

BARRIERS AND MOTIVATIONS TO PARTICIPATION IN PHYSICAL ACTIVITY
AND EXERCISE: THE CASE OF AN IMMIGRANT CHINESE WOMAN
IN THE UNITED STATES

by

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DEDICATION

This is dedicated to my wonderful thesis committee chair, R.V. Pierre Rodgers; my loving parents and little sister; and all of my supportive friends.

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ABSTRACT

BARRIERS AND MOTIVATIONS TO PARTICIPATION IN PHYSICAL ACTIVITY AND EXERCISE: THE CASE OF AN IMMIGRANT CHINESE WOMAN IN THE UNITED STATES

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Empirical evidence has demonstrated that lack of physical activity causes health problems (Muntner et al., 2005; Bauman et al., 2012; Manaf, 2013). Socioeconomic factors (e.g., age, sex, time, education) may impact participation in physical activity and exercise (Riordan, 1986; Chen, 1998; Sternfeld, Ainsworth, & Qusenberry, 1999; Muntner et al., 2005; Sit, Kerr, & Wong, 2008; Bauman et al., 2012). Further, cultural and social factors may play a role in participation (Hoeman, Ku, & Ohl, 1996; Fancott, 2001; Yu, Liaw, & Barnd, 2004; Sit, Kerr & Wong, 2008; Yan & Cardinal, 2013). Yan and Cardinal (2013) found that traditional Chinese health beliefs are vastly different from western society, which may have an effect on Chinese women' participation in physical activity. The purpose of this study was to examine the barriers and motivations to participation in physical activity and exercise among immigrant Chinese women in the United States. A qualitative approach was used to

collect detailed explanatory data from a single research participant's experiences. Findings from open ended responses suggest a growing awareness of the importance of sport and physical fitness; the modification of long-held cultural health, physical activity, and exercise perceptions; and time as a key constraint to activity.

The implication of the study findings for helping Chinese immigrant women engage in physical activity and exercise is addressed.

CHAPTER ONE: INTRODUCTION

Background of the Study

With the development of advanced technology and social stability globally, people's living standards have improved greatly; however, health problems such as heart disease, cancer, diabetes and stroke are increasing. According to the World Health Organization (WHO, 2017), cardiovascular disease is considered to be the major cause of death globally, taking the lives of 17.7 million people annually (i.e., 31% of all global deaths). The prevalence of health problems has increased not just in economically developed countries, but also among developing countries. For example, the results from the International Collaborative Study indicate that 28.2% of the Chinese adult population aged 35 to 74 years has hypertension, and the percentage of adults with diabetes or total cholesterol levels of 200mg/dL or greater is 5.2% and 32.8%, respectively (Muntner et al., 2005). Additionally, due to unhealthy diets, lack of exercise and high stress levels, obesity and being overweight are of concern. In 2016, a report from the WHO mentioned that almost 13% of the world's adult population was obese, nearly tripling since 1975. Even worse, childhood obesity is at an epidemic proportion. For instance, the WHO (2017) claimed that there were 50 million girls and 74 million boys with obesity in the world: this is a tenfold increase over the past 40 years.

Physical Activity and Health Issues

In order to get a better understanding of health issues, a series of related studies have been carried out. Researchers have found a strong association between physical activity and health. Regular participation in physical activity has been shown to be beneficial in preventing cardiovascular disease, cancer, non-insulin dependent diabetes, osteoporosis, and others (Eyler et al., 1998; Manaf, 2013; Sit, Kerr, & Wong, 2008). A lack of physical activity has been found to cause health issues (King et al., 2000; Muntner et al., 2005; Bauman et al., 2012; Manaf, 2013). Physical inactivity remains among the most prevalent of chronic disease risk factors in the United States and other industrialized nations (King et al., 2000). Current estimates indicate that 1.9 million deaths occur annually and 22% of all heart disease cases are attributable to physical inactivity (Muntner et al., 2005). Similarly, Manaf (2013) noted that one-fifth of registered deaths among people aged 35 years and older in Hong Kong were related to low levels of physical activity. Other studies have discussed the potential factors that may impact participation in physical activity and exercise (e.g., age, sex, time, income, education status and access to resources) (Riordan, 1986; Chen, 1998; Sternfeld, Ainsworth, & Qusenberry, 1999; Shotwell, 2003; Muntner et al., 2005; Sit, Kerr, & Wong, 2008; Bauman et al., 2012; Stodolska. 2013). Education and income are related to level to physical activity participation. Shotwell (2003) found that people having lower income and less education were less active than people with higher income and education levels. Additionally, limited access to resources is a commonly cited constraint among racially and ethnically diverse populations.

Stodolska et al. (2013) noted that lack of resources restricted some African American women living in South Carolina to participate in physical activities and exercise when resources included “the ability to pay the club membership fees and transportation” (p. 170). Exercise patterns in childhood can adversely affect levels of exercise in adulthood (Schutzer & Graves, 2004). Further, several researchers have found that cultural and social factors may have played a vital role in participation in physical activity and exercise (Hoeman, Ku, & Ohl, 1996; Fancott, 2001; Yu, Liaw, & Barnd, 2004; Sit, Kerr, & Wong, 2008; Yan & Cardinal, 2013). For example, Yan and Cardinal (2013) found that traditional Chinese health beliefs are vastly different from Western society, which may have an effect on Chinese women’s physical activity participation. Fancott (2001) discussed that culture is a key factor in shaping values, beliefs and attitudes.

Prevalence of Physical Activity and Exercise among Diverse Populations

Despite documentation of the physical and psychological benefits derived from regular activity, insufficient physical activity has been found globally. Recent data indicated that more than 60% of the world’s population fails to meet the WHO recommendation, which is to participate in a minimum of 30 minutes of moderate or vigorous physical activity on a regular basis (Bauman et al., 2012; Muntner et al., 2005; Schutzer & Graves, 2004). According to the American Council on Exercise (ACE), approximately 20% of American adults are meeting both aerobic activity and muscle

strengthening guidelines, and fully 30% of the American population is entirely inactive (Sternfeld et al., 1999).

Physical activity is a purposive activity undertaken during non-work time. This non-work time or “free” time is often equated with leisure time. If physical activity can be more “leisure-like,” individuals will be more likely to regularly engage in it (Stodolska et al., 2013). However, work activities still include a fair amount of physical activity. Bauman et al. (2012) reported that the most common physical activity participation is linked to occupational, household, and transport domains in low-income and middle-income countries. Similarly, Fancott (2001) indicated that physical activity and exercise for immigrant Chinese women may not necessarily be associated with health when daily life and work are so labor-intensive. Even though leisure-time activity contributes more to total physical activity in high-income countries, participation in physical activity is slow to improve and is worsening in some countries. For some developing countries, physical activity is primarily achieved in the work environment, and only a small percentage of the population participates in leisure-time physical activity. Muntner et al. (2005), in a study of the prevalence of physical activity among Chinese adults, reported that the work-related and leisure-time physical activity represented 63.3% and 24.5% of one’s time, respectively. In order to promote leisure-time physical activity, the Chinese government has developed and promoted “Sports for All” since 1949. Because of that program, an increasing number of modern stadium and sports arenas were built in cities and villages, and more people participated in sports. In 1995, the “Outline of Nationwide Physical Fitness Program” was adopted. This program encourages engagement in at least

one sporting activity every day, learning at least two ways of keeping fit and having a health examination every year.

Gender studies have found that males and females are significantly different relevant to their physical activity participation; generally, women are found to be less physically active than men (Sternfeld, Ainsworth, & Quesenberry, 1999; Muntner et al., 2005; Schutzer & Graves, 2004; Eyler et al., 1998; Yan & Cardinal, 2013). Likewise, the Healthy People 2000 Progress Report (USDHHS, NCHS, 2001) indicates that women of all ages are generally less active than men. Although many women express positive views toward physical activity, they are often restricted because expected family caretakers' responsibilities (Stodolska et al., 2013).

