

## **Factors Influencing Qatari Women's Physical Activity**

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For the Degree of Doctor of Philosophy  
In the Department of Community Health and Epidemiology  
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by

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## ABSTRACT

Although physical activity (PA) has numerous health benefits, data show that 60% of Qatari women do not engage in regular PA. To successfully modify PA behavior among Qatari women, factors that influence this behavior must be understood. This study aims to understand the factors that influence Qatari women aged 18-44 to be physically active and to identify possible interventions for enhancing PA behavior among Qatari women. This ethnographic study is framed by Islamic Feminism and guided by the Socio-ecological Model. It involved three data collection methods: interview, photovoice, and participant observation. Eight Qatari women aged 18-44 years were involved in interviews and/or photovoice activities, and participant observation was carried out in public places. Thematic analysis was used to identify key themes and subthemes across all transcripts, photographs, and fieldnotes.

Findings are organized under four themes: beliefs and faith, culture, the physical environment, and wealth and luxury. Four subthemes emerged within the beliefs and faith theme: positive perceptions of PA with some misconceptions, perceived low motivation for PA, Islam supports for women's PA within specific guidelines, and Islamic activities create a domain for PA. The results of this study suggest that PA is informed by gender ideologies that structure the framework of men and women to engage in PA behavior. Six main culture-related issues that impact Qatari women's PA are identified in this study: social roles and caregiving responsibilities, the need for approval to engage in outdoor PA, the conservative dress codes and behavioral expectations, the negative perception towards women walking in streets and neighborhoods, the restricted time rules for PA, and the fact that PA is not considered as leisure and social activity. The results of this study show that the natural environment in Qatar creates a challenge for the adoption of PA behavior and the built environment supports PA but only in specific locations. This study documents the effect of wealth, luxury, socio-economic transition, and the rapid urbanization on PA behavior. The opportunities, constraints, and needs identified in this study provide important insights about changes that could be undertaken to increase the PA of Qatari women.

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## PREFACE

The main purpose of conducting this ethnographic study is to fulfill the requirements for the Degree of Doctor of Philosophy in the Community and Population Health Sciences, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, Saskatoon, Canada. In ethnography, the researcher is considered the main instrument for data collection. The data may be affected by the ethnographer's own values, background, socio-historical location, and political orientation. Therefore, it is important for researchers to assess, identify, and be transparent about their effects on the research throughout the various stages. Since I was the primary research instrument in this study, I have described my background below.

I am originally from Saudi Arabia; I was born and raised in Jeddah, the second biggest city in Saudi Arabia after the capital Riyadh. Jeddah is distinguished from other cities in Saudi Arabia by virtue of being the principal gateway to both Mecca and Medina, Islam's holiest cities. The geographical location of Jeddah has attracted people to move to this city for over hundreds of years, thus enriching the social structure of the city. Jeddah is heavily populated by modest Muslims as a result of its ethnic and cultural diversity. My mother was born and raised in Palestine before she moved with her family to Saudi Arabia because of the war. My personality, beliefs, and viewpoints have been influenced by both Palestinian and Saudi cultures. After I had finished the course requirements for a Bachelor of Nursing degree in Jeddah, I married and moved to Qatar with my husband. I completed my internship requirement for my Bachelor's Degree in Qatar. Since 2006, I have lived between Qatar and Canada due to my study commitments. I finished my Master's degree in Health Administration at the University of Dalhousie, Halifax, and completed my PhD in Community and Population Health Sciences at the University of Saskatchewan, Saskatoon.

My interest in understanding the factors influencing physical activity among women in Qatar came from one of my experiences there. At the time, I had just returned from Canada after finishing my Master's degree. My children were restless, so I decided to take them outside. As I did not have a car, I put my two children in the stroller and walked to the nearest petrol station, which, like most petrol stations, included mini markets and service spots. It was very difficult to

walk as the infrastructure was not designed for me to easily do so. Moreover, I felt that people were staring at me while I walked. Although no one bothered me, it was an uncomfortable experience that sparked an interest in the topic of physical activity among women.

As a citizen of the Gulf (Saudi Arabia) and a resident in a Western country (Canada), I have a distinct position within Qatari society. I consider myself both an insider and an outsider at the same time. I think of myself an insider because I come from the same social background as most Qataris: Muslim, Gulf, and conservative society. I think of myself as an outsider as I have been exposed to different beliefs and viewpoints as a result of having lived in multiple cities and in a range of different societies (Saudi Arabia, Palestine, Qatar, and Canada). I consider myself a modest Sunni Muslim, with a good understanding of most of the Muslim sects, including the Wahhabism sect, the main sect in Saudi Arabia and Qatar. I am also bilingual as I can fluently speak and write in both Arabic and English.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Defining the Problem

The health benefits of regular physical activity are well known. (1). Despite this fact, data show that 60% of Qatari females and 50% of Qatari males do not engage in the recommended level of physical activity, which consists of 150 minutes of moderate to vigorous physical activity in a typical week (2). *The Qatar STEPwise report* shows that 67% of Qatari women aged 18-44 do not engage in occupational-related physical activities, 39% do not participate in transport-related activities, and 74% do not involve in leisure-related activities (3). The high prevalence of physical inactivity in Qatar, along with other factors such as poor nutrition, has contributed to a rise in obesity (4). Alarmingly, 75% of Qataris are classified as overweight, of which 40% are considered obese or morbidly obese (5). The latest data show that Qatari women have a slightly higher prevalence of obesity compared to men, 43% vs. 40%, respectively (3). As a result of the rise in obesity, health problems in Qatar have escalated, and chronic diseases have become one of the leading causes of mortality among the Qatari population (6). *The Qatar health report* (2012) shows that most classified deaths among the Qatari population in the year 2012 resulted from internal causes (64.5%), such as cancer (22%), cardiovascular diseases (20%), as well as endocrine and metabolic diseases (14%) (6). The report also shows that 10.6% of classified deaths were attributed to external causes, such as accident, injury, and violence, while 24.9% were unclassified (6).

In response to the obesity epidemic, a National Health Strategy was launched in 2011 with a cross-sectoral project aimed to promote physical activity and healthy food habits among the population (2). However, to successfully modify physical activity behaviors, it is necessary to understand the needs of sub-populations such as women, men, adolescents, and children. This

study aims to reveal the factors that influence physical activity behavior amongst Qatari women aged 18-44. It also aims to identify possible interventions to enhance physical activity behavior among Qatari women. This research focuses on women because they spend less time per day being physically active than do men (3). They also live very different lifestyles than men in a society that is highly structured along gender lines. Selecting the age of participants to be between 18 and 44 was influenced by the age categories of the *Qatar STEPwise report*, which classified adults into two groups: 18-44 and 45-64. There is limited literature on the opportunities, constraints, and needs for physical activity among both groups. Nevertheless, there are further limitations for the age group 18-44 since available studies have focused on women 30 years or older with confirmed diagnoses of coronary vascular disease and coronary artery diseases (7, 8). Accordingly, this study focuses on the age group 18-44.

## **1.2 Research Questions**

This study aims to explicate the factors that influence Qatari women aged 18-44 to be physically active. It also aims to identify possible interventions for enhancing physical activity behavior among Qatari women. To achieve these objectives, I considered the following research questions:

- What are the perceptions of physical activity among Qatari women?
- What are the factors (i.e., opportunities and constraints) that influence Qatari women to be physically active?

## **1.3 Background about Qatar**

**1.3.1 Natural environment.** Qatar is an independent Arab state located on a peninsula in the Midwestern part of the Arabian Gulf (9). As a peninsula, Qatar shares its border with Saudi Arabia to the south and is surrounded on all remaining sides by the Arabian Gulf. It has maritime boundaries with Iran, United Arab Emirates, and Bahrain (9). At 11850 square kilometers, 200 kilometers long and 100 wide, Qatar is a small country (9). Qatar has a desert climate. Temperatures in summer (June to September) can reach 40°C or higher. Daytime temperatures in Winter, Spring, and Autumn can be between 25°C and 35°C, and night time temperatures range

from 15°C to 22°C (7).

**1.3.2 Political environment.** For four centuries, Qatar was under Ottoman rule until 1916 when it became a British protectorate. In 1972, the state of Qatar gained its independence. (10, 11). Since 1972, Qatar has been a monarchy ruled by the Al Thani family. In mid-2013, Sheikh Tamim Bin Hamad Al-Thani came to power, after his father (Sheikh Hamad Bin Khalifa Al- Thani) abdicated (10). During the 18 years of His Highness Sheikh Hamad Bin Khalifa Al-Thani's rule, Qatar witnessed comprehensive national development, as well as political and economic reconstruction (12). The most important achievements were as follows: (a) an improvement of the Qatari economy through gas and oil production (13); (b) the movement of the country towards civic democracy, which can be seen through free elections to form the Central Municipal Council that started in 1999 (14); (c) the establishment of the Al Jazeera Media Network in 1996, which contributed to a big shift in the Arab political media as it allows for the free expression of diverse political views (12); (d) the hosting of high-scale sports and political occasions in Qatar, including the 2006 Asian Games and the Hamas–Fatah Doha Agreement, in addition, Qatar will host the upcoming 2022 FIFA World Cup Championship, the first time an Arabic and Middle Eastern country will have hosted the championship; (e) the establishment of the Qatar Investment Authority that has invested a huge amount of funds into dynamic, multinational, and world-class organizations around the world, such as Barclays Bank, Harrods, Siemens, and BlackBerry (15); and, finally, (f) the support of rebel groups during the Arab revolutions that began in some Arab countries during the late 2010. Support has been provided through financial aid and media (Al Jazeera Media Network). All of these developments have given the small country of Qatar high standing in the Arab world, where it has become an influential player (11).

**1.3.3 Economy.** Qatar has a very robust economy. With a GDP of \$89,800 per capita (13) and strong revenues from oil and gas, Qatar has the distinction of being the world's richest country. Qatar produces 25 billion barrels of oil per year and has so much oil in reserve that it could last another 57 years with the same level of output (13). At 25 trillion cubic meters, Qatar's natural gas reserves are the third largest in the world, accounting for more than 13% of the total supply (13). Qatar is developing quickly, particularly as a result of its successful bid for the World Cup Championship (FIFA) in 2022. The newly planned rail system, and the Qatar-



Bahrain causeway, as well as Hamad International Airport, are all examples of the large-scale infrastructure being developed in Qatar (13). The Qatari Riyal is the currency of Qatar, and it has a fixed exchange rate with the US Dollar (1 US Dollar = QAR 3.65) (9).

**1.3.4 Religion and language.** Islam is the official religion of the State of Qatar, and Islamic Law (Sharia) is a major legislative source (16). After the Saudis, the Qatari population is the most conservative of the GCC<sup>1</sup> populations, as most of Qatar's citizens follow the strict Wahhabism sect of Islam. The Arabic language is the main language in Qatar; however, English is widely used (9).

**1.3.5 Population.** Qatar has experienced rapid population growth in the last 20 years. According to government figures, Qatar's total population in 1990 was 477,000 (17). By July 2016, Qatar's population was approximately 2,326,465, of which 1,837,767 (79%) were male and 488,668 (21%) female (18). This gender imbalance may be the result of an influx expatriate workers to meet the demands of booming local economy (19). The percentage of non-citizens to citizens is the highest in Qatar worldwide. In 2010, Qatari citizens constituted around 12% of the total population (19). Qatari citizens comprise just over 250,000 of the Qatar population (15). No data show the proportion of Qatari men to women.

It is important to clarify who the Qataris are and to highlight part of the citizenship law in the state of Qatar. A particular Qatar law determines those with the right to the Qatari nationality (20). Article 41 of the Constitution limits the potential recipients to the following categories:

Those who were settled in Qatar before 1930, who subsequently maintained uninterrupted residence in Qatar and maintained their citizenship until 1961; those who have proven themselves to be assets to the country, who may not meet the above mentioned conditions but have been granted nationality through princely decree; individuals who lost their Qatari nationality, but had it restored pursuant to provisions of law; and those born to a natural-born Qatari father within Qatar or abroad (Babar (20), p.

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<sup>1</sup> GCC refers to the Gulf Cooperation Council members, which include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

412).

The article addresses nationality issues for women in Qatar. It gives non-Qatari women who marry Qatari men the right to gain Qatari nationality through a written notice sent to the Ministry of Interior after they have been married for five years. On the other hand, this Act does not allow for the same right to a non-Qatari man who has married a Qatari woman (20). Also, a Qatari mother cannot pass her Qatari citizenship status on to her children, as a Qatari father can. In addition to the *jus sanguinis* and the marriage rights of Qatari men, the act of Qatar nationality states that an Emiri decree may grant Qatari citizenship to a non-Qataris if the individual fulfills the following conditions:

The applicant must have resided in Qatar for 25 successive years, and must have not resided outside Qatar for more than two consecutive months during any one of those 25 years. The applicant must have been legally resident for the duration, must have a sufficient means of income generation, must have maintained a good reputation, must have demonstrated good behavior, must not have committed any criminal act or act of 'moral turpitude,' and must have a fair command of the Arabic language. (Babar (20), p. 413)

A limited number of people take on Qatari nationality because they fulfill the above-mentioned conditions. There are several long-standing groups in Qatar such as Iranians and Palestinians who have migrated to Qatar and have resided there for multiple generations. However, they have not yet been granted Qatari nationality (20). Moreover, it is stated in this act that an Emiri decree may be based on the requirements of public interest. For example, Qatari citizenship may be granted to those who have done great services to the State of Qatar, those who have specific capabilities needed by the state, or students with great talents such as strong scientific abilities. In short, Qatari citizenship is conferred through very limited routes: *jus sanguinis*, marriage to a Qatari man, or an Emiri decree.

**1.3.6 Qatari women.** The most vocal advocate for women's issues in the State of Qatar is her Highness Sheikha Mozah bint Naser (the wife of Sheikh Hamad Bin Khalifa Al-Thani), who supports women's independence by providing them with higher education and career

development opportunities. As a result of investments in these areas, women in Qatar now have better rights, greater status and a more important role in the society (21). Nowadays, almost as many women as men are literate: 95.4% for females and 96.5% for males (3), a reflection of the focus on education for both sexes. Nevertheless, data show that women have higher enrollment and attainment at the secondary school and university levels (22). In 2009, the Gender Parity Index (GPI) for Qatar was 1.32 and 1.84 for secondary and tertiary education, respectively, suggesting that females were more strongly represented in higher education institutions than males (23). Even in terms of higher education scholarships, the trend shows an increase in women who receive scholarships compared to men. Data from 2008-2009 show that women are 26% more likely to be enrolled in scholarship programs than men (22).

Based on 2016 statistics, 37% of Qatari females are economically active compared to 68% of males (24). This difference in labor force ratios among males and females does not necessarily reflect that there are better job opportunities for men than there are for women. *The Labor Force Sample Survey* reveals that an equal proportion of males and females reported a lack of job opportunities as a reason for unemployment (24). Nevertheless, women cited more often than men the following reasons for unemployment: lack of experience, lack of suitable work, and the need to find a better job than those available (24). Most economically inactive Qatari women are homemakers or students (24).

Although their general level of unemployment is high, Qatari women occupy a prominent role in fields such as education, health, law, journalism, banking, and finance. Based on statistics from Qatar, women have almost the same level of satisfaction in their living conditions as men in relation to social insurance, personal safety, and economic opportunities (including employment opportunities, salary level, and the availability of commercial loans). Moreover, levels of satisfaction are almost the same when it comes to opportunities for improving education (84.20 vs. 82.90) and professional skills (80.20 vs. 77.60), among men and women, respectively (25).

Qatari women are starting to participate in decision making; however, their participation is limited compared to men's. New Cabinet positions include 14 ministers of whom 13 are male and only one is female. Qatari women are allowed to both elect and nominate themselves as candidates for the Central Municipal Council (26). The Central Municipal Council 2016 consists

of 26 members, of whom 24 are male and two are female. No published data exists about the number of men and women in the Consultative Assembly of Qatar, which plays a similar role to the parliament in western democracies.

Although women in Qatar have almost the same status as men in term of education, employment, and certain political rights, opportunities in these areas remain distinct from men based on social and cultural ideologies. Like other countries in the Gulf region, Qatar is characterized by a patriarchal social system in which men hold primary powers in the public domains of politics and business, while women manage the private areas of home and family. Gender role ideologies not only allocate specific roles for men and women to adopt; they also outline religious, cultural, and beliefs that structure both men's and women's rights and duties (27).

**1.3.7 Health related surveys and scientific papers in Qatar.** Unfortunately, there are no routine health-related surveys in Qatar. Very few vital statistics data such as births, deaths, and life expectancy can be accessed through the Qatari census and vital statistics (3). Additionally, there is a scarcity of academic work and published papers on health-related surveys. This scientific limitation is not new to Muslim countries. Aaron Segal identified this problem nearly two decades ago, writing that among 41 Muslim countries, with approximately 20% of the world's total population, less than 5% of the world's scientific publications are produced (28).

The status is the same for the physical activity field as the Arab world and Middle East region have limited professional expertise and academic research in this area (29). Even the limited published scientific work is weakened by its low quality (28). Most research in Qatar is developed for applied rather than scientific purposes. Thus, many studies use self-developed, unvalidated questionnaires and simple statistical methods. Even high-level surveillance efforts, such as *the Qatar STEPwise report*, seem to have low-quality data. For example, according to *the Qatar STEPwise report*, the prevalence rates of Qatari women who reported no engagement in physical activity related to transportation were 39% (3). However, as a Qatari resident, I posit that this is an underestimation. There are many possible reasons for this underestimation. For example, some participants may report doing some transport-related physical activity just

because they park their car in their workplace parking spot and walk to the entrance of their workplace.

The limited access and the quality of academic papers from the Middle East and about Middle Eastern women was a challenge for this research endeavor. I thus begin most of the literature review sections by providing knowledge and data from western countries such as the USA, Canada, UK, and Australia as studies from these countries have the basic knowledge and quality of data that can be relied on to understand the most important factors influencing physical activity. I then provide the available data on Arabic, Middle East, Gulf Cooperation Council (GCC), and Qatari populations. GCC countries share almost the same natural, social, environmental characteristics; hence, to some extent, data from GCC countries can be used to understand the situation in Qatar.

#### **1.4 Dissertation Structure**

This dissertation has five chapters. Chapter One, the Introduction, defines the problem, provides the research questions, and offers background information about Qatar. Chapter Two, the literature review, presents definitions of and guidelines for physical activity, provides the conceptual framework, and discusses the relevant physical activity literature from Western and Arabic countries. Chapter Three, the methodology, provides a summary of the research approach, study population, data collection methods, and data analysis. Chapter Four, the results, presents the findings generated from this study. Chapter Five, the discussion and conclusion, provides the researcher's reflections on concepts, methodology, results, and substantive issues of the study. This chapter also concludes the dissertation and suggests areas for future research as well as policy and theory implications.

## CHAPTER 2

### LITERATURE REVIEW

In the literature review chapter, I first present definitions and guidelines for physical activity. I then discuss the conceptual framework and gender theory that is used in this study. Lastly, I discuss factors that influence physical activity. The literature from Western and Arabic countries is referred to throughout this chapter.

#### 2.1 Physical Activity Definition and Guidelines

Physical activity has been defined as “any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen et al. (30), p. 126). Physical activity can be conducted in different ways such as exercise, sport, and active living. Exercise is a subdivision of physical activity that is “planned, structured, and repetitive and has as a final or an intermediate objective the improvement or maintenance of physical fitness” (Caspersen et al. (30), p.126). Unlike exercise, sport has no universally accepted definition (31). Some scholars and associations perceive competition as the main factor in categorizing an activity as a sport. In the USA, for example, Woods (32) asserts that sport is defined as “institutionalized competitive activity that involves physical skill and specialized facilities or equipment and is conducted according to an accepted set of rules to determine a winner” (p. 7). SportAccord, the overarching association responsible for the main international sports federations, identifies competition as the main criterion in a definition of sport (33). However, some scholars and organizations accept a wider, simpler and more inclusive definition of sport. For example, The Council of Europe (34) views sport as “all forms of physical activity which, through casual or organized participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels” (European Sport Charter Art. 2a). Similarly, Coalter (35) uses a broader definition:

Sport is a collective noun which refers to a wide range of processes, social relationships and presumed physical, psychological and sociological outcomes. For example, there are individual, partner and team sports; contact and non-contact sports; motor driven or perceptually dominated sports and those which place different emphases on strategy, chance and physical skills. Further, the nature and context of participation can range from the competitive, via an emphasis on self-development, to purely recreational activity. (p. 8)

The current study adopts the wider definition of sport. It views sport as physical activity that requires specific skills and specialized facilities or equipment, whether it is practiced in competitive or recreational context. However, this definition does not include as sport those physical activities that are structured and repetitive and do not require specific skills. According to this view, swimming, skating, and cycling, all requiring specific skills, can be considered to be sport. Conversely, because they are structured and repetitive and do not require specific skills, fitness exercise, yoga, and exercise on a machine are considered to be exercise – not sport.

In addition to defining exercise and sport, it is important to define another form of physical activity – active living. Active living has been defined as the incorporation of different types of physical activity into daily life for different purposes (36, 37). This broad concept includes leisure, housework, as well as work-associated and transportation-related activities (36-38). Although the majority of researchers and organizations adopt this broad and simple definition, some researchers specify a minimum duration and frequency of activity. They argue that to qualify as active living, the routine should accumulate a minimum of 30 minutes of physical activity daily or at least on most days of the week (38, 39). This study adopts the more general definition of active living as a way of life that integrates physical activity into daily routines, irrespective of its duration, frequency or intensity. This qualitative study aims to reveal the opportunities and constraints that influence Qatari women in adopting physical activity behavior; hence, for the purpose of this study, it makes sense to adopt the more general, subjective definition of active living, without considering its detailed quantitative measures (duration, frequency, and intensity).

During the past 30 years, the meaning of being physically active has undergone several shifts. There have been gradual changes in public health recommendations, with agencies first emphasizing vigorous activity, then suggesting more moderate levels of activity, and, finally, recommending active living. In the late 1970s, it was thought that the health benefits of physical activity could be achieved by exercising for 20 consecutive minutes of ‘vigorous activity’ three or more times per week (40). In the mid-1990s, a significant change occurred in the conceptualization of physical activity, as activities of moderate intensity were highlighted. A 1996 report from the US Department of Health and Human Services stated that accumulating 30 to 45 minutes of moderately intense physical activity, such as gardening, on most days of the week could lead to health benefits (40). While these guidelines gave people the option to exercise more moderately, they also emphasized the extra benefits of vigorous exercise. The latest physical activity guidelines (2008) are consistent with those published in 1996, as they also give people many options for the intensity and duration of physical activities. The recommendations give healthy adults the option of doing moderate physical activity for a minimum of 150 minutes each week, or vigorous physical activity for 75 minutes each week, or any equivalent blend of both moderate and vigorous activities (1).

Until the end of the 1990s, the focus of health professionals was to promote leisure-related physical activities (36). However, by studying the ecological elements that impact physical activity behavior, health scientists recognized that other professionals - such as urban designers and transportation planners - had an interest in promoting physical activity (36). These other professionals were interested in designing neighborhoods and streets in a way that would motivate people to be physically active in order to reduce traffic congestion, preserve green environments, and increase social capital (41). The work of these professionals has expanded physical activity to include daily activities. As a result, the active living concept was initiated and adopted by a wide variety of sectors.

However, the level of physical activity associated with active living may not meet current recommendations, such as the State of Qatar Physical Activity Guidelines (42). Hence, increasing the minimum level of activity is the first step towards achieving recommended guidelines (1). Adopting a minimally physically active lifestyle may lead to small individual gains. However, these small gains can be translated to large population health benefits (38). For



instance, if a 130-lb (59kg) woman spent an extra two minutes on physical activity daily, she would burn an average of 5800 additional calories a year, converting to a 1.5 lb (0.7 kg) weight loss, which exceeds the average annual weight gained by adult women in the US (38).

## **2.2 Theoretical Framework**

**2.2.1 Islamic Feminism.** This study is framed by Islamic Feminism, which has been defined as a form of feminism that advocates for women's privileges, gender egalitarianism, and social justice within the Islamic viewpoint (43, 44). Muslim feminists base their arguments for Muslim women's rights on female-supportive sections of the Quran (the holy book for Muslims) and the Hadith (sayings of the Prophet Mohammed). Additionally, they support their arguments through reinterpretations of both the Quran and the Hadith in a women-friendly, equity-focused manner (43). Muslim feminists challenge the biased interpretations of holy texts that have been used to place restrictions on Muslim women (44).

Generally, Islam supports physical activity and sport. The Prophet Mohammed (peace upon Him) was a strong, fast walker, and he was active; Abu-Huraira describes Prophet Mohammed's brisk walking, saying, "I did not see anyone walk faster than Him, as if the Earth folded for Him. We found it difficult to keep pace when we walked with Him and He walked at His normal pace." (narrated by Al- Tirmidhi, 3648). The Prophet Mohammed stressed the practice of some sports; this can be found throughout the Hadith of Jaber Bin Abdulla, in which the prophet (peace upon Him) said, "Any action without the remembrance of God is either a diversion or heedlessness excepting four acts: walking from target to target [during archery practice], training a horse, playing with one's family, and learning to swim." (narrated by Albany, 389). Females are not exempt from this as the Prophet Mohammed is considered to be a role model for all Muslim men and women. The Prophet Mohammed, while running a race with his wife Aisha, reinforces this image when she said, I raced with the Prophet and I beat him. Later when I had put on some weight, we raced again and he won. Then he said, this cancels that (referring to the previous race)." (narrated by Albany, 204). Consequently, it can be argued that there is nothing in Islam which prohibits physical activity and exercising for women as long as they are done within the Islamic doctrine, which calls for modest clothing and separation between men and women in cases of performing substantial body motions that could attract male

attention, such as lying down and lifting the legs.

However, some conservative Muslim scholars and men oppose physical activity for women. They argue that women can practice physical activity only inside their homes. In their opinion, females should not go outside the home to practice physical activity either by walking in the streets or in gyms, even if there is sex separation in the gym setting. They support their argument by using a verse from the Quran that states, “Stay in your home and do not show off in the manner of the women of the days of ignorance.” (Alahzab, 33). These scholars and men do not support women practicing physical activity in gyms because going to a gym involves leaving the house and changing clothes outside the home, referring to the previous section from the Quran and the Hadith of Aisha, according to which the Prophet said, “There is no woman who takes off her clothes anywhere but in her own house, but she has torn (the veil) which exists between her and Allah.” (narrated by Albany, 131). Moreover, some Muslim scholars claim that some types of physical activity such as jumping are not a good idea for virgin girls as it may affect their virginity, which can put the girl in a tenuous position in such a conservative society .

As can be seen from the above two paragraphs, there is no consensus regarding physical activity for women; people argue their viewpoints based on their own interpretation of different verses from the Quran and the Hadith. This study adopts a framework of Islamic Feminism on the grounds that women have the right to practice physical activity within an Islamic modest viewpoint.

**2.2.2 An Ecological Model of Four Domains of Active Living.** This study employed an Ecological Model of Four Domains of Active Living (36). Although this model is firmly grounded in a Euro-western context, it will be used in this study since there has been no model developed within the Islamic and Arabic context. This model is a holistic community-based framework that analyzes physical activity behavior by considering a wide range of variables, including intrapersonal, socio-cultural, environmental, and political factors. As can be seen in Figure 2.1, this model is built around four active living domains: household activities, occupational activities, active transport, and active recreation, with multiple levels of factors influencing each domain.

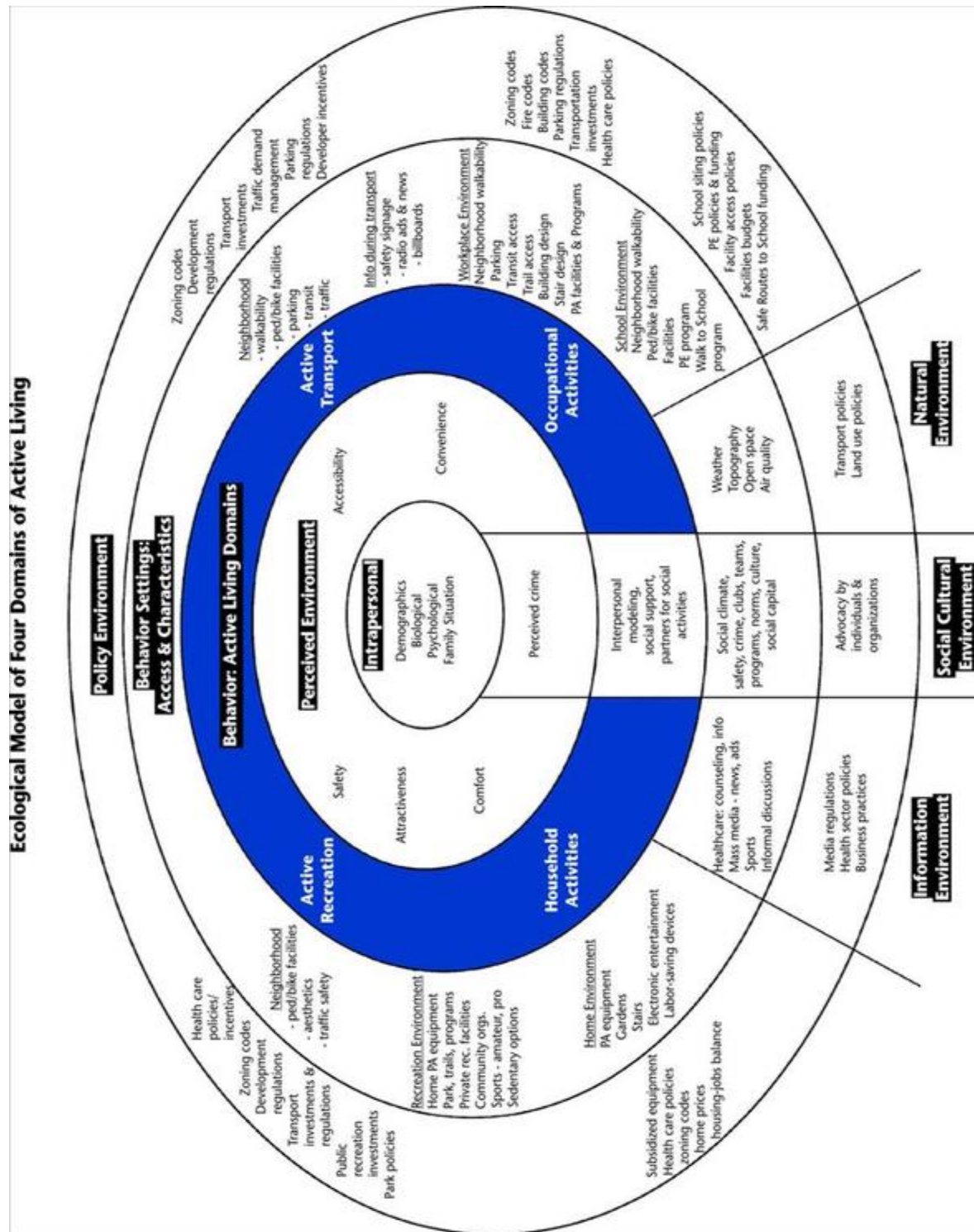


Figure 2.1. Ecological Model of Four Domains of Active Living. Reprinted from “An Ecological Approach to Creating Active Living Communities,” by J. F.Sallis, R. B. Cervero, W. Ascher, K.

A. Henderson, M. K. Kraft, & J.Kerr, 2006, *Annu. Rev.Public Health* (27), 301. Reprinted with permission.

The intrapersonal factors, which include biological, psychological and demographic variables, are presented at the center of the model to highlight the important role of individual characteristics in shaping physical activity behavior. In this model, the individual perceptions of the environment are distinguished from objective variables. This distinction emphasizes the effect of both the perceived and actual environment and how they may relate to an increase or decrease in the likelihood of an individual being physically active. The behavioral layer is located between the intrapersonal-related layers and the environmental-related layers. This positioning highlights the interaction between the individual and the environment. The behavior settings layer represents the characteristics of and access to locations where physical activity behavior can take place, such as the home, workplace, neighborhood, and recreational environment. Different environmental attributes are considered in this model. These attributes range from devices used in the home to the conduciveness of a neighborhood design. The broad consideration of environmental attributes makes this model well suited for studying and promoting physical activity because physical activity is carried out in specific locations (36, 48, 49). The outside ring of the model refers to the policy environment: legislation, regulations, and policy, all of which may affect physical activity. These are often formal legal policies and decisions taken at the governmental level. Such decisions include the regulation of zoning and the funding of recreational parks. However, some of these policies can be informal local rules in settings such as schools or workplaces.

This model conceptualizes the socio-cultural, natural, and information environments in a unique way that cuts across different layers of influence. Rather than placing socio-cultural factors in one distinctive layer as most socio-ecological models do (50-52), these variables are shown as being extended over several layers. The family situation is placed under intrapersonal factors. However, modeling, social support, and the availability of partners for social activities are placed under the behavioral layer, as these variables can affect the physical activity behavior in four active domains. Variables typically relegated to the social climate, safety, crime, clubs, teams, programs, norms, culture and social capital are placed under behavior settings since they represent the social environment in these different settings. Advocacy by individuals and

organizations may lead to policy change, and therefore these cut across the policy environment.

Other factors are also reflected in more than one layer of the model. The natural environment is seen across two layers: behavior settings and the policy environment. The behavior settings' ring incorporates weather, topography, open space, and air quality. This suggests that physical activity behavior in specific settings, such as neighborhoods, can be affected by the built, socio-cultural, and natural environments. Since policies related to transport and land-use can affect the availability of open space and air quality, the natural environment intersects with the policy environment. Likewise, the information environment can also be seen in two layers: behavioral settings and the policy environment. Behavioral settings incorporate variables related to health care counseling, mass media, news, advertisements, sports, and information discussions because these can all influence physical activity or inactivity within a certain setting. The policy environment incorporates information on media regulations, health care policies, and business practices because all these factors affect policy. The overlapping factors in the layers demonstrate the complex interaction of variables in physical activity behavior.

The Ecological Model of Four Domains of Active Living has been used as a framework to guide this study: it informs the literature review, interview guide, observation activity, data analysis, and the presentation of the results chapter.

## **2.3 Factors Influencing Physical Activity**

**2.3.1 Individual factors.** Individual factors are the essential unit to understanding, changing, and maintaining health-related behavior (53). Individual factors can be classified as demographic, physiological, and psychological (36, 54, 55). Demographic factors include socioeconomic status (56), while physiological factors include age and sex (36, 54, 55, 57). Researchers have identified several psychological factors that affect physical activity behavior, the most important of which are self-efficacy, motivation, and perceived barriers (55, 57-60).

### *Demographic factors.*

*Socioeconomic status.* Socioeconomic status (SES) is defined as “a measure of one's combined economic and social status and tends to be positively associated with better health.” (Baker (61), p. 2210). Three common indicators of social status are education, occupation and income (61, 62). SES is believed to affect health and health-related behavior such as physical activity through at least two ways: (a) SES's impact on the availability and accessibility of health promotion resources and treatment (61). For example, individuals from a lower SES have been found to have limited ability to control their physical activity due to inaccessible environments (60, 62-64); (b) SES plays a role in shaping the health habits acquired during childhood and developed throughout the life span. Data demonstrate that individuals with low SES are less likely than those with higher SES to spend their leisure time being physically active (62, 65) and are more likely to have unhealthy eating habits (66, 67).

Although some research reports have found no association between education and physical activity (68, 69), the majority of research has found a positive relationship between level of education and level of physical activity (55-57, 60, 63, 70-75). Women with higher education have been found to be more likely to meet physical activity guidelines, do vigorous activities and take part in leisure-related activities (53, 59, 60, 71, 76, 77). On the other hand, least educated women have been found to do greater levels of physical work and home-related physical activities (76, 77). The findings for transportation-related physical activity are inconclusive. Some studies indicate that this type of physical activity is higher among more educated women, whereas others indicate that it is higher among less educated women (59, 78).

Indeed, it is not surprising that lower educational attainment leads to less physical activity, as this is mirrored among socioeconomically disadvantaged populations such as those with low-income levels, those working in low occupational classes, and the unemployed (62). Research has demonstrated that there is a positive relationship between occupational social class and levels of physical activity among women (63, 79-81). Similarly, other studies have found a relationship between income and physical activity: people with higher incomes have a higher degree of adherence to physical activity recommendations than those with lower incomes (71, 82). In related research, Giles-Corti et al. (60) and Pan et al. (57) found that the level of physical

activity increases when household income increases. Women of high socioeconomic status have greater levels of leisure time activity (83). They have been found to be better at planning and managing time for physical activity, and to engage in less sedentary behavior such as watching television (59).

Findings from Gulf Cooperation Council (GCC) <sup>1</sup> countries show the opposite trend in the relationship between physical activity and education. A systematic review of physical activity and sedentary behavior research in the GCC area reports that participation in physical activities increase when levels of education decrease (84) . However, based on the findings from the *Report of Living Conditions in the State of Qatar* (25), when levels of education increase, people are more likely to believe that their living conditions are conducive to physical activity. Data show that the satisfaction levels with having living conditions conducive to physical activity is 61%, 69%, 77%, 82%, 77%, and 75% among Qataris with below primary, primary to intermediate, secondary, post- secondary, university and above, respectively (25).

There is limited data about the relationship between physical activity and other socioeconomic status parameters such as income and occupation among the GCC population. Research to date has studied only the relationship between physical activity and employment status. Data from Oman shows that unemployed men and women have a higher prevalence of physical inactivity than their employed counterparts (85). Unexpectedly, the *Report of Living Conditions in the State of Qatar* shows that, when the level of socioeconomic status increases, people are less likely to believe that their living conditions are conducive to exercise. Data from this report indicate that the level of satisfaction with living conditions being conducive to physical activity is 76.70 and 74.5 among Qataris from a medium and high socioeconomic status, respectively (25). However, there is a negative relationship between the dependency ratio and the satisfaction level with living conditions being conducive to physical activity. Qatari families with a low dependency ratio (less than three dependents) were more likely to report that their living conditions were conducive to physical activity than Qatari families with high dependency ratios

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<sup>1</sup> GCC refers to the Gulf Cooperation Council which include six members: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates

(three dependents and more) (25).

### ***Biological factors.***

*Age.* Probably the most common finding in the epidemiology of physical activity is that physical activity declines with age (86). Many researchers have demonstrated the age-related decline of physical activity (86-88). The decline in physical activity starts during adolescence (12-13 years) and continues dropping through early adulthood (18-29 years). Middle adulthood (30-64 years) and the elderly stage (65-88 years) are often marked by stable levels of physical activity with some improvement during the elderly stage. The level of physical activity then declines during the end-of-life stage (86-88). For example, Troiano et al. (89) reported that 42% of children (6-11 years) in the USA conform to the guidelines of 60 minutes of physical activity daily but that this percentage drops to 8% among adolescents. According to the authors (89), adults show an even greater decline in physical activity, as less than 5% of adults adhere to the recommendations of obtaining 30 minutes of physical activity per day (89).

Some researchers contend that there are biological reasons for age-related declines in activity levels. Two findings support this view: first, a similar decline in physical activity has been observed in different species; second, this decline seems to be linked to physiological changes in the aging body. Specifically, changes in dopamine, the neurotransmitter that plays a central role in motivating motion, could account for these decreases in activity across all species. (86, 90). Age plays a role not only in the level of physical activity but also in its purpose. Florindo et al. (76) found that the prevalence of leisure time physical activity was highest among the early adulthood population (18-29 years). The reverse was true for housework activities, as young adults (18-29 years) do not report spending much time on housework. However, housework activity is greatest among the age group of 30-49 years. This age group shows high work-related physical activity, whereas the age group of 60-65 shows the least amount of occupational activities (76).

A systematic review of physical activity and sedentary behavior research in GCC countries shows that there is association between physical activity and age, with older people being less active than younger people (84). Qatari data shows the same age trend as global and



GCC data: moderate-vigorous physical activities among Qatari women decrease as they age (3). Moreover, physical activity that is related to work, transportation, and leisure time decrease as a woman's age increases (3). Based on the *Report of Living Conditions in the State of Qatar*, as they age, women are less likely to say that their living conditions are conducive to exercise (25). Data show that the level of satisfaction with living conditions being conducive to physical activity is 82%, 75%, and 69% among age groups less than 25, 25-44, and more than 45, respectively.

*Sex.* The male sex is associated positively with physical activity (55). Although many studies have shown that the male sex shows consistent positive associations with physical activity (55), the level of physical activity among men and women is not consistent across the literature. Gender factors may account for this inconsistency. Sex refers to physical and biological differences, including hormones, chromosomes and genitals, whereas gender refers to the social roles and lifestyle played by a culture in delineating individuals as masculine or feminine (91).

Men are more physically active than women based on research conducted among the North American populations (USA and Canada) (57, 89, 92). However, a study conducted by Florindo et al. (76) with a South American population (Brazil) showed the opposite. Nevertheless, an epidemiological study of different domains of physical activity indicates that recreational, occupational, and transportation-related physical activity rates are higher among men than women. Only household-related activities have a higher prevalence among women than men, which is not unexpected as women usually hold caregiving roles and are more likely to perform unpaid activities (76).

The GCC populations show the same trend of physical activity as North American populations: men are more active than women. A review of physical activity participation among men and women in the countries of the GCC shows men are significantly more active than women. According to this review 39% to 42% of men in GCC meet the physical activity guidelines, whereas only 26% to 28% for women meet them. This gender difference is greater than that observed in Euro western countries (93). The differences in physical activity among men and women in GCC countries may reflect the conservative social norms that clearly

influence the context in which men and women can be physically active. Women in GCC countries have limited freedom of movement outside the home. They also have limited opportunities to participate in health clubs (93). Qatar shows the same trend of physical activity as other GCC countries. Data from the *Qatar STEPwise Report* revealed that men spend more time practicing total physical activity per day than women (3). Generally, Qatari men also spend more time than women in work-related, transport-related and leisure-related physical activity (3). Qatari statistics show that fewer women than men are likely to believe that their living conditions are conducive to physical activity, at 73% and 77% respectively (25).

### ***Psychological factors.***

*Self-efficacy.* Self-efficacy is derived from social cognitive theory (94). It is defined as personal beliefs and the degree of confidence that one can successfully perform a required behavior to reach the desired outcome under a number of specific conditions, even in the face of difficulties (94-96). For example, a person with high self-efficacy might say, "I can practice regular physical activity, even if the weather is bad." Researchers have assessed self-efficacy for physical activity behaviors by asking about the participant's level of confidence to do moderate levels of physical activity for half an hour at least three times a week and basic light activity for a total of one hour a day (57). Moreover, they have asked participants about their confidence level in being physically active under the following conditions: feeling too tired to be physically active, being in a bad mood, being on holiday or vacation, poor weather conditions, lack of time, being injured, recovering from an injury, feeling sick, or having sore muscles (58, 97). Numerous studies suggest that behavior change largely depends on self-efficacy (57, 94). A growing body of research reveals that self-efficacy is strongly correlated with physical activity (55, 57, 58). People with low self-efficacy towards physical activity are more likely to avoid it, while those with high self-efficacy are more likely to attempt it.

*Motivation.* Motivation is another personal behavior-related factor. Motivation can be broken down into two categories: intrinsic and extrinsic motivation. Intrinsic physical activity motivation refers to performing physical activity for the activity itself, such as doing it for pleasure and enjoyment. Extrinsic physical activity motivation refers to doing physical activity to reach a goal aside from the activity itself, such as doing physical activity to lose weight. Lack

of motivation has been identified as a barrier for physical activity among women (59). Based on the review study by Allender et al. (98), the most commonly identified intrinsic motivations for physical activity are pleasure, sense of success and accomplishment, as well as skill development. However, the most common extrinsic motivations are body shape, weight management, social network, and health benefits (98).

Research shows that Arabic women in Qatar prefer to have a slimmer body shape (7). Women in Qatar favor Figure 3 and 4 in the 9-Figure Silhouettes scale of female body shapes, which reflects thin to appropriate body weight (99). This trend to have a thinner body, along with other positive perceptions, such as feeling healthier, having a younger appearance, maintaining health, and preventing disease, motivates women to engage in regular physical activity (7, 8). Moreover, controlling diseases such as hypertension has been identified as the most important motivator for physical activity among Emirati women (100).

*Perceived barriers.* Perceived barriers to physical activity refer to obstacles that individuals believe discourage them from being physically active. The listed barriers in this section can be perceived or actual. Generally, time constraints, caregiving responsibilities, lack of energy, and fatigue are the most significant barriers to physical activity among adult women (54, 56, 59, 101). Additional barriers that impede women from being physically active include perceived health status and the masculine nature of sport culture. Perceived health is an important determinate of physical activity. Pan et al. (57) and Legh-Jones et al. (92) found that people who reported having excellent health status had greater levels of physical activity than those who reported having poor health status. The masculine culture of sports has been identified as a barrier to physical activity for women. Shaw et al. (102) found that the use of gendered language in English sport's governing bodies actively impedes women from persisting and excelling in those sports organizations over time.

Studies of Arabic adults have drawn similar conclusions to research conducted in other parts of the world: time constraints, health perceptions and lack of motivation all serve as barriers to physical activity. In a review of the facilitators and barriers influencing physical activity among Arabic adults, researchers found that time constraints due to care-giving responsibilities, household tasks and social gatherings, as well as health conditions such as heart

disease, orthopedic problem, and asthma are the most common barriers to physical activity among Arabic adults. Other identified barriers in this review are feeling tired, lacking motivation, lacking information, fearing of injury, lacking of past exercise habits, using IT technology, believing that exercise is painful and could make the control of health condition more difficult (103).

Studies conducted among GCC populations reveal that lack of time due to work, family and social responsibilities, lack of motivation, and lack of awareness of the importance of physical activity are the most common individual-level barriers for women to engage in physical activity (100, 104). A study conducted in Qatar have shown that busy schedules and family responsibilities as well as personal health conditions are the most significant constraints to physical activity among women in Qatar (7). Moreover, traditional values and practices that restrict women's mobility, relying on home maids, and hot weather are all challenge to physical activity behavior (7).

#### ***Other individual factors.***

*Childhood history.* A childhood history with physical activity can affect levels of physical activity during adulthood. A childhood history of physical activity is presented in three categories: parental participation in physical activity during childhood, school-based physical education (PE) experience, and an individual's level of physical activity during childhood (59, 98, 105). Having active parents during childhood is reflected positively in the physical activity levels of individuals later in life (59). The question that can be raised here is whether Qatari women (the present generation) were affected by their parents' (the previous generation) levels of physical activity, given that 30 years ago women did all the household activities without the help of maids. Are Qatari women who were raised with active parents active themselves? Does the new luxurious lifestyle shape their behavior more than their childhood history of physical activity and make them less active?

Negative school experiences are important barriers that impede adults from participating in physical activity. Bad physical education experiences could include competitive situations in physical education classes, lack of PE teachers' support for girls, marginalization of girls in PE

classes by boys, and the lack of diversity in sports activities provided during PE classes (98). In Qatar, there is gender separation of all public schools. Accordingly, the marginalization of girls in PE classes by boys does not occur. However, other factors such as the competitive nature of PE classes could be considered. A significant body of literature shows that levels of physical activity increase among adults who participated in physical activity and organized sports during their childhood. The relationship between childhood and adult physical activity increases when the physical activity is continuous for many years throughout childhood and youth (105).

*Islamic beliefs.* In addition to the known individual factors listed above, it is important to consider Islamic beliefs when considering the physical activity levels of Qatari women. Islam shapes everyday life as Muslims are expected to follow the Quran (the holy book for Muslims) and the Hadith (sayings and deeds of the Prophet Mohammed) in each detail of their life, including diet, hygiene, and business dealings. Islamic beliefs can also affect physical activity behaviors. Islam asks followers to take care of their spiritual, emotional, and physical health, to be active, and to rely on themselves in the performance of their duties (such as household activities). All these commands can be motivators for women to be physically active (7). However, some strict Muslim beliefs can be barriers to physical activity. Some women believe that they cannot go out of the home or walk alone as these activities go against Islamic commands that call for women to stay in their homes. This view is built on the following verse from the Quran

...and abide quietly in your homes, and do not flaunt your charms as they used to flaunt them in the old days of pagan ignorance; and be constant in prayer, and render the purifying dues, and pay heed unto Allah and His Messenger: for Allah only wants to remove from you all that might be loathsome, O you members of the [Prophet's] household, and to purify you to utmost purity. (Alahzab, 33)

Although Allah (God) is addressing the wives of Prophet Muhammad in that specific command, some Muslim scholars ask all Muslim women to follow it and leave their homes only for important things such as schooling. Moreover, some Muslim women believe that they cannot practice physical activity in gyms or leisure facilities even in a women-only setting. Their reasons could be both or either of the following: (a) they do not want to hear music, which is

usually installed in a gym setting, because music is forbidden in Islam; (b) they do not want to see women dressed in a way that does not comply with Islamic instruction as Muslims are accountable for what they see. For example, some women avoid swimming in the ladies-only swimming pool to avoid seeing women wearing bikinis.

### **2.3.2 Social factors.**

***Social support.*** Social support for physical activity is among the most commonly studied social indicators of physical activity (106). Studies show that social support plays a significant role in increasing levels of physical activity among adults (106, 107). Women who receive social support have been found to be more likely to be physically active (106, 108, 109). da Silva et al. (108) reported that women who are provided with social support from both family and friends have approximately three times greater levels of physical activity than their equivalents. Family and friends are not the only source of support for physical activity, as health care providers, workplace colleagues and faith-based advisors have all been identified as supports in the literature (54, 110, 111). Qualitative research in Qatar highlights that informal support from family members, husbands and friends, as well as formal support from physicians, all motivate women with cardiovascular disease to be physically active (7).

Social support is not limited to emotional support; it includes four broad types of support: emotional, tangible (instrumental), informational, and appraisal support (112, 113). Emotional support for physical activity involves encouraging others to be physically active and providing them with company, empathy and/or caring. Instrumental support involves providing others with tools, equipment and services to be physically active. Informational support includes providing advice, recommendations, and information related to physical activity. Appraisal support involves offering feedback and evaluating the effectiveness of physical activity (112, 113).

Having somebody to exercise with is one form of emotional support that is mentioned as being a particularly important enabler of women's physical activity (112). Evidence suggests that a 'social network' or 'buddy system' motivates people to be physically active, increases the frequency and duration of their exercise, and enhances their aerobic capacity (114). Nevertheless, studies among Arab adults show that Arabic women lack social support to

exercise, and that it is difficult for them to find companions, since exercise is not considered a social activity (103). A study conducted in Qatar revealed that it is not easy for women to find a partner to exercise with. A participant in the study mentioned that her neighbors refused to go with her for a walk because their husbands and/ or families did not allow them to do so for a variety of the following reasons: walking in the street is not acceptable for women in Qatari culture; going outside daily is also not acceptable for women; and, taking care of children is considered to be more important than physical activity and exercise (7). The situation is the same among other GCC populations, where women are sometimes neither allowed to have an indoor exercise machine nor allowed to exercise outdoors (100).

The global literature discusses several ways to support women's physical activity in different settings. Among the most critical tangible supports is help with household activities and childcare, thus providing more free time for exercise (112). Tangible workplace supports include corporate gym memberships, shower facilities, change rooms, and pedometers (101). Workplace supports include informational resources such as posters that encourage people to take the stairs, charts that display different stretching activities, and calendars detailing tips and information about physical activity (101, 114). Providing a woman with a pedometer is a form of appraisal support, since these devices help women monitor their level of physical activity by assessing their progress and giving feedback (115).

In an initiative to encourage the Qatari population to adopt a more physically active lifestyle, the Aspire Zone Foundation in Qatar launched the *Step into Health program (SIH)* (116). SIH encourages participants to walk a minimum of 10,000 steps daily by using a free smart phone pedometer application (app), or a free pedometer. The SIH team provides emotional support by building a sense of community among the participants, and also provides them with tangible resources such as pedometers and prizes. Informational support is provided by the team through a bi-weekly magazine and a website *Namat* that addresses different physical activity and health issues. The team also provides appraisal support for participants through emails and messages that highlight progress or decline in the number of a participant's steps. One and half years since launching this program (Jan, 2013-July, 2014), there were 8102 Qatari women registered, 3046 of whom were physically active (116).

*Exercise is Medicine Qatar* is another initiative launched by Aspetar Orthopedic and Sport Medicine Hospital, a member of Aspire Zone Foundation, in March 2015 (117). This service aims to help adults at risk of developing chronic diseases to change those risky behaviors by providing them with a medical consultation, customized physical activity, nutritional plans, and supervised physical activity sessions. This clinic is open for three days a week, with a total of 24 visits each week. The physical activity sessions are available for two days a week for men and two days a week for women (117).

***Social capital.*** Social capital has been defined as the characteristics of social structures such as networks, norms, and trustworthiness that can enhance the productivity of society by facilitating the members' interactions (118). Researchers have studied different indicators of social capital: social participation, social trust, norms of reciprocity and social cohesion have been found to be among the most important indicators (119). Social participation refers to people's social integration and interaction with others; it includes participation in social activities, such as visiting family or friends, going to restaurants or parties, and/or attending exercise classes (119). Social trust concerns the degree to which an individual believes in the good intentions, honesty and reliability of others (119). Norms of reciprocity refer to the belief that people will respond positively to each other by returning benefits for benefits, helping each other and sharing goods and interests (119). Social cohesion, or social connectedness, is an indicator of the closeness of relationships between neighborhood members. The literature reveals a positive relationship between social capital-related dimensions and physical activity (119, 120). Brennan et al. (120) report a positive association between perceived protective social factors based on dimensions such as social participation, trust, social cohesion, and safety with an increased probability of meeting physical activity recommendations. Ball et al. (119) found that women who describe higher levels of social participation, trust, norms of reciprocity, social cohesion and community connectedness tend to report higher levels of leisure time physical activities, and, in particular, leisure time walking in their own neighborhoods.

The perceived safety of a neighborhood is another factor that can affect levels of physical activity. Safety is a multi-definitional concept that includes feeling safe from crime, traffic and unattended dogs (121). Many researchers have reported a positive relationship between physical activity and perceived safety (122-125). Vest et al. (123) studied the association between



perception of neighborhood characteristics and leisure-time physical inactivity in Austin, Texas. They found that individuals who feel slightly safe, quite safe or not at all safe in their neighborhoods are two to three times more likely to report physical inactivity during leisure time compared to those who describe their neighborhood as extremely safe. In a UK-based study analyzing neighborhood perception and physical activity, of 15,461 adults, researchers found that individuals who feel unsafe in their neighborhood during the day or night are less likely to report physical activity than those who feel safe during those times. They claimed that the number of physically active people would increase by 3290 and 11237 if feelings of lack of safety during the day and night were removed, respectively (125). Interestingly, Caspi et al. (121) found that the presence of people in the street, even if they are police, loitering adults or gatherings of teenagers, contribute to participants' feelings of safety. They concluded that individuals are more likely to engage in walking in their neighborhood because they feel that the streets are supervised (121).

Based on the limited available Arabic literature, data show that there are safety concerns among GCC women that prevent them from walking alone in the streets, especially at night time (100). There is fear of being alone on a street, as well as perceived danger of being hit by a car. In Qatar, for example, there is considerable gender imbalance in the population (please refer to Chapter 1 for more information) that may present a concern for women's physical activity. It is difficult for a woman to walk in the street if she cannot see anybody else walking except men, thus raising safety concerns. A qualitative study conducted in a GCC country (Oman) showed that unsafe streets, characterized by the presence of many cars, is one of the most frequently mentioned barriers to physical activity (104).

***Cultural standards and social roles.*** Cultural standards and gender role expectations are the most complicated social factors that affect physical activity, and are probably the least studied (112). Women's social roles, based on cultural expectations such as household activities and caregiving responsibilities, present significant barriers to physical activity (7, 8, 59, 103, 112, 126). Household tasks and family responsibilities have been found to impact the level of physical activity among women for four main reasons: First, these activities require a lot of time and thus cause time constraints; second, these tasks are physically demanding, causing women to be too tired to participate in other physical activities; third, these responsibilities take priority in

women's lives, and if they neglect their main duties to be more physically active, they feel guilty for wasting time; and, fourth, these tasks make women's schedules busy, causing them to feel as if they are already physically active enough (7, 59, 112, 126).

Although the Islamic religion supports physical activity, conservative socio-cultural norms that women face make it difficult for some of them to be physically active (100, 104). Physical activities for adult women are not acceptable among some Arabic populations because of cultural standards. The literature reveals that some Arabic women cannot participate in physical activity in front of people, need their husband or another family member's consent to participate in physical activity, and may need to be accompanied by a male relative during their exercise (7, 100, 103, 127). Cultural Arabic female dress, the abaya, has also been identified as a barrier to physical activity (104, 128). An abaya is a robe that covers a woman's whole body from the head or shoulders down to her feet, which makes some kinds of physical activity such as running or cycling difficult (Figure 2.2).



*Figure 2.2.* Vector graphic of an abaya. Adapted from *GoodfreepPhotos*, R. M., Retrieved August 18, 2016, from <https://www.goodfreepphotos.com/vector-images/muslim-women-abaya-vector-graphic.png.php>. Copyright 2016 under the CC0 / Public Domain License.

One method to increase cultural acceptance of Arab women's physical activity is role modeling by women walking in public. In one study, Arabic women maintained that a new trend

towards small groups of women being seen walking in many areas has started to gain acceptance in their society (127). In their review of the social factors influencing physical activity, Vrazel et al. (112) found that the lack of, and corresponding need for, physically active role models is a critical factor identified in research on physical activity among women. Active role modeling contributes to an increase in community acceptance of physical activity, as well as an increase in the perceived community social support among women (112). Education campaigns can also be good interventions to enhance physical activity by addressing the cultural norms and raising awareness and understanding of physical activity (29, 104). Nevertheless, public education and mass media campaigns are not optimally used for the purpose of promoting healthy lifestyles and physical activity in the Arab community (29).

**2.3.3 Environmental factors.** Several authors have claimed that environmental and policy changes over the past few decades, driven by technological and economic development, are responsible for the largest proportion of inactive behavior (129, 130). Targeting ecological and policy factors can create and enhance physical activity opportunities for a large number of people, and this can lead to population-wide physical activity promotion (36, 131). In addition to the social environment discussed in the previous section, environmental factors can be classified into the categories of natural and built environments (55). A natural environment involves the climate, topography, vegetation, location (e.g. coastal or inland) and altitude, while a built environment involves community design, neighborhood walkability, parks and recreation facilities, building location and design, and public transport (55). The focus of researchers and policy makers is on the built environment because it can be altered by deliberate actions, whereas a natural environment is less easy to influence.

Researchers specify different characteristics to determine physical environment attributes. Frank et al. (41) define three main interacting characteristics of the built environment: the transportation system (the link between places and destinations, as well as the availability of walking and bicycling paths), land use patterns (arrangement of residences-land use mix and density), and urban design characteristics (the aesthetic attractiveness of the environment). Pikora et al. (132) developed a more detailed framework to determine characteristics of the physical environment that may influence walking and cycling in local neighborhoods. This framework groups environmental attributes under four constructs: functional (i.e., walking

surface characteristics, street width, traffic volume and speed, as well as permeability and connectivity), safety (including personal and traffic safety), aesthetics (i.e., streetscape and views) and destinations (i.e., existence of facilities such as parks and shops).

Despite the availability of different frameworks and criteria to define the built environment, researchers all have a similar perspective. The following paragraphs clarify the association between physical environment attributes and physical activity. Systematic reviews suggest that increased land use mix, accessibility, population density, and connectivity are important for encouraging physical activity (133-136). There is a positive association between various types of physical activity (such as walking, biking, and moderate to vigorous physical activity) and the number and variety of businesses that are found within a 400 m radius of the house (137, 138). If the businesses are located at an 800 m radius, the association is still positive for the frequency of walking (138), and even those living within 1600 m of various business locations are likely to increase walking and biking during good weather (139).

A systematic review done by McCormack et al. (136) shows a positive relationship between the overall level of physical activity and perceived access to, convenience of, and the number of destinations or facilities within walking distance. Moreover, positive associations have been found between walking for transportation and recreation purposes and the accessibility to different destinations such as public open spaces, beaches, cafes, grocery stores, food stores, other retail outlets, schools, and services (53, 140-142). Perceived access to exercise- and non-exercise related destinations or facilities seems positively associated with accomplishing recommended or sufficient levels of physical activity (122, 143). Higher population density is also positively associated with physical activity (144, 145). McCormack et al. (133) Suggest that this positive association may occur because population density is related to environmental characteristics, for example, the population density needed to make mixed land use economically viable. The case is the same for neighborhood connectivity and physical activity. Neighborhoods with many intersections and different possible walking routes support walking compared with neighborhoods that with fewer intersections and routes (144).

Generally, Arabic and Middle East countries are characterized by poorly built environments to support physical activity (29). A qualitative study conducted in a GCC country

(Oman) showed the most frequently mentioned barriers to physical activity to be a lack of aesthetic places, a lack of pavement, as well as unsafe streets due to the presence of many cars (104). This study also revealed that governmental exercise facilities are not accessible to many due to distance and lack of transportation. The limited focus of these facilities may also affect attendance (104). Private exercise facilities are also considered to be inaccessible due to their cost or low quality (104). The lack of culturally appropriate exercise venues for women has also been identified as a barrier to physical activity in Qatar and other GCC countries (100, 146).

**2.3.4 Political factors.** Public policies have the potential to promote physical activity by shaping built environments where physical activity can take place, creating incentives for physical activity, and supporting physical activity- related programs (49). Researchers argue that this kind of work can only be achieved through an interdisciplinary collaboration between different departments such as transportation, urban planning, public health, sports and recreation, behavioral and social sciences, policy science, geography, and architecture (147). Decision makers should work together to create and improve population opportunities to engage in physical activity behavior in all aspects of daily life (148). It is not only government policies that are needed for enhancing physical activity; organizations such as workplaces and schools also need policies to encourage physical activity (49). The following paragraphs will give some examples of using policies to enhance physical activity among adults.

**Public policy.** Designing and constructing built environments that support physical activity need population-level policies as well as funding to improve land use, develop and regulate zoning codes, and to construct and arrange transportation infrastructure and recreational facilities. There are many examples illustrating the use of policies to create active living environments. Among the best examples are those conducted through Active Living by Design (ALbD) communities (149). The ALbD is a community grant program of the Robert Wood Johnson Foundation (RWJF) in the USA, which was established to assist 25 communities to design environments that support active living (150). ALbD communities updated policies and grant funds for the establishment of pedestrian and bicycle-friendly designs, emphasizing connectivity and access to surrounding neighborhoods, building new parks and walking trails, improving stairway visibility and accessibility, planting trees throughout the neighborhood, improving landscaping, and approving new zoning codes (150).

Perhaps the most valuable policies of AlbD are those enacted at the governmental level. Examples of these policies include the following: (a) creating an advisory board to provide input on physical activity related policies and capital efficiency (Chapel Hill's town council, North Carolina); (b) setting clear standards city-wide that promote a pedestrian-friendly environment (Sacramento's city council, California); (c) approving \$150,000 in redevelopment funds to construct a comprehensive streetscape and pedestrian safety design for 23rd Avenue (Oakland's city council, California); (d) implementing a new active living design standards checklist by the city planning department for all development proposals (Orlando, Florida); (e) increasing funds for local parks in park-deficient neighborhoods (Portland, Oregon) (151). For more information please refer to the following reference: North Carolina Institute for Public Health et al. (151).

In addition to the previously discussed examples of using policies to develop an active environment, the literature provides some suggestions that can also be used. For example, Sallis et al. (49), suggest issuing building codes to mandate that shopping be within a 10-minute walk of all homes. They also suggest changing building codes to require that parking lots be located away from buildings and to make stairways more accessible. Policies should not only target the built environment; other initiatives can be taken to promote physical activity. Adding new active infrastructure is not enough to promote physical activity for people concerned with safety and avoiding traffic (152). Accordingly, some policies to increase pedestrian safety and decrease traffic congestion should be developed. Such policies have been implemented in Winnebago village in Winnebago County, Illinois, as a tribal council approved a new 25 MPH speed limit through Winnebago Village in order to calm traffic for pedestrians and bicyclists. Another policy has been implemented in the Bronx neighborhood in New York City: improving signal timing at a key pedestrian crossing (150, 151). Other initiatives to increase physical activity may include implementing taxation on road use, subsidizing public transportation, and increasing public transit trips (153).

Unfortunately, the literature revealed that there is a limited interdisciplinary approach to promoting physical activity in the GCC countries. A whole-of-government approach in promoting health has not yet taken root in the region (21, 39). According to Mabry et al. (104), "Health is not considered in all government policies, due to the limited engagement by non-health stakeholders in public health issues." (p. 678). The International Conference on Healthy

Lifestyles and Non-Communicable Diseases in the Arab World and the Middle East has highlighted the need for “national coordination and strategic leadership, which should involve multiple sectors combined with local-level and district-level engagement to allow and develop both a ‘bottom-up’ and ‘top-down’ mechanisms to help shape and inform actions.” (Bull et al. (29), p.601).

There is not only lack of coordination between the health care sector and external disciplines but also within health care system itself. This has been identified as a challenge for some GCC countries like Qatar. According to the World Health Organization, Qatar is facing challenges to its health care administration system, as it “lack[s] the clarity between different stakeholders regarding health policy analysis, strategic health planning, priority-setting, and coordination for monitoring and assessment” (154), p.25. The WHO has advised Qatar health care facilities to integrate their strategic plans and policies in order to accomplish well-coordinated national projects. Moreover, the WHO has highlighted the importance of constructive interaction among medical education, career development, and management authorities with the aim of establishing a clear plan to match health needs (154). This recommendation is not far removed from the results of a study conducted in Oman. The study found that many public health managers are calling for the development of a national health promotion committee or council that can gather all sectors together to work on the issue of physical activity.

The literature has revealed that most health authorities in GCC nations emphasize curative rather than preventative medicine. As a result, these health authorities do not pay enough attention to and allocate sufficient resources for promoting health-related behavior such as physical activity (104). Even though there has been some attention to physical activity in recent years, this effort is limited to awareness (104). It does not include that many behavioral change programs, environmental modifications, or policy-related interventions. Although awareness is the only available way to promote physical activity among some of the GCC population, health authorities are not taking an appropriate approach to achieving the required goals. Most health authorities are using both mass media (such as TV) and printed educational materials (such as leaflets and posters) to deliver health messages; however, these methods may not reach the new generation, who prefers other newer methods such as internet and social media

applications (104).

In fact, Qatar is distinguished from other GCC countries because of the high degree of attention its leaders and authorities give to sports. This pro-sport orientation has been adopted by the state leaders for two main reasons: First, to create a healthier population by building a culture of physical activity and sport that inspire people to start becoming more physically active; and, second to raise the profile of Qatar, as sport has the ability to present Qatar as a peaceful, secure, modern, progressive and considerate nation (15). Qatar leaders' attentiveness to sports has translated into many initiatives that promote physical activity among the population. These include the following: investment in sporting leagues and infrastructure, development of programs that focus on promoting physical activity, and the establishment of the Qatar National Sports Day. The following paragraphs will explain how each of these initiatives promotes physical activity among Qatar population.

- Investment in sporting leagues and infrastructure: The best example here is the Aspire Zone Foundation (AZF) originally designated for the 2006 Asian Games (15). AZF is the home of Aspire Academy, which can host many sports events at the same time (155). It is also the home of The Hamad Aquatic Centre, which has a number of pools for swimming, synchronized swimming, diving and water polo. Aspire Zone also houses Aspire Park, with several running tracks, large open spaces, a lake, restaurants, cafés and shops. Aspire Park is intended to be an ideal setting to combine leisure and physical activity. Aspire Zone also includes many other venues such as Khalifa Stadium, Ladies Sports Hall, Warm Up Track, and Public Domain. All these venues opened for the use of the public (some with membership and some without) after the 2006 Asian Games (15, 156).
- Development of programs that focus on promoting physical activity: A good example is Aspire active programs that are designated to promote physical activity and fitness among men, women, teenagers, children and babies. Aspire Active women's programs are designed to meet the needs of Qatari women with a women's only facility. Aspire Active provides women with a wide range of options that include fitness program, gym program, and aquatics program (157). The Aspire Active programs were subsidized by government funds until mid-2016. The programs' main aim was to assist Qataris in



lowering high rates of obesity, diabetes and other chronic diseases related to sedentary lifestyles by providing them with physical activity and fitness exercise programs (158). However, this program is not subsidized anymore.

- Establishment of the National Sports Day: In 2011, as an initiative to promote sport and exercise among the population in Qatar, an Emiri Decree was issued. The Decree states that a Qatar National Sports Day will be held each year in February on the second Tuesday. This day is designated as a national holiday in Qatar when all ministries and governmental bodies are expected to provide their employees with a sport-related event. Many of these governmental bodies also provide a series of sport-related events and activities to the whole population in Qatar (159). Qatar is one of only a handful of nations to set aside a special day for sports. The Qatar National Sports Day was celebrated for the first time in 2012.

***Organizational policy.*** Organizational policies have the potential to promote physical activity by providing supports to encourage routine physical activity or by discouraging behaviors unfavorable to active living. Organizational level policies can be related to workplace infrastructure and resources for physical activity or be related to incentives for physical activity. Infrastructure and resource- related policies include offering a secure parking space for bicycles, providing access to safe and inviting stairwells, and implementing an on-site shower and change room. Policies related to incentives for activity include subsidizing gym memberships, encouraging walking meetings and physical activity breaks during extended meetings, providing time during the working hours for physical activity, as well as offering an employer-sponsored public transit pass. A study by Lachapelle et al. (160) found that having and using a transit pass sponsored by an employee is associated with meeting physical activity recommendations. A cross-sectional study conducted among US adults revealed that there is high support (70.6%) for providing time during the workday for employees to exercise (122). This policy has been adapted by some organizations such as ALbD, which provide employees with flex time for physical activity. ALbD offers up to two paid work hours weekly for physical activity, including one hour as part of scheduled team building.

## CHAPTER 3

### METHODOLOGY

#### 3.1 Research Approach

Using a qualitative design (ethnography), this study was intended to explore physical activity opportunities, constraints, and needs among Qatari women aged 18-44 years. A qualitative approach provides an opportunity to study people in their natural settings and to identify how their experiences and behavior are shaped by the context of their lives: social, emotional, economic, cultural, and physical. This approach allows the researcher to understand the meanings and interpretations that people give to behaviors, events, and objects (161). These characteristics influenced my decision to choose a qualitative approach to answer my research inquiry. I was interested in producing a comprehensive description of the context for physical activity behavior among Qatari women. I was particularly curious about how socio-cultural, economic, and ecological environments shape this behavior. Because I wanted to delve deeper into this issue and grasp the perceptions, motives, opportunities, constraints, and patterns of this behavior, I chose a qualitative methodology. Once I decided to use a qualitative design, I started to think about which qualitative approach to employ. After reading extensively about several qualitative methodologies, I decided to use ethnography for two reasons: First, ethnographic research is ideally suited to understanding culture (162), which I believed likely plays a key role in shaping the physical activity behavior among the Qatari population; second, ethnographic research involves fieldwork (162), which I wanted to conduct in order to document and interpret Qatari women's lifestyle, beliefs, and values and the relation of all of these to physical activity behavior.

Ethnographic research aims to study a group of individuals' perspectives, their human experiences, social interactions, and the meaning they give to their experiences. The

ethnographer observes participants, listens to them, and asks them questions to collect all available data that helps to understand their perspectives (162). According to Spezile (163), there are six fundamental characteristics of ethnography: “(1) researcher as instrument; (2) fieldwork; (3) the cyclic nature of data collection and analysis; (4) focus on culture; (5) cultural immersion; and (6) reflexivity.” (p. 199). Spezile suggests that the researcher is an instrument in ethnographic approach, referring to the role that the ethnographer plays in identifying, interpreting, and analyzing the culture being studied through observing and interviewing participants, as well as by documenting and examining the cultural data (163). Fieldwork is an essential part of any ethnographic study (164). It requires the ethnographer to be physically present in the field of study to observe, hear, reflect, and analyze the culture (164). The ethnographer uses a continuous process of data collection and analysis because answering questions about culture and society usually leads to more questions, which require the ethnographer to go to the fieldwork site and/or revisit collected data to answer them (163). Cultural immersion refers to the ethnographer’s engagement in the group or culture under study through living with those being studied and participating in their daily lives (163). Reflexivity is an important part of ethnography; it refers to ethnographers’ awareness of themselves. In ethnography, researchers play an objective role in designing their methodology and in collecting and analyzing their data; thus, to avoid altering the ethnographic study progress and findings, it is crucial for ethnographers to be aware of their own viewpoints (163).

To depict the reality and truth of a culture, both emic and etic perspectives are critical. The emic perspective offers information on the insider’s point of view (161) and aims to understand the perspectives of the people in the culture of interest (165). The emic standpoint conveys and reports the voices of individuals who experience the phenomenon because they are the ones who have the knowledge and capacity to explain and interpret their realities (166). Unlike the emic orientation, the etic standpoint refers to the outsider’s point view. According to DePoy et al. (166), the etic standpoint is “held by those who do not belong to the group being investigated but who select an analytical and epistemic lens through which to examine the information” (p. 89).

To convey both the emic and etic views, the current study used three methods: interviews, photovoice activities, and observation. The emic view is presented through interviews and photovoice activities, both of which focus on the voices of Qatari women, whereas the etic view is presented by observation activities, which allowed me as a researcher to reflect on what I had observed. Conveying both the etic and emic viewpoints provided a holistic understanding of physical activity among Qatari women. When contradictions arose between these perspectives, I clearly defined the emic viewpoints conveyed by the participants, and then reflected on these viewpoints by providing my own etic viewpoint.

### **3.2 Study Population**

An opportunistic approach was used to recruit research participants. This selection strategy involves the enrollment of available subjects as they enter the study until the required sample size is reached (166). The sample size in qualitative studies is guided by the saturation point, which occurs when the researcher cannot generate any further information (166). The established inclusion criteria in my study involved two factors: being a Qatari woman and being from age 18 to 44. In my sample, I only included original Qataris; in other words, I excluded individuals who have Qatari citizenship but lack an attachment to the Qatari culture. Some Arabic nationals, such as Palestinians, Syrians, and Sudanese, have Qatari citizenship, but they still adhere to their original countries' cultures and standards. These individuals were excluded from the sample as I believed that they would not represent the typical experience of physical activity among Qatari women. Physical activity behavior is strongly affected by cultural values and standards, and these vary among different Arabic populations (167). For instance, original Qataris typically wear abayas and scarves when they practice physical activity in public places. However, some other Arabic nationals with Qatari citizenship do not wear abayas and scarves as they are from more open backgrounds and societies. In addition to these inclusion criteria, I also tried to select participants who could provide diversity in regard to opportunities, constraints, and needs for physical activity among Qatari women. Accordingly, I included Qatari women from different age groups, residency locations, marital statuses, and occupations.

I identified the initial participant (Participant 1) from among my personal contacts. She was a nutritionist in her thirties who paid a great deal of attention to fashion and beauty. For

example, she always wore brand-name high heels. I included her in my study as I believed that she might represent a large slice of Qatari women who have adopted a luxurious lifestyle, which I postulated affects physical activity. The second participant (Participant 2) was referred to me by a Bahraini friend. My friend informed me that this woman had organized many activities for the 2014 National Sport Day. Moreover, the woman was working as a supervisor in the biggest female-only gym in Qatar. Her position and experience provided her with considerable understanding of physical activity-related factors among Qatari women. I met the third participant (Participant 3) in the Hamad Aquatic Center, where both of us were accompanying our children who were taking swimming classes. It occurred to me that this woman was focused on physical activity as she brought her child to swimming classes every day, so, again, I found her to be a suitable participant for my study. I met the fourth participant (Participant 4) at a wedding party. Through discussion, she told me that she was not working, had a degree in Islamic studies, and usually covers her face. I invited her into my study as I was looking for a woman who was not working. I was also interested in hearing the experiences of those who are more conservative and cover their faces. I knew the fifth participant (Participant 5) as we had worked together previously in a physical activity-related program. I invited her to participate in my study as she was in her early forties, had married daughters and lived in Alkhor city. For these reasons, she was likely to add new angles to the study. She referred her daughter to me (Participant 6), who was an 18-year old newly married woman. The seventh participant (Participant 7) was referred to me through the first participant. She was a married nutritionist in her thirties living in Alwakra city. I met the eighth participant (Participant 8) in a hospital. She was an administrative assistant in her twenties.

The location and time of the research activities (interviews and photovoice training sessions and interviews) were based on the participants' preferences. All the participants were provided with clear explanations about the study's purpose and their role in it. They were given the opportunity to ask questions before participating in either an interview or photovoice activity. A total of eight women participated in the study. I stopped at eight participants as I believed that I had reached the saturation point where I could not generate more data. The participants were sampled from the biggest cities in Qatar (Doha, Alwakra, and Alkhor); six were from Doha, one was from Alwakra, and one was from Alkhor. Most of the participants were in their 30s; a

mother (age 41) and her daughter (age 18) were the oldest and youngest participants. All participants had bachelor degrees except for the two youngest (ages 18 and 23), who were enrolled in undergraduate programs. Five participants in this study were married and four had children. Most of the participants (five) were working.

Table 3.1

Demographic Factors of the Research Participants

<u>Participant</u>	<u>Age</u>	<u>Marital Status</u>	<u>City of Residence</u>	<u>Education</u>	<u>Occupation</u>
<u>Participant 1</u>	34	Single	Doha	Bachelor of Nutrition	Director of sport- related program
<u>Participant 2</u>	30s	Single	Doha	Master's candidate in Physical Education	Head of exercise program in a gym
<u>Participant 3</u>	32	Married with children	Doha	Bachelor of Information Technology	Working in a school library
<u>Participant 4</u>	Late 30s	Married with children	Doha	Bachelor of Islamic Studies	Homemaker
<u>Participant 5</u> ( <u>Photovoice Participant 2</u> )	41	Married with children	Alkhora	Bachelor of History and certificate to teach PE to children	Physical education coordinator in two primary schools
<u>Participant 6</u> ( <u>Photovoice Participant 3</u> )	18	Married	Doha	High school and enrolled in an undergraduate study	Student
<u>Participant 7</u>	31	Married with children	Alwakra	Bachelor of Nutrition	Nutritionist
<u>Photovoice Participant 1</u>	23	Single	Doha	Diploma and enrolled in an undergraduate study	Administrative assistant and student

### 3.3 Data Collection Methods

Brink (168) claims that ethnography is a mixed methods approach, whereby participant observations, interviews, and photovoice activities can be used, along with other possibilities. In my study, three methods were employed to collect data: interviews, photovoice activities, and participant observations. A total of eight women participated in the study, five took part only in the semi-structured interviews (Participants 1, 2, 3, 4, and 7); one participated only in the photovoice activity (PV1); and two were involved in both interviews and photovoice methods (Participant 5 who is PV2 and Participant 6 who is PV3). The participant observations were conducted in several public locations.

**3.3.1 Semi-structured interviews.** An interview is defined by Kvale et al. (169) as an “inter-change of views between two persons conversing about a theme of mutual interest.” (p. 2). Interviewing is the most commonly used method to collect data in qualitative research inquiry (169, 170). Interviews aim to “understand the world from the subjects’ point of view, to unfold the meaning of their experiences, [and] to uncover their lived world prior to scientific explanations” (Kvale et al. (169), p. 1).

Seven women participated in the interviews. Individual interviews were conducted face-to-face. The location and time of the interview were based on the interviewees’ preferences. Participants 1 and 7 asked me to interview them in their offices. Participant 2 asked me to interview her in her friend’s office. Participant 3 asked me to meet her in the Hamad Aquatic Center when her child was at swimming class. Participant 4 asked to meet in a coffee shop located inside a mall. Participant 5 invited me to conduct the interview in her mother’s home; she also invited Participant 6 as they are mother and daughter. The duration of interviews was based on the ability to cover the interview questions and on the amount of time the interviewee could give. Generally, most interviews required approximately 1.5 hours. Interviews were conducted in Arabic, the official language of Qatar.

Before starting an interview, I obtained the participant’s oral consent on the Interview Consent Form (Appendix B). I explained to the participant the purpose of this study. I also assured her that the study had been approved by the University of Saskatchewan’s Behavioural

Research Ethics Board (Appendix A). Moreover, I informed her that her participation was voluntary, and that she had the right to withdraw from the study within an eight-week period from the date of her initial consent. I then informed her that after this period, it would be difficult to withdraw since her data might already have been analyzed and included in the results part of the thesis. However, I did not receive any withdrawal requests. As part of the interview consent process, each participant was asked to indicate if she would like to review her transcript. I informed the participant that she may choose to receive the transcript in order to review it, or she could choose to orally review the transcript with me. However, all participants declared that they did not want to review their transcript. Accordingly, I informed each participant that the transcript would be considered approved once it was complete and that I would sign the Transcript Release Form (Appendix F) on her behalf. The interviews were audio-taped with the participants' consent. All participants except one (Participant 4) agreed to have their interview audio-taped. Each interview was transcribed verbatim.

The semi-structured interview guide contained open-ended questions in the following five sections: introductory questions, perception of physical activity, level of physical activity, influences of physical activity, and interventions (Appendix D). I developed the questions in the interview guide, and they were informed by the Islamic Feminism and Socio-ecological Model. The interview guide was translated from English into the Arabic language, and one pilot interview was conducted to ensure its clarity.

**3.3.2 Photovoice.** Photovoice is a research method that involves both images and words to deepen the understanding of community- related problems or concerns (171). This method has been used in numerous studies related to women's social and health issues (171).

Three women participated in the photovoice activity. The photovoice participants were asked to orally consent on the Photovoice Consent Form (Appendix C). Each participant was provided with a brief training session on photovoice. The participants were asked to use their personal camera or mobile camera for two weeks to take 10 photographs of things that facilitated or inhibited physical activity for them or other Qatari women. The participants were asked to number their photos from 1-10 for the purpose of the photo release. Participants could decide the release status of each photo: to be completely released for analysis, publication, and academic



purposes, or to be partially released to me (the researcher) for the purposes of interview and analysis. The participants were asked to obtain oral permission using a Third Party Photographs' Release Form (Appendix H) if they provided photos that included other individual(s).

After two weeks, I met the participants to obtain the photos and to conduct the interview. The location and time of the interviews were based on the interviewees' preferences. Photovoice Participant 1 asked me to interview her in her office. Photovoice Participant 2 invited me to conduct the interview in her mother's home; she also invited Photovoice Participant 3 as they are mother and daughter, so I interviewed Photovoice Participants 2 and 3 at the same place, but separately. Each interview required approximately 30 minutes to an hour. Interviews were conducted in Arabic. The interview focused on the participant's explanation of her selected photographs and their relevance to physical activity (please see the Photovoice Interview Guide in Appendix E). During the interview, we reviewed each photo, and the participant was then asked about her preference regarding release of the photo as a part of the Participant Photographs' Release Form (Appendix G). All participants chose to release all of their photographs for analysis, publication, and academic purposes. The participants provided me with some pictures that included other persons; they declared that they had obtained oral permission on the Third Party Photographs' Release Form, so I signed the form based on the participants' declarations. Some participants gave me photos that had been taken before their participation in the photovoice activity. For example, they gave me photos of places where they had spent their previous vacations to highlight their preferred environment for physical activity. I accepted these photos and included them in the study because it was critical to understand the factors that influence physical activity behavior among women, whether the photos had been taken before or during their participation in the photovoice activity.

**3.3.3 Participant observations.** Participant observation is a qualitative method rooted in ethnography. It is conducted in community settings and in places relevant to research inquiries. It helps the researcher to understand a population's norms, beliefs, and behaviors (172). Observations were employed in this study to assist in understanding the role of the Qatari physical environment in facilitating or inhibiting women's physical activity, as well as to record interactions of Qatari women within their public environment. All observations were documented in the fieldnotes.

I was an active participant in my observations. I participated in many activities that I observed, and I did what others did in order to have a feel of a place without disturbing the normal course of events. For example, I practiced as a gym member while observing the gym's environmental features and the actions and interactions of the members. I also participated in mall walking events while observing the other participants. During the observations, I asked questions of those observed when I felt I needed to have a better understanding of the phenomenon.

All observations were conducted in the capital city of Qatar (Doha). The locations of the observations included malls, parks, gyms, workplaces, various neighborhoods and streets, and several entertainment venues. In addition to the formal observation sessions, I conducted many casual and everyday observations. The selection of places depended on accessibility, and the representativeness of the Qatari community was based on consultations with Qatari community members. For example, before deciding which mall to visit, I asked Qatari women about their advice on the preferred malls for Qatari women in the age group 18 - 44. The observation checklist was informed by the Islamic Feminism and Socio-ecological Model. The following paragraphs provide an idea about the location and the checklist of observations.

**Malls.** I completed observation sessions in six malls in Qatar. I was looking for the following:

- The level of cleanliness
- The availability and accessibility of stairs, escalators, and elevators
- The availability of mall sitting areas and benches
- The location of parking slots and their availability
- The times during which the mall entrance doors and bathrooms were open to the public
- The availability and criteria of mall walking programs
- The availability and criteria of physical activity-related events and messages
- The availability of distance markers to help walkers determine distance walked
- The availability and accessibility of route signage and route maps
- The consistency of the mall's environment with Islamic guidelines and Qatari culture
- The opportunities for men and women to engage in physical activity behavior within the

mall environment and whether these were equal

***Parks and other entertainment places.*** I conducted observation sessions in some major parks, such as Aspire Park, Islamic Museum Park, and Dahel Alhamam Park. These parks were in addition to some neighborhood parks such as Abohamour Park, Alghaleej Algharbi Park, and Alwaab Park. I also had observation sessions in several entertainment venues such as The Pearl, Katara, Souq Waqif, and Corniche. I was looking for the following:

- The level of cleanliness
- The availability and characteristics of bathrooms, prayer areas, and sitting areas
- The availability and quality of park facilities that supported family physical activities such as sidewalks, sport facilities, and children's playgrounds
- Aesthetic characteristics of parks or other entertainment locations such as the presence of trees and bushes, gardens, grass, flowers, natural settings, and water features
- The presence of security surveillance
- The location of parking slots and their availability
- The presence of distance markers to help walkers determine distance walked
- The availability of physical activity-related messages and events
- The presence and accessibility of route signage and route maps
- The consistency of the park or entertainment venue's environment with Islamic guidelines and Qatari culture
- The opportunities for men and women to engage in physical activity behavior within the park or entertainment venue's environment and whether these were equal

***Gyms.*** I conducted observations in the biggest female-only gym in Qatar: Aspire Active. I also had an observation session in a private gym: Aldana Club. I observed the following:

- The level of cleanliness and maintenance
- The general environment of the gym
- The programs offered
- Membership requirements and privileges
- The quality and diversity of equipment
- The hours of operations

- The availability of personal training options
- The presence of music in the gym.
- The consistency of the gym's environment with Islamic guidelines and Qatari culture
- The opportunities for men and women to engage in physical activity behavior within the gym environment and whether these were equal

**Workplaces.** I conducted observations in many public and private organizations. I was looking for the following:

- The availability and accessibility of stairs, escalators, and elevators
- The location of parking slots and their availability
- The availability and the quality of infrastructure and resources for physical activity
- The availability of subsidized gym memberships
- The availability of physical activity-related programs
- The availability of physical activity-related messages and events
- The consistency of the workplace's environment with Islamic guidelines and Qatari culture
- The opportunities for men and women to engage in physical activity behavior within the workplace environment and whether these were equal

**Neighborhoods and Streets.** I did observation activities in several neighborhoods in Qatar, as well as on main and internal streets. I was looking for the following features:

- The land use mix
- The aesthetic and visual features
- The street connectivity and street type
- The availability and quality of sidewalks and signage
- The lighting level
- Safety-related issues
- The amount of traffic
- The availability and quality of physical activity resources and neighborhood parks
- The opportunities for men and women to engage in physical activity behavior in neighborhoods and streets and whether these were equal

*The interaction of Qatari women with their environment.* In addition to focusing on the environmental features that encourage or discourage physical activity, I was also observing the interaction of Qatari women with their environment. I was particularly interested in Qatari women's dress, behavior, and reactions in different settings. I observed the following:

- Whether they walked in these places
- Whether they used escalators, elevators, or stairs
- Whether they parked nearby or far away
- Whether they participated in health and physical activity-related events
- Whether they appeared to be comfortable practicing physical activity in different settings

### **3.4 Data Analysis**

In ethnography, the data analysis is not a distinct stage of the research; it is an ongoing process (162). Accordingly, I started the data analysis when I began the data collection. I analyzed each observation, interview, and photovoice activity as soon as I had finished the data collection activity. Both data collection and analysis were conducted in the Arabic language. This allowed me to appreciate linguistic nuances that could be lost in translation. In the thesis, the results and quotes have been written in English. The data have been analyzed from the perspective of Islamic Feminism. Using this analysis, I aimed to understand the nature of gender inequality in practicing physical activity and looked for ways to expand the rights and opportunities for women to be more physically active within the modest Islamic perspective.

Deductive and inductive analyses were used to identify key themes and subthemes across all transcripts, photographs and fieldnotes. Deductive reasoning involves fitting data based on a particular theoretical framework, while inductive reasoning involves moving from a specific to a broader thinking process by analyzing the data for their own patterns and concepts (166). For the first step in the data analysis, I used deductive analysis as I coded the data into one of six ecological categories (intrapersonal, socio-cultural, natural environment, built environment, information environment, and policy environment). After categorizing the data by ecological category, I used inductive analysis as I worked to obtain a comprehensive understanding of the content, looking for common and related ideas across different ecological categories that could be grouped into meaningful clusters. The next stage was to group the clusters of information

together into thematic statements. Supporting quotations were selected from the transcripts to represent and illustrate key themes that emerged from the data (173).

The steps below provide an example of the data analysis process:

1. **Deductive analysis, which involves coding data into the Socio-ecological Model:** the lack of regulation to manage the empty land located within the urban growth boundaries and the lack of zoning codes were identified as **political factors** that affect physical activity. On the other hand, the lack of pedestrian paths, pleasing landscapes, and services within the residential area were identified as **built environment** factors that discourage physical activity.
2. **Inductive analysis, which involves generating meaningful clusters by grouping common and related codes across different ecological categories:** I grouped the above mentioned political factors with other built environment-related factors to create a cluster called '**lack of community-based urban design.**' This cluster was grouped with other built environment-related factors to create the '**built environment**' sub-theme.
3. **Create thematic statements by gathering clusters together:** the 'built environment' sub-theme was grouped with the 'natural environment' sub-theme under a collective '**physical environment**' theme.

## CHAPTER 4

### RESULTS

The purpose of this study was to provide insight into the factors that influence Qatari women aged 18-44 in their decisions to be physically active or not. It also aimed to identify possible interventions for enhancing physical activity behavior among Qatari women. To achieve these objectives, the following research questions were addressed:

- What are the perceptions of physical activity among Qatari women?
- What are the factors (i.e., opportunities and constraints) that influence Qatari women to be physically active?

This chapter provides the findings from the semi-structured interviews, photovoice activities, and observations. A total of eight Qatari women aged 18-44 years were involved in interviews and/or photovoice activities. The observation sessions in this study were conducted in public areas, such as gyms, malls, parks, workplaces, and neighborhoods. A thematic analysis identified key themes and sub-themes across transcripts, photographs, and field notes.

Four themes emerged from this study: beliefs and faith; culture; physical environment; and wealth and luxury. The first theme ‘beliefs and faith’ addresses physical activity-related beliefs as well as religion-related faith. Religious faith, in particular, appears to have a strong continuous effect on physical activity behavior. The second theme ‘culture’ presents the main cultural factors affecting women’s physical activity. These factors include the following: social roles and caregiving responsibilities; the need for approval to engage in outdoor physical activity; conservative dress codes and behavioral expectations; negative perceptions towards women walking in streets and neighborhoods; restricted time rules for physical activity; and the fact that physical activity is not considered to be a leisure and social activity. The third theme ‘physical environment’ describes both natural and built environments in Qatar and their effect on

physical activity behavior. The last theme ‘wealth and luxury’ addresses the influence of economic development on physical activity behavior.

The themes reflect different levels of socio-ecological factors that influence the physical activity behavior of Qatari women. These themes interact together, each one affecting the others. The letter (O) beside a theme indicates that the factor is an opportunity for women’s physical activity, whereas the letter (C) indicates that the factor is a constraint to women’s physical activity. To provide a holistic description of perceptions, opportunities, constraints, and needs for physical activity among Qatari women, all these themes will be described below in greater detail.

#### **4.1 Beliefs and Faith**

This theme addresses beliefs and faith that influence physical activity behavior. It focuses mainly on physical activity-related beliefs and religion-related faith. Four sub-themes emerged within this theme: positive perceptions of physical activity with some misconceptions; perceived low motivation for physical activity; Islam supports for women’s physical activity within specific guidelines; and Islamic activities create a domain for physical activity.

**4.1.1 Positive perceptions of physical activity with some misconceptions (O, C).** All participants reported having positive perceptions towards physical activity as they linked it to health, fitness, feeling active, having energy, mental wellbeing, social interactions, as well as having a proper body weight. However, some participants associated these positive perceptions with only specific forms of physical activity. Three participants reported having good feelings about active living and walking; at the same time, they perceived exercise and sport as being overly physically demanding, causing pain, and being too time consuming. In their view, sports and exercise are difficult because they require specific skills, training and supervision.

Since some participants felt differently towards active living than they did towards sports and exercise, it was necessary to investigate the differences participants perceived between these activities. Almost all the participants agreed on the meaning of active living. They defined it as avoiding sedentary behavior and adopting physical activity in daily life such as, in the words of Participant 1, “parking faraway, walking, taking stairs, and doing household activities.” One



participant specified 30 minutes as a minimum duration for physical activity to qualify as active living. Interestingly, when Participant 4 defined active living, she focused on the social dimensions; for her, being active meant visiting people and interacting with them. Most participants reported that active living is their preferred form of physical activity.

The majority of participants defined sports as physical activities or games that require specific skills and techniques and that adhere to certain rules and practices, such as wearing specific types of clothing. However, Participants 1 and 4 defined sports as activities, such as brisk walking and running, that require open areas. Participant 3 defined sport as a big umbrella that includes all types of physical activity; she perceived physical activity as a subset of sport. She defined exercise as the required movement for accomplishing sport; for example, in her view, walking is a sport and the movement needed to take different steps can be classified as exercise. None of the participants claimed to be engaging in specific sports such as tennis or swimming. Nevertheless, Participant 4 declared that she was participating in swimming classes to learn how to swim.

Some participants found no difference between sport and exercise, whereas others claimed that they are dissimilar. The latter group defined exercise as structured, specific, and repetitive physical activity of most body parts and joints for the purpose of maintaining body fitness and flexibility. They considered examples of exercise to be physical activity on machines and stretching activities. Three participants reported being engaged in exercise as they were attending fitness classes and doing machine exercises. In my observations, I noticed that the terms sport, physical activity, and exercise were used interchangeably.

Although interviews and observation activities showed that many Qatari women have positive perceptions towards physical activity in general, the research also revealed that misconceptions are linked to this behavior. A common misconception among Qatari women is that weight management and body shape are the only reasons to engage in physical activity. For this reason, many women of normal body weight believe that they do not need to engage in physical activity. This is not the only misconception regarding physical activity as some women believe that physical activity could lead to skeletal pain and a flabby body. Through observation activities, I met a Qatari woman who told me, “I avoid using stairs to protect myself from any

knee problems; my mother has knee pain and I don't want to be like her." This woman believed that being physically active and using stairs could expose her to skeletal pain. Another Qatari woman claimed that she rejected exercise because of the belief that starting exercise and then stopping leads to a flabby body. For her, it was better for her body not to grow accustomed to exercise. Moreover, two interview participants reported a decrease in their level of physical activity due to health beliefs. The first participant reported having irregular menstrual periods, which she linked to her new walking habit, the only new behavior that she had recently adopted. As a result, she decided to stop her new one-hour daily walks. The second participant, a healthy woman in her thirties, reported having decreased her physical activity, including indoor activities, during the summer to avoid low blood pressure, which she claimed is caused by excessive sweating.

While some participants acknowledged their health beliefs as a barrier for physical activity, others identified actual acute and chronic health illnesses. One participant identified exposure to contagious viruses or psychological stress as an inhibitor for physical activity. Another participant stopped practicing aerobic exercises due to suffering acute muscle aches after exercising. She stated:

Previously, I had a membership in a gym; [after] two days of aerobics, I had aches all over my body; I had like a fever; I was not able to sleep and I took Panadol Extra to relieve pain, so I hate this and I did not go again... I felt painful so I decided not to go.  
(Participant 3)

Moreover, two participants (5 and 6) described their chronic orthopedic-related health problems (shoulder dislocation and foot dislocation) as obstacles to some physical activities. Participant 6 said:

I had a foot dislocation that affected my walking. I feel so tired. There are some sports that I can't practice... I would love to learn how to swim, but I feel afraid to do so because of my foot. It is the same for skating, because I've had it [the foot dislocation] since I was in my childhood, so I always see it as a barrier.

When I asked this participant if her decision not to be involved in an activity such as swimming or skating was based on a physician's advice, she said no. She added that she just felt afraid to engage in such activities and had decided not to do so. Similarly, Participant 5 described her shoulder dislocation as a barrier for physical activity. She also recalled her history of vitamin D deficiency and characterized it as an obstacle to her physical activity at that time. Participant 5 also provided a photograph of a cold pack (Figure 4.1) during her participation in the photovoice activity to express her need to manage the pain after practicing certain physical activities.



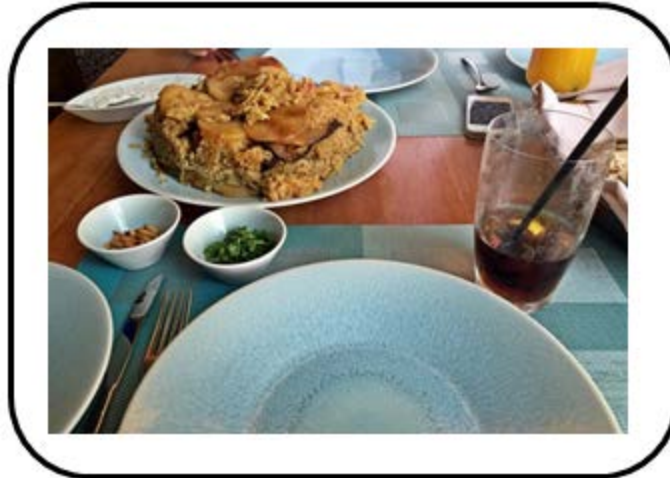
*Figure 4.1.* Pain management after practicing physical activity Provided by Photovoice Participant 2.

**4.1.2 Perceived low motivation for physical activity (C).** Although the majority of participants reported having positive perceptions of physical activity, they were not motivated to participate in it regularly and indicated that they had no time to dedicate to it. These participants characterized themselves as physically inactive. Some participants mentioned avoiding exercise and sport-related activities such as going to the gym or running but preferred lifestyle-related activities like climbing stairs and walking. One reason stated for this preference was that physical activities such as walking can be incorporated into their daily routine, where sports and exercises needed specific time to be practiced. Participant 1 said, “I don’t like to focus on

exercising; I don't like to feel that I am losing my time for it, even if I have nothing to do." Participant 3 also believed that physical activity should not be a top priority, claiming, "Physical activity is important for people who have nothing to do." Although Participant 5 showed high interest in physical activity, she maintained, "I have enthusiasm to do physical activity more than actually doing it." Participant 7 revealed a similar attitude towards physical activity, stating, "I know that it is important, but I do not really care about it." She contended that, besides time constraints due to work and social commitments, her low motivation prevented her from being physically active. She added that this attitude was shared by the women in her family and made reference to her family's home-based gym, which was equipped with several machines in addition to various types of sport tools. Her family's gym had a beautiful view and a TV, but her family members rarely attended. When I asked her why, she said, "They are lazy, only that, they have no motivation; it is individual factors; it is not because that they have no opportunities, no, no, no."

In contrast to most of the other participants, two participants appreciated the importance of physical activity and also made time for its regular practice in their lives. These participants reported high adherence to physical activity behavior on weekdays and weekends, both inside and outside Qatar. They were motivated to be physically active, and they characterized themselves as physically active individuals. To express her motivation for physical activity, Participant 2 said, "Physical activity is a part of everyday life... it must be taken seriously like how a person maintains her prayers, as it is essential for her life as [a] Muslim. She should do the same with physical fitness or physical activity."

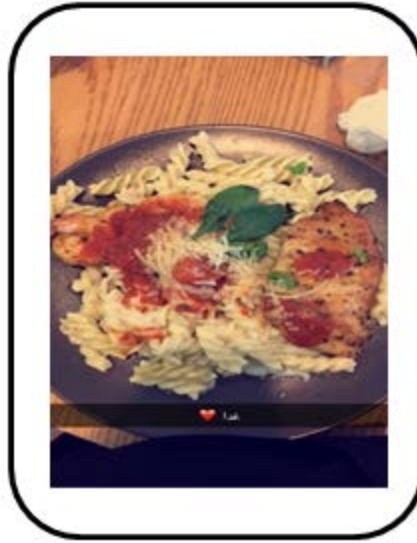
Interestingly, these two participants also reported having good nutritional habits such as eating breakfast. Nevertheless, one of these participants (Participant 6 and Photovoice Participant 3) declared that sometimes her eating choices constrained her physical activity. She provided a photograph (Figure 4.2) and commented that eating heavy food made her feel too full and lethargic to engage in physical activity.



*Figure 4.2.* Eating a heavy meal discouraged Photovoice Participant 3 from engaging in physical activity. Provided by Photovoice Participant 3.

In contrast to Photovoice Participant 3, Photovoice Participant 1 claimed that eating heavy meals or sweets encouraged her to do physical activity in order to decrease feelings of discomfort associated with heavy meals, as well as to burn the calories that she consumed. She provided a photograph (Figure 4.3) and commented:

I ate a big and heavy combo, so I started to walk and walk to be able to help digestion. I love to eat sweets, but I should walk. Whenever you eat something, you need to burn it; you cannot keep it in your body.



*Figure 4.3.* Eating a heavy meal encouraged Photovoice Participant 1 to engage in physical activity. Provided by Photovoice Participant 1.

The low motivation to engage in physical activity could explain the minimal use of the subsidized physical activity facilities offered by workplaces and campuses in Qatar. Based on the interviews and observation activities, many workplaces and campuses provide free or subsidized gyms to support their members' (employees and students) physical activity and health. However, Qatari women make little use of these facilities. Participant 6 mentioned the availability of a female-only subsidized gym in her university. She stated that her friends and many students frequented the coffee shop inside the gym and watched teams playing competitive sports. They also visited the gym because it was the only place where women were able to take off their abayas<sup>1</sup>, as men were not allowed to enter. However, this participant claimed that she and her friends had not registered to use the gym and that they did not practice any physical activity in it. When I asked her why that was, she did not provide me with a clear answer, saying that she did not know and adding that she may register soon. Low motivation for physical activity cannot explain the non-registration of Participant 6 as she was registered in another gym. Nevertheless, it might be the reason why her friends and other students did not use this gym.

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<sup>1</sup> The abaya is the traditional dress for Muslim women. It is a robe that covers a woman's whole body from the head or shoulders down to her feet.

This is the case even if the gym is available for women free of charge. For example, one of the big organizations offers its employees free access to the company's gym, which is the biggest ladies-only gym in Qatar. In discussions with a number of Qatari employees in this company, I found that most of them were not taking advantage of this policy.

The low motivation for physical activity may also explain the high demand for weight-loss surgeries, which are sometimes perceived as an easy option to manage weight, rather than the alternative of engaging in physical activity and having a healthy diet. Participant 5 reported:

Now people do operations, more than you can imagine, a lot of people, a lot a lot. In the school where I am working during one year, there were six or seven teachers who did it... people made gastric bands; then they shifted to vertical sleeve gastrectomy; I knew two persons after they did the vertical gastrectomy; they did the Roux-en-Y gastric bypass.

My observations indicated that the viewpoint of Participant 5 was widely shared. I met with a Qatari nutritionist in a hospital for a body composition analysis and for advice on weight management. Even though my readings were good, just slightly (10 kg) higher than the optimal, she advised me to undergo stomach liposuction to prevent having to do muscle-strengthening exercises. I met another Qatari woman who needed to lose around 10-15 kg to reach an ideal body weight. She told me that she would manage this through surgical intervention.

#### **4.1.3 Islam supports for women's physical activity within specific guidelines (O, C).**

Religious beliefs about physical activity can affect physical activity behavior among Qatari women. Islam shapes everyday life as Muslims are expected to follow the Quran (the holy book for Muslims) and the Hadith (sayings and deeds of the Prophet Mohammed) in every detail of their lives. Accordingly, I asked participants questions related to the religious beliefs surrounding physical activity. All participants believed that Islam supports women's physical activity as long as it is conducted within Islamic doctrine. However, the participants' perceptions of Islamic guidelines for women's physical activity were different. All participants believed that women are encouraged to practice physical activity if they are not harming their hijab. The hijab (veil) is worn by Muslim women once they reach puberty, but the hijab is more than a veil: it is also

associated with behavioral expectations. Based on Qatari culture, veiled women should cover their hair and full body when they are with adult males who are not members of their immediate family (27). They also should not touch men, other than close family members, and should avoid any movements that may draw men's attention to them (27). Although all the participants supported the concept of the hijab, they did not all share the same interpretations of the dress code and behavioral commands of the hijab during physical activity. Some participants believed that women should be able to engage in physical activity in front of men as long as it is done in a modest way and in clothes that cover the body, but not necessarily the abaya. According to these participants, activities that can be practiced in front of men may include walking, using exercising machines, and running as long as the activity is not attracting men's attention and is not exposing the woman's body. These participants reported their willingness to practice physical activity in female-only places irrespective of other attendees' dress and regardless if music is installed in the facility or not. Some of them even reported their enjoyment in participating in activities associated with music such as dancing. During my observation of Zumba sessions taking place in a gym, I noticed that most attendees were young and were enjoying the music and dancing. However, I do not think that older women would accept such an environment because of Islamic beliefs.

Three participants had stricter guidelines than the others for circumstances under which physical activity could be performed. For some, wearing the abaya is of the utmost importance. Some claimed that walking is the only physical activity that can be done in front of men, as it is the only activity that does not attract men's attention. These participants avoided doing physical activity in places where some people, including women, were not following Islamic commands. For example, they avoided going to places where women were wearing bikinis to avoid watching and/or being in the same place with those who evoke Allah's (God's) anger. Participant 6 claimed that she stopped going to one gym in Qatar due to other attendees' dress. She said, "I did not continue [in the gym]; I felt that I can't see people dress like this every day... I don't like this." During observation activities, I noticed that some Qatari women avoided doing physical activity in the gym or another facility if music was playing. I saw one client who refused to continue exercising due to the music. She asked the instructor to turn it off. However, the instructor refused to do so out of respect for the other clients' wishes. In response, the woman



stopped exercising and submitted an official complaint to the management of the facility, claiming that Islamic commands should be followed and the music stopped.

Islamic beliefs are not the only influence on dress code and behavior related to the hijab, as many participants reported that cultural elements also have a substantial effect. For example, participants mentioned that they felt more comfortable wearing sports clothes while running abroad as opposed to when in Qatar, highlighting the strength of the cultural constructs. Participant 2 said, “In the UK, I can do more physical activity outside; I can do it in my sport clothes, and I can run, but I can’t do the same in Doha; it is difficult.” Another example of the influence of culture on physical activity can be seen in the experience of Participant 1. She reported feeling uncomfortable practicing physical activity on a treadmill in front of her father, even though Islam allows women to do such activities in front of immediate male family members (fathers, brothers, uncles, and sons) without wearing the hijab. These examples point to the complex religious and cultural considerations and interactions related to women’s engagement in physical activity and exercise in Qatar.

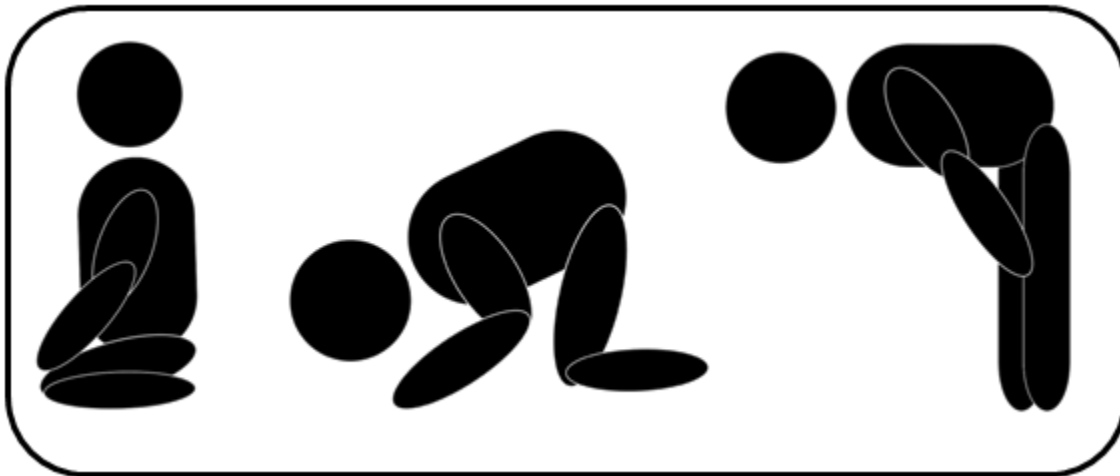
All participants supported the Islamic guideline for women to conduct physical activity only in a sex-segregated gym. Sex segregation is a principle of the practice of the hijab, which states that male and female must be divided into separate physical spaces. In Islam, the basic principle behind all interactions between males and females is segregation; therefore, sex segregation is practiced in everything in Qatar, from the arrangement of space inside the house to schools and workplaces (27). Sex segregation is of high importance, especially, for a women wanting to conduct an activity that could affect her hijab, such as dancing or doing body motions that might attract men’s attention like those practiced during yoga and gymnastics.

The lack of sex-segregated gyms could explain the minimal use of health clubs by Qatari women even if it is offered by workplaces for subsidized prices or free of charge. Based on my observations and informal discussions, most health clubs in Qatar belong to international hotels. These health clubs are not in keeping with Qatari culture as they do not offer female-only facilities. Moreover, many of their attendees are Western expatriates who do not comply with the conservative dress and behavioral codes of traditional Qatari culture. Therefore, Qatari women do not usually attend these health clubs. If they have the option to select a health club, they

choose Aldana Club as it is one of the most conservative clubs in Qatar. I saw Qatari and other Muslim women using the Aldana Club's women-only gyms and swimming pool.

**4.1.4 Islamic activities create a domain for physical activity (O).** Although this study found that the physical activity domains that are commonly known (household, occupational, transportation and leisure) are limited among Qatari women, it also discovered that there is a physical activity domain that exists among Muslims, including Qatari women. This domain is related to Islamic activities: Islamic prayers (Salat) and ablution (Wudu). Salat is one of the Five Pillars of Islam. Starting at puberty, Salat is a mandatory obligation for any Muslim. However, Muslim women are exempt from it during menstruation.

Salat is conducted five times each day at particular times. It includes various physical movements and acts as a light exercise. These movements include standing, bows, prostrates, and sitting. Figure 4.4 shows the different postures that Muslims take in their prayers.



*Figure 4.4.* Postures during Islamic prayers: Salat. Adapted from *Pixabay*, Retrieved August 23, 2016, from <https://pixabay.com/en/bow-pray-manikin-body-man-153289/>, <https://pixabay.com/en/prostrate-bow-pray-prayer-manikin-153287/>, and <https://pixabay.com/en/pray-prayer-manikin-body-man-153286/>. Public Copyright license CC0.

These movements are repetitive in each Salat and are based on the number of the salat's rakats. Salat is built on repetitious cycles known as 'rakats,' which range in number from two to four. Every prayer takes a minimum of five minutes. If a person desires, he or she may lengthen

a prayer. Accordingly, when Muslim women practice five prayers a day, five minutes each, they can accumulate 25 minutes of light activity. In addition to the five obligatory prayers, there are also voluntary prayers known as Sunnah and Nafil Salat. These prayers were performed by Prophet Mohammed (peace upon of him). Some parts of Sunnah Salat are practiced frequently, whereas others are practiced in specific situations. Practicing these additional prayers could also increase the daily activity level among Qatari women. Participant 7 mentioned that the only physical activity that she practiced during the holy month of Ramadan was praying Tarawih, additional prayers conducted by Muslims at night during Ramadan. She maintained, “The only [physical activity] that I performed [during Ramadan] is Salat, only, only; this is the only thing that enhances my physical activity, the long Tarawih.”

Salat is preceded by an ablution known as Wudu. Wudu is the Islamic practice that involves washing four body parts (the hands, feet, face and head) in a specific way. Wudu also includes some light activities. Based on my interviews and observation activities, almost all Qatari women conduct wudu and salat. Accordingly, it makes sense to consider these Islamic activities as a domain for physical activity.

## **4.2 Culture**

The second theme that emerged in this study is culture. Both observation and interview activities showed that men have more opportunities for physical activity than women and that these differences are rooted in cultural standards and norms. There are six main culture-related reasons that can justify the low levels of physical activity among women: social roles and caregiving responsibilities; the need for approval to engage in outdoor physical activity; the conservative dress codes and behavioral expectations; the negative perception towards women walking in streets and neighborhoods; the restricted time rules for physical activity; and the fact that physical activity is not considered to be a leisure and social activity. All of these sub-themes are explored below.

**4.2.1 Social roles and caregiving responsibilities (C).** Similar to women in many other cultures and societies (59, 103, 104, 126), this study found that women in Qatar hold the bulk of household and family care obligations. Although many households in Qatar have maids, women

still have many responsibilities and work of their own. Based on observations and interviews, children in Qatar start to have assignments in preschool, and mothers are required to help them finish their assignments. Mothers are also expected to work with their children to improve the children's reading, writing, and mathematical skills. Besides the education and skills development tasks, mothers are also responsible for taking children to the doctor if they are sick and also for shopping for required items. These tasks are in addition to the regular role of mothers, which includes feeding children the right food, dressing them, and teaching them ethical values and life skills.

In addition, women in Qatar have responsibilities and duties towards parents. They must visit their parents, take care of them, and meet their needs. They also have social duties towards their husbands' family. According to Qatari culture, wives usually live with their husbands in the husband's family home, where each couple can take a room or suite until they get a land grant from the country in order to build their own house. Accordingly, they need to join the family in the daily meetings and attend all social activities that are conducted in the family home. Women also have different social commitments as they are the ones who represent their families during social visits and are the ones who receive visitors and prepare generous hospitality, including a variety of food. Participants expressed that these activities take most of their time, leaving very little for physical activity. Participant 3 reported, "My husband may find a time to practice physical activity, but I don't because of household responsibilities; they don't have this responsibility like us."

The lack of time to participate in physical activity was reported by almost all participants, particularly, the married working participants. Married working participants mentioned that they faced many challenges to practicing physical activity. It was difficult for them to engage in physical activity in the early morning as they were usually busy preparing themselves for work and their children for school. The day begins early in Qatar as school starts at 7 a.m. and most employees start work at 7 or 8 a.m. Thus, there is no time for physical activity before work starts.

It was found that women also face challenges engaging in physical activity during working hours for many reasons. First, many are engaged in administrative work as most of them hold white collar positions, which involve little physical activity. Second, most workplaces have

no facilities for physical activity. Third, time limitations and cultural factors make it challenging for women to exercise in their workplaces even if the organization provides a free or subsidized gym. It is not practical for Qatari women to exercise in their workplaces during the lunch break. Lunch break usually lasts for one hour, during which time women need to make their ablutions and pray Aldhuhr Salat, in addition to taking their lunch. Moreover, Qatari women cannot simply attend an exercise session in a workplace gym, and then take a shower before going back to their offices, as taking a shower out of the home would not be acceptable on a daily basis. When they attend gyms, they usually take showers when they return to their homes. Importantly, Qataris pay great attention to their appearance; the abaya should be ironed very well and makeup should be freshly applied. Exercise before or during work is difficult as it adversely affects a woman's appearance.

Women also have no time to go to the gym or to practice other forms of physical activity after working hours as they need to go home to fulfill their personal and family commitments after spending a long day at work. Married working participants characterized their after work home responsibilities as demanding, leaving little time for physical activity. They added that more than half of their waking hours were spent in their workplace. Therefore, they expressed feelings of guilt about leaving their home and children for additional time to practice physical activity. Participant 7 noted, "I cannot leave my children; I left them for three-quarters of the day, also my husband; I cannot leave them; he arrives home before me; I cannot go out of the home [for the purpose of physical activity] after working hours; I cannot."

This quotation reinforces the importance of allocating working hours for physical activity. One participant recommended setting work time aside for exercise and also providing employees with places for physical activity. Based on my observation, such recommendations could work if employees were allowed to take the last working hour to exercise in a workplace gym. After exercising, they could go home directly to take a shower. However, such initiatives would have to be monitored, so women would dedicate this one hour for physical activity and not go home early. Although long working hours leave little time for physical activity, they could sometimes work as a motivator for taking active breaks. Five participants reported taking short breaks and walks to avoid prolonged sitting.

The opportunities to engage in physical activity can be higher for unmarried women, married women with no children, and women who do not work, as they often have fewer responsibilities. These women have more time for themselves either in the morning because they are not working, or in the evening because they have fewer family responsibilities, or both. The two participants who reported engaging in regular physical activity belonged to this group; one participant was not married, while the other was married with no children. The third participant who claimed engaging in swimming classes during the interview was married with children but she was not working. Therefore, she engaged in physical activity in the morning.

**4.2.2 The need for approval to engage in outdoor physical activity (C).** In Gulf countries, family attitude plays an important role in women's physical activity, as family members are the ones who control women's movement and physical activity (7, 93, 100, 104). My findings show that a woman should not go out of the home or register in a gym without her husband's permission. Even an unmarried woman needs to secure a family member's approval (such as father or mother) before going out of the home or registering at a gym. The majority of participants claimed that they needed to obtain their family member's consent before going outside the home for the purpose of physical activity. Nevertheless, some of them had difficulty obtaining such consent, which constrained their engagement in physical activity.

Participants provided the following justifications for their families' opposition towards out-of-home physical activities: First, physical activity is unimportant. Second, the home is an ideal place for women to practice physical activity, so there is no need to engage in outdoor activities, such as those taking place in the park or gym. Third, a woman should be present in her home engaging in caregiving and domestic responsibilities rather than participating in physical activity, which is of lesser importance. Fourth, it is not good for a woman to spend too many hours outside of her home (especially for women who are working or studying as they already spend a lot of time away). Fifth, it is frowned upon for women to walk in the streets as this may expose herself and her family to criticism from other people in the community. Sixth, women should not leave the home unaccompanied. Seven, family members who discourage women from appearing outside the home alone are often unwilling to go outdoors to practice physical activity with them. In addition to these general justifications, one participant indicated that she was not allowed to leave the house alone, even with her personal driver. Participant 6 reported she must

always be accompanied by someone in addition to the driver, such as the maid or a family member, any time she wished to go outside the home, including to the gym. The same rule applied in her father's home before she was married.

As most participants' family members supported in home-based physical activity, some participants mentioned receiving limited support from their family members, such as the provision of physical activity machines. Participant 3 reported, "I told my husband that I would like to practice physical activity, so he told me, ok, I am ready to purchase machines that you need; he bought me an exercise machine to practice on." However, this type of support failed to enhance many of the women's physical activity, as all participants who used home-based machines said that they exercised on them for only short periods and then stopped using them out of boredom. The majority of participants identified exercise machines as the worst form of physical activity.

One participant stressed the importance of changing the current views on women's physical activity by conducting social campaigns and increasing awareness in the media. My observations revealed that the Qatari usually watch local TV channels such as Qatar TV and Alrayyan TV. These channels may provide one of the best routes to promote the importance of physical activity amongst Qatari women and strengthen the message. These types of promotions might increase the acceptance of women undertaking physical activity, including walking.

**4.2.3 The conservative dress codes and behavioral expectations (C).** Study results show that dress and behavioral codes are among the main cultural-related factors that affect women's physical activity. Qatari women wear the abaya and head scarf when they are in public places (those that are not intended for females only) and in front of non-mahram adult males. A mahram is man that a woman cannot marry or engage in sexual intercourse with such as a woman's father or brother. As mentioned earlier, an abaya is a robe that covers a woman's body from the head or shoulders down to her feet; it is usually flowy and long. Qatari women typically wear black abayas. They can be black or another color such as navy, but Qatari women rarely wear the new full-colored style of abayas worn in other Gulf areas such as Jeddah city in Saudi Arabia. Some women also cover their faces, either with the niqab, leaving the area around the eyes clear, or with the ghushwa, which has a mesh screen over the eyes.

Such dress makes physical activity arduous, creating a constraint for women to engage in different forms of physical activity such as climbing stairs. To take the stairs, for example, a woman needs to hold her abaya up, so if she is holding coffee or shopping bags, it becomes difficult for her to climb steps. It is also difficult for a woman to walk with her abaya, as she has to stop it from getting in the way and tripping her. According to the participants, the abaya creates a barrier to engaging in physical activity, especially during warm weather, as it is difficult to wear a black, full-body dress when the temperature is around 45 °C. This makes sense as darker colors absorb more heat than lighter ones, so the abaya becomes really hot in the summer, and, when it is humid, women become doubly sweaty and itchy. The case becomes more complicated for women who cover their faces, as it is more difficult for them to see their steps; moreover, they become warmer during hot weather because of the face cover. Photovoice Participant 1 reported, “It is impossible to see any Qatari women walk during the hot weather with her abaya.” Moreover, behavioral codes in Qatar force women to practice limited types of physical activity as it is not acceptable for them to bike or jump in public spaces in front of men, even if they are wearing their abayas.

During my observations and informal discussions, I noticed that Qatari people seem to accept that expat Muslim women are not required to wear the abaya and that they can freely practice physical activity such as running in public areas; however, this is totally unacceptable for Qatari women due to cultural factors. As previously mentioned, some Qatari women change these dress and behavioral codes when they travel to places outside the Gulf region. Some participants, for example, mentioned wearing sportswear while running outside Qatar but added that they cannot do the same in Qatar.

Both dress and behavioral codes for Qatari women limit the physical activity opportunities available to them. Because of the conservative dress codes and behavioral expectations, walking and climbing stairs are the only physical activities considered acceptable for Qatari women to practice in front of men. Almost all participants reported walking as their favorite and most frequently practiced activity. Activities associated with music such as dancing were also desirable in the opinion of three participants; however, such activities could only be practiced in female-only places. Four participants reported swimming as the sport that they would most like to practice; unfortunately, they all lacked the skills to do so. Swimming also



required female-only places. Most participants reported that they needed female-only places where they could take off their hijab (abaya, head scarf, and face cover) and practice physical activities other than walking. Participant 2 confirmed this view: “We, as women, need specific places [to practice physical activity] because we need to cover our hair and body [in public places]” (Participant 2).

#### **4.2.4 The negative perception towards women walking in streets and neighborhoods**

(C). Almost all participants claimed that they could not walk in the streets and neighborhoods for transportation or leisure purposes because, according to Qatari norms and standards, doing so is considered disgraceful behavior. Participants observed that people looked at Qatari women walking in the streets and neighborhoods as “bold [women who] may accept anything” (Participant 1). Participant 2 observed, “When I came back from UK, after a while I walked to the supermarket, so I experienced different situations. When I went back home I asked why did I faced [*sic*] these situations; they told me you are in Doha not in the UK. Norms and culture make it difficult for women to go to the supermarket [by walking]; they look at her differently.” Participant 3 added, “People look badly to woman who walks [*sic*] in a street; there is a car which she can take and go [to the required destination]” (Participant 3).

Moreover, some participants claimed that Qatari culture does not support women’s physical activity even in parks and other walking friendly locations. They added that walking women are frequently judged as trying to lose weight, having nothing to do, wanting to grab people’s attention, or wanting to get out of the home. Interestingly, almost all participants reported higher levels of physical activity when they traveled outside the GCC<sup>2</sup> area, where they could see other people walking and where no one judged them.

Unexpectedly, some participants reported that Qatari women face additional barriers to practicing physical activity in their neighborhoods because of not wanting to be recognized by their neighbors. This attitude was reported more frequently by participants who lived in small

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<sup>2</sup> GCC refers to the Gulf Cooperation Council which include six members: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates

cities, such as Alwakrah and Alkhor, where neighbors all know each other. Neighbors may criticize walking women and begin saying that they saw the women of that family walking in the street. Some participants declared that several male relatives discouraged women from walking in their neighborhoods because they did not want other male neighbors to identify women related to them. This attitude of not wanting relatives and friends to identify one's woman is widespread in Qatar. For example, during one interview, the participant was covering her face; she told me that she was covering it because there were people who knew her husband in that place, but she did not do this every time. The interview was conducted at Hamad Aquatic Center, where several clubs teach boys swimming skills. The interviewee was there with her son, and there were many parents of both genders accompanying their children.

Interestingly, such beliefs about women walking in the streets and around neighborhoods only apply to Qatari women or women who come from the GCC area, as people do not have the same attitude towards foreign women (for example, Western, Egyptian, and Philipino women) walking in the streets. Through my observations and discussions, I noticed that Qataris accept seeing expat women who practice physical activity in streets and neighborhoods, although it is still rare to see them. They even admire this behavior of active women; however, they do not accept this when it comes to Qatari women. Both Qatari men and women welcome physical activity for expat women who came with this behavior from their own countries and cultures, but they disapprove of Qatari women doing the same thing as, in their view, Qataris should conform to their own culture.

The only time when it is acceptable for women to walk in the streets and neighborhoods at night is during the Islamic month of Ramadan, as they walk to the mosques to pray Tarawih, which is performed at night. In this month, a culture of walking is established all around Qatar, and it becomes very familiar to see men, women and even children walking in neighborhoods and streets. However, most participants reported engaging in less physical activity during Ramadan, likely due to the practice of fasting from sunrise to sunset, which is observed throughout the holy month, causing fatigue and loss of energy.

**4.2.5 The restricted time rules for physical activity (C).** One interesting culture-related finding that affects women's physical activity is time rules. As mentioned previously, it is

unacceptable for women to spend long times outside the home. This is a considerable barrier to outdoor physical activity, especially for women who work or study, as it is not acceptable for them to leave home during the day to work or study, and in the evening to practice physical activity. Participants also reported that there are specific times when women can practice physical activity. Some participants noted that they chose to practice physical activity (swimming) at odd hours, such as the very early morning to avoid being seen by men. Swimming requires women to break the dress and behavioral codes and cannot be done in front of men. Therefore, women can only swim very early in the morning (5 to 6 a.m.) before men start to come to the swimming pools and beaches.

The time rules are more complicated for some women than others. Participant 7 mentioned that a lot of women avoid engaging in physical activity, such as walking in the morning and afternoon, because the outline of their silhouette and details of their body can be observed easily by strangers as a result of sunshine, especially during windy weather. This may be one of the reasons why park attendance is low among Qatari women in the morning and afternoon. Some women also cannot practice physical activity at late hours, as their families believe that this would contradict cultural standards.

#### **4.2.6 Physical activity is not considered to be a leisure and social activity (C).**

Observations and interviews revealed that physical activity is not considered a leisure activity in Qatar. It is very rare to see Qatari women participate in a specific sport such as tennis, swimming, or squash during their free time. Qatari women are not raised to participate in sport-related hobbies or extra-curricular activities as children and therefore do not build an interest in a specific sport. When asked about the type of physical activity that participants engage in during their leisure time, almost half of the participants reported none. These participants did not consider physical activity as a part of leisure and entertainment. They preferred to spend their leisure time engaged in sedentary activities such as visiting coffee shops with friends, going to the cinema, and going out for lunch or dinner. Participant 1 reported:

I don't do any physical activity in my free time. I like to do more interesting activities. I don't think that I would walk or exercise in my free time. When I have the chance or time, I will not spend it in activities. I prefer to sit in a coffee shop, see people. I want to

relax not engage in physical activity.

Participants who were physically active during leisure time identified walking as their most common physical activity. Some also liked to engage in activities associated with music such as dancing, and some liked to go to the gym during their free time. I believe these participants chose these activities because they do not require specific skills. Neither walking nor going to the gym require specific skills.

As the weekend is the time when people are most involved in leisure activities, participants were asked, “What is your weekend routine?” The majority of participants reported that the weekend is the time for meeting with family, relaxing, and going to the salon and spa, as well as for going to the cinema. As a result, the weekend, according to the participants, was generally a time of minimal activity. Even participants who reported involvement in weekend physical activities limited their participation to walking, and none declared involvement in any entertainment sports.

One of the reasons that the participants did not consider physical activity as leisure was their lack of sport-specific skills. Because most participants lacked skills and techniques, they were unable to participate in activities such as swimming and horse riding, even though some reported their desire to do so. Based on the participants’ opinions, lack of sport-specific skills can be attributed to the low level of participation in physical activity during childhood as well as the weaknesses of girls’ school-based physical education (PE). Participant 2 highlighted the challenges that her generation faced when they were young, saying, “It was unacceptable for girls to wear pants, and we were always advised to study as it is better [than engaging in sports].” Several participants spoke about the poor quality of girls’ school-based physical education. The problem was attributed to the overall quality of education that PE teachers received during their undergraduate studies, as well as the quality of PE education. Interviews and observation activities revealed that some Qatari PE teachers had not learned a number of basic sport techniques such as swimming during their undergraduate studies, and, as a result, lacked the ability to teach these skills to their students. Participant 5 who worked as a PE teacher and coordinator commented:

I did not learn [swimming]. My bachelor major is not physical education; it is history. After I graduated, there have been a request for childhood teachers, I mean teachers for grades 1- 3. So they called us. They selected 29 teachers; then they provided us with an intensive physical education course for one year, but we are not like those who studied physical education... later on, they distributed us to different schools (Participant 5).

Moreover, participants stated that sometimes PE curriculum and classes are not taken seriously, especially in intermediate and secondary schools. Many students attend PE classes without playing sports or acquiring sport techniques. The poor quality of PE was commented on by both the oldest and youngest participants, a mother and daughter. The mother (Participant 5) worked as a PE coordinator and the daughter (Participant 6) recently graduated from high school. Participant 6 observed:

When we were in elementary school, we used to appreciate the PE class. After joining intermediate and secondary schools, it became a class for chatting... The PE teacher take us from the class to the PE field...we just sit there and chat... we go by ourselves to the PE store to take some items and play but teacher did not do it... she [PE teacher] just come because she must guide this class. She leaves us and goes to her office... She felt that we become old to practice sport... We did not play in the PE classes. We took grades for nothing... I feel that I have no skills... When I was in elementary school, I used to know how to play [volleyball]. Now I can't play it as nobody follow up with us on secondary school. Therefore, we don't like sport (Participant 6).

Many participants expressed their desire to participate in some sports; however, the majority mentioned that it is too late for them to acquire sport-specific skills at their age. On the other hand, through discussions with some Qataris during the observation activity, I noticed that there were a number of women who were interested in attending classes to acquire skills in sports, but they did not know which places offered these services. Through my observational activities, I could tell that the opportunities for women to learn sport-specific skills are very limited compared with those for men, even for new generations of children. It is easy, for example, to find free swimming, soccer, and tennis classes for boys, but it is not so easy for girls. Most of these classes are associated with the sports federations, and clubs that aim to attract

members of the generation and teach them skills so that later, they can become involved in the national teams of Qatar. Although there are national teams for boys and girls in Qatar, the focus is mostly on the boys' teams. Therefore, boys have more clubs, federations, facilities, and programs. Only one federation is responsible for all sports and national teams for girls. An important reason to focus on boys' sports more than girls is that cultural factors place many restrictions and barriers on girls' participation in sports. Participant 6 observed:

For females, it is not acceptable to practice sport and be involved in competition, no need for that... for example, if they offer me to take part in the national team of basketball if I am good in it. If they told me to take part in the Qatar national team, my family will not accept... you need to travel and you need to do so and so...it is [difficult] because of the viewpoints and norms.

This does not mean that there are no facilities to teach girls sport-specific skills, as some limited, mostly fee-based options are available. The options are even more limited for women. Some of these places are very expensive as was mentioned in various discussions with Qataris. The other problem is that most of these places are not advertised, so nobody knows about them. Moreover, female-only venues where women can practice sports are even more limited. Accordingly, even if a woman has an interest and skills in a specific sport, it is difficult for her to practice it.

Physical activity is also not considered social activity. "I feel [sport and physical activity] do not fit with our community," Participant 7 said. She added, "People do not motivate you [to do physical activity]; it is our human nature. Our socializing activities do not include any physical activity; they involve more eating." Given these social expectations, it is difficult for Qatari women to find a partner to practice physical activity with. Only one participant reported going to gym with her relative. Although there were some participants who reported the companionship of their family members or friends in physical activity, they stated that this companionship was limited only to walking and did not include any other forms of physical activity. Moreover, it most likely happened for purposes other than physical activity, such as walking for shopping purposes or walking in sunny warm areas to escape from cold air-conditioned environments during work hours. The majority of participants declared practicing no

physical activity with their family when they went to the park or camping. They spent most of their time sitting and socializing with the group who came to visit the park with them.

My findings revealed that Qatari women also rarely participate in group physical activity and physical activity-related events or sessions. During my observations, I observed school-based physical activity sessions conducted for teachers and mothers, as part of a physical activity-related program. I noticed that most of the mothers and teachers who participated were non-Qatari; it was difficult for the session organizer to convince Qatari women to take part in these sessions. Many of Qatari women were standing, watching those who participated. However, those Qatari women who did participate in these physical activity sessions provided positive feedback towards the physical activity that they had done. They appeared happy as if it was the first time they had participated in such sessions.

Qatari women are also more likely to be observers rather than participants at the National Sports Day. Observation and interview activities revealed that Qatari women attending the National Sports Day's events limited their participation to watching people who were involved in activities and to looking after children. The majority of interview participants declared not participating in the National Sports Day, stating that their family and friends also did not take part in the activities. The only two participants who were involved in National Sports Day activities were organizers for some of the activities. When I asked Participant 1 about the reason for her non-involvement in the National Sport Day activities, she replied:

This is the case for the whole community. I feel nobody engage in sport [during the National Sports Day] my family, my friends. I am kind of person who links my activities to people, so there was no encouragement.

According to interview and observation activities, Qatari women spend their social time chatting, drinking coffee, and eating. They sometimes have women-only parties, where they dance. However, the dancing that they do is not physically demanding because dancing at a party has rules. It is not acceptable for Qatari women to dance a lot at a party; they can participate in one or two dances for a period that does not usually exceed 10 minutes. They dance through taking slow steps on a stage, in addition to swaying their bodies and moving their arms

up and down. Therefore, neither the duration nor the intensity of dancing provides them with a high level of physical activity.

### **4.3 The Physical Environment**

This theme addresses both the natural and built environment in the state of Qatar and their effect on the physical activity of Qatari women. Two sub-themes are associated with the physical environment: the natural environment as a barrier and the built environment as a support for physical activity in specific locations.

**4.3.1 The Natural environment as a barrier (C).** All participants described the natural environment in Qatar, with its desert topology and climate, as a barrier to physical activity. The Qatari environment is characterized by a high amount of sunshine, little rainfall, high humidity, and extremely hot weather for half the year. Hot weather and high humidity were unanimously identified as barriers to physical activity by participants. As a part of Qatari urbanization and modernization, the government has engaged in programs of forestation to improve the landscape. However, this does not change the fact that sand is everywhere and that gusts of wind often blow loose and fine-grained sand along the streets. According to the participants, such an environment is inhospitable to physical activity. Almost all participants mentioned that to practice physical activity, they need fine weather and natural views, like those in European countries. Photovoice Participants 2 and 3 provided photographs (Figure 4.5) to show the beautiful landscapes in the countries they had visited. Photovoice Participant 2 stated, “I love the natural landscape... it motivates me to be more physically active...It is my wish to have such places in Qatar.” The majority of participants claimed that they became more active when they traveled outside Qatar because of a more attractive natural environment and other cultural and built environment factors.





*Figure 4.5.* Natural landscapes of some countries. Provided by Photovoice Participant 2 and Photovoice Participant 3.

The opportunities for physical activity are very limited during the summer when participants reported practicing physical activities only indoors in air conditioned locations such as malls and workplaces. On the other hand, during the winter season, the opportunities for physical activity are more plentiful; participants reported going desert camping, to parks, and to other outdoor places. Participants also reported parking farther away from their workplace and walking during the winter months. Even though the opportunities for physical activity increase in the winter, not all participants chose to taken advantage of them. Participant 3 mentioned going to the park in the winter, but on such occasions, she spent her time sitting. Additionally, Participant 7 reported going camping with her family in the winter; however, she claimed that they were not physically active during the trip: “We go there; we sit down and drink hot beverages, sit and make barbecues, eat. There is no physical activity at all, even though we go to the farm and other places.” This is the case for many Qataris, who take advantage of fine weather for visiting outdoor recreation areas; however, while there, they engage in sedentary activities. They also take their personal workers when they visit these places to help them while they are there.

#### 4.3.2 Built environment as a support for physical activity in specific locations (O, C).

The Qatari built environment encourages physical activity in very specific places, but not everywhere. Qatar has wonderful places where women can walk, the only physical activity that Qatari women can do in public areas besides taking the stairs. As well, there are female-only facilities, where women can engage in various physical activities. However, neighborhoods are not built to support daily physical activity. Figure 4.6 shows that most neighborhoods and streets in Qatar are covered in dust, surrounded by piles of rocks, and frequently under construction.



*Figure 4.6.* Neighborhood in Qatar. Taken by L. M. Zimmo, April 2016.

All participants reported visiting specific destinations that feature built environments that support physical activity, such as walking, including Aspire Park, the artificial island (Pearl Island), the artificial village (Katara), Souq Waqif and Corniche. Some also reported visiting female-only gyms. It is important to focus on the action of ‘visiting,’ as all participants said that they needed to travel to specific destinations in order to be physically active. As has been discussed, because of cultural inhibitions, women cannot simply walk from their home to a close destination. Even if women could freely walk in their neighborhoods, the built environment is unsuitable for physical activity, which will be discussed under this theme. The following quotations from participants highlight how practicing easy physical activities like walking

requires going to specific locations.

<p>“I will walk but based on the place, I can do it in Katara, maybe the Pearl.”</p> <p>“There are places for walking; there are places that encourage you to make sport [physical activity].”</p>	<p>Participant 1</p>
<p>“We have a lot of places; we have the Corniche; we have Aspire Park; and we have many places.”</p> <p>“I walk in the Corniche or I go to Villagio Mall or to other malls.”</p>	<p>Participant 2</p>
<p>“There is the beach and there is a park; I can walk there.”</p> <p>“Sometimes we go to Aspire, I mean Aspire Park; we go to Katara; we go to the Pearl.”</p>	<p>Participant 5</p>

The need to visit specific places to practice physical activity makes the adoption of a daily physical activity routine complicated, especially considering travel time in traffic and parking problems. Crowdedness is a real problem in Qatar, which was highlighted in both the observation and interview activities. Six interview and photovoice participants reported traffic, parking, and crowds as constraints to physical activity. Traffic jams discourage women from leaving the home to go to the gym or other places as they extend transit time. Parking is another barrier. It is sometimes challenging to find a parking space in a mall, especially on weekends. Participant 2 reported receiving many complaints in the gym where she worked due to parking limitations, adding that even a large parking lot could not accommodate the demand for parking. Searching for a parking space creates a challenge for women who drive by themselves, and there are many who do so. The crowdedness and density create a challenge for women’s physical activity. Taken together, transit time and the time looking for a parking spot can be discouraging.

Three areas emerged within the built environment sub-theme: the suitability of some places for walking; the availability of female-only places for physical activity; and the lack of a community-based urban design. The sections entitled ‘Suitability of some places for walking’ and ‘Availability of female-only places for physical activity’, describe the available places in Qatar for physical activity and their features. These sections also address the interaction of Qatari women with these places. The section entitled ‘Lack of community-based urban design’, provides descriptions of the neighborhoods and the design of the streets in Qatar and the effect of these on physical activity behavior.

***Suitability of some places for walking (O).*** This study found that Qatar has appealing attractions, such as parks, the artificial island (Pearl Island), the artificial village (Katara), Souq Waqif and Corniche, all of which have design features conducive to walking. These establishments are clean and most of them are equipped with toilets, prayer rooms, first aid, security, as well as cafes and restaurants. Additionally, many of these places have websites that list their programs and events. All of these features make these destinations attractive for women and families. However, people walk in these places only during the good weather, which takes place for around six months from October to April, but almost nobody walks there in the heat and humidity of the summer. Interviews and observation activities revealed that parks in Qatar offer ideal places for physical activity. The main Qatari parks have numerous well-appointed facilities, including spacious green spaces, venues for sports, playgrounds for children and tracks for cycling and walking. Some parks have made more efforts to increase physical activity among visitors. For example, Aspire Park (Figure 4.7) provides route maps with walking signage and floor prints. It also has gym-like machines and an artificial lake with free human-powered boats (bike wheel). Aspire Park is one of the best parks in Qatar. It was described by all the participants as a good destination for physical activity, although not all of them reported walking there. These reports highlight the discrepancy between women’s perceptions and their behaviour.



*Figure 4.7. Aspire Park, Qatar. Taken by L.M. Zimmo, January 2016.*

Museum Park (Figure 4.8) is one of the major parks in Qatar. It used to offer a ladies-only day. At 5 p.m. an area of the park was designated for women to attend fitness classes, including cardio and resistance exercises, led by a qualified female personal trainer. However, Museum Park stopped the ladies-only day due to lack of demand. One explanation for this lack of demand could be that the area designated for women's fitness classes is very open. This openness is inconsistent with Qatari women's needs as they require secure places to practice physical activity where they are completely hidden from view.



*Figure 4.8.* Museum Park in Qatar. Taken by L.M. Zimmo, January 2016.

One of the drawbacks of these parks, based on observation activities, is that they become crowded in good weather during the evening and night due to the number of expat visitors. It becomes difficult to find a quiet place or a parking spot. The playground areas in these parks also

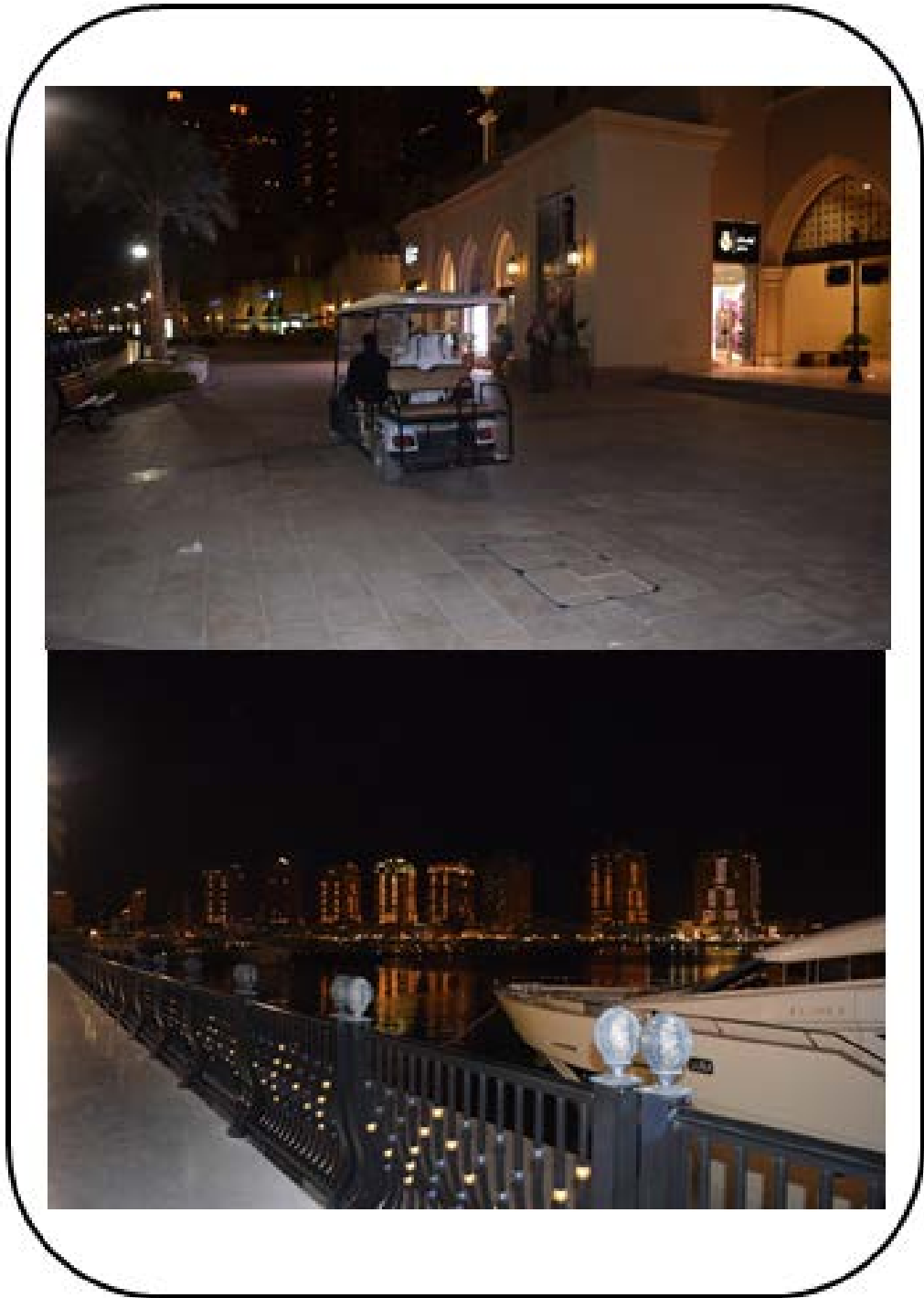
become very crowded, making it difficult for women to walk any distance while their children are playing in case the children are no longer able to see them in the crowds. Figure 4.8 (above) shows the crowds at Museum Park during a weekend in January. Aspire Park is also very busy on weekend evenings, but there are no crowds in the photographs in Figure 4.7 as they were taken on a weekend morning. Recently, a big park opened in Alkhor city; it was written up in the newspaper and described as one of the biggest parks in Qatar. This new initiative may enhance the physical activity behavior of Alkhor residents. In addition to the major parks, there are small neighbourhood-based parks in Qatar. Three participants described the neighborhood parks as good places for walking as they include walking paths as well as small playground areas for children.

Some participants claimed to walk in parks. However, based on my observation, some Qatari women walk there, but not many. Most of the visitors I observed at these parks were expat families. This can be explained by the proportion of Qataris to non-Qataris in Qatar, as Qatari citizens constitute only 12 per cent of the total population (19). However, this explanation may not be sufficient. Other individual and cultural factors likely have roles to play. As mentioned previously, women are largely unmotivated to practice physical activity. Moreover, physical activity is not considered as a social activity. Therefore, many Qatari women spend their time sitting and socializing with those who came to the park with them instead of walking. Furthermore, through my observations and informal discussions, I noticed that Qataris dislike crowded areas, and major parks become very crowded at sunset and at night, which is the main time of the day Qataris enjoy going out. Qataris do not visit parks in the morning. During my observations of the parks, I only saw three or four Qataris in the early morning. Other explanations for Qatari women's low attendance at parks could be cultural. Participant 5, for example, reported that although there are many walking-friendly places close to her home, including a neighborhood park and beach, her husband does not allow her to go to either of these places.

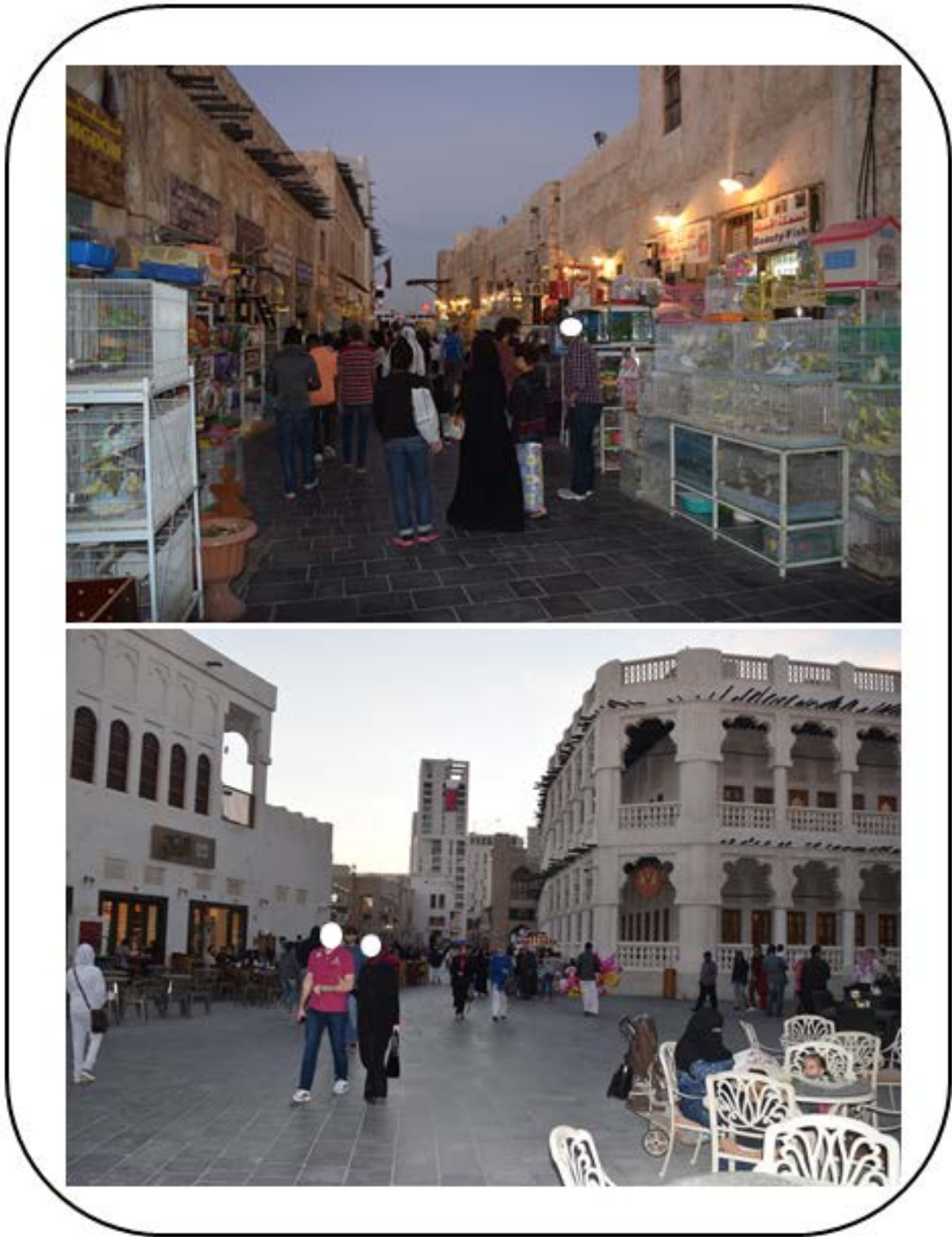
Other physical activity-friendly places exist in Qatar, such as the attractions of Katara, the Pearl, Corniche, and Souq Waqif. They are all designed for visitors – both locals and tourists – and are distinguished by spectacular views. All the participants identified these locations as ideal for physical activity, especially for walking. Each of these places has its own special



atmosphere. The Pearl, for example, is characterized by Western architecture. Visitors can walk along the luxurious colorful waterfront lined with fine shops and restaurants (Figure 4.9). Souq Waqif is distinguished by its traditional Qatari culture, where people can see Qatari crafts and eat traditional food (Figure 4.10). Therefore, walking in the Pearl, for example, would be a much different experience than walking in Souq Waqif. A new branch of Souq Waqif just opened in Alwakra city. This venue may provide a greater opportunity of physical activity for the Alwakra population. Participant 7, an Alwakra resident, mentioned seeing Qatari women walking in the Alwakra branch of Souq Waqif.



*Figure 4.9.* The Pearl Qatar. Taken by L.M. Zimmo, December 2015.



*Figure 4.10.* Souq Waqif in Qatar. Taken by L.M. Zimmo, January 2016.

Some participants claimed to walk in places such as the Pearl and Katara. One participant mentioned visiting these locations for the purpose of walking with her daughters. Observation activities revealed that some Qatari women visit these places and walk; however, they do not walk a lot, only for short periods. Women usually go to these places to visit restaurants or to shop, but they rarely go there to walk. When the visit is for dining purposes, most women take the free golf carts available at the Pearl and Katara. These golf carts drop them off at their destined restaurant and bring them back to the parking lot when they finish dining. Golf carts are available almost every five minutes and they cover different areas in the Pearl and in Katara. The above Figure (4.9) highlights the use of golf carts in the Pearl. Shopping at the Pearl requires some walking, but not much as the shopping area is small. Moreover, most women wear high heels and walk very slowly during visits to these shops because they are visiting brands name stores where they are expected to be very elegant.

Women walk more when they visit the traditional shopping place, Souq Waqif. Informal discussions revealed that most women visit Souq Waqif to purchase herbs, Arabic perfume, and other traditional items. They do not like dining there as it is crowded. Moreover, most of Souq Waqif's restaurants serve Hookahs (water pipes that are used to smoke specially flavored tobacco), which makes them unacceptable places for Qatari women. They may dine there with their families, but it is rare to see Qatari women dining there alone without men. Women walk more at Souq Waqif than at the Pearl and Katara as there are no golf carts inside the Souq. However, there are free golf carts in the parking lots dropping visitors off at the Souq entrance. Moreover, Souq Waqif has a stone ground which is difficult to walk on in high heels. Thus, women tend to wear sport or flat shoes when visiting there.

Participants also mentioned other walking-friendly areas. The photographs shown in Figures 4.11 and 4.12 were provided by Photovoice Participant 2 to highlight places that motivated her to be physically active. However, as can be seen in the figures, no one can be seen practicing physical activity as these pictures were taken in the summer when it is rare to see anybody walking.



*Figure 4.11.* Doha Corniche. Provided by Photovoice Participant 2.



*Figure 4.12.* Smaisma beach in Alkhor city. Provided by Photovoice Participant 2.

Although this participant is from Alkhor city, she provided a picture of Doha Corniche and described it as a place where she could practice physical activity. Interview participants from small cities (Alkhor and Alwakra) also mentioned that they practice physical activity, specifically walking, during their visits to Doha. Traveling between Doha and Alkhor or Alwakra takes around 30 to 45 minutes. Therefore, sometimes residents of these small cities travel to Doha to visit a restaurant, shopping mall, or other entertainment locations. As a part of

their entertainment time in Doha, the participants claimed to engage in walking.

It may be easier to walk in Doha than it is in smaller cities because features of Doha make it more conducive to physical activity. To better understand this situation, I re-contacted the participants living in Alkhor or Alwakra. They mentioned that both the environment and the culture shape their decisions to walk in Doha. They explained that although small cities have some physical activity-friendly places, they are limited compared with those in Doha. Moreover, they prefer to walk in Doha as it is more acceptable for women to walk there. However, the participant from Alwakra observed that some women from Alwakra prefer to walk in their own city since there are now some new places that are conducive to walking. She added that these women cover their faces when they walk, so nobody will recognize them.

Indoor places seem to be the best areas to practice physical activity, particularly during summer when the extreme heat limits exercising to indoors. Several indoor environments, such as home, work, and malls were observed and discussed during the data collection activities. Generally, homes are big in Qatar and most have stairs and yards. Some contain a specific room for physical activity equipped with machines and tools. Most participants reported that using home stairs enhanced their physical activity. However, the majority of participants did not report using the home yard for physical activity. Only one participant mentioned walking in the yard while training her toddler to walk. Based on the interview activities, it seems that the use of home-based gyms is limited due to the lack of motivation.

Although homes are big in Qatar, often several families live in the same home (the family home), constraining the women's physical activity. Women need to wear their hijab when they go out of their suites as they must cover themselves in front of males who live in the family home but are not close relatives, such as brothers-in-law. Accordingly, it is not practical for them to practice physical activity out of their suites, unless they have a specific room that can be locked to prevent the entrance of males. As well, the suites are sometimes small and lack the space for physical activity equipment and machines. This limitation usually faces women in the first years of their marriage before they move to their individual houses. Participant 6 was newly married and still living in a suite inside the house of her husband's family. She reported not having any space for an exercise machine in her small suite. Nevertheless, she mentioned that

she sometimes follows aerobic exercises on YouTube. This participant's experience emphasizes the importance of motivation and self-efficacy in physical activity, especially if the social and environmental factors are not conducive to this activity. Participant 5, who reported facing difficulty securing her husband's approval to practice out-of-home activities, stated that her home environment was not conducive to physical activity. This participant had a one-level home, so there were no stairs to be used throughout the day. Additionally, she had a small yard, without space for exercise.

Most participants claimed to walk in their work or study places and in malls. Two participants said that they leave their work building and walk in the surrounding yard to warm themselves up from the A/C conditioned indoor area. One participant reported walking from her building to another building in the workplace when needed, as she worked in a compound area where facilities were close to each other in the same zone. Participant 6 described engaging in physical activity in the university because she needed to walk for five to ten minutes between buildings.

Some of these participants provided photographs of their work or study places and described how the designs of these organizations facilitated their physical activity (Figure 4.13).



*Figure 4.13.* University walking path. Provided by Photovoice Participant 3.

Through the observations and interview activities, I noticed that some workplaces and campuses provide their employees and students with messages to encourage physical activity, as well as tools to measure their activity. The tool can be a free smart phone pedometer application

(app) or a free pedometer. Most companies and campuses acquire these resources to support physical activity from the *Step into Health* program (SIH). SIH is a community-based program that aims to encourage its participants to walk 10,000 steps or more per day. It is a multi-intervention program as it offers a *Walking in the Workplace*, *Walking on Campuses*, and a *Walking in Malls* projects. SIH conducts competitions at workplaces and campuses, which sometimes take place between departments or between different organizations. Some Qataris are engaged in this program and try to download their steps every day. One participant described her mother's activity after using the pedometer acquired through her workplace: "She is walking even inside the home; she said I want to change my lifestyle" (Participant 6). However, through observations and interview activities, I noticed that although some SIH participants show high interest in the beginning of their participation, they soon became bored.

Malls are other indoor areas which most participants claimed to visit. Almost all participants reported walking in malls while shopping or accompanying their children. Malls in Qatar are open from 10:00 a.m. until 10:00 p.m. They offer friendly places for walking as they are all air conditioned, clean, equipped with toilets, diaper change areas, prayer rooms, food courts, as well as sitting areas and benches. Interestingly, the majority of Qatari malls offer mall walking programs guided by the SIH program. In 2015, eight malls, including the biggest malls in Qatar, participated in the SIH Walking in Malls programs. Each participating mall has designed indoor walking routes. Flyers with route maps as well as walking information can be accessed in each of the participating malls. In addition, all route maps can be found online on the SIH website. An example of a route map can be seen in Figure 4.14. The SIH team collaborates with several shopping malls each year to put on events that promote physical activity and health. These events include the following: walk and stamp, physical activities for children and adults, and health measurement events, such as opportunities for people to check their blood pressure and blood sugar.



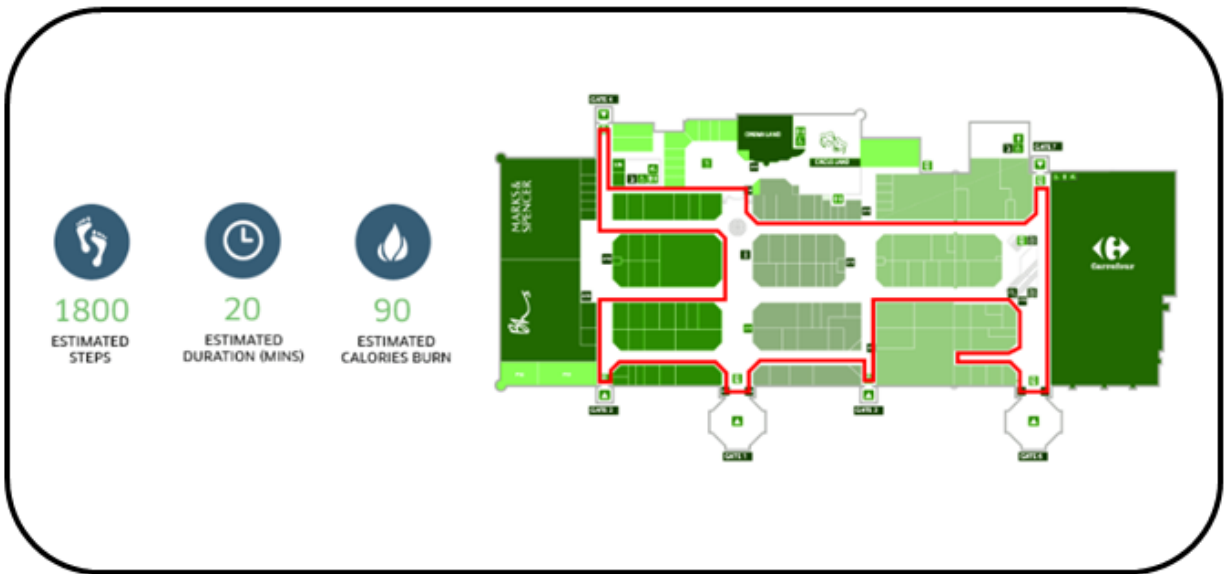


Figure 4.14. Route map of Landmark Mall. *Step into Health*, Retrieved August 18, 2016, from <http://stepintohealth.qa/HealthPromotingMalls.aspx>. Copyright 2016 by Aspire Zone Marketing. Reprinted with permission.

Two malls in Qatar offer walking clubs, one of which initiated the first mall walking club in Qatar in 2013. It offers walking hours every day, along with monthly health and fitness workshops. The mall has also initiated a system of rewards, which recognizes members who have developed and maintained a healthier lifestyle. It is easy to become a member of the club as interested individuals are only required to register at the information desk. The second mall launched its walking club in 2015. The mall created a membership system for the community and continues to provide a range of physical activities and events throughout the year. An educational video about the benefits of walking and foot signage can be found in several spots in this mall. Photovoice Participant 2 mentioned the presence of physical activity signs, part of mall walking programs, as a motivator for her activity. She provided Figure 4.15 of foot prints and stated that such signs reminded her to walk more and that she tried to follow them.



*Figure 4.15.* Physical activity signs motivate people to be active. Provided by Photovoice Participant 2.

Although women such as Participant 2 reported being motivated by signs encouraging physical activity, I observed very few Qataris participating in the mall walking and health events. The timing of these events may form a barrier for Qatari women. Many of these events take place in the early morning (around 8:00 a.m.) on Saturdays. Through informal discussions with Qataris, I found that this is not a good time for most Qataris who usually get up later than this on the weekend. There are likely other reasons for low attendance. Participant 1 mentioned that it is unusual for Qatari women to participate in these events as they are usually crowded and mixed. Figure 4.16 indicates that most participants in the mall events are expat families.



*Figure 4.16.* Mall-based health and physical activity events. *Step into Health*, Retrieved August 18, 2016, from <http://stepintohealth.qa/PhotosPage.aspx?AlbumID=7>. Copyright 2016 by Aspire Zone Marketing. Reprinted with permission.

Participants also discussed the design of malls in relation to physical activity behavior. Photovoice Participant 1 provided the figure of the stairs (Figure 4.17) and commented that she is willing to use stairs to avoid waiting in the elevator queue. As can be seen in Figure 4.17, many people use stairs. Figure 4.17 illustrates the biggest and most crowded mall in Qatar. I observed that many people use these stairs to avoid waiting for crowded elevators. Moreover, the

design of this mall allows people to use stairs as they are accessible and located in the middle of the mall, close to elevators and escalators. This is not the case for the majority of Qatari malls. Several malls occupy only one floor and thus have no stairs. I observed that in most malls with two floors, escalators and elevators are the easiest options as the stairs cannot be easily accessed as they are located separately as an emergency exit.



*Figure 4.17.* Stairs are motivators. Provided by Photovoice Participant 1.

Photovoice Participants 1 and 3 claimed to be keen to use stairs, even if it meant going out of their way. For the activity that climbing stairs provides, they were prepared to take different routes. These two women were the youngest participants. The oldest participant also (Participant 5, Photovoice Participant 2) claimed to be willing to use stairs, and mentioned stairs as one of the best opportunities for physical activity. On the other hand, one interview participant expressed her readiness to use stairs only when they were conveniently in her path. This participant added that she avoided using spiral stairways as she found them risky. She was afraid of falling on such staircases.

Unfortunately, some health promoting malls in Qatar are inconsistent with their health messages. They promote physical activity but offer valet parking. Observations and interview activities revealed that some Qatari women rely on valet parking to satisfy their luxurious lifestyle. Another problem related to walking in malls is that there are relatively few malls in Qatar. Taking into consideration the traffic jams and the time required to find parking, visiting

malls can take place only on the weekend for many busy women.

*Availability of female-only places for physical activity (O).* As has been mentioned, other than for walking or climbing stairs women need female-only places to engage in physical activity. Interviews and observations revealed that there are several commercial female-only gyms and exercise facilities in Qatar. Moreover, there are exercise rooms that are subsidized or free in women's social centers. However, the places in which women can practice or receive lessons in sports such as soccer, tennis, and volleyball are limited. Participants identified that female-only gyms that are in line with Islamic restrictions and Qatari culture provide a good opportunity for physical activity. Participants described the characteristics of these gyms as fully enclosed areas that do not allow men to enter. These gyms also have a no camera/camera phone policy to avoid the taking of photographs, which may contain women without the hijab. The employees of the facilities are all female and follow the Islamic dress code for woman in front of other women; they dress in modest clothes and cover the area from the navel to the knee. Participant 6 claimed that these gyms are the only places where men allow their wives and daughters to practice physical activity. Three participants claimed to practice physical activity in female-only gyms, maintaining that having instructors and seeing physically active people encouraged them to be active.

The participants discussed other features that attract them and Qatari women to specific gyms or health centers; these characteristics include the technical and communication skills of the staff, the diversity of exercise machines and fitness classes, the use of new technologies to motivate members' physical activity, and the availability of a beauty center and spa in the gym. Participant 4 explained her reasons for registering in her current gym: "The staff is distinguished, employees were selected properly, training is good, [and] the place is safe [women will not be exposed to men]" (Participant 4). The participants believed that the technical qualifications of the staff are an important feature of a gym. Most participants reported preferring to see Qatari administrators and Western trainers in their gyms because, in their view, Qatari administrators know the requirements of the Qatari population, but Western trainers have better technical knowledge about exercise.

Participant 2, who was working in a gym, stated that the most important feature in a gym

is the communication skills of the workers, as these are critical to delivering the gym policies in a way that is acceptable to the clients. She provided an example: in the gym where she was working, there was a policy refusing any client who came in five minutes after the beginning of a fitness class. This policy caused many clients to complain. However, when she explained to them that this policy was established for their benefit, to avoid exposing them to possible injury as a result of exercising without a warm up (which usually took place in the first five minutes), clients accepted the policy without complaint.

The harnessing of new technology to motivate members' physical activity is another attractive gym feature that was discussed by a participant. Participant 6 said that she was a member at a gym where she could purchase a belt to monitor her physical activity level, heart rate, and the calories she burned. This gym also sent her emails to remind her about the points that she had won and to congratulate her if she accomplished a higher number of points. Participant 6 also mentioned that these features fostered a culture of competition among the gym members and encouraged them to increase their physical activity. This participant spoke about one more gym feature which attracts women: a spa. She expressed her enjoyment of going to the gym, where she could both exercise and enjoy the spa for pedicures, manicures, and other beauty services.

Conversely, three participants discussed the purely commercial attitude of some private gyms, which constrained women's physical activity. Participant 2 mentioned that some gyms focused only on money, not on the health of their members. Participants 5 and 6 discussed the rigid policies of some commercial gyms, which provided membership periods but refused to offer extensions when clients could not attend. Hence, if the member faced problems and did not attend during the membership period, she would lose her money without having received any benefit. Some members left gyms to avoid losing money. Other drawbacks were discussed by Participant 6, who described some gyms that had not adopted the friendly features discussed previously. These drawbacks included old or limited exercise machines, as well as staff with poor communication skills. Participant 6 also expressed her fear of taking swimming classes in specific gyms because many trainers seemed too firm and rigid. As Participant 6 was a resident of Alkhor before she moved to Doha, she was able to compare the gyms in Doha and Alkhor. She reported that she preferred the gyms in Alkhor because they were less crowded, so

supervisors could provide individual attention to each client. In the crowded Doha gyms, the only way to have this individual attention was to hire a personal trainer.

One of the drawbacks to gyms in Qatar is the high cost. The only government-subsidized female gym (Aspire Active) recently became private, resulting in an increase in membership fees. When I observed this gym, the fees were still subsidized, and I saw many Qatari and expat women engaged there in physical activity. The policy in that government subsidized gym was to provide priority for Qataris if there is limited space for any program. Nevertheless, some participants claimed that it was difficult for their relatives to register in that gym when it was subsidized by the government. One participant said that her sister visited the gym many times to register; however, she was told that there were no spaces. She stated, “There should be a priority for Qataris to register in the subsidized gyms as they are [Qataris who would like to join the gym] not many, so interested women should be encouraged.” (Participant 1). This gym is not subsidized by the government anymore; however, Participant 1’s declaration highlights the importance of offering government subsidized gyms with policies that support Qatari women.

Lack of policies to support Qatari women’s acceptance in government-subsidized gym was not the only policy-related problem that my study revealed. I noticed another policy-related problem in a private gym, the Aldana health club. The Aldana health club offers high quality facilities with affordable prices. This health club is consistent with the Qatari culture as it offers a female-only gym and ladies-only swimming days. However, it is not easy to become a member of this health club as it is very selective in accepting membership applications. I personally applied for a membership and was rejected without any justification. I called the director of the gym and I explained that I was a member before and that I want to be a member again because this was the only health club that matched my needs (female-only gym and ladies-only swimming days). However, he rudely refused to accept me, with no explanation.

Although gym environments were the most frequently discussed places for female-only physical activity, some participants also discussed the environment of other destinations such as Aqua Park Qatar, which offers a ladies-only day. Some participants claimed that having female-only places and activities is not enough; to practice physical activity, women need culture-based secure places where they cannot be seen by males. Participant 4 reported not visiting Aqua Park

Qatar on ladies-only day, stating, “It is very open; it is not fully covered.” She added, “For me to practice physical activity, I need a fully covered place with female-only staff and that place should have rules for all attendees; such rules include the prevention of entry of camera phones and commitment to the Islamic dress code” (Participant 4). This need may explain the lack of demand for the ladies-only day in the Museum Park, where an area of the park was designated for women to attend fitness classes. This lack-of-demand was reported to me by the helpline when I emailed them to understand the reasons for stopping ladies-only day. The park is not hidden from view and, therefore, women may be reluctant to practice physical activity there. However, not all Qatari women insist on practicing physical activity in places hidden from view. Participant 1 declared that she frequented ladies-only beaches and swimming pools in Kuwait, saying, “In the hotel that I visited in Kuwait, there were a beach and a swimming pool for females only, so I visited them one day; it is OK.” Through an observation activity during ladies-only day at Aqua Park, I noticed many Qatari women engaged in physical activity.

Based on my observation, the places that offer or teach specific sports such as tennis, volleyball, and soccer are very limited. The dominant sport in the female-only centers is swimming, although it is limited as well. Another problem is that most of these places do not advertise. Three participants discussed the lack of advertisements for physical activity locations and programs. Participant 1 pointed to the difficulty that she faced in finding a place that taught swimming skills, reporting, “I did not know the places where I can learn swimming ...I asked and people told me there is no place.” Interestingly, observation activities revealed a facility where women could learn swimming, belonging to the same company at which this participant worked. Although the facility was located very close to the participant’s workplace, she did not know about it. Participant 4 spoke about the same limitation but also mentioned that one of her friends had informed her where to find swimming classes, adding, “Otherwise I would not know about this place.” Participants 1 and 3 also discussed the inadequate efforts to advertise programs and services such as National Sports Day programs.

All the participants highly recommended having more culturally appropriate gyms, facilities, and activities to increase physical activity among women. All the participants reported the need for more facilities and programs for women’s physical activity. They enthusiastically discussed the location, opening hours, design, customer classifications, assessment and follow



up, and marketing ideas for all such wished-for facilities.

Participants suggested that facilities and programs for physical activity should be located in different areas of Qatar, so women from each area would have easy access. Although the participants suggested having gyms and activities everywhere, some recommended specific places as a starting point. Participant 2 stated, “The most important [thing] is to have [the facility] in the downtown.” Participant 1 said, “The location is very important... it’s good for example to have [a facility] in Katara; it is good to have it in the Pearl; it is nice to make it in Aspire, as these places and facilities have some luxury, so people will believe that the gym is good because its located in such places.”

Most of the participants recommended opening gyms and offering programs from early morning until night. However, Participant 6 said that it is enough to open the gyms in the evening as most Qatari women are working and cannot attend gyms in the morning. Based on observation and interview activities, unemployed women prefer to go to the gym in the early morning when their children are in school; however, working women can attend gyms after working hours in the evening after finishing their family responsibilities. Therefore, it is better to have gyms which open from morning until night.

Participants recommended having gyms that offer both indoor and outdoor classes. The outdoor places should be hidden from view, so women would not be exposed. In order to counter the hot weather in outdoor areas, Participant 2 suggested using the same technology which will be used in the World Cup Soccer Championship in 2022 being held in Qatar. The technology relies on building fields that use a large number of solar cells. These cells will collect the sun’s rays and convert them into electricity to provide a cool environment in the sites. This environmentally friendly ‘carbon-neutral technology’ can reduce the temperature within the venue by up to 20°C. Participant 1 focused more on the design of the indoor area, suggesting that “the decoration and design [of the facility] all have a role in attracting attendees.” Accordingly, she recommended that gyms have attractive décor to attract women.

Participant 1 suggested dividing gym attendees into groups based on their age (18-29, 30-

35, and 36-44). From her perspective, this could target each group according to the members' interests. She added that activities could be marketed for women in their twenties via fun leisure programs, for women in their forties via health-related programs, and for women in their thirties by both. Rather than categorizing people by age, Participant 2 suggested categorizing customers into groups according to needs, health status, and the level of exercise they can do. She recommended providing several programs for specific populations such as overweight women, brides, and adolescents. She said it would be important to choose an attractive title for the program, so rather than calling it a program for overweight women, it would be better to call it a "beautiful women program", for example. For the bridal program, she suggested attracting 10-20 brides and offering them a comprehensive physical activity and nutrition program to help them manage their body weight and shape before their wedding party. She also highlighted the importance of focusing on adolescents' physical activity as they are future mothers.

Participant 2 suggested conducting medical assessments for the customers before registering them in a gym or program to provide them with physical activity that matches their health status. She also recommended performing customer follow-up, not only by assessing height, weight, and body composition, but also by conducting health-based checkups at health institutes. The initiative suggested by Participant 2 is actually available in different countries under the title *Exercise is Medicine* (174). *Exercise is Medicine* calls for using physical activity and exercise to prevent and treat chronic diseases. It includes visiting the healthcare providers who assess clients, prescribe the appropriate exercise, and refer the clients to a qualified fitness professional. *Exercise is Medicine* is already open in Qatar (117). It is managed by the Exercise is Medicine Department in Aspetar Orthopaedic and Sport Medicine Hospital, the same department that manages *Step into Health*. Participant 2 also stressed the importance of raising the customers' commitment to attending gyms, stating, "There should be terms and a contract, signed [by the customer]. Commitment is the most important to reach results; otherwise, she will be asked to leave the space as there are people who need it" (Participant 2). However, Participant 5 recommended offering walking in flexible gyms without monthly memberships and without fees, so women could attend a gym at any time without restrictions.

***Lack of Community-Based Urban Design (C).*** As mentioned to participate in physical activity, women in Qatar need to visit specific place because the culture and built environment prevent them from simply walking from their home to a close destination. In the previous sections of this sub-theme ‘Suitability of Some Places for Walking’ and ‘Availability of Female-Only Places for Physical Activity,’ I addressed the features of the Qatari built environment that facilitate Qatari women’s physical activity. However, this section will address a critical constraint to physical activity in the built environment: the lack of community-based urban design. Community-based urban design is an essential part of urban planning. It focuses on designing a better living environment by ensuring the accessibility and connectivity of sidewalks and streets, the proximity of residential areas to services facilities, and the availability of aesthetic landscapes (175, 176). Observation, interviews and photovoice activities revealed that neighborhoods and communities in Qatar are not built in a way that supports physical activity (Figure 4.18).



*Figure 4.18.* Residential area in Qatar. Taken by L.M. Zimmo, March 2016.

Walking was clearly not considered in the design of the Qatar built environment as there are no walking paths in major streets or in neighborhoods. Although there are sometimes pedestrian crossing signs and paths at traffic signals, pedestrians may not be able to walk safely after crossing the street due to the lack of sidewalks. In one of my observation sessions, I saw

men climb an iron net fence (Figure 4.19) located between two streets because there was no way to cross from one street to the other without climbing this fence since there were no pedestrian pathways.



*Figure 4.19.* Iron net fence located between two streets. Taken by L.M. Zimmo, March 2016.

Three interview participants discussed the absence of sidewalks in their neighborhoods. One photovoice participant provided a photograph of the neighborhood where she lives (Figure 4.20), stating that no safe sidewalk exists there. Moreover, as the photograph depicts, the street surface is in poor repair and full of potholes, making it difficult for her to walk.



*Figure 4.20.* The street surface is not good for walking. Provided by Photovoice Participant 1.

Having no pedestrian paths could jeopardize the safety of walkers. In discussions with one Qatari, I learned that her mother had died because she was struck by a car while walking because there were no walking paths and insufficient lighting in that street. Participant 7 claimed, “The streets are totally not prepared for walking; half of people who did physical activity in Alwakra passed away because of car accidents; cars hit them...I know five persons [who died because cars hit them while they were walking in the neighborhood].” Participant 6 also described her neighborhood as unsafe for physical activity due to the lack of pedestrian paths and the number of two-way roads.

Moreover, Qatari cities do not have a real neighborhood system where services and facilities are close to residential areas. There are a number of neighborhoods with gas stations that often include mini-markets and service areas; nevertheless, many of these neighborhoods do not have enough services within walking distance. Four participants claimed that services and facilities are not close to their home. The absence of neighborhood-based parks, grocery stores, and gyms was discussed by Participants 1, 6 and 5. Participant 6 highlighted an important fact: the availability of facilities that are close to residential areas is insufficient if the quality of these facilities is poor. As an example, she cited a poor-quality gym close to her home and indicated that she had chosen another facility farther away for this reason.

The lack of aesthetically pleasing landscapes is another considerable limitation in Qatari city neighborhoods. Through observation activities, I noticed that there were very few trees and flowers in the neighborhoods, and many vacant lots are located between houses and in developed areas. These sandy lands make walking unappealing because they are unattractive aesthetically and the land around them is dusty. Informal discussions with Qataris revealed that most of these unbuilt lands are owned by Qataris who have decided to neither build on the land nor sell it. Governmental policies support their decision to keep the land vacant, as there are no taxes on such lots. Moreover, there is a policy prohibiting the sale of governmental land grants for the first 10 to 12 years after the grant is issued, so Qataris who decide not to build on their grant lands are forced to keep them vacant for years.

Participant 3 mentioned Aspire Zone as the best example of a good neighborhood design in Qatar, stating, “This is the only place that I like, and I hope that all places in Doha become

like it is. Aspire Zone, is seriously, a successful place.” Aspire Zone is distinguished by the availability of walking and cycling paths, and aesthetically pleasing landscapes. However, this zone is not for housing as it is meant for the practice of competitive and non-competitive physical activity and sports. Nevertheless, Participant 3’s comments reflect the importance of building neighborhoods with walking paths and green landscapes. Interestingly, two participants who work at Aspire Zone reported walking outside of their respective buildings within the zone; one said that she walked from her workplace building to another building in the zone, while another mentioned walking around the buildings during breaks. The latter participant, Photovoice Participant 1, provided a photograph (Figure 4.21) and commented, “The place is quiet, green; there are walking paths.” She contrasted her workplace with her study space at the university, reporting that she had not been involved in physical activity in her study space due to the lack of walking paths and the traffic jams.



*Figure 4.21.* Aspire Zone. Provided by Photovoice Participant 1.

Participants claimed that they became more active when they traveled outside Qatar to countries such as Switzerland, Thailand, and Turkey, for cultural reasons which have been discussed, but also as a result of environmental factors. Almost all participants praised the natural and built environments outside Qatar. Some participants discussed natural views and fine weather as being desirable, whereas others pointed to man-made environment features such as cycling and walking paths. Generally, participants described the environment outside Qatar as

being more conducive to walking, as the built environment in many locations was designed to support walking and other types of physical activity. Photovoice Participants 2 and 3 provided pictures of Turkey (Figure 4.22), explaining that this type of environment enhances their physical activity, as they like to see the green landscape and natural views.



*Figure 4.22.* The preferred environment for physical activity. Provided by Photovoice Participants 2 and 3.

#### **4.4 Wealth and Luxury**

Two sub-themes emerged within the wealth and luxury theme: Not a ‘helping yourself’ culture, and a wealth and luxury linked to a relaxed, inactive, and comfortable lifestyle.

**4.4.1 Not a ‘helping yourself’ culture (C).** Qatar is the richest country in the world (13), and this is easily apparent in the lifestyle of the population. Life in Qatar is one of luxury, where a person can employ foreign housemaids and other personal workers who take care of cleaning, laundry, cooking, and gardening. In Qatar, people do not wash their cars; instead, they leave this type of manual labor to personal workers or car washing stations. The idea of ‘helping

yourself' does not exist in this country. Employees do not need to leave their desks to make a cup of coffee or to gather documents as there are workers who are hired for such purposes. The situation is the same in the public spaces: individuals do not leave their cars to fill up tanks; they do not need to pack their own shopping bags or carry them out to the car; they are not required to leave their cars to order something from a restaurant or grocery store because they can stay in the car and beep the horn, and someone will come to take the order and bring it when it is ready.

Cars and gas are affordable, so there is no need to use public transit. Free golf carts are available in most Qatari destinations such as the exhibition center, the airport, the museum, and most entertainment venues. These golf carts are not limited for the use of people with special needs or the elderly as anybody can use them. Most Qatari malls have fee-based valet parking, and some Qataris rely on this service to satisfy their luxurious lifestyles. All of these things are challenges to the adoption of physical activity behavior among Qatar residents.

As mentioned, for Qataris home is considered to be, in the words of Participant 6, “the place of women.” It is expected that women will spend the majority of their free time (other than working or studying hours) inside their homes. Therefore, household activities are the most acceptable and encouraged form of physical activity. Nevertheless, most participants reported limited involvement in these duties due to having maids and other personal workers who are responsible for all domestic activities. All of the participants claimed that they had at least one home maid, and the majority had more than one. One participant, for example, claimed to have six personal workers, which included three home maids and three drivers. These personal workers performed all home-related duties, including cleaning, cooking, and gardening, leaving nothing to be done by the wife and daughters. Participant 3 said, “Home maids are for household activities... thanks [to] Allah [God] we do nothing.”

Government policies support women's decisions to bring many foreign personal workers (for example, Indonesians, Filipinos, and Indians) into the home. Participants reported that having four personal workers is the maximum for a Qatari family. However, they also noted that this limit is not enforced as many families can make exceptions and recruit more than four. The average monthly salary for personal workers in Qatar is US\$ 220-550 in addition to food paid for by the sponsor and a place to sleep at the sponsor's home. Personal support workers are expected



to work six days a week, eight hours daily. However, based on my observation, the working hour limits are not strongly enforced. The personal workers may work seven days a week, sometimes more, or less than eight hours daily, depending on the sponsor's needs.

One participant suggested introducing governmental legislation to codify and reduce the recruitment of home maids with the aim of increasing Qatari women's household activities, so women could be more physically active. She stated, "Preventing [women] to bring home maids is impossible, [so] instead of [allowing a] woman to have two or three [home maids], [allow her] to have one home maid, and [she] can perform the rest of [household] activities" (Participant 3). However, the participant maintained that this would be very difficult for women as they were used to relying on several maids.

Workplace-related activities are another acceptable domain for Qatari women's physical activity. However, most Qatari women work in managerial, professional, and administrative jobs, which do not require a lot of physical effort. Thus, women engage in very little physical activity at work. Their activity is mainly limited to moving around to greet customers or walking from one room to another. Even though the participants claimed to walk in their workplace, walking opportunities are very limited in most Qatari organizations. Based on my observations, Qatar has begun to adopt technology in most workplaces; therefore, employees increasingly spend most of their time sitting at their desks. They do not walk in order to retrieve documents that they need or to secure approval for a paper, as all documents can be sent through email and all requests can be raised through electronic applications. Even in the organizations that are not completely technology-based, employees rely on office boys recruited to collect the documents and send them to other departments. Moreover, most organizations have teaboys, so employees do not need to get up from their desks to make their coffee, as they can easily order it over the phone.

Transportation-related physical activity is almost non-existent in Qatar, especially among women, for many reasons. One reason is that there is no need to walk for transportation purposes as it is easy to purchase a tax exempt car, which can then be filled with gas at a cheap price (1.30 Qatari riyal = US\$.36 per liter). The only people who walk to work or to do domestic tasks are the blue collar expat employees who cannot afford to purchase a car, and they are the only ones

who use public transportation. It is worth highlighting that even expats who previously walked for transportation purposes do not adopt this behavior in Qatar. It is rare to see anybody walking or cycling for transportation purposes.

#### **4.4.2 Wealth and luxury linked to a relaxed, inactive, and comfortable lifestyle (C).**

Qataris have adopted a more luxurious lifestyle than non-citizens of Qatar. Wealth and luxury enables Qataris to be relaxed and comfortable, and the effort required to practice physical activity is incongruent with this lifestyle. Participant 1 observed that Qataris believe that “effort is always against luxury, regardless of the purpose of this effort, if it is sport-related or not.” According to this view, Qataris believe that luxury is reflected by indulgence in and enjoyment of rich, comfortable, and sumptuous living. They avoid anything that may lower this perception of luxury such as pushing a supermarket trolley or carrying luggage. They also avoid parking far away from their venue and walking to it, as that is not in line with a luxurious lifestyle; they choose valet parking instead. Participant 1 observed, “Here because people have luxury and facilities, they will undervalue the one who is walking and parking faraway instead of taking a valet parking; they will say, we will give our cars to the valet parking to park it, not only in the regular valet rather in the first close VIP ones.”

The sumptuous living is also reflected in having an elegant appearance and in owning items from exclusive brands. Qataris spend their money on fancy supplements as they do not need to think about their basic needs since these are provided free of charge by the Qatari government. Qatari nationals are eligible to have a grant of land and a housing loan without interest. They have free electricity, water, education, and health. Basic foods such as flour, rice, sugar, oil, and condensed milk are subsidized. Therefore, they spend their high salaries on luxurious items such as valet parking, VIP tickets, brand name items, and jewelry. Since Qatari women wear the abaya and scarf when they are in public areas, the only way to reflect their elegance and fashion taste are through their purses, shoes, and accessories. As mentioned, some Qataris wear high heels, which makes walking and taking stairs more difficult and uncomfortable. Participant 1 said, “I will tell you why I hate to walk because I don’t like to wear a sport shoes; I like high heels; I can’t wear flat; I hate flat... I see myself elegant when I wear high heels.” Participant 7 shared this opinion, saying, “I don’t like myself with flats.. I don’t like it, I feel that my walking is changed, I like high heels. ...this affects my physical activity.”

However, not all participants believed that sport shoes are unfashionable. Two participants described stylish sports shoes as a motivator for their physical activity. They claimed that colorful, attractive sports' clothes and shoes link physical activity to fashion and style. This perception attracts them and other women to these clothes, and towards being more active. Figure 4.23, photographs taken by Photovoice Participants 1 and 2, reflects that colorful sport clothes and shoes motivate them to engage in physical activity. As Photovoice Participant 1 declared, "I love sports' shoes, also clothes; this motivates me. I purchase them to do physical activity... when I see them; I feel that I want to purchase them to do physical activity. I love colors." Photovoice Participant 2 commented on the photo, saying, "Colors, when I see sport clothes, I become motivated to purchase them to practice physical activity." She also added that wearing sports' shoes, specifically a particular brand, facilitate her physical activity. It could be that the new brands of sports' shoes, such as those by Prada and Christian Dior, decrease the gap between elegance and comfort. In earlier observations, I saw many Qatari women wearing high heels in malls; however, more recently and in increasing numbers, I have observed women wearing the new brands of sports' shoes, which perhaps allow them to feel elegant while providing a more comfortable walking experience.



*Figure 4.23.* Colorful sports' shoes motivate physical activity. Provided by Photovoice Participants 1 and 2

To make physical activity more attractive, participants suggested linking physical activity to luxury, style, fashion, and beauty. This could happen by offering luxurious facilities and activities, with limited access. Participant 1 said: “[Qatari women] will not attend [facilities and programs] if the access is not limited; they will not attend if they feel that it is for all people; they like limited access [to facilities]; they like prestige.” This claim was also echoed by my observation activities. Qatari women like to attend limited access service lounges with stylish surroundings. They also prefer individual attention from staff. Therefore, they rarely take economy fares on flights, preferring business or first class. They are also prepared to pay extra money (\$100) to attend premium lounge services offered by different visa offices. As reported by Participant 1, to secure exclusive and limited access, Qatari women prefer paying for services: “They prefer [fee-based services] because for them if there are no fees that mean anybody will attend it; that means there is nothing distinguished in that place; it is not luxurious; however, when they pay they will receive good service in return for their payments, service that makes them happy.” Interestingly, Participant 5 had a contrary recommendation, suggesting that free walk-in facilities for physical activity should be offered. I believe both suggestions are needed as it is important to target Qatari women from different social classes: Participant 1 represented the views of Qatari women from the upper social class, whereas Participant 5 represented the views of middle class women. Participant 1 also added that beach- and water- related activities could also attract some Qatari women as they might like to go there for tanning purposes.

Participant 7 also suggested linking physical activity to the luxurious lifestyle; however, she had a different approach than Participant 1. Participant 7 suggested that the best way to enhance the Qatari people’s perception of physical activity, and to raise their interest, would be to see the State of Qatar’s leaders, such as Sheikh Tamim and Sheikha Moza, support it and to see them adopt it in their lives. She added that because Qatari people like and admire their leaders, they imitate them in their lifestyles and fashion. The participant added that many Qatari women began wearing a turban instead of a regular headscarf to travel outside Qatar when Sheikha Moza did this. It was only when people saw Shiekha Moza doing this in the media that the turban became acceptable. My observations support the suggestions of Participant 7: Qataris strongly admire their leaders. For example, several social media accounts focus on Shiekha Moza and her fashion and lifestyle. Accordingly, Qatari women are likely to place value on

physical activity if they see their leaders being physically active.

## CHAPTER 5

### DISCUSSION AND CONCLUSION

In this chapter, I discuss the study's findings in relation to the literature. I offer reflections on content, concepts, and the methodology of the study. Theory and policy implications as well as directions for future research are also addressed in this chapter.

#### 5.1 Reflection on the Content and Concepts

In the literature review, I presented the factors affecting physical activity based on the Socio-ecological Model, which includes individual, social, environmental, and political elements. However, in the results section, I presented the findings under four themes: beliefs and faith, culture, the physical environment, and wealth and luxury. The purpose of this section is to complement the literature review and results chapters by comparing my study's results with those in the literature. This section is organized according to the themes that emerged from the study.

**5.1.1 Beliefs and faith.** Key topics discussed under this theme are perceptions about physical activity, motivation, and self-efficacy. The findings related to these topics and their relations to the literature are discussed in this part of the paper.

Consistent with the findings of Arabic and Gulf-based studies (177-179), this study found that Qatari women have positive perceptions toward physical activity, particularly toward active living. Participants linked physical activity to having energy, being healthy, feeling active, having a healthy body weight and having a physically attractive shape. Nevertheless, this study shows that there are misconceptions and negative views associated with the physical activity behavior. Some Qatari women practice little physical activity because they believe that it causes irregular menstrual periods, low blood pressure, skeletal pain, and the development of a flabby

body once exercise is discontinued. Two participants reported restricted engagement in physical activity because they fear injury as they have chronic orthopedic problems. Some of these beliefs, such as skeletal pain, fear of injury, and the inability to control disease, have been identified in the literature as barriers for physical activity among Arabic populations (103). However, despite some negative beliefs, most participants in my study had positive feelings towards physical activity.

Notwithstanding positive attitudes, this study shows that many Qatari women are not motivated to regularly participate in physical activity. The interaction between perception and behavior has also been reported by other GCC<sup>1</sup> studies (177, 180). Motivators identified in my study were similar to those identified in other Qatar-based studies, which found that weight management, healthy feelings, and maintaining a youthful appearance are the most important reasons why women engage in physical activity (7, 8). However, a difference between my study and previous studies regarding motivation is that my study found intrinsic motivations for physical activity such as pleasure and fitness, whereas previous studies found only extrinsic motivators (7, 8)

Another key factor under the theme of beliefs and faith is self-efficacy. Self-efficacy is defined as one's conviction that one is able to perform a required behavior to reach the desired goal under several specific circumstances (94-96). Self-efficacy to practice physical activity was low among the study participants. Qatari women do not have a high degree of confidence that they can incorporate physical activity into their typical day. Accordingly, it is difficult for them to have the confidence to engage in physical activity when they face obstacles such as feeling sick, being injured, recovering from an injury, or having muscle soreness (57, 58, 97). A study conducted among Saudi women also showed low self-efficacy associated with physical activity (177). Low self-efficacy for women is likely related to their restrictive gender roles, starting in childhood when girls are not encouraged to be as active as boys.

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<sup>1</sup> GCC refers to the Gulf Cooperation Council which include six members: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates

This study's findings under the theme of beliefs and faith corresponded with the findings of studies from other Arabic and GCC countries on physical activity perceptions, motivations, and self-efficacy. Nevertheless, my study has some unique findings as it revealed some new misconceptions about physical activity. It also exposed some extrinsic motivators for physical activity among Qatari women.

**5.1.2 Culture.** Under the culture theme, I address three main topics: the family's role in women's physical activity, the lack of connection between physical and social activities, and gender issues (such as the hijab, limited mobility, and social roles).

My results corroborate the literature (7, 8, 103), which suggests that family plays a critical role in women's physical activity behavior. I found that families who do not support physical activity for women or believe that women should not practice physical activity outside of their homes constrain women's physical activity. Women often follow their family's beliefs without questioning them. Qatar society is 'collectivistic' (27) in that it encourages interrelationship and collaboration, with the family at the center of this social structure. Therefore, the priority of the family's goals and reputation is higher than an individual's needs or desires. All family members are expected to follow the recommended cultural norms and standards in order to keep good relations with their family (27). This also applies to physical activity behavior.

An interesting finding of this study is that physical activity is not a social activity for women in Qatar, which is also the case among most of the Arabic and Gulf populations (103, 128, 177). For example, a study conducted among Saudi females found that 41% of Saudi women believe that exercise is not the way to have contact with friends and people they enjoy. Moreover, 33% of the Saudi women in that study declared that exercising is not a way for them to meet new people and to increase their acceptance by others (177). Nevertheless, physical activity is considered as a social activity for men in Qatar as it is popular for Qatari men to gather socially and play soccer during their free time. Consistent with the findings from Arab populations, this study found that Qatari women have little social support for physical activity (100, 127, 181-184). This study also found that it is not easy for Qatari women to find a partner to exercise with, a barrier to physical activity that has also been reported by Emirati women



(128).

The results of my study are similar to those of studies conducted among GCC and Arab populations, where the conservative gender-grounded socio-cultural norms make it difficult for some women to be physically active (93, 100, 104). Consistent with another GCC-based study Samara et al. (177), my study also found that men have more opportunities to engage in physical activity than women. Like other behaviors in Qatar, physical activity is affected by gender ideologies which structure the opportunities for women and men to engage in physical activity. My study's findings suggest that women's social roles, based on cultural expectations, present significant barriers to physical activity. To provide greater understanding, three main socio-cultural features that impact women's physical activity will be discussed in detail in the following paragraphs: dress and behavioral codes (hijab), limited mobility, and social roles.

***Dress and behavioral codes (hijab).*** The hijab has been identified as one of the physical activity constraints among Qatari and other Arabic women (104, 128, 185). The hijab itself limits physical activity. However, the cultural way of presenting the hijab in Qatar and other Gulf countries produces further restrictions to the adoption of physical activity behavior. The hijab-related dress and codes of behaviors in Qatar result in gender inequality in terms of practicing physical activity. Men can engage in physical activity wherever and whenever they want, wearing any clothes. However, women's engagement in physical activity is restricted to specific outfits and specific areas.

Most Qatari women adhere to the hijab; they wear abayas and shaylas (head scarves) when in the presence of adult males outside of their immediate families. The act of wearing a hijab has a religious context, whereas the wearing of the abaya is mostly directed by the culture. The word hijab means 'cover' in Arabic (27); it refers to covering the head and body in the presence of adult males outside the immediate family. It could also refer to covering the hands and face. Most Islamic scholars agree on the concept of hijab as a religious obligation of Islam that Muslim women must abide by. However, there is no agreement on the hijab outfit, which is interpreted more or less strictly in different Muslim countries. For example, some Muslim women wear modest pants and shirts with turbans, while some wear abayas and shaylas.

It is difficult for Qatari women to change their hijab outfit for the purpose of physical activity while they are in Qatar; however, they often change it when they travel outside the Gulf countries. Qatar is not like Saudi Arabia, where all women are required by law to wear the abaya; nevertheless, there is cultural pressure within the Qatari community to conform to this tradition (27). Abayas were abandoned in the 1980s; however, the re-adoption of this attire was provoked by a desire to preserve the Muslim identity in the late 1980s and 1990s as a result of Islamic revivalism in a region experiencing rapid modernization and westernization (27, 186, 187). Therefore, the Abaya became a symbol to identify Qatari and other Muslim women as “observant Muslim[s]” (Lindholm (187), p.2). The abaya and shayla also identify Qatari women as citizens. By wearing the traditional Gulf-based hijab ‘abaya and shayla,’ Qatari women feel that their identity is defined and that they are linked to their Qatari and Gulf community (187). Notably, wearing the abaya and shayla have many advantages for women. They provide women with greater autonomy, flexibility, respect, dignity, and protection (27, 188). They facilitate women’s movement outside the home, prevent male attention from being directed at them, enable them to cross gender boundaries and allow them to slip into the public arenas of social life, including mixed gender settings (27, 188). Nevertheless, a number of Qatari women change their hijab outfit (abaya and shayla) when they travel outside the Gulf countries to avoid attracting attention (187). As an alternative, they often wear modest clothes to cover the body and a turban to cover the head.

The hijab requires not only adhering to a specific dress code but also to conservative modest behaviors (185). The “hijab serves as proxy for a larger set of Islamic codes of morality, conduct and dress” (Harkness (27), p. 2169). Qatari women who adhere to the hijab adopt Islamic principles of behavior, which include “deemphasized sexuality, demure self-presentation, avoiding eye contact with men, limiting physical activity, gender segregation and displays of religious and spousal devotion.” (Harkness (27), p. 2169). Yet when Qatari women travel outside the Gulf, both their dress and behavior become more flexible, suggesting that culture plays a key role in shaping the hijab expectation among Qatari women.

As mentioned earlier, the hijab itself limits physical activity. However, the cultural way of presenting the hijab in Qatar and other GCC countries, which includes the wearing of the abaya and shayla, as well as all previously mentioned behavioral standards, further restricts the

opportunities for physical activity (104, 128). For example, veiled women from different backgrounds can wear modest clothes and cycle or swim in public areas. However, Qatari women are unable to do this because of their hijab outfit and behavior expectations. Qatari women believe that women should not engage in heavy physical activity in front of men who may misinterpret these behaviors as sexual and may not be able to control any lustful urges (27). Qatari women need to have access to women-only places, where they can take off their hijab to take part in physical activity. This stresses the importance of providing greater attention to women's physical activity, since they have fewer opportunities for physical activity compared to men.

***Limited mobility and the need for approval.*** Limited mobility and the need for approval to engage in outdoor physical activity have been identified as important constraints to women's physical activity (7, 93, 100, 104). Patriarchy is the overarching feature of Qatar society (27), with men assuming far greater freedom compared to women. It is expected that Qatari women will spend the bulk of their time inside their homes as it is socially not acceptable for them to spend long hours away. It is also expected that women will have their husbands' or other family members' permission to leave their homes. These gender-based expectations limit Qatari women's participation in outdoor physical activities. The situation is the opposite for men, as it is totally accepted for them to spend the majority of their time away from home, not only for work but also to enjoy time with their friends. This disparity in freedom is well accepted in Qatari society. Some of the study's participants discussed these differences for men and women, while expressing complete satisfaction with the status quo. They spoke about the situation to clarify the factors that influence them and other Qatari women in adopting physical activity behavior, not because they wanted to complain or disagree.

The expectation of women to stay in their houses may have been guided by Islamic religion at the beginning before it became part of the culture in Qatar society. Allah (God) says in Quran: "...and stay in your home and do not show off in the manner of the women of the days of ignorance." (Alahzab, 33) Some scholars argue that this command is addressed to the prophet Muhammed's wives only since there is a verse from the Quran before that verse which says,

O ye wives of the Prophet! Ye are not like any other women. If ye keep your duty (to

Allah), then be not soft of speech, lest he in whose heart is a disease aspire (to you), but utter customary speech (Alahzab, 32).

However, the majority of Muslim scholars claim that all women should adhere to the command of staying home, except for specific purