified and discussed. To support the themes, related quotations were presented. Pseudonyms were also used to protect the anonymity of participants.

Table 4-1. Participants' Demographic Characteristics

Participant	Age	Gender	Nationality	Major	Year in School	Exercise Activities	Times per Week
Danica	27	Female	American	Law School	second year in Law School	Turbo Kick®, elliptical trainer,	7
Kristina	23	Female	American	clinical psychology	first year master student	ZUMBA®, Pilates	3
Jade	23	Female	American	sport management	first year master student	weight lifting, kickboxing,	3
Stefan	29	Male	American	agricultural science	third year PhD student	rock climbing, stadium conditioning	3
Stewart	24	Male	American	Informationsystems and operations management	second year master student	flag football, weight lifting, basketball	3
Andrew	23	Male	American	sport management	first year master student	bootcamp, kettlebell, basketball, racquetball	5
Dave	24	Male	American	computer engineering	second year master student	cycling, running	3

Table 4-1. Continued

Participant	Age	Gender	Nationality	Major	Year in School	Exercise Activities	Times per Week
Mai	24	Female	Chinese	public relation	second year master student	basketball, dancing	3
Ran	25	Female	Chinese	civil engineering	third year PhD student	ZUMBA®, Turbo Kick®, running, yoga	3
Ying	25	Female	Chinese	biology science and engineering	third year PhD student	badminton, yoga	3
Peng	28	Male	Chinese	geography	second year master student	swimming, strength training	6
Mike	23	Male	Chinese	sport management	first year master student	basketball, running, strength training	3
Ray	23	Male	Chinese	material science and engineering	first year master student	running, strength raining	6
Su	25	Male	Chinese	computer engineering	second year master student	basketball, running, strength training	3

The Theory of Planned Behavior

Behavioral Beliefs: Advantages and Disadvantages

According to the Chinese and American graduate participants, it was revealed that the most salient advantages of performing regular physical exercise are as follows: to improve health and fitness, to improve mood and mental well-being, to improve social life, to gain muscle, to reduce study-related stress, and to obtain a sense of achievement.

Table 4-2. Theory of Planned Behavior Approach

Concepts	Key Themes	Total (N=15)	Chinese (n=8)	Americans (n=7)
Behavioral Beliefs				
Advantages				
	Health and fitness	13	6	7
	Mental well-being	13	6	7
	Social life	8	3	5
	Weight control/lose	7	5	2
	Reduce study stress	6	4	2
	Sense of achievement	6	4	2
	Gain muscles	6	5	1
Disadvantages				
	Pain and injury	5	2	3
Normative Beliefs				
Approve				
	Family	14	7	7
	Friends	15	8	7
	Significant others	8	3	5

Table 4-2. Continued

Concepts	Key Themes	Total (N=15)	Chinese (n=8)	Americans (n=7)
Disapprove				
	Family	1	1	0
	Significant Others	2	2	0
Control Beliefs				
Facilitators				
	Social support	11	4	7
	Convenience	9	5	4
	Pleasure	9	5	4
	Low cost	6	3	3
	More time	3	2	1
Barriers				
	Lack of time	10	4	6
	Inconvenience	5	4	1
	Lack of knowledge and skills	5	5	0
	Lack of social support	2	2	0
Past Behavior				
	Competitive sport experience	8	3	5
	Gym exercise experience	13	6	7

Health and fitness benefits appeared to be the first and foremost reason that motivated graduate students to engage in active physical exercise. Participants expressed that exercise helped to keep their body “in shape,” made them feel

“healthier” and “stronger,” and made them “have more trust and control” over their body.

It was noticeable that for Chinese participants, males in particular, gaining muscles through exercise was frequently mentioned as their fitness goals. Exposed to the American sports and fitness culture, they started to embrace “a strong and muscular body image.” As Mike explained: “Coming here, you see people are way too strong, especially white guys and African Americans, so I could at least try my best to be as strong as possible.” Similarly, another participant Ray, who successfully achieved his weight loss goal three years ago in China, wanted to learn more about strength training in order to build a “ muscular” body.

At the same time, participants also identified mental benefits that accompanied the physical fitness and health benefits. According to their statements, exercise participation made them feel good about themselves, improved their mood, and made them feel happier and more positive. It was noted that most of the participants who felt happy and positive about exercise also found the activities fun and enjoyable. Whether it was a ZUMBA® group fitness class or Kettlebell strength training, the “fun” part of the exercise became the main factor that drove them to choose one activity over another, and further enhanced their continuous participation. As two participants described,

Danica: I love Turbo Kick® class; I find it so much fun. I do it everyday. If there is no Turbo Kick® class (in the gym), I memorized a round and I will do it by myself.

Ming: There is definitely something special about ZUMBA®, like if you do ZUMBA®, you get sweaty a lot, and have a really good feeling afterwards. But if you do one-hour jogging, it’s a nightmare; it’s boring. But with ZUMBA®, you get so many girls doing it with you, they have smile on their faces, time passes very quickly. I enjoy it very much.

In addition to physical and mental advantages, participants also identified that the social aspect of exercise was also something they found beneficial. Through sports games or physical exercise group activities, they got a chance to “hang out with friends”, “make new friends”, and develop “a sense of belonging to a community.” Mai, second year public relations graduate student, met most of her male friends through playing basketball since she came to U.S. When asked what was special about basketball to her, she replied, “For basketball, to play with friends is the most important thing; it’s a social for me.”

About half of the participants indicated that physical exercise brought them a sense of achievement as they mastered new skills, adopted a well-balanced lifestyle, and demonstrated their leadership through sport competition. Different from enjoyment they find in exercise, the sense of achievement and fulfillment further enhanced, and expanded their self-perception. Ray, a first year material science and engineering graduate student, expressed his sense of accomplishment after sticking to a workout plan for more than three years. Ray explained, “I can tell others that I have carried out a workout plan for three years. Can you do that? I want others think me of someone with self-discipline.”

Additionally, participants also reported that regular exercise was effective for weight control and stress reduction. It was noted that PhD students more frequently regarded exercise as a method of stress reduction. Taking courses, conducting research, and assisting in professor instruction, Ph.D. students dealt with more responsibilities and bigger study- induced stress than other graduate students. These factors made them more willing to use exercise as a stress reduction outlet.

For behavioral disadvantages, though most participants found no downside to their exercise plan, pain and injury were still identified by several participants who had experienced injuries. Jade was suffering from a foot injury since last December, which constrained her from running. Another participant, Dave, received a bone fracture during cycling practice and would not be able to race for three months. Several other participants also recalled normal, minor injuries as they played competitive sports. During the recovery period, participants chose alternative exercise options. For example, Dave started stationary cycling while recovering from his bone injury. Moreover, injury prevention such as improving muscle strength and gradual progression were brought up by the participants as well.

Normative Beliefs: Social Pressure

Participants reported several individuals or groups of people who would approve their participation in regular exercise. Almost all of participants found their parents and friends supportive, but several participants discussed that significant others would disapprove or became potential barrier in case of conflicting time demands. In a relationship, they sometimes would compromise exercise to spend time with their partners. In the words of Peng,

> If my loved one doesn't like what I enjoy, I feel it will affect me a lot. In a relationship, you spend a lot of time with each other. If the couple enjoys the same exercise, they can do it together. Otherwise, I see it as a constraint.

However, none of participants felt any pressure from any individual or group to perform or avoid any exercise. As Kristina suggested,

> I don't have too many friend groups pushing me one way or another. It's more of a self-motivated thing. Definitely, the society is encouraging what it

> is to be healthy. When I think I need go to gym, it's not like my mom says you need to go.

Also, Mike discussed his father's attitude on exercise,

> My dad used to push me to do exercise. You see I'm not a big guy, but I put some weight around my waist. My father doesn't want a twenty something guy like that. That's why he used to push me to run in the morning. And I do find running is helpful in weight control… and he prefers me running to strength training.

However, Mike started his strength training since he came to US. He talked with his parents every week over Skype, though his father would ask him about whether he had been working out, Mike didn't regard it as a pressure. He said: "I believe parents' influence is very important, but when you grow up, you realize the benefits of exercise, you keep it up by yourself."

Control Beliefs

Facilitating factors

Social support was identified as the most important facilitator. One participant, Ming, poignantly noted,

> Friends who are active and doing exercise helps, they remind me to keep it up and show me how to do it. I think it's a great help. Because I don't use social media that much, my friends have an influence on me. So if my close friends do a lot of exercise, I will try their lifestyle.

In addition to social support, convenience to sports and fitness facilities were identified as another important facilitator. Participants spent 15 minutes at most to get to an exercise facility by driving a car, riding a bike or walking. One participant Danica lived in an on-campus apartment, which was across the street to Southwest Recreational Center. As Danica explained, "Southwest Rec is right down there, and to Student Rec, I can ride my bike for about 15 minutes. Being a university student, that is the easiest circumstance to exercise." Even though living off-campus, Kristina still

figured out a way to make her exercise easier, Kristina explained, “It’s two blocks to my gym, I walk two blocks. And I only pay 30 bucks a month for the membership… I pay for the convenience.” It was noted that participants were actively finding ways to improve convenience. For instance, when Stefan just had arrived in Gainesville he chose his current apartment based on its closeness to Rock Climbing Gym and Southwest Recreational Center. Similarly, the purchase of a car made it easier and more convenient for Ray to stick to his exercise schedule.

Another salient facilitating factor was the pleasure participants experienced from their exercise. Even though activities mentioned by participants had a great variety, the similarities they experienced were in the level of enthusiasm they showed towards the exercise. For Danica, Turbo Kick® was what she found “fun”; for Ming, ZUMBA® was what made her “excited”; for Kristina, dancing was what made her “happy”; and for Dave, racing on his bike game gave him “joyful” moments.

Low cost, as a facilitating control belief, also played an important role in the easiness of participants to exercise. In the case of universities students, low cost was actually free access to a range of sports and fitness facilities. Even for those participants who purchased gym or club memberships and frequented facilities elsewhere, low cost were still an attraction. Stefan paid $150 dollars for a semester-long, five months, unlimited use of a rock climbing gym, which was “actually very low compared to other part of the country.” Similarly, Kristina paid $30 dollars per month for a gym membership, which she found “cheap and easy.”

Lastly, participants also suggested that with more free time, they were likely to engage in physical exercise more often. It was Peng’s last semester of his graduate

program. He went to work out almost every day because his “study burden was not as much as previous semester.” For Danica, she used free time between classes during the day to go to group fitness classes, which she believed would be impossible after graduation. It was noted that “free time” was a comparative concept for participants; references were always used when the participants suggested that an increase of free time during any noted period of time became a facilitating factor in their exercise participation.

Inhabiting factors

Lack of time was identified as the most salient, inhabiting control belief among Chinese and American participants. Probing questions revealed that lack of time as an inhabiting factor resulted from two types of caucuses. These two caucuses were competing time demands and poor time management. For the first type, when time for exercise was in conflict with other activities, such as meeting a good friend, going to movie with girlfriend, doing experiments in the lab, or going home to spend time with families, participants indicated they would compromise exercise, because they attached greater importance to the other activities and found them necessary. As Yao Ying recalled, “There was one time I didn’t finish my experiment in the lab, so I had to cancel the plan of going to a yoga class.” Also, Kristina indicated,

> Three weeks ago I missed (workout) on Tuesday, because I was meeting a friend. I think it’s more important. So I think when I don’t go it’s not because I’m lazy, it’s because I have other plans that are important to me at the time. But I don’t regret these decisions.

However, in the case of missing exercise due to poor time management, participants reflected on the necessity to improve their time management skills. One week before a deadline, Stefan cancelled all of his exercise and stayed up late working

on his papers. He suggested that by “not procrastinating” he would definitely have had time to keep his exercise schedule. Interestingly, Jade, a group fitness graduate assistant, also found it difficult to find time for exercise, even though she went to gym every day for her office hours. Jade explained, “I got easily distracted because there were so many people I know in the gym, I always stopped and talked to them. Or even if I finished my work at 5 pm, I just didn’t have the energy to work out.” To solve this problem, she found that to prioritize exercise, she could work out in the morning, right after she came to the gym, which proved to be effective in keeping her exercise schedule and also helping her to stay focused on work throughout the day.

Apart from lack of time, three other control barriers were more frequently mentioned among Chinese participants. These three control barriers were: lack of knowledge, lack of social support, and inconvenience. Several participants expressed that their lack of knowledge, in regards to such topics as strength training and exercise science, which prevented them from performing certain activities. Chinese male participants emphasized the need to acquire more knowledge about strength training and equipment usage to better their exercise techniques in the weight room. In contrast, female participants wanted to learn more about the benefits of different group fitness exercises, such as Pilates and interval training.

Secondly, lack of social support, particularly not having friends to work out with, was presented as another inhibiting factor for Chinese participants. For Mai, basketball was her passion since high school, but it was very difficult for her to find Chinese girls who would join in her game. Though she played with guy friends, she still found that, “Guys are trying to give me an easy time while playing basketball with me, even if it’s

very gentleman, I prefer playing with girls. However, it's not possible here and I can do nothing about it." Another participant Mike expressed that he wanted to make some friends who could do strength training with him, like "a workout buddy."

Additionally, inconvenience to sport and fitness facilities became another constraining factor for Chinese participants. Mike found it difficult to go to the gym as frequently as he wanted because he did not have a car. Similarly, Ray recalled his first semester in Gainesville. Ray was without a car and he had never been the gym on campus, which had a far better facility than the one in his apartment. Also, Mai was dependent upon on her friends to get a ride to the gym to play basketball. It was noted that compared with American participants, who took into consideration the distance to sports and fitness facilities when looking for an apartment, Chinese participants did not prioritize this factor as they had just arrived in a new country and were dealing with various adjustment challenges.

Past behavior

An investigation of the participants' past exercise behaviors provided valuable insight into understanding and explaining their current exercise participation, motivations, and constraints. Firstly, it was revealed that the Chinese participants' previous exercise participation, particularly when they were in China, was different from the Americans in exercise variety. It was found that most of American participants had various sports experiences in college, high school, and even earlier. These prior experiences included gymnastics, baseball, football, basketball, volleyball, golf, and soccer, while sports frequently mentioned by Chinese participants were limited to basketball and soccer, mostly amongst the Chinese males.

Moreover, Chinese participants indicated that their sport involvement was at a recreational level due to lack of professional training and competition opportunities, while American participants discussed more sports competition experience. For instance, several Chinese participants who played basketball discussed their discomfort in the beginning to play full-court, rather than half-court, in a pick-up game.

In addition to sports involvement, Chinese and American participants had different exercise experiences in gym settings. For most Chinese participants, during their undergraduate years, there were no gym facilities accessible to college students, particularly with group fitness classes and weight rooms. Their experience was mostly from commercial fitness centers where they purchased a membership. Secondly, according to Chinese participants, the activities that were most frequently offered were weightlifting and yoga classes, while American participants had exposure to more campus recreation options, including rock climbing, dance classes, mind and body fitness classes, strength training, and so forth. However, it was noted that Chinese participants with previous gym experience were likely to engage in the same activities they performed in China. For instance, Yao Ying used to go to a commercial gym for yoga class in China, and now yoga was the only group fitness class she took, other than playing badminton. Similarly, before coming to United States, Su received one year of personal training in a fitness center. He indicated that his strength training was now the same when his personal trainer had worked with him two years ago.

Though it would be arbitrary to indicate a causal relationship between past exercise experience and current participation, a better understanding of participants' past behavior helped to provide a big picture of each individual's exercise experience.

Particularly, an investigation of Chinese participants' past behavior, including their cross-cultural experience and adjustment to a new environment, would facilitate the understanding of their current exercise participation.

Leisure Constraints

Table 4-3. Leisure Constraints Theory Approach

Concepts	Key themes	Total (N =15)	Chinese (n = 8)	Americans (n = 7)
Intrapersonal Constraints				
	Lack of interest	5	2	3
	Lack of knowledge and skills	5	5	0
	Body image issues	4	4	0
	Injury	4	1	3
Interpersonal Constraints				
	Friends	6	5	1
	Significant others	3	2	1
	Parents	1	1	0
	Fear of criticism / judgment	1	1	0
	Gender	1	1	0
Structural Constraints				
	Lack of time	10	4	6
	Unavailability of facilities / equipment	4	3	1
	Location and transportation	t2	2	0
Negotiation Strategies				
	Time management	11	5	6

Table 4-3. Continued

Concepts	Key themes	Total (N =15)	Chinese (n = 8)	Americans (n = 7)
	Improve social support	6	4	2
	Acquire knowledge and skills	5	5	0
	Improve transportation	2	2	0

Intrapersonal Constraints

One of the most frequently mentioned intrapersonal constraints among American and Chinese graduate students was lack of interest. They disliked activities that were "boring," they felt "time passed so slowly," and they "would rather do something else." However, this lack of interest factors did not necessarily result in nonparticipation; rather, it affected their exercise preferences. Lack of interest was the reason they said no to one activity, but they were likely to engage in activities they found interesting. For instance, Danica chose a Turbo Kick® (kickboxing) class over other group fitness options. Danica explained that,

> Turbo Kick® is fun. I don't think cycling is fun, or yoga or lifting weight for a long time. If cycling is the only exercise option I have, I will do it. But I will do it because it's a good thing to do, not because I do it for run. So I think interest definitely impact your choices.

Also as Ming mentioned,

> Even if I can listen to music while running, it's still boring. I have never done jogging in Student Recreation Center, because there is no TV. It's really hard for me to run 30 minutes without something you can focus on. But if you do one hour ZUMBA®, time goes so quickly. I enjoy it.

Moving beyond disinterest, two other prominent constraining factors were frequently mentioned by Chinese participants: body image issues and lack of

knowledge and skills. Female Chinese participants, in particular, expressed that they would not participate in strength training because they did not want to gain any muscles. For them, strength training was contradictory to their “slim” or even “skinny” ideal body image. Mai enjoyed playing basketball and dancing, but had never been to a weight room or attended any strength group fitness classes. As she explained, “I don’t like muscles; strength training will make my body look too muscular. I would just do stretching.” Similarly, when asked about ideal body image Ran said,

> I think I’m a typical Asian girl; I don’t want to gain any muscles. I just want to be healthy and slim and skinny. So I only take ZUMBA® and Core classes. For core exercise, I want to have tight abs. When people look at you, they would say you are skinny but still have strength. But six packs would be definitely too much.

However, after staying in the U.S. for years, and as the Chinese students adjusted to new culture environment, some of them had changed their ideal body image. Ying came to U.S. three years ago to pursue Ph.D. in Agriculture and Biology Engineering. She attended yoga class twice a week, and played badminton on weekends with her Chinese friends. Though she had only been to the weight room once, she expressed her interest in some strength group fitness classes, as she started to think “a little muscle is pretty.” Second year Ph.D. student Ming usually went to the gym for jogging and ZUMBA® classes, but she decided to work out her upper body more. In response to the question about what triggered her decision, she discussed the transformation of her ideal body image she had experienced lately. Ming stated,

> The thing that surprised me the most is that there are a lot of runners passing by the complex I live. I can see them in the morning, afternoon, and even midnight. When the girls pass me, I look at their body and I feel it’s beautiful. I have changed my standard of beauty. Back in China, girls

> without any muscle or tone and look vulnerable are considered beautiful, but here, I find out I want a stronger body with confident spirit, that's something I consider as beauty now.

In addition to body image issues, another constraint impeding Chinese male and female participants was lack of knowledge and skills. Most of the Chinese participants discussed that they felt intimidated in the weight room; they did not know how to use the equipment or what kind of exercises they could do with it. Unlike American students who were exposed to a gym environment and acquired strength training knowledge since freshman year or earlier, the weight room was a new concept for most Chinese students. For example, Ray, a first year engineering graduate student, emphasized that the biggest constraint for him was lack of professional exercise knowledge. Ray explained, "My training is not that professional. Its homemade training, just jogging and I have to follow my friend to do strength training. It's maybe not that efficient." Similarly Mike, a first year sports management student, who had finished his undergraduate study in a sports university and had access to a range of sports and fitness facilities back in China, still felt it was imperative to learn more about professional training methods. Mike stated "I really need some instruction from professionals. Also I would like to learn more about body anatomy and the terminologies to better communicate with American friends." Also, Ran realized the importance of knowledge in health and fitness, as she developed lower back pain and was told by the physician that she needed to improve her core strength to alleviate the stress on her back resulting from sitting for hours on end.

Lastly, participants in American and Chinese groups identified how injury had become a physical constraint to their exercise routines. Jade suffered from a foot injury

half a year ago during a TOUGH MUDDER™ military obstacle race. It constrained her from participating in distance running. Another participant noted that he sprained his ankle quite often while playing basketball. However, they also mentioned the adjustments they made to their exercise schedule helped to keep them active, regardless of injury. Such adaptations were the participants' active negotiation with inhabiting factors.

Interpersonal Constraints

As with interpersonal constraints, it was revealed that Chinese participants were more interpersonally constrained than American participants. Friends were suggested as the most common interpersonal constraint in exercise participation. This often took the form of the absence of friends with whom to workout with, causing restrictions to some participants. In the words of Ming, "I don't want to go to gym alone. If I have friends who would go to gym with me, it makes it easier for me to start exercise." Similarly, Ran explained why she felt the pressure to exercise with friends stating,

> If I am alone, I can get lazy easily. Sometimes, I just feel people would say something about you if you go to gym by yourself, I don't know, maybe because I'm too sensitive. (If I go there alone) They would think this girl doesn't have any friends. That's why she goes to gym by herself.

Also, some Chinese participants were dependent upon their friends support and companionship to carry out certain exercise activities. For instance, Ray regarded his exercise as "homemade" and lacking in any professional instruction or scientific approach, which made it less effective and efficient than he wanted. Consequently, he was dependent upon a workout buddy who had more exercise knowledge than he had. So Ray decided to just "go to the gym and follow him."

In addition to friends, significant others also emerged as a constraining factor in some Chinese and American students' exercise participation. It was manifested in diverse ways. In Kristina's case, spending time with her boyfriend sometimes compromised her workout. In addition, she pointed out,

> I think when I'm dating someone. I will gain several pounds, like five pounds, because I don't care about it that much and go to gym quite often, but I think there is more of a comfort area, you feel being accepted regardless.

Participants also discussed how significant others' expectations on their body image could represent a constraint. When asked what his girlfriend's attitude was in regards to his exercise, Ray replied, "I don't think she wants me to be strong and muscular. That's the difference value Chinese and American have." Similarly, Ming's boyfriend considered her body "plump", which her American friends regarded as "skinny." She said, "I think my boyfriend wants me to be slender, that's what most Chinese guys like."

Another two interpersonal constraints, fear of other criticism or judgment and gender issues, though not common among participants, provided valuable insight into the challenges faced by some Chinese female participants. For Mai, the difficulty in finding Chinese girls to play basketball with was the biggest limitation for her exercise participation. Though she chose to join guys' games sometimes, part of the fun of the game was missing. For Ming, what was holding her back was her attitude. She explained,

> If someone is watching at me while I do ZUMBA®, I may feel uncomfortable. I'm trying to change that attitude, I don't know them, I don't care what they think, and they won't remember me. I know when you do exercise; you really need to enjoy yourself to do it really good. If I pay too much attention on what others' are thinking, I'm doing the right move or

> not, if I think about this too much, I won't enjoy the activity. That's something I'm struggling now and I want to improve.

Ming's positive attitude helped her to move beyond her comfort zone and get more involved in exercise; however, it is entirely possible that there are more Chinese students struggling with such fears, which prevent them from even stepping into a dancing class.

Structural Constraints

Compared with intrapersonal constraints and interpersonal constraints, structural constraints were more frequently mentioned by Chinese and American participants. The most common structural constraint was time, which was manifested in several ways. Firstly, competing demands on time, such as going out with friends, spending time with family, and study or work, always resulted in their compromise on exercise. As Ran said, "There is one ZUMBA® class. I want to go, it starts at 4:30, but my advisor expected all of Ph.D. students stay in office from 8 am – 5pm. I need to think about that if it's appropriate to go." Campus recreation graduate assistant Jade had office hours five days a week in the gym, but she said, "I don't work out as much when I go home, I don't want to be selfish, since I only be there for a few days, I don't want to be like, hey guys I want to go to the gym now." In summary, participants noted that when things they considered more important came up, it was necessary to miss their workout. As Peng explained, "Sometimes I would compromise my workout because I have research deadline to meet. I remind myself that I come here to study, that's my priority." Similarly, Kristina noted,

> Three weeks ago I missed (workout) on Tuesday, because I was meeting a friend. I think it's more important. So I think when I don't go it's not

> because I'm lazy, it's because I have other plans that are important to me at the time. But I don't regret these decisions.

In addition to conflicting time demands, it was frequently suggested that time constraints also resulted from poor time management, particularly procrastination. When final exams and a projects deadline approached, participants suggested they cancelled all activities and would stay up late to finish their work. Third year Ph.D. student Stefan described his week before finals stating, "Two weeks ago, I have to stay almost the whole night, working on papers and stuff, don't have exercise, exhausted and drinking coffee, feel like I'm not being healthy." As first year sports management major Andrew noted, "Time is always what people say, people have more time than they think. Even myself I stay around in office, then go back home and do nothing for an hour."

Moving beyond time constraints, availability of a facility or equipment was identified as a limitation for some participants with more individual needs. For example, the lack of a shower facility in the Student Recreation Fitness Center, which was located close to Ming's department, made it harder for Ming to get a workout in between classes during daytime hours, because she needed to go home to take a shower and come back for work. For Mai, the group fitness online registration system made it difficult for her to just stop by and attend a class, because few spots would be left for evening fitness classes without preregistration. However, it was shown that this constraint could be easily overcome by participants' successful negotiation, such adjusting activities or schedule. Xing played badminton with friends every weekend at the Southwest Recreational Center basketball court, which was exclusively used for badminton on weekend mornings. Though she had six hours each week to play, facility

hours were not enough for her; instead, she chose to attend yoga classes during the week to get in her workout.

Last, but not least, inconvenient location and transportation presented a prominent constraint for Chinese participants. Mike came to the U.S. one year ago and he discussed that not having a car made it difficult for him to go to Southwest Recreational Center to play basketball. “There is no direct bus from my apartment to the gym; I have to wait in bus stop and take 15 minutes to get there, which is 5 minutes’ drive with car.” Ray, also a first year graduate student, noted that his exercise habit changed after getting a car explaining, “I had never been to Southwest Recreation Center in my first semester because inconvenience, after buying a car, I go there every day.”

Overcoming Exercise Constrains: Negotiation Strategies

To overcome intrapersonal constraints like lack of knowledge and skills, participants discussed strategies such as watching exercise videos online, going to instructed group fitness classes, and making friends who possessed strength training knowledge and experience, to acquire knowledge and facilitate their workout. For injury constraint, several participants expressed the necessity to give their body enough rest for a full recovery. In the words of Jade, “I learn you need to listen to your body.” However, constraints including body image and the lack of interest did not have any accompanying negotiation strategies, according to participants.

When it came to interpersonal constraints, participants discussed strategies to improve social support, including making new friends with similar exercise interests in order to decrease their dependence upon certain friend’s companionship. As Kristina

explained, “I’m trying to surround myself with people who I think are healthy, physically and mentally, and active.” For Stefan, he even took it a step further to become a group fitness instructor to get more involved in the activities he enjoyed. As Stefan explained,

> I started taking stadium conditioning class about two years ago, I started to meet some friends there and then because I have friends there, I want to see my friends then I continue going. Then I start teaching stadium class.

Compared with other types of constraints, various ways to overcome time constraints were more frequently discussed. This included prioritizing exercise, not procrastinating study or work, making exercise a routine, and adjusting exercise time due to competing time demands. Danica, a second year Law School student, had stuck to her exercise schedule for more than six years, and she shared her understanding on time management. Danica reflected,

> When you get used to it, it’s part of your schedule. Like you don’t say I don’t have time for breakfast, don’t have time for sleep. I think it’s hard for people to do it sporadically, because things come up, you are not used to keep the schedule. But when it became your routine, like you do homework for two hours, then you go to Turbo Kick® class for one hour, it’s like. I think the routine really helps, once you get used to it, it’s really hard to not do it.

Although there were not a significant number of participants being constrained by location and transportation barriers at the time of the interview, probing questions into their past behavior revealed that purchasing a car and moving closer to gym were effective methods to remove the location and transportation constraints.

Open Coding Approach

In addition to the data analysis of interview transcripts under the theory of planned behavior and the leisure constraints theory, an open coding approach was also adopted to explore a novel understanding on exercise motivation and constraints. Based on descriptive data and memos, as well as a member checking

process, five dominant themes emerged: values and beliefs, social support, facilitators, barriers, and negotiation strategies. It was believed that the participants' attitude towards exercise participation was influenced largely by the perceived physical and mental benefits, while body image ideals shaped their activity reference. Altogether, these were the "values and beliefs" underlying their exercise behavior. When it comes to interpersonal relationships, support could be divided into attitudinal support, in the form of verbal encouragement, and behavioral support, in the form of participation companionship. Moreover, facilitators and barriers were separately categorized, which was followed by negotiation strategies identified by participants to overcome exercise barriers.

Table 4-4. Open Coding Approach

Themes				
Values and Beliefs	Social Support	Facilitators	Barriers	Negotiation Strategies
Physical wellbeing	Attitudinal support	Free time	Lack of time	Time Management
Mental wellbeing	Behavioral support	Convenience	Inconvenience	Improve transportation
Body image issues		Pleasure	Lack of knowledge and skills	Improve social support
		Low cost		Acquire knowledge and skills

Values and beliefs

Three categories were identified under the theme of exercise values and beliefs: physical well-being, mental well-being, and body image issues. According to

participants, physical exercise was valued for its health and fitness benefits. Also, participants attached greater importance to the mental health values they found in exercise, including improved self-esteem, enjoyment, reduced stress, increased social interaction, and a developed sense of achievement. Moreover, participants' values and beliefs on body image also played a critical role in exercise participation and activity selection. As "muscular" and "slim" body images were identified by male and female participants respectively, participants navigated their exercise to realize their corresponding fitness goals.

Social support

According to participant statements, the support they received from family, friends, and significant others could be divided into two categories: attitudinal support and behavioral support. Though most participants found their family, friends, and partners supportive and encouraging, it was their participation that was considered a source of motivation. In other words, working out with friends, making new friends through exercise activities, and belonging to an activity community, enhanced the participants' exercise motivation, continuity, and enjoyment.

Facilitators

Four exercise facilitating factors were identified: convenience, free time, pleasure, and low cost. According to participants, proximity to sport and fitness facilities and convenient transportation enhanced exercise frequency. In addition, an increase in free time would also contribute to their exercise participation. Thirdly, participants found that the nature of the exercise activity and the inherent pleasure component of the exercise,

served as the driving force of their exercise preference and continuity. Finally, the low cost of the sport and fitness facilities appeared as an underlying facilitator.

Barriers

According to participants, initiating factors including lack of time, inconvenience, lack of knowledge, and skills were frequently mentioned. Time was the biggest constraint as participants always faced conflicting time demands. These demands included study, work, and time spent with family and friends. Lack of knowledge and skills, regarding strength training techniques and health and fitness science, was another barrier inhibiting exercise participation, even though participants had perceived the activity's benefits and developed interest in them. Lastly, the third category inconvenience, including transportation limitation and inaccessibility of exercise facilities, was another exercise barrier impeding participation frequency and continuity.

Negotiation Strategies

To remove exercise barriers and constraints, participants discussed strategies they developed to enhance their exercise experience. Strategies, included time management, the obtainment of professional knowledge and skills, the improvement of social support, and the improvement of transportation, which were shown to be effective methods applied by participants. It was noted that, due to successful application of negotiation strategies, barriers were actually dynamic factors that could be overcome, or even transformed, into facilitators. For instance, buying a car might not only remove the transportation limitation of exercise participation, but also facilitate a participant's exercise frequency and continuity.

CHAPTER 5
DISCUSSION

Findings

The purpose of the present study was to examine the underlying beliefs that contribute to the decision-making process of physical exercise among graduate students using TPB as a theoretical framework, and particularly, to explore cultural and social beliefs specific to the Chinese student population through comparison. Salient behavioral, normative, and control beliefs were elicited from American and Chinese participants. Consistent with previous literature, participants were able to identify the physical, mental, and social benefits of performing regular exercise. Moreover, reducing study stress and bringing a sense of achievement also emerged as important beliefs. Since all of the participants were enrolled in graduate programs, including both master and Ph.D. level programs, heavy study loads and corresponding study pressures and stress could be expected and understood. The benefit of exercise to bring a sense of achievement was common among participants who were engaged in competitive sports, including basketball and flag football. Furthermore, it was important to note that weight loss or control, and muscle building was salient behavioral beliefs among Chinese participants. As Chinese students came to the U.S. and immersed themselves in the American sports and fitness culture, their body image beliefs were either sustained or challenged, resulting in diverse exercise preferences.

As with normative beliefs, even though almost all of the participants identified parents, friends, and significant others as individuals or groups that “approve” of their exercise participation, none of the participants suggested that they perceive any “pressure” or “push” to engage in regular exercise. Though they discussed childhood

experiences when their parents “pushed” them to perform an exercise activity, such as running in the morning or joining a sports club, the “pressure” was no longer present as they grew up. According to TPB (Ajzen, 1993), parents, friends, and significant others’ “approval” or “disapproval” to perform certain behavior, referred to as subjective norms, would affect an individual’s behavior intention. However, at least in the realm of exercise behavior, the predictive capacity of subjective norms was questionable (Hausenblas et al., 1997, Hamilton & White, 2008; Chatzisarantis et al., 2009, 2010). Since the benefits of exercise are widely accepted by society, one is likely to receive positive responses towards exercise participation from parents, friends, and significant others. However, “approval” as an attitudinal support would not always be perceived as social pressure, and did not contribute to behavioral change in the context of physical exercise. This issue was rarely addressed by previous studies.

This study also identified numerous control beliefs, including facilitating and constraining factors, which affected exercise participation. Social support, such as having friends to exercise with, emerged as the most salient control belief that motivated exercise participation. It was revealed that friends’ companionship made it easier for participants to enhance their exercise participation and frequency. Moreover, some participants further indicated it was “fun” and “effective” to workout with friends. In addition, convenience and pleasure were also frequently mentioned as exercise facilitators. Convenience was attributed to the diverse and abundant campus recreational options and facilities being offered on campus. Pleasure, the inherent enjoyment participants found in different activities, appeared as the driving force towards exercise continuity.

When it came to exercise barriers, lack of time was the most common factor mentioned by both Chinese and American participants. Further examination revealed that lack of time resulted from participants' competing time demands and poor time management skills. Furthermore, the findings also suggested that lack of knowledge was a major exercise barrier among Chinese participants. Inadequate past exercise experiences, gym workout experience in particular, failed to provide Chinese participants with the necessary professional knowledge and skills needed to easily adapt to the American sports and fitness culture and practice.

The second aim of this study was to explore and examine exercise-inhibiting factors among Chinese and American graduate students using the leisure constraints model, and particularly look for constraints specific to the Chinese student population. Consistent with the previous leisure constraints literature (Crawford et al., 1991), the findings suggested that participants encounter constraints hierarchically, following the order of intrapersonal constraints, interpersonal constraints, and structural constraints. For instance, as a Chinese participant perceived strength training as a muscle-building exercise, which was in contrary to her ideal body image, such intrapersonal constraints would result in her nonparticipation without interpersonal and structural constraints coming in to affect. Moreover, the study also supported previous research on constraints negotiation (Crawford et al., 1991, 1993, Jackson & Rucks, 1995). In the face of different levels of constraint, participants were actually actively engaged in efforts to remove barriers and enhance exercise experiences. For instance, purchasing vehicles and having workout partners were among the many strategies developed by

participants to remove transportation limitations and improve social support respectively.

For intrapersonal constraints, it was shown that lack of knowledge and skills, as well as body image issues, were prominent intrapersonal barriers among Chinese participants. Without professional training knowledge and experience, participants failed to engage in activities they were not familiar with, and were unable to enhance the effectiveness and efficiency of their exercise. As for body image issues, participants were influenced by their ideal body image when making exercise choices. Therefore, body image issues tended to affect more in regards to exercise preference than participation. However, a combination of lack of knowledge and body image issues might result in nonparticipation. For instance, as most Chinese female participants discussed, they never engaged in any strength training for fear of building muscles, which was not acceptable according to their ideal body image. However, without professional knowledge of strength training, and without taking training volume or repetition and frequency into consideration, arbitrarily associating strength training with a muscular body would deepen intrapersonal constraints and prevent any negotiation efforts to emerge.

Another significant finding of this study was that the Chinese participants were more interpersonally constrained than American participants, which was consistent with Walker's (2007) study between Canadian and Chinese college students. Five constraint factors, including friends, parents, significant others, others' criticism and judgment, and gender, were identified with Chinese participants presenting dominance in quantity and variety. Without friends' companionship, it was difficult for Chinese

participants to start and continue an exercise activity. Moreover, other factors including parent discouragement, the fear of others' criticism, and judgment and dependence on a certain gender, shed light upon the unique features of Chinese interpersonal relationships, which was a representation of Chinese cultural and social norms.

Theory Integration

The third purpose of this study was to compare TPB and the leisure constraints model and to identify the underlying similarities and differences concerning exercise beliefs. With a deepened understanding of TPB and the leisure constraints theory, through literature review and the results of the research, it was noted that a number of similarities were shared between these two theories. Firstly, intrapersonal constraints could fundamentally be considered as behavioral beliefs and contribute to the formation of negative attitudes. Similarly, interpersonal constraints are negative social pressures perceived by participants. The major difference between interpersonal constraints and discouraging subjective norms are that interpersonal constraints encompass attitudinal constraints and behavioral constraints, while subjective norms focus on the "approval" or "disapproval" attitudinal response of others. Moreover, perceived behavior control, an individual's perceived easiness or difficulty in performing a behavior, implies not only the presence of facilitators and barriers, but also the individual's "control" over efforts to remove barriers, which is reflected in negotiation strategies in the leisure constraints theory. Based on these similarities, theory integration efforts are valid in bringing new insight into physical exercise behavior and contribute to theory development.

It is important to note that theory integration is also based on each theory's limitations. For TPB, the subjective norms' significance in behavior prediction is frequently questioned in quantitative studies. It is also argued that culture plays an important role in social pressure perception, which undermines the universal applicability of TPB across different cultures. As with the leisure constraints theory and similarly with TPB, the universal significance of interpersonal constraints is also questioned as different culture groups may attach different levels of importance to other's attitudes and behaviors, which consequently limits the relevance of interpersonal constraints in a specific culture. Therefore, theory integration aims to combine the strength of each theory to enhance its general application.

Given that both TPB and the leisure constraints theory were limited in their interpersonal relation constructs, findings from an open coding approach suggested new perspectives and social support. It was noted that social support not only implied attitudinal support, the degree of positive attitude of others, but also behavioral support, others' actual participation of a given activity. The findings revealed that for Chinese and American participants, regardless of the degree of interpersonal constraints they faced, social support was a significant predictor in exercise participation.

Nevertheless, in-depth interviews and qualitative exploration were the initial stage of a series of efforts to develop a theoretical model with general application. It is suggested that quantitative questionnaires can be disturbed broadly to test the generalizability of the model across cultures. Future research can also explore the interrelationship between TPB and the leisure constraints theory in order to develop a

well- rounded, integrated model, and better the understanding of physical exercise behavior.

Culture and Social Implications

Throughout data analysis from TPB and the leisure constraints theoretical frameworks, there were three major topics widely identified, which were contributable to Chinese culture norms and social conditions. Firstly body image issues appeared as a salient factor affecting Chinese participants' exercise motivation and preference. According to Chinese female participants, a "slim and skinny" ideal body image was identified. This result was consistent with previous studies on different culture's influence on ideal, physical appearance and body satisfaction. According to Leung et al. (2001), thinness and fragility were central to Chinese feminine beauty throughout history. It was noted that this was different from "a lean and toned" western ideal female figure (Hausenblas & Fallon, 2006). Though both emphasized the slenderness of a woman's body, the difference between "fragile" and "toned" had a fundamental impact on their exercise selection, which may have become a constraint for some participants. In this study, this information was supported by Chinese female participants' reluctance and refusal to engage in anaerobic exercise, which they believed would build unwanted muscle tones. Moving beyond the scope of this study, it is entirely possible that some Chinese female graduate students may have stayed inactive or have just engaged in low intensity exercise to meet their ideal body image, or even have used dieting to control weight.

For male Chinese participants, a "strong and muscular" ideal male figure was identified in this study, which was not a common theme among previous literature.

According to Barnett et al. (2001), Chinese men rarely expressed concerns about masculinity. Another study found that Chinese college students had fewer concerns with masculinity, and less dissatisfaction, than their Western male counterparts (Yang et al., 2005). However, rapid social changes in China, and exposure to the Western male body ideal, have appeared to reshape Chinese men's perception about body and masculinity. On Song's analysis on Chinese contemporary television drama series, it was revealed that "forms of masculinity are becoming increasingly hybrid in globalizing China." (p.426, 2010). It was important to note that as Chinese participants left Chinese social context and immersed themselves in American culture and lifestyle, acculturation occurred as they began seeking ways to be accepted by American culture, physically and psychologically. From their observation on American males, lifting weights in the gym, jumping in basketball courts, or running on the track, it became imperative for Chinese students to associate themselves with such a lifestyle, along with exercise methods and untimely muscular body images. In sum, body image issues were presented as a motivating factor for Chinese male participants, particularly encouraging them to learn and engage in strength training. The weight room, as frequently mentioned by Chinese male participants, became a novel arena with transformational power to reshape what they believe of as an empowered self.

The contrast between the Chinese female and males' response to muscle, reflected in their attitude towards anaerobic training, was the most interesting finding of this study. It was noted that Chinese female participants were also subject to acculturation; their thin and skinny body ideal could be challenged and replaced by a fit and toned beauty standard. As with what happened to Ming, she changed her standard

of beauty from “thin and vulnerable” to “strong and confidence” as she gradually observed the American girls’ running body and experienced a “feeling of strong” after strength training.

Moving beyond body image issues, another finding of the study was that Chinese participants suffered from more interpersonal constraints than the American participants. Consistent with previous studies (Walker et al., 2007), even though social support, particular having a friend to workout with, was a motivating factor for Chinese and American graduate students to enhance exercise participation and frequency, Chinese students’ participation tended to be affected easily by the absence of it. According to the concept of individualism and collectivism, highly individualistic countries like United States emphasize values such as autonomy, uniqueness, and personal achievement, while collective nations like China stress values such as social norms, cooperation, and group identity (Triands, 1989). With respect to exercise participation, those who grew up in a collective society, the Chinese students’, and their lack of exercise experience in an individual and autonomous setting, was reflected through how they always cared about how their behavior was perceived by others, in addition to being influenced by their attitude. Therefore, even though they had successfully overcome time and distance constraints, activities like going to the gym alone, were a psychological task they had to deal with. As Ran expressed, “I’m afraid they will think I don’t have friends if I go to gym by myself.”

Another theme that emerged from the data was the lack of exercise knowledge among Chinese participants. This limitation was attributable to the sports and fitness condition and college curriculum designed in China. First of all, as most participants

suggested, in most colleges and universities in China, there was no free fitness center available for students. College sports and fitness facilities were limited to outdoor basketball courts, tennis courts, track and field, and soccer fields. A well-equipped gym including cardio machines, weight rooms, and group fitness classes was only accessible through commercial health and fitness centers. Moreover, though physical education was mandatory for freshman and sophomore students in Chinese universities, it failed to provide systematic knowledge on exercise science, training techniques, and skills to introduce students to more diverse activities. These two factors, underdeveloped campus sports and fitness facilities and physical education limitations, consequently constrained Chinese participants from engaging in effective and diverse exercise activities. Furthermore, since college is a critical stage for knowledge acquisition and health habit formation, failure to cultivate regular exercise habits with scientific approaches in college is likely to hinder students' future exercise participation.

The findings of this study have important implications for university sports, fitness, and recreational programs in the United States. To meet the unique needs of Chinese international students studying at U.S. universities, it is suggested that International Student Centers and Campus Recreational Sports Departments cooperate together to initiate exercise education orientations and workshops for Chinese students. These programs should include basic exercise science, training methods, and health and nutrition, as well as descriptions of programs and courses available on campus.

In addition, given that campus recreation programs in China failed to fulfill college students' exercise needs, budget and funding should be increased for the construction

of sports and fitness facilities, and the development of exercise programs. Also, it is suggested that college physical education faculty and coordinators incorporate exercise science into current curriculum, providing relevant exercise knowledge that could be applied after college.

Furthermore, the finding also suggests practical implications for commercial fitness and health centers in the U.S. For gyms that target markets with Chinese immigrant populations, or personal trainers who have Chinese clients, it might be advisable to emphasize a positive healthy body image message into their marketing campaigns. For instance, marketers could use Chinese models with fit and toned bodies to appear on advertisement posters to convey the message of a positive body and lifestyle. When setting fitness goals with Chinese clients, personal trainers could help clients to understand what a healthy body image entails and what the role of strength training is. It is true that a body image ideal is largely affected by a clients' cultural background. However, successful marketing strategies and customer education would be able to reshape clients' beliefs about a healthy body and lifestyle.

Limitations

There are several limitations of this study. First of all, a sample bias might have occurred because it was impossible for the small number of participants to perfectly represent the larger graduate student population. Since the recruitment of participants was mainly based on certain criteria, participants who engaged in moderately intense exercise at least three times a week, and thirty minutes each time, the diversity of the American participants sample was compromised. As a result, all American participants were Caucasians, which may limit the representativeness of the diversity among

American graduate students' exercise behavior. In addition, the snowball recruitment method might have resulted in a sample bias as participants might have shared similar exercise experiences and preferences with those they referred, which may limit the richness of the exercise experience data. Furthermore, since the selection of participants was based on screening criteria, the researcher found it difficult to find Chinese graduate students who meted the requirement. Thus, it was entirely possible the Chinese participants were faced with more constraining factors which might result in their nonparticipation. However, due to the original design of the study, this population was not covered and examined. Further study could focus on different physical activity levels of Chinese participants to obtain comprehensive data on their exercise behavior

Another inherent limitation of the research design was the social context of where the research was conducted. The selection of graduate students at the University of Florida was based on the researcher's familiarity with campus recreation, and accessibility with research participants. However, the exercise motivation and constraints that emerged from Chinese graduate students in the United States might be different from that in Chinese social context. It was possible that Chinese participants selected in this study were "westernized", having already adopted beliefs and behaviors prominent in American cultural and social environment. Therefore, research results might not be representative of exercise participation in China.

In addition to sample bias, linguistic limitations also appeared as Chinese participants were interviewed in English. It was believed that the benefits of conducting interviews in English outweighed the time and effort that would have been required to

translate the interview guide into Chinese and having to translate the Chinese participants' response into English. However, even though the Chinese participants selected were proficient in English, they may have been constrained in their capacity to describe all their experiences, thoughts, and ideas in accurate words, which might have resulted in data misinterpretation. For instance, when body image issues were discussed, the researcher found that sometimes, a Chinese participant's choice of vocabulary was misleading. Further probing questions revealed that in some cases when they used the word "skinny," they were referring to "slender;" and "fat" sometimes meant "overweight." Even though cultural and social differences on body image perception played a critical role in their linguistic choice, participants might actually have meant what they said. Even so, it was still possible that their language limitation hindered information and interpretation accuracy. To minimize this limitation, it is advisable for researchers and interviewees to be aware of participants' language proficiency and use probing questions to obtain accurate information.

APPENDIX A
INTERVIEW GUIDE

Warm-up Questions:

Can you tell me something about yourself, such as your major and activities you enjoy in your spare time?

Definition of regular exercise: regular exercise is defined as activities performed at a vigorous intensity three or more times a week, for at least 30 minutes each time.

Attitude and Behavioral Beliefs:

What else comes to your mind when you think about exercising three or more times for at least 30 minutes for the next three weeks?

What do you see as the advantages of your exercising three or more times per week for at least 30 minutes for the next three weeks?

What do you see as the disadvantages of your exercising three or more times for at least 30 minutes for the next three weeks?

Subjective Norms and Normative Beliefs:

Please list the individuals or groups who would approve or think you should exercise for at least 30 minutes, three or more times per week for the next three weeks and explain how they show their approval or support with examples.

Please list the individuals or groups who would disapprove or think you should not exercise for at least 30 minutes, three or more times per week for the next three weeks and explain how they show their disapproval with examples.

Please list the individuals or groups who are least likely to exercise for at 30 minutes, three or more times per week for the next three weeks.

Perceived Behavior Control and Control Beliefs:

Please list any factors or circumstances that would make it easier or enable you to exercise for at least 30 minutes, three or more times per week for the next three weeks and explain in-detail with examples how they affect you.

Please list any factors or circumstances that would make it more difficulty or prevent you from exercising at a vigorous intensity for at least 30 minutes, three or more times per week for the next three weeks and explain in-detail with examples how they affect you.

Past Behavior:

How often have you participated in vigorous regular exercise in your free time in the past six months?

How long it took every time?

What type of activities you were engaged in?

Intrapersonal Constraints:

What make you want to participate in leisure-time regular physical exercise?

To what degree do you think interest plays an important role in your activity preference and participation?

Which do you prefer, activities that are more adventurous or safer? Is safety issue a concern when you chose activities to participate?

Interpersonal Constraints:

Which do you prefer, to workout by yourself or with friends, individual exercise like jogging or team activities like basketball game? Why do you prefer this type of method?

Do you have any preference about the gender of the people you workout with? Explain.

If a good friend of yours joins your exercise, do you regard it as a source of motivation? What do you think of close friends or family members' role in your exercise

Structural Constraints:

Are there any activity you want to participate, but the expenses of the equipment or facility discourages you? What activities are these and please explain the financial constraint.

Are there times you compromise your exercise schedule due to lack of time? Provide an example.

Does distance or inconvenience of the transportation ever become the reason why you fail to carry out an exercise schedule? Provide an example.

Negotiation Strategies:

What time management strategies you have used to tackle the lack of time for certain exercise you want to participate?

Have you ever planned and budgeted for a sport activity you find expensive but want to participate? What it is and how it works?

If you prefer to workout with people you are familiar with, have you ever tried to make friends with people you meet during a team game or group activity? What difference it makes?

What other ways you have come up with to remove the factors limiting your sport and exercise participation? What prevents you from overcoming these limitations?

APPENDIX B
INFORMED CONSENT

Protocol Title: A Qualitative Study on Physical Exercise Between Chinese and American Graduate Students

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research study:

The purpose of this study is to examine physical exercise behavior, motivation and constraints among Chinese graduate students through comparisons with their American counterparts.

What you will be asked to do in the study:

The interview will start with a warm-up question to gain a better understanding of your education background, exercise history, activities preference etc. The flowing questions are divided into two parts, exercise motivation and constraints. The interview is semi-structured, which means follow-up open-ended question will be expected according to your answers.

Potential benefits, risks and compensation:

There are no direct benefits, risks or compensation to you for participating in this study.

Time required:

Around 1 hour

Confidentiality:

Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number. Your name will not be used in any report.

Voluntary participation:

Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:

You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:

Yawen Luan

Whom to contact about your rights as a research participant in the study:

IRB02 Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone 392-0433.

Agreement:

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

Participant: _____ Date: _____

Principal Investigator: _____ Date: _____

LIST OF REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Ajzen, I. (2011). Behavioral interventions: Design and evaluation guided by the theory of planned behavior. In M. M. Mark, S. I. Donaldson, & B. C. Campbell (Eds.), *Social psychology for program and policy evaluation* (pp. 74-100). New York: Guilford.

Ajzen, I. (2001). Constructing a theory of planned behavior questionnaire. Retrieved from http://people.umass.edu/aizen/pdf/tpb.measurement.pdf

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.

Arab-Moghaddam, N., Henderson, K. A., & Sheikholeslami, R. (2007). Women's leisure and constraints to participation: Iranian perspectives. *Journal of Leisure Research,* 39 (1), 109.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review,* 84(2), 191.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*(2), 122.

Blue, C. L. (1995). The predictive capacity of the theory of reasoned action and the theory of planned behavior in exercise research: An integrated literature review. *Research in Nursing & Health, 18*(2), 105-121.

Carroll, B., & Alexandris, K. (1997). Perception of constraints in strength of motivation: Their relationship to recreational sport participation in Greece. *Journal of Leisure Research*, 29, 279-279.

Chatzisarantis, D. N. L. D., & Hagger, M. S. (2008). Influences of personality traits and continuation intentions on physical activity participation within the theory of planned behavior. *Psychology and Health,* 23(3), 347-367.

Chatzisarantis, N. L. D., Hagger, M. S., Wang, C. K. J., & Thøgersen-Ntoumani, C. (2009). The effects of social identity and perceived autonomy support on health behavior within the theory of planned behavior. *Current Psychology*, 28(1), 55-68.

Chick, G. & Dong, E. (2005). Cultural constraints on leisure. In E. L. Jackson (Ed.), Constraints to leisure (pp. 169–183). State College, PA: Venture.

Christopher, H., & Jin, A. (2011). I think it's a good idea, I just don't know how to do it: The struggle for PE reform in china. *Asia-Pacific Journal of Health, Sport and Physical Education, 1*(1), 19-26.

Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology, 28*(15), 1429-1464.

Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences, 9*(2), 119-127.

Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences,* 13(4), 309-320.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice,* 39(3), 124-131.

Fishbein, M., & Ajzen, I. (2010). *Predicting And Changing Behavior*: *The Reasoned Action Approach*. New York: Taylor & Francis.

Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing hierarchical leisure constraints theory after two decades. *Journal of Leisure Research*, 42(1), 111-134.

Hagger, M., & Chatzisarantis, N. (2008). Self-determination theory and the psychology of exercise. *International Review of Sport and Exercise Psychology, 1*(1), 79-103.

Hagger, M. S., & Chatzisarantis, N. L. D. (2009). Integrating the theory of planned behavior and self-determination theory in health behavior: A meta-analysis. *British Journal of Health Psychology, 14*(2), 275-302.

Hagger, M. S., Chatzisarantis, N. L. D., Barkoukis, V., Wang, J. C. K., Hein, V., Pihu, M., . . . Karsai, I. (2007). Cross-cultural generalizability of the theory of planned behavior among young people in a physical activity context. *Journal of Sport & Exercise Psychology,* 29, 2-20.

Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables *Journal of Sport & Exercise Psychology,* 24, 3-32.

Hamilton, K., & White, K. M. (2008). Extending the theory of planned behavior: The role of self and social influences in predicting adolescent regular moderate-to-vigorous physical activity. *Journal of Sport & Exercise Psychology, 30*(1), 56-74.

Haskell, W. L., Lee, I., Pate, R. R., Powell, K. E., Blair, S. N., Franklin, B. A., . . . Bauman, A. (2007). Physical activity and public health: Updated recommendation for adults from the American college of sports medicine and the American heart association. *Medicine & Science in Sports & Exercise, 39*(8), 1423.

Hausenblas, H. A., Carron, A. V., & Mack, D. E. (1997). Application of the theories of reasoned action and planned behavior to exercise behavior: A meta-analysis. *Journal of Sport & Exercise Psychology,* 19, 36-51.

Hua, H. (2011). China's physical education reform in the new era. *Hubei Sports Science,* 5, 37.

Hubbard, J., & Mannell, R. C. (2001). Testing competing models of the leisure constraint negotiation process in a corporate employee recreation setting. *Leisure Sciences, 23*(3), 145-163.

Jackson, E. L., Crawford, D. W., & Godbey, G. (1993). Negotiation of leisure constraints. *Leisure Sciences, 15*(1), 1-11.

Jackson, E. L., & Rucks, V. C. (1995). Negotiation of leisure constraints by junior-high and high-school students: An exploratory study. *Journal of Leisure Research,* 27,85-105.

Jarvie, G., Dong-Jhy H., & Brennan, M. (2008). Sport, revolution, and the Beijing Olympics. New York: Berg.

Ji, C. Y., & Cheng, T. O. (2009). Epidemic increase in overweight and obesity in chinese children from 1985 to 2005. *International Journal of Cardiology, 132*(1), 1-10.

Kumanyika, S. K., Obarzanek, E., Stettler, N., Bell, R., Field, A. E., Fortmann, S. P., . . . Poston, W. C. (2008). Population-based prevention of obesity. *Circulation*, 118(4), 428-464.

Liao, Y., & Bond, M. H. (2011). The dynamics of face loss following interpersonal harm for Chinese and Americans. *Journal of Cross-Cultural Psychology,* 42(1), 25.

Lonsdale, C., Sabiston, C. M., Taylor, I. M., & Ntoumanis, N. (2011). Measuring student motivation for physical education: Examining the psychometric properties of the perceived locus of causality questionnaire and the situational motivation scale. *Psychology of Sport and Exercise*, 12, 284-292.

Luo, P. (1995). Political influence on physical education and sport in the people's republic of China. *International Review for the Sociology of Sport, 30*(1), 47-58.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224.

Maxwell, J. A. (1996). Qualitative Research Design. Newbury Park, CA: Sage.

Mohiyeddini, C., Pauli, R., & Bauer, S. (2009). The role of emotion in bridging the intention-behavior gap: The case of sports participation. *Psychology of Sport and Exercise,* 10(2), 226-234.

Monda, K. L., Gordon-Larsen, P., Stevens, J., & Popkin, B. M. (2007). China's transition: The effect of rapid urbanization on adult occupational physical activity. *Social Science & Medicine, 64*(4), 858-870.

Puente, R., & Anshel, M. H. (2010). Exercisers' perceptions of their fitness instructor's interacting style, perceived competence, and autonomy as a function of self-determined regulation to exercise, enjoyment, affect, and exercise frequency. *Scandinavian Journal of Psychology*, 51(1), 38-45.

Rise, J., Sheeran, P., & Hukkelberg, S. (2010). The role of Self- identity in the theory of planned behavior: A Meta- Analysis. *Journal of Applied Social Psychology,* 40(5), 1085-1105.

Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. *Handbook of Self-Determination Research.* The University of Rochester Press, Rochester, NY, 3-33.

Sebire, S. J., Standage, M., & Vansteenkiste, M. (2009). Examining intrinsic versus extrinsic exercise goals: Cognitive, affective, and behavioral outcomes. *Journal of Sport & Exercise Psychology*, 31(2), 189-210.

Singelis, T. M., Triandis, H. C., Bhawuk, D. P. S., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-Cultural Research, 29*(3), 240.

Singelis, T. M., Triandis, H. C., Bhawuk, D. P. S., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-Cultural Research, 29*(3), 240.

Taylor, I. M., & Lonsdale, C. (2010). Cultural differences in the relationships among autonomy support, psychological need satisfaction, subjective vitality, and effort in British and Chinese physical education. *Journal of Sport & Exercise Psychology,* 32(5), 655-673.

Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology,* 54(2), 323.

Tsai, C. T. L. (2006). The influence of confucianism on women's leisure in Taiwan. *Leisure Studies*, 25(4), 469-476.

Tudor-Locke, C., Ainsworth, B., Adair, L., Du, S., & Popkin, B. (2003). Physical activity and inactivity in Chinese school-aged youth: The china health and nutrition survey. *International Journal of Obesity,* 27(9), 1093-1099.

Walker, G. J., Deng, J., & Dieser, R. B. (2001). Ethnicity, acculturation, self-construal, and motivations for outdoor recreation. *Leisure Sciences,* 23(4), 263-283.

Walker, G. J., Deng, J., & Dieser, R. B. (2005). Culture, self-construal, and leisure theory and practice. *Journal of Leisure Research, 37*(1), 77-99.

Walker, G. J., Jackson, E. L., & Deng, J. (2007). Culture and leisure constraints: A comparison of Canadian and Mainland Chinese university students. *Journal of Leisure Research,* 39, 567-590.

Walker, G. J., Jackson, E. L., & Deng, J. (2008). The role of self-construal as an intervening variable between culture and leisure constraints: A comparison of Canadian and Mainland Chinese university students. *Journal of Leisure Research,* 40(1), 90-109.

Wang, Y., Mi, J., Shan, X., Wang, Q. J., & Ge, K. (2006). Is china facing an obesity epidemic and the consequences? The trends in obesity and chronic disease in China. *International Journal of Obesity,* 31(1), 177-188.

White, D. D. (2008). A structural model of leisure constraints negotiation in outdoor recreation. *Leisure Sciences*, 30(4), 342-359.

Wong, K. K. (2009). Urban park visiting habits and leisure activities of residents in Hong Kong, china. *Managing Leisure,* 14(2), 125-140.

Xiang-ru, L. (2001). Status quo and the strategies of the implementation of the national fitness program in urban communities in china. *Sport Science*, 2,59-66.

Xiao-fen, L. (2006). Development characteristics and operative model of commercial fitness clubs in our country. *Journal of Shanghai University of Sport,* 3, 43-55.

Xiong, H. (2007). The evolution of urban society and social changes in sports participation at the grassroots in china. *International Review for the Sociology of Sport, 42*(4), 441-471.

Yu, J., & Bairner, A. (2011). The confucian legacy and its implications for physical education in Taiwan. *European Physical Education Review*, 17(2), 219-230.

BIOGRAPHICAL SKETCH

Yawen Luan was born in 1988 in Beijing, China. At the age of twelve, she went Haidian Teachers‟ Training Experimental School, a prestigious boarding school in Beijing and graduated in 2006. She earned her Bachelor of Arts in English Language and Literature from Capital Normal University in 2010. In the same year, she came to U.S. and enrolled in sport management graduate program at University of Florida (UF).

While pursuing Master of Science in Sport Management at UF, she started teaching group fitness classes, including Turbo Kick® (Kickboxing) and ZUMBA®, in UF campus recreation facilities. She is also a certified AFAA Group Exercise Instructor, Hip Hop HUSTLE™ instructor and BOSU® trainer. She was awarded Group Fitness Instructor of the Month for March 2012. In summer 2011, she was a volunteer coach for sport summer camp at Girls in the Game, a non-profit organization promoting sport and fitness to teenager girls. From January to June 2012, she worked as Fitness Associate within Strength and Conditioning Program at UF Recreational Sports Department.

Upon completion of her master's degree program, she plans to pursue her career in international fitness program promotion and continues her passion for teaching group fitness classes.