Physical activity can be classified into different levels based on five different stages of behavior changes (e.g., precontemplation, contemplation, preparation, action, and maintenance). People who are in the first three stages are considered engaging insufficiently in physical activity. Sit et al. (2008), in a study of physical activity and exercise participation, found that 80% of Chinese middle-aged women were classified as precontemplation, contemplation, or preparation stages for physical activity. This means that the majority of Chinese women are not sufficiently physically active. Participation in moderate or vigorous leisure-time physical activity was found to be low among Chinese women (Muntner et al., 2005). Eyler et al. (1998) concluded that almost 90% of the women studied thought they met the criteria for physical activity through housework, walking, and workday activities. Additionally, increasing evidence supports that physical activity levels tend to progressively decline with increasing age (Fancott, 2001; Schutzer

& Graves, 2004; Muntner et al., 20/05; Sit, Kerr, & Wong, 2008). For instance, according to Shotwell (2003), older adults (especially older women) are the most sedentary segment of the U.S. population. Women see health as increasingly important to aging, yet the prevalence of physical activity has been shown to be lowest among older women, particularly those in ethnic minorities (Fancott, 2001). The Healthy People 2000 Progress Report (USDHHS, 2001) points out that by age 75, one in three men and one in two women engage in no regular physical activity.

Statement of the Problem

At present, worldwide immigration patterns have changed and globalization has become a major trend. Whether it is for better education, jobs, or the environment, an increasing number of people are migrating to the West (Caperchione, Kolt, & Mumery, 2009). According to US Census data 2014 - 2015, 42.4 million immigrants (both legal and illegal) now live in the US (Camarota & Zeigler, 2016). Given these statistics, individuals have more opportunities to meet or work with people from different ethnic backgrounds, cultures, and lifestyles. Moreover, health issues are discussed globally. A research indicates that physical activity and exercise lead to health and well-being; however, physical activity participation is far less among certain socio-demographic groups. Thus, it is important for sports educators or professionals to understand different ethnic groups to determine why some people are physically active and others not. There is a large amount of literature on East-West cultural differences, but a paucity of data from Asia (Sit, Kerr, & Wong, 2008). Yan and Cardinal (2013) found that Asian female

students, including Chinese students, are the least physically active group of students.

Although some research has discussed the potential factors that influence women's participation in physical activity and exercise, few studies have focused on Chinese women in particular, especially Chinese immigrant women (Yu, Liaw, & Barnd, 2004).

In China, women have long assumed the role of wife and mother in a feudal society. Footbinding and the seclusion of women were the main obstacles to their engagement in sports (Bauman et al., 2012; Yan & Cardinal, 2013). It is difficult for Chinese women to overcome traditional ideological hurdles and participate in social activities, such as physical activity and exercise (Yan & Cardinal, 2013).

US and Chinese cultures are quite diverse; new immigrants may encounter significant obstacles such as language, culture differences, and the time available for participating in physical activity and exercise. In fact, several research studies have identified time as the key barrier for Chinese women to participation in physical activity and exercise (Eyler et al., 1998; Sit et al., 2008).

This study will not only contribute to sport sociology literature regarding physical activity and health on immigrant groups, but also improve the comprehension of women's status and physical activity within the Chinese traditional sociocultural setting. In addition, sports administrators and professionals may utilize the results of the study in order to develop methods by which to reduce the physical activity disparity between people of different races or ethnicities. The importance of participation in physical activity and exercise should be emphasized. Gender inequality in the sports setting is still

an extremely universal phenomenon. Therefore, the results of this study ultimately may have a significant impact on promoting overall global health and well-being.

The purpose of this study was to examine the barriers and motivations to participation in physical activity and exercise with a focus on an immigrant Chinese woman in the United States. The research will be used as a basis for helping Chinese immigrant women engage more fully in physical activity and exercise.

Definitions of Physical Activity and Exercise

Scholars have discussed that physical activity and exercise may have different meanings to people from different cultures (Caspersen, Powell, & Christenson, 1985; Eyler et al., 1998; Fancott, 2001; Yan & Cardinal, 2013). *Physical activity* has been defined as “any bodily movement produced by the skeletal muscles and that results in a substantial increase over the resting energy expenditure” (Malina, Bouchard, & Bar-Or, 2004, p. 6). Additionally, Fancott (2001) mentioned that physical activity can be categorized in a variety of ways such as occupational, household, leisure-time, or transportation. *Exercise* has been defined as “planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness” (Caspersen et al., 1985, p. 128).

The terms “*physical activity*” and “*exercise*” are often used interchangeably, especially by women (Eyler et al., 1998). Eyler et al. noted that almost 90% of women studied thought they had already met the physical activity recommendation by doing housework, walking and workday activities. In China, the majority of women prefer to do

physical activities such as folk dance and yoga to maintain their beauty. Being muscular does not correspond with Chinese traditional values and beliefs of health. Some Chinese women commented that they are not doing physical activity because they worried about gaining muscle (Eyler et al., 1998; Yan & Cardinal, 2013).

Summary and Chapter Overview

The aim of this study was to analyze the barriers and motivations to participation in physical activity and exercise among immigrant Chinese women in the United States. By focusing on a selected immigrant Chinese woman, this analysis was aligned with a single case study approach. This thesis is composed of five chapters. Chapter 1 is an introduction and has been subdivided into four parts, including the background of the study, the statement of the problem, the purpose of the study, and definitions of physical activity and exercise. In Chapter 2, I explored the literature relevant to the topic, and expose gaps in research done so far. The chapter consists of three parts. Part 1 focuses on the benefits and recommendation from physical activity and exercise. Part 2 explains Chinese traditional culture and physical activity. Part 3 described the sociocultural factors to participation of physical activity. In Chapter 3, I discussed and justified the methodology that framed this study. In this chapter, I also outlined the study design used for collecting and analyzing the data to explore the research questions. Chapter 4 contained study results and findings, specifically the themes addressing immigrant Chinese women's participation of physical activity and exercise. Chapter 5 included a

conclusion with limitations of the study, as well as recommendations for practice and future research.

CHAPTER TWO: REVIEW OF LITERATURE

In this chapter, key literature related to the benefits of and recommendation for physical activity and exercise; physical culture in Chinese from a historical perspective; and sociocultural factors impacting participation in physical activity and exercise among Chinese immigrant women will be presented.

Physical Activity and Exercise Related to Health

Benefits of Physical Activity and Exercise

Participation in regular physical activity is one of the most important health behaviors (Schutzer & Graves, 2004), and the benefits resulting from regular physical activity and exercise are well documented. The first comprehensive guidelines to be issued by the U.S. Department of Health and Human Services (2008) summarize the beneficial effects associated with regular physical activity such as improved cardiorespiratory and muscular fitness, lower risk of early death, favorable body composition, and others. Empirical evidence demonstrates that participation in physical activity and exercise on a regular basis plays a role for a healthier and longer life (Fancott, 2001; Mathews et al., 2010). High levels of physical activity improve bone density, reduce morbidity, and mortality rates of certain diseases. It helps to prevent many chronic conditions including coronary heart disease, cardiovascular disease, and

type 2 diabetes (Eyler et al., 1998; Fancott, 2001; Sit et al., 2008; Mathews et al., 2010).

Eyler et al. also mention that physical activities and exercise had greater mental health benefits. In addition, Sit et al. (2008) indicated that a wide range of health benefits, including low mortality rates, increased bone density and reduced cardiovascular risk factors, was found after women engaged in physical activity and exercise. Sedentary behavior is linked to health problems, such as obesity, depression, and diabetes, and may increase the propensity to aging related diseases and premature death (Fancott, 2001). For example, Schutzer and Graves (2004) reported that the annual number of deaths related to physical inactivity is estimated at more than 250,000 in United States.

Physical Activity and Exercise Recommendation

According to the United States Department of Health and Human Services (2008), adults should engage in at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity each week. Additionally, it is recommended that adults engage in muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on two or more days a week, as most health benefits occur. The World Health Organization (WHO) developed the “Move For Health Program.” Physical activity recommendations published by the WHO suggest that every adults should participate in 30 minutes or more of moderate-intensity activity on most, but preferably all, days of the week (Muntner et al., 2005).

Chinese Traditional Culture and Physical Activity

The existence of “physical culture” has a rich history in China, and the earliest record of physical activity can be dated back to the Shang Dynasty (seventeenth–eleventh, BCE). Records including individuals participating in swimming, dance, riding and other physical forms of activity. The modern physical culture was called “tiyu,” and was brought to China in the late Qing Dynasty (Dong, 2001). This era focused on individual bodily strength and physical fitness as the key to larger issues of national and racial survival (Chen, 1998; Dong, 2001). In 1949, Mao Zedong became the first leader of the People’s Republic of China, and the importance of sports received great attention. The concept of “yundong” was brought to China for the first time: “yundong” is used to describe “activity” or “movement” (Brownell, 2005).

Sports are a reflection of society. China is a large, populous country. It has almost 5,000 years of history, which forms a colorful culture and society. Research shows that approximately 20 percent of the world’s population resides in China (Schiavenza, 2013). Chinese women’s physical activity participation from a sociocultural viewpoint has been studied. Cultural and social factors deeply affect women’s physical activity in China. In the ancient family and society, their major responsibilities were to devote their time and efforts to the family. These women were discouraged from setting goals for themselves. Most of the time, women were expected to stay at home and do housework chores because they did not receive equal education opportunities like men. Due to the expectations and pressures of the family and society, women contained their efforts within the family area. It was not necessary for them to be strong physically. Cultural and

social factors directly impacted on women's participation in physical activities and exercise. Even today, the majority of Chinese women seem to prefer to participate in physical activities like yoga and dance in order to maintain their grace and beauty.

The current status of Chinese women's participation in physical activity and sports has changed significantly. For one thing, the transformation of family structure and equal education opportunities play a crucial role in the process (Yu, Liaw, & Barnd, 2010). Additionally, there is growing attention from the government toward physical activities. For example, the government developed the "Sport for All Plan" in 2009. Since then, Chinese women have started to recognize the importance and pleasure from physical activity. Participation in physical activity has been shown to have a wide range of health benefits for women (Eyler et al., 1998; Fancott, 2001; Sit et al., 2008; Mathews et al., 2010). However, the barriers still exist, especially for immigrant Chinese women.

In general, the physical activity level of women is low and their participation declines with age (Eyler et al., 1998; Fancott, 2001; Sit et al., 2008). The prevalence of physical activity and exercise has been shown to be the lowest among older women. In addition, women have been found to be less physically active than men (Eyler et al., 1998; Fancott, 2001; Muntner et al., 2005; Sit et al., 2008). Being physically active is defined as participating in 30 or more minutes of moderate or vigorous activity daily (Muntner et al., 2005). The results of previous research show that more than 50% of the population fails to meet this requirement. Although some people believe they were physically active, most of them were actually not "exercisers." Their physical activity participation was primarily achieved from housework, walking, and the work

environment (Eyler et al., 1998; Fancott, 2001). In China, the percentage of the population that was physically active declined with age. Being physically active was more common among men than women. Participation in work-related physical activity was 62.2% and leisure-time physical activity was 2.3% (Muntner et al., 2005). According to a study from China, 80% of women were classified into precontemplation, contemplation, and preparation stages. In other words, the majority of Chinese women were not physically active enough to achieve health benefits (Sit et al., 2008). Additionally, a large portion of Chinese female respondents characterized themselves in the preparation stage for leisure time physical activity. Previous research indicated that not having enough time or resources, lack of skills, motivation and social support are the most commonly mentioned barriers to participation (Eyler et al., 1998; Fancott, 2001; Sit et al., 2008; Yu, Liaw, & Barnd, 2010) Also, the most important reasons for engaging in physical activity and exercise are improved fitness and health. Women in China grow up in a unique cultural background. There were several notable differences in perceived physical activity barriers and motivations among racial or ethnic groups (Fancott, 2001; Mathews et al., 2010; Qiu, Lin, & Mowen, 2018).

Sociocultural Factors of Participation in Physical Activity and Exercise

Barriers to Immigrant Chinese Women's Participation in Physical Activity and Exercise

Decades of research has established that numerous barriers have limited Chinese women's participation in physical activities and exercise. These barriers include: (a) Chinese cultural values and beliefs toward health (Fancott, 2001; Yu, Liaw, & Barnd, 2004; Dong, Chang, Wong, Skarupski, & Simon, 2010; Qiu et al., 2018); (b) individual factors such as conflicting demands on time, limited knowledge or skill, lack of social support and low self-efficacy (Fancott, 2001; Sit et al., 2008; Qiu et al., 2018); and (c) environmental factors, which is limited access to facilities, transportation and child care (Fancott, 2001). Several studies have shown that lack of time, resources or skills, family or friends' support are the most important barriers to this subgroup's participation in physical activity and exercise (Sit et al., 2008). There is also a need to consider the life stages of those immigrant Chinese women in United States, specifically related to East-West cultural differences. After migrating from a traditional Chinese collective culture to Western society, traditional values continue to operate in these Chinese families. For instance, Dong et al. (2010) studied the health needs of Chinese in Chicago's Chinatown. They demonstrated that the teaching of Confucianism and Daoism in Chinese traditional culture had greatly shaped the view of health, illnesses, treatment, and stress coping, which, in turn, has influenced Chinese attitudes and beliefs toward health. These results were consistent with the findings from earlier studies. Fancott (2001) indicated that the Chinese cultural philosophies such as Taoism, Confucianism and Buddhism may shed light on values, beliefs and attitudes, particularly in relation to health and to physical

activity and exercise. Also, research suggested that fear of racism, language difficulties, socioeconomic status, health problems and the absence of a “tradition of exercise” may have an impact on immigrant Chinese women to engage in physical activity and exercise (Fancott, 2001; Mathews et al., 2010; Dong et al., 2010).

Motivations of Immigrant Chinese Women to Participate in Physical Activity and Exercise

Increasingly, women see health as important to the aging process. Sit et al. (2008) found that Chinese women are less satisfied with their bodies than men and desire better maintenance or improvement of their health. Qiu et al. (2018) confirms Sit et al., noting that Chinese women are increasingly participating in leisure time physical activity (LTPA). Also, the authors recognized the importance of LTPA on desire to participate and planned to do so more often in the future. Fancott (2001) considered immigrant Chinese women’s attitudes towards physical activity and exercise, and revealed that for all ages, the primary motive for exercising was social, to gain perceived psychological and emotional rewards. Chinese women were raised in a unique culture compared to their counterparts in other parts of the world. Yu et al. (2004) found that factors such as changes within the family structure, equal education opportunities, and the growing attention from the government and society have played an important role in increasing participation among Chinese women. In earlier years, the Chinese government developed the “Sports for All” plan to encourage the population to be physically active in all domains of daily living. After that, China strengthened the promotion of exercise and

fitness to the public and created more opportunities for sports participation. This has resulted in an increasing awareness among Chinese women of the importance of LTPA (Muntner et al., 2005; Qiu et al., 2018). Several agencies, including the World Health Organization (WHO), developed the Move for Health program, which aims at “increasing regular physical activity practices in the population, men and women of all ages and conditions” (Muntner et al., 2005, p.1).

Summary

Strong evidence exists to support the benefits of regular physical activity and exercise in association with health and well-being. It is recommended that adults engage in both aerobic physical activity and muscle-strengthening activities to get the most health benefits. Previous research shows that the physical activity level of women in general to be low and the participation rate decreases as they age. Many women thought they were physically active; however, their physical activity and exercise is primarily achieved from housework, walking, and the work environment. Barriers to physical activity and exercise for women include those in the personal domain, but also highlight sociocultural barriers. Although Chinese women are starting to recognize the importance of physical activity and increasing participating in leisure time physical activity, the traditional values, cultural and social factors continue to have an impact on Chinese women’s participation in physical activities and exercise. Besides, several studies have shown that lack of time; resources or skills; and family or friends’ support are the most important barriers for Chinese women to participate in physical activity and exercise.

What remains unclear in all of these studies is the understanding that people attach to the terms *physical activity* and *exercise*. In other words, these terms may be used or defined differently for people from other backgrounds. In addition, few qualitative studies have been done in the area of physical activity and exercise participation with immigrant Chinese women. East-West cultural differences may play a role in participation of physical activity and exercise among immigrant Chinese women. Also, there is the need to consider the special life stage of those immigrant Chinese women in United States.

CHAPTER THREE: METHODOLOGY

In this chapter, the methodology of this study is explained including the research design, the participant, instrumentation and measures, and data collection and analysis procedures. The purpose of this study was to explore perceived barriers and motivations to participation in physical activity and exercise of an immigrant Chinese woman. A qualitative approach was used for the study to collect detailed explanatory data from a single research participant's experiences; specifically, this is a case study of an immigrant Chinese woman in the United States.

Research Design

Understanding the global context of social-cultural influences requires a research strategy that focuses on understanding the dynamics present within a single setting. The case study combines data collection methods and an in-depth investigation of one or a few subjects (Eisenhardt, 1989). Yin (1984) states that the major advantage of doing a case study is the breadth and depth of information that can be gathered and analyzed.

The researcher reached out to an immigrant Chinese woman who would be able to discuss her experiences concerning this topic. The subject was not selected randomly, but allowed the researcher to obtain views and thoughts from a certain special population. Owing to the characteristics of a case study, the researcher took into consideration the

possibility of the respondent's misunderstanding of physical activity and exercise terminology; and the subject's perspectives about the necessity for engaging in physical activity and exercise, her workout routine, and life and physical activity experiences.

Participant

The population in the study was a single subject: a 48 year old Chinese woman who immigrated to the United States 20 years ago. She can speak English fluently, and does not have physical activity limitations. The participant was selected for this study through purposive sampling. Leedy and Ormrod (2005) define sampling as the process of selecting a portion of the population that will be a representation of the whole population in a study. As a personal trainer and fitness specialist, the researcher approached one of her immigrant Chinese female clients who she believed would be best to the study, based on familiarity, her life experience and struggles, and motivation to improve self. The researcher did home fitness training for this immigrant Chinese woman one year ago. The subject had no exercise history before that time and was motivated by her American co-workers to begin a program. After three months, the woman found that it was too hard to continue her exercise routine due to work and life pressure. In addition to daily work, she also takes responsibility for her family affairs. Time was her biggest obstacle and she had to stop training; however, the woman resumed her fitness training with the researcher one month ago. She aims to keep healthy and regain her energy.

The initial recruitment of the participant occurred via a phone call inquiry. The woman expressed a strong interest in participating in this study, so the researcher gave her more detailed information.

Instrumentation and Measures

The researcher conducted a face-to-face interview using a semi-structured interview design. Background information was collected from the subject at the beginning of the interview. A list of open-ended questions was used and designed to explore the immigrant Chinese woman's views on barriers and motivations to participate in physical activity and exercise, and the significance of being physically active in her daily life. In order to increase validity of the study and build trustworthiness, the researcher requested that her thesis chair and committee members read the interview guide and interview transcripts before conducting the interview. Based on feedback, the researcher improved the completeness of the interview guide. Several sample questions that were asked of the subject are listed below:

- Do you currently exercise? If so, how frequently?
- Have you ever experienced any barriers to start or maintain participation in physical activity and exercise in the US? What were these barriers?

Questions that were specific to the subject who is currently exercising were also asked. Two sample questions included:

- In which fitness environment do you feel you benefit the most? How do you feel about individual coaching? How do you feel about being in a coach-led community of like-minded people? Do you like to be on your own? Why?
- Why do you exercise (e.g., lose weight, gain muscle, keep healthy), and what does your exercise include?

The interview guide was submitted to and approved by George Mason University's Institutional Review Board (IRB) before the researcher began to collect data.

Data Collection and Procedures

A semi-structured interview was conducted for this study. In Summer 2018, the selected subject, living in northern Virginia, was contacted by telephone. The purpose of the study, procedures, and confidentiality were explained at that time. The researcher and the subject scheduled an appointment for a face-to-face interview. Beginning in July, the researcher met with the subject. To ensure confidentiality, the subject was asked to provide her own preferred pseudonym in this study.

The semi-structured face-to-face interview was conducted during the summer. The interview lasted one hour and data collection occurred in-person at the subject's home. At the beginning of the interview, the subject was asked to consider and complete an informed consent form, and permission for the researcher to audibly record the conversation. To make the subject feel comfortable, the researcher provided both Chinese and English versions of the interview questions to the subject. All interview questions were translated by the researcher, a female graduate student of Chinese origin at George

Mason University. The researcher asked questions in three categories: demographic information; immigration experiences and exercise history; and current physical activity and exercise experiences. The researcher spoke Chinese and the interview was recorded. The recorded interview content was translated from Chinese to English by the researcher. The interview audio file was destroyed after typing and reviewing transcripts to insure confidentiality of the participant.

The questions in the interview guide were based on a standard client intake survey administered by fitness instructors at the researcher's facility. Additional items regarding Chinese culture were created by the researcher based on the review of literature. The participant was asked her thoughts on participating in physical activity and exercise; what being physically active meant personally; and what activities were done to maintain good health. Also, the respondent was asked about her perspectives on physical activity as it differs culturally between China and the US, and how these differences related to participating in physical activity and exercise. In addition, the subject was asked how her previous experiences living in China might have influenced her attitudes and thoughts on health, physical activity, and exercise. Open-ended questions allowed the participant to express opinions in her own words, and to raise issues and ideas not considered by the researcher.

Data Analysis

The study was analyzed using a qualitative content analysis. According to Cho and Lee (2014), the qualitative content analysis assists researchers in processing large amounts of data and increases understanding of an issue. Furthermore, it is “a research method for subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (p. 3).

In particular, the researcher used a thematic analysis for this study. According to Braun and Clarke (2006, p. 79), thematic analysis is “a method for identifying, analyzing, and reporting patterns (themes) within data.” That is, based on the interview and research questions, the researcher classified and identified groups of data through various themes and patterns.

A five step data analysis process was completed. First, the data were organized and prepared, meaning that the researcher reviewed audio tapes from the interview and transcribed them into a Word document. Second, in order to gain familiarity with the data and material, the researcher read and re-read transcripts to gain a general sense of the information. The researcher focused on what the subject was saying to convey the participant’s perspectives and thoughts accurately. Third, the researcher began a detailed analysis with a coding process. Based on the actual sentences and language from the participant, the researcher took the text data, segmented it into themes and highlighted each theme. Fourth, a coding process was initiated to generate a description for analysis. More specifically, the researcher reviewed and analyzed the themes and crafted a general description. Lastly, the researcher reported findings based on each theme.

CHAPTER FOUR: RESULTS

The central purpose of this study was to examine the perceived barriers and motivations to participation in physical activity and exercise as exemplified by an immigrant Chinese woman in the United States. Within this chapter are the findings of this study. The researcher analyzed a single participant's interview according to her immigration and physical activity experiences; how previous living experiences in China had influenced her participation level of physical activity and exercise in the US; and views on barriers and motivations for immigrant Chinese women to participate in physical activity and exercise. The general barriers included time commitment, cultural issues, and low self-efficacy. The general motivations included social support, access to resources, and health concerns.

In order to address these questions, an immigrant Chinese woman was selected via purposive sampling. The interview began on August 15, 2018 with Jen, one of the researcher's Chinese female clients. She agreed to a face-to-face interview with the researcher at her home. Jen is living in northern Virginia, and she has resided in the US for approximately 25 years. She received a master's degree from a university located in Boston. Currently, she is married; has two children; and works full-time as a software engineer in a local company. The American sports culture and living environment has had a positive influence on her participation in physical activity and exercise. Overall,

Jen has greatly increased her fitness awareness and the level of physical activity participation.

To maintain confidentiality, all identifiable information for this participant was removed, and responses were attributed to the subject based on her self-selected pseudonym.

Physical Activity and Health

Physical Activity and Exercise

Responses of the participant showed that she was not an active participant in physical exercise when she was living in China. Most of her physical activities were a function of mandatory physical education classes during school. After graduation, she cycled to work, and this was her main form of physical exercise. In addition, a lack of available time and motivations were barriers for Jen to get involved in physical activity and exercise at that time:

When I was in China, I was too busy with my studies all day long. We had physical education classes during school, but I didn't exercise much besides that. I couldn't even pass the physical fitness test, especially the 800 meters race. It was too hard for me to finish within the given time.

The P.E. classes were often occupied by other curricula, such as Chinese, Math, and English. Although some students went for a run or played basketball during break, that seemed to be major physical activities they have done. Whether at home or school, students were asked to put 100 percent effort on their academic

performance and expected to not be distracted by something else. After graduating from my college in China, I used to cycle to the office Monday through Friday, and one-way is about 30 minutes.

Being exposed to the American fitness culture and environment expanded the participant's fitness awareness. Jen began active fitness engagement when pursuing her master's degree in the US. However, her physical activity participation went down quickly after graduating. She described her participation level of physical activity as the following:

My level of physical activity participation was very low at the beginning, but it's getting better after moving to the US, especially during my graduate studies. I was living near the school, and only took 5 minutes walking to the recreation center. So it was very convenient for me to get there. Besides, the recreation center was totally free for students, and all of the equipment there was in good condition. I usually walk or jog on the treadmill for 30 minutes after class. On weekends, I played badminton or other sports with my friends. Since I graduated from the university, I've never been to a gym or any health club. As a mother, a wife and an employee, you have to take your responsibilities. There is no choice.

In order to change her sedentary lifestyle and stay healthy, one year ago, Jen decided to start her home fitness training with the researcher. Three months later, the training had to stop due to unavoidable time conflicts. Jen said it was too hard for her to keep up with exercise consistently when under great pressures of daily life and work.

Recently, the participant resumed her home fitness training with the researcher. Although time is still considered an obstacle, the participant was determined to overcome it. Jen commented that she enjoyed having such free time to refresh herself, de-stress from the rigors of daily life, and focus on improving her overall health:

You can't imagine how many things I need to deal with every day. Last year, my parents both returned to China, and I had to take all the duties by myself. I couldn't leave myself free time to do exercise. That's why I stopped our training. Recently, my parents came back from China, so I think it's a good time to continue my fitness journey with you. I truly enjoy our training. I never had experiences like this before. I sweat all over during the training, which makes me feel so comfortable and relaxed. Thus, I keep telling myself: exercise is the only thing I do for myself, to improve my own health, get away from everyday life and relieve stress. No excuse this time. I'll not give up.

Moreover, when asked to define the words "*physical activity*" and "*exercise*," Jen commented "I've never thought about this. Aren't they the same? I always think these two words have same meaning and can be replaced by each other." Clearly, the participant was not aware that a difference exists between these two words.

Barriers

Time Commitment

The participant frequently mentioned that time is her biggest barrier to participation in physical activity and exercise. As a mother and wife, Jen takes on family

responsibilities in addition to her work responsibilities. In the interview, she mentioned that she works full time in a company; and for most of her free time on weekends, she will stay with her kids. Obviously, the combination of these duties leaves little time for her to participate in daily leisure activities and exercise:

I know it sounds like an excuse, but time is truly my biggest barrier to exercise. I am working full-time as a software engineer. Although in my company there is a gym downstairs and it's totally free for employees, I've never been there. I have two children, a 12 year old girl and a 16 year old boy, so I have to get home as soon as I get off work. Although they go to school on weekdays, I still have work need to do. If I can't finish on time, tomorrow I'll have to spend more time working on that. That's your duties; no one can do it for you. Even though I get some free time on weekends, most of time I will stay with my kids. They are participating in multiple interest classes, so I have to pick up then drop them back home. You see I don't even have time to clean my house; that's why I hired a cleaner to help me once a week.

As the participant mentioned, women usually put family at the top of their priority list. In order to save time, Jen started looking for help from a professional. Instead of going to a gym, she is participating in home fitness training with the researcher:

As Chinese women, it's always hard for us to make time for ourselves. I think we take much more responsibilities to our families when compared to women from other countries,

It is more convenient for me to train at home than going to the gym. I don't need to use all the equipment and facilities. Also, my schedule is not really flexible, especially when having children needing to be taken care of. Working out at home saves me a lot of time. Otherwise, I don't think I can make it.

Cultural Issues

Although the participant did not mention language as a barrier for her to join health clubs or recreation centers in the US, she responded that cultural differences might be an obstacle to participate in physical activity and exercise for immigrant Chinese women:

I have been living in the US for many years, but I think cultural differences are still a barrier for me to participate in physical activity and exercise. In my opinion, Chinese women are so much more conservative than Americans. Thus, it's hard for us to integrate into this new environment and culture when most of time we are still living in the way we used to be in China. Not only for we Chinese immigrants actually, but also for other immigrants in this country.

Responses showed that the participant would like to participate in multiple types of physical activity and exercise; however, she was not planning to do workouts in a gym on her own. When asked to provide specific reasons for not joining the gym, Jen concluded that a large gap exists between China and the US regarding the values, beliefs, and attitudes regarding physical activity and health:

I like to have different exercise routines, just like what you've taught me. I like

that kind of exercise. Also, I would like to try some group training classes, but prefer to be with women who have common goals and interests. I don't like big group classes in the gym here. We are very different from Americans in sports, including the ideas and training methods are a huge difference. You know, as Chinese women, we are always afraid to be muscular. However, it seems different in the US. I know lots of women doing weight training here.

When asked her feelings about being in a coach-led community of like-minded people, the participant expressed strong interest in joining the group. Also, Jen stressed that she would prefer exercise with individuals who have similar backgrounds, common interests and lifestyle:

A lot of physical activity programs can be found in the Chinese community actually, such as Chinese folk dance and Tai Chi. I know a group of immigrant Chinese women meet up and practice together during weekends. That sounds great, right? I always thinking to join in, but my son and daughter have interest classes at that time, so I have to pick them up. People most of time just like to stay in their "comfort zone," where they feel comfortable to stay with others who have same experience and cultural background.

In addition, when asked about seeking help from a professional, Jen indicated that she would prefer to train with a coach from the same background as her:

I prefer to training with a Chinese coach than a foreign coach. First, it would be much easier for us to communicate with him or her. Also, I think the Chinese coach will have a deeper understanding about your exercise background and

situation. It is no doubt that a lot of foreign coaches here are professional and friendly, but I don't think they can truly understand our needs and fitness goals, especially when we have such a big cultural and physical difference.

Self-Efficacy

The participant's responses indicated that she lacked confidence to participate in physical activity and exercise, especially when doing these activities alone. She mentioned that the education system in China emphasized primarily academic achievement and ignored students' physical ability development. This is very true and explains why the participant has limited knowledge and skills regarding participation in physical activity and exercise. As she mentioned earlier, the physical education classes were her main physical activity participation in China:

I don't have many exercise experiences. If I go to the gym on my own, I will feel embarrassed because I really don't know what to do. I'm so afraid if I do something wrong, then it will cause damage to my body. So, it would be perfect to have someone who is professional to accompany and help you.

I'm not a very disciplined person. I've been thinking about making some changes for my life these years, but I didn't really make up my mind to do it. Hope it is not too late... My husband and I jog once a week. I'll give up easily if I go just by myself. I couldn't even pass a physical fitness test when I was in China. It was too hard for me to finish within the given time. I've never been a member to any gym. I was too lazy.

Moreover, previous failed experiences of participating in physical activity had a negative effect on Jen's self-efficacy. This was also reflected in her attitudes and behaviors to the physical activity participation of other family members. For instance, the participant mentioned that she went to the internet to check relevant risk information and potential body damage when her daughter requested to join the swimming team.

Motivations

Social Support

Being influenced by Chinese traditional culture and an unbalanced education system, the participant did not previously value exercise. Behavior change started after living in a more active environment in the US. The participant mentioned that she has been greatly inspired by people surrounding her, such as co-workers, friends and her spouse.

First, by gaining information and knowledge from physically active individuals, Jen increased her participation in physical activity and exercise. Despite very limited time, the participant realized the importance of being physically active and began to ask for help from professionals. She considered home training as a feasible way for her to maintain daily physical activity. Per the interview, the participant indicated that she is satisfied with the changes she has made:

Most of my co-workers are Americans. They love to do exercise and ask me to come along many times. They share some exercise methods and tips with each other. That's why I know a lot. They usually do workout in the early morning or

after work, but sometimes during the lunch break. These time doesn't work for me. That's why I'm looking for a professional to help me with my consistency. I enjoyed our training; it saved me a lot of time. I've told my co-workers I hired a personal trainer to guide me to exercise at home, hahaha...

Moreover, the participant's confidence has greatly improved after receiving encouragement from other family members and friends. As her confidence grows, we also see a considerable turnabout in her attitude to perform physical activities in which she was not previously skilled. For instance, the 800 meter race used to be the program the participant disliked; however, she said that she now enjoys running or jogging with her husband even only once a week.

Third, observing individuals who are physically active has stimulated the participant, as she took instant action to participate in physical activity and exercise. Her responses indicated that even strangers have had an effect on her attitude, value, and beliefs toward physical activity and exercise. In addition, seeing women who challenge themselves gave her great encouragement to restart her home fitness training. The participant mentioned that she was surprised to see many Chinese women who were enthusiastic about doing weight lifting in the US. She considered those physically active women as role models in her life. For example, the participant mentioned that she wants to look healthy and beautiful like them. She commented that "I think I feel their muscle is tight and powerful. Most importantly, the overall mental state is also very good. I really admire this beauty."

Access to Sources

Social media is omnipresent and powerful tool in modern society, which plays a crucial role in people's life. The participant stated that social media such as television are full of advertisements encouraging people to work out. Additionally, fitness knowledge and information can be easily accessed. For example, Jen mentioned that her friends who are living in China always post information related to exercise and healthy diet on WeChat: "a Chinese multi-purpose messaging, social media, and mobile payment app" ("WeChat," 2018) By accessing these visual resources, her views and beliefs toward fitness have changed a lot:

Every time when I go to see my physician, he always advised me to do workout.

Also, social media such as televisions are full of advertisements to encourage people to work out. In the past, we Chinese women rejected strength training because we were afraid to be muscular, but now things change a lot and I see more and more Chinese women get involve in strength training.

Moreover, the participant expressed her views toward development of exercise motivations. She compared herself to other family members, and concluded that culture and environment play an important role in individual participation of physical activity and exercise:

My son and daughter were born in the US, and they are participating in multiple sports, such as soccer, fencing, swimming and running. When I was in their age, the exercise I used to do was just running around the yard. Parents and schools did not pay much attention to the development of physical activities. Even today,

I have heard that the P.E. classes in high schools are still occupied by other curriculum, such as Chinese, math and English in order to improve students' academic performance.

Health Concerns

The participant claimed that she has greatly changed her thoughts on health, physical activity and exercise after coming to the US. Although weight management is still a concern, responses indicated that pursuing physical and mental health is now the primary driving force for her to participate in physical activity and exercise:

I want to lose some weight. Because my work is related to computer, I sit more than 8 hours every day. Can you imagine? I gained 30 pounds these years. I don't aim to be a sportsman, but I want to start my fitness journey. Health plays an important role in our life and doing something like this probably the biggest investment I've ever made for myself. So, now my main goal is to keep healthy, then to lose some weight.

The participant's fitness awareness and motivations were reinforced in different ways. First, living in an active environment has an influence on her thoughts about physical ability development. In addition, receiving suggestions and guidance from professionals developed her awareness toward to the necessity of participating in physical activity and exercise. For example, the participant mentioned that her physician has always suggested that she exercise and stay on a balanced diet during her physical examinations:

I think I've changed a lot. Because the US government pays highly attention to the participation and development of physical activity. Also, school offers students many opportunities to participate in physical activities and exercise. My daughter started to play soccer and learn fencing when she was very young, about 6 years old. Last semester, she joined the school swimming team and spent quite a lot of time training. My son is also participating in multiple sports, such as running, cycling and strength training. They always encourage me to participate in physical activity and exercise. Oh, my husband keeps telling me how a balanced diet and regular exercise can make an influence on our health.

Responses from the participant showed that good exercise experiences and receiving the physical and mental benefits of physical activity and exercise has contributed to her persistence:

Absolutely! I think it's important to be physically active. Especially as we get older, all kinds of physical problem are coming out. When I sit in front of my computer for a whole day, my shoulder and neck both feel uncomfortable. My legs also get tired easily, but I feel so much better after training with you. Yes, I feel super good. I didn't sweat much before, now I can sweat a little within the training. Besides, I think doing exercise can help get energy back. The training had refreshed me.

What do you think is the relationship between exercise and health? Well, I think there is a strong and positive correlation between exercise and health. I remember I used to have a lack of physical activity and exercise before. As a

result, I found myself always in a bad mood, under great pressure and frustrated. However, after starting to exercise, I feel not only much better now, but also am more relaxed. I'm not doing exercise because I have to do; it is what I want to do. I truly enjoy exercise now. In addition, to the composition of food and then make wise choices. Just want to try as much as possible to be healthy. I do enjoy training with you. I think my muscle strength is so much better than before. I always sweat after training; it makes me feel so comfortable and relaxed. I'll not give up this time.

When asked if there is a relationship between exercise and health, the participant commented that there was a strong and positive correlation between the two:

I remember I used to lack of physical activity and exercise before. As a result, I found myself always in a bad mood, under great pressure and frustrated. However, after starting to exercise, I feel not only much better now, but also am more relaxed. I'm not doing exercise because I have to do; it is what I want to do. I truly enjoy exercise now. In addition, diet is also very important. When I go to the supermarket, I'll pay more attention to the composition of food and then make wise choice. Just want to try as much as possible to be healthy. I think the mood can also affect our health. After exercise, you will feel very well, and then be more optimistic and cheerful.

Interestingly, the participant mentioned that age is a motivator for women to participate in physical activity and exercise:

I used to be lazy and didn't know much about exercise and health. As I get older, I start to pay more attention to them. I feel as we are getting older, then the awareness of fitness is stronger. Living in such an environment, people around you will always encourage and motivate you to participate in physical activity and exercise.

Overall, these findings reinforce the key themes comprising barriers and motivators for immigrant Chinese women to participate in physical activity and exercise. Specifically, the barriers included time commitment, cultural issues, and low self-efficacy. The motivations to becoming more physically active included social support, access to resources, and health concerns.

CHAPTER FIVE: CONCLUSION AND IMPLICATIONS

In this chapter, the researcher presents a summary of study findings and implications. Limitations and opportunities for future research and practice are provided.

Summary of the Study

Due to unhealthy diets, lack of exercise and high stress levels, health problems have increased globally and are a great concern. In general, women are found to be less physically active than men. Previous research has discussed the potential factors that influence women's participation in physical activity and exercise; however, few studies have focused on Chinese immigrant women in particular. Moreover, new immigrants to the US may encounter significant obstacles to participate in physical activity and exercise. Cultural differences are one of the most influential factors that may trigger physical inactivity. Chinese women have long assumed the role of wife and mother in a feudal society. Traditional Chinese culture continues to play an important role in their daily life. Therefore, the purpose of this study was to explore perceived barriers and motivations to participation in physical activity and exercise of immigrant Chinese women in the United States.

The researcher interviewed one Chinese immigrant woman regarding her perceived barriers and motivations to participation in physical activity and exercise. The

questions addressed physical activity, cultural impact, and personal life experiences. Interview questions were designed to explore how the participant defined physical activity and exercise; how she described her physical activity experiences and immigration experiences; how she changed her attitude, beliefs and values toward physical activity and exercise; and what barriers and motivations have been perceived in physical activity and exercise in the US.

This study was meant to contribute to the sport sociology literature regarding physical activity and health on immigrant groups, as well as to improve our understanding of women's status and physical activity within the Chinese traditional sociocultural setting. In addition, the results of this study ultimately may have a significant impact on reducing physical activity disparity between people of different races and ethnicities so that overall global health and well-being may be realized.

Conclusion of the Study

The study revealed that unique barriers and motivations exist for immigrant Chinese women to participate in physical activity and exercise in the US. In general, barriers included time commitments, cultural issues, and low self-efficacy.

Time was the biggest barrier for the participant to be physically active. Chinese women experience great pressure to take care of their whole family. As a result, their personal needs, such as physical and intellectual development, were not emphasized by the society. Compared with men, women in China have been physically inactive. It is not easy for them to change their traditional behaviors. After

exposure to a new physical culture and an active environment in the US, the participant increased her fitness awareness and physical activity. Social support from family and friends, access to resources, and health concerns were mentioned as motivations in the interview. Undoubtedly, the sports culture from American society has a great impact on the participant in terms of her attitudes, beliefs, and values toward physical activity and exercise. Although not all Americans are physically active, those who were active were regarded as role models for the participant. Observing people pursuing healthy lifestyles motivated the participant to make changes in her behaviors. In addition, since women always put family first, social support from other family members played a crucial role in consideration of physical activity and exercise. Even though the participant would like to be involved more in physical activity, she indicated that she would prefer to exercise in a community in which all members have similar backgrounds and interests.

Study Limitations and Directions for Future Research and Practice

There were several limitations to this study. First, the research revealed perceived barriers and motivations to participation in physical activity and exercise for just one immigrant Chinese woman who has been in the US for more than 25 years, therefore, the findings may not be generalized to all immigrant Chinese women. For example, other factors such as length of residence in the US, highest level of education, and family income level have been found to influence lifestyle. The accessibility to fitness resources may vary in different geographic areas. Accessibility, high level of education, and

significant time in the US have likely influenced her attitude, belief and views toward physical activity and exercise. Therefore, future studies are needed to expand this line of research to a broader population of immigrant Chinese women to gain more comprehensive information and data on physical activity participation.

Another limitation is selection bias. Because the participant is doing her home fitness training with the researcher, obviously, she is now interested in physical activity. However, people who do not participate in physical activity and exercise may have more barriers. Future studies should recruit a large sample size or select participants randomly or purposively on many factors to increase the validity and credibility of the research.

Third, for these woman who grew up in the US, physical activity experiences and understanding of physical culture are different from those raised in China. For example, responses indicated that the participant juxtaposed the terms “physical activity” and “exercise.” Also, she mentioned that Chinese women were afraid to be muscular. However, she saw more women get involved in strength training after coming to the US. Being exposed to American culture and environment for 25 years, the individual’s perception, attitude, and value of physical activity may be different. How these behaviors change over time need further research.

The study suggests that immigrant Chinese women had perceived barriers and motivations to participation in physical activity and exercise in the US; there is a possibility that immigrant Chinese men and immigrants from other countries may have similar experiences. Consequently, future research should examine the physical activity participation of immigrant from other countries, particularly Chinese men.

The present study is an initial attempt to explore perceived barriers and motivation to participation in physical activity and exercise among immigrant Chinese women in the US. Immigrants have become an important population within America; however, we know very little about their physical activity experiences. By exploring unique barriers and motivations to physical activity participation, the current study adds to our understanding regarding how social-cultural factors may influence individuals' physical activity and exercise behavior. Also, these finding provides information for health clubs and gyms in the United States to consider in facilitating physical activity participation and promoting an active lifestyle among all people.

Considering the unique characteristics and lived experiences of immigrants in the US, diverse and cultural communities may meet immigrant's unique needs by increasing their awareness of the benefits of physical activity and exercise. Initial development of cultural communities to insure comfort and confidence, then transform to full community. Not only will such efforts assist new immigrants to develop their communities, but increase their health, wellness and overall quality of life.

APPENDIX A

Interview Guide

My study is about perceived barriers and motivations to participation in physical activity and exercise of immigrant Chinese women. I would like to know more your experiences immigrating to the US, and how Chinese culture may have influenced you to think about physical activity and exercise. The following questions come primarily from a large fitness club and is used to collect exercise information from new and existing gym members; other questions were created by the researcher in order to get more complete information related to physical activity, cultural impact, and personal life experiences.

Part 1: Demographic information

1. What is your age? _____ years
2. In which year did you immigrate to the United States? _____
3. From which city/country did you immigrate? _____
4. To which city did you initially move? _____ What additional moves within the US did you make? _____
5. What is your highest level of education? _____ (Doctorate Degree, Graduate Degree, Bachelor's Degree, High School Diploma or Other)
6. What is your marital status? _____ (Married, Single, Widowed, Divorced or Other)
7. Do you have children?

Yes, If so, how many? What are their age(s)? What are their gender(s)?

N	Age	Gender
1		
2		
3		
4		

No

8. Are you currently working?

Yes

No

If yes, are you working:

Full time (of hours/week)

Part time (of hours/week)

If yes, what is your occupation? _____

If no, what is your employment status?

Retired

Unemployed

Part 2: Immigration experiences and physical activity history

1. Can you tell me a bit about your life in China, especially physical activity, barriers and motivators?
2. Did you participate in physical activity? If so, what type and level?
3. How do you define the phrase “physical activity”? How do you define the word “exercise”?
4. When you came to the US, did you change your thoughts on health, physical activity and exercise? If so, what has changed?
5. Have you ever received help from a fitness professional or coach? In China? In US? If yes, how were you training? Did you enjoy it? If not, why?
6. Have you ever experienced any barriers to start or maintain participation in physical activity and exercise in the US? What were these barriers?
7. What motivates you to participate in physical activity?

Part 3: Physical activity and exercise experiences

1. Do you currently exercise?
2. How frequently?
3. What does your exercise include?
4. Why do you exercise? (e.g., lose weight, gain muscle, keep fit and healthy)
5. What do you think is the relationship between exercise and health?
6. Are there any physical activities or exercise you would like to do but have not yet started? Why?
7. In which fitness environment do you feel you benefit the most?

8. How do you feel about individual coaching? How do you feel about being in a coach-led community of like-minded people? Do you like to be on your own? Why?
9. What would motivate immigrant Chinese women toward healthier behaviors and to make positive lifestyle changes?
10. What unique challenges to physical activity participation exist for new immigrants (in general)?
11. Do you believe there are barriers to physical activity participation for other immigrants from China? Are there barriers that are unique to women? Please elaborate.
12. Are there barriers to participation in physical activity as a result of age? Please elaborate.

APPENDIX B

Interview Guide (Chinese)

我的研究是关于中国移民妇女参与体育活动与锻炼的阻碍和动机。我想要了解更多你移民到美国的经历，以及中国的传统文化如何影响你对于体育活动和锻炼的看法。下面这些问题主要来自美国一个大型健身俱乐部，被用于收集会员的锻炼信息；其他的一些问题是由研究人员自己创造的，目的是为了获取更多与研究主题相关的体育活动，文化影响以及个人生活经历方面的信息。

第一部分：人口统计信息

1. 你的年龄是? _____ 岁
2. 你是哪一年移民到美国的? _____
3. 你是从哪个城市/国家移民过来的? _____
4. 你最开始去到哪个城市? _____ 你在美国国内进行了哪些迁移? _____
5. 你的最高教育程度是? _____ (博士学位, 硕士学位, 学士学位, 高中毕业或其他)
6. 你的婚姻状况是? _____ (在婚, 单身, 寡居, 离异或其他)

7. 你有孩子吗？

___有,如果有,你有几个孩子?他(们)的年龄是?他(们)的性别是?

数量	年龄	性别
1		
2		
3		
4		

___没有

8. 你现在工作吗?

___是

___不是

如果是,你的工作是:

___全职(____小时/周)

___兼职(____小时/周)

如果是,你的职业是?_____

如果不是,那你的雇佣状态是?

___退休

___未被雇佣

第二部分: 移民经历和体育活动史

1. 你可以给我说说你在中国的生活吗？尤其是体育活动,以及相关的阻碍和动机
2. 你参加过体育锻炼吗? 如果有的话, 你进行哪些类型的活动? 运动的水平如何?
3. 你是如何定义“体育活动”这个词的? 那你又是如何定义“锻炼”这个词呢?
4. 当你来到美国后, 是否改变了对于健康 , 体育活动和锻炼的看法? 如果是, 哪些方面改变了呢?
5. 你曾接受过专业健身人士或教练的指导和帮助吗? 在中国? 在美国? 如果有, 那当时你的训练进行的如何? 你喜欢它吗? 如果没有, 为什么不尝试呢?
6. 在美国, 你在开始或维持体育活动和锻炼方面是否遇到过某些阻碍? 这些阻碍是什么?
7. 是什么促使或激励你进行体育活动?

第三部分: 体育活动和运动经历

1. 你目前在进行锻炼吗?
2. 多久锻炼一次?
3. 你的锻炼都主要包括哪些内容?

4. 你进行锻炼的原因是? _____(例如., 减脂, 增肌, 维持身体的健康)
5. 你认为运动和健康之间的关系是什么呢?
6. 有什么体育活动或锻炼你想尝试但还没付出行动的吗? 为什么?
7. 你觉得自己在什么样的健身环境或氛围下最大程度的受益?
8. 你觉得私人训练如何? 在专业人员指导的一个团体里且大家有着相同的目标和追求呢? 你喜欢自己独立完成训练吗? 为什么?
9. 什么因素会激励中国移民女性进行更健康的行为举止和生活方式的积极改变?
10. 你认为新移民在参加体育活动方面存在哪些独特的挑战 (一般情况下)?
11. 你认为其他来自中国的移民参与体育活动存在阻碍吗? 女性是否存在特有的阻碍? 请详细说明。
12. 年龄是否是参与体育活动的阻碍? 请详细说明。

APPENDIX C

Research Subject Information and Consent Form

BARRIERS AND MOTIVATIONS TO PARTICIPATION IN PHYSICAL ACTIVITY AND EXERCISE: THE CASE OF AN IMMIGRANT CHINESE WOMAN IN THE UNITED STATES

INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to examine the barriers and motivations to participation in physical activity and exercise of an immigrant Chinese woman in United States. If you agree to participate, you will be asked to describe perspectives related to the necessity for engaging in physical activity and exercise, workout routine, and life and physical activity experiences. Face-to-face interviewing with a selected participant is being conducted. The interview is anticipated to last no more than one day and will be conducted in-person at the subject's home. The researcher will provide you with a Chinese version of interview questions. During the interview process, the researcher will speak Chinese and the interview will be audio recorded. The recorded interview contents will be translated from Chinese to English by the researcher. Interview audio files will be destroyed after typing and reviewing transcripts to insure confidentiality of the participants.

RISKS

There are no foreseeable risks for participating in this research; however, participant may skip any questions that they do not want to answer.

BENEFITS

There are no direct benefits to you as a participant other than giving back to further research in the field of recreation, health, tourism, and the field of findings within the fitness industry. The research will be used as a basis for helping Chinese immigrant women engage more fully in physical activity and exercise.

CONFIDENTIALITY

The data in this study will be confidential. Audio files of the interview will be destroyed immediately upon transcription. Further, the typed transcripts will be stored for 5 years after the study ends and then destroyed, aligned with current records management practices. No actual names will be solicited or recorded. Please provide a pseudonym that

will be used in analysis and reporting, so that your actual name will never be tied to your responses.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty. There are no costs to you and no compensation for participation.

CONTACT

This research is being conducted by Xiaoli Li in the School of Recreation, Health and Tourism at George Mason University. She may be reached in US at 001-1-202-848-3664; or in care of her advisor, Dr. Pierre Rodgers, at 001-1-703-993-8317 for questions or to report a research-related problem. You may contact the George Mason University Institutional Review Board office at 001-1-703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form, all of my questions have been answered by the research staff, and I agree to participate in this study. As stated previously, the researcher will conduct audio taping of interview in order to create written transcripts for data analysis. Interview audio files will be destroyed after typing transcripts to insure confidentiality of the participant. Only the researcher and faculty advisor will have access to the taped material before being destroyed approximately five years after the interview.

I agree to audio taping.

I do not agree to audio taping.

Signature

Date of Signature

Pseudonym (for interview identification)

APPENDIX D

Research Subject Information and Consent Form (Chinese)

参与体育活动和锻炼的阻碍和动力-美国一名华裔移民女性的案例

知情同意书

研究程序

本项研究被实施用于分析美国一名华裔移民女性进行体育活动和锻炼的阻碍和动力。如果你同意参与此次研究,你将被要求从体育活动和锻炼必要性,日常锻炼,生活经历,以及体育活动经历等相关方面叙述观点。研究者将与一名选定的参与者进行面对面访谈。访谈将在受试者的家中进行,且持续不超过一天。研究人员将给您提供一份中文版的访谈问卷。在访谈的过程中,研究人员将使用中文与参与者交流并对本次采访进行录音。此次访谈所记录的内容将由研究人员由中文翻译成英文。访谈的音频文件将在输入和复查后销毁,以确保参与者信息的保密性。

风险

参与此次研究没有可预见的风险;但是,参与者可略过任何不想回答的问题。

益处

作为本次研究的参与人员,除了对娱乐、健康、旅游和健身产业领域的进一步研究给与回馈,你没有任何直接的益处。该研究也将为帮助中国移民妇女更充分地参与体育活动和锻炼奠定基础。

保密性

本研究中的数据是完全保密的。访谈的音频一旦被转录后立即销毁。此外,与目前的记录管理方式一致,被录入的文件在研究结束后将保存五年再销毁。参与者的真姓名不会被征求或记录。请为本次研究提供一个化名用于分析和报告中,这样你的真实姓名就不会和你的应答联系在一起。

参与

你的参与是自愿的,可因任何原因随时退出本次研究。若决定不参与或退出本次研究,你将不会受到任何惩罚。此外,你的参与没有费用投入也没有补偿。

联系

本项研究是由乔治梅森大学-娱乐、健康和旅游学院的李晓莉引导进行的。若需询问或报告与此研究相关的问题,可通过李晓莉在美国的电话 001-1-202-848-3664 联络她。此外,也可联系她的指导教授皮埃尔·罗杰斯博士通过电话 001-1-703-993-8317。若您对此次研究参与者的权利有疑问,请与乔治梅森大学审查委员会办公室联系,电话 : 001-1-703-993-4121。

本研究已通过乔治梅森大学审查认可。

准许

我已阅读了这份表格,且所有问题都得到研究人员的解答。我同意参与这项研究。如前所述,研究人员将对访谈进行音频录音以便为数据分析提供书写记录。为确保参与者的机密性,访谈录音文件将在输入后销毁。此次录音材料及文件只有研究人员和指导教授可获得,并在访谈结束后五年被销毁。

_____ 我同意录音。

_____ 我不同意录音。

签名

签名日期

化名(用于访谈)

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BIOGRAPHY

Xiaoli Li was born in China. Early in life, she pursued her love of long-distance running. An injury in competition initially prevented her from pursuing her dream. During that time, she realized that the true meaning of sport is not only to make oneself strong, but also to help others become stronger together while striving for lifelong health. She has an academic background in Sport Education and received a Bachelor of Sports and Health degree from ChongQing Gorges University. She came to the United States to continue her education in Sports Management at George Mason University. She is currently working on her research in the socio-cultural aspects of Physical Activity and Exercise, specializing in Chinese immigrant women's experiences and physical culture.

Xiaoli loves challenges. She is participating in multiple sports, such as boxing, marathon racing, tennis and strength training. As a Personal Trainer through the American Council on Exercise, she is working at a health club, where she enjoys passing on her knowledge and helping others. Her passion for sports and 15+ years of athletic experience are the tools she uses to help her clients to achieve their short-term and long-term goals. Xiaoli's favorite quote is "Exercise is not a means of health, it is a part of life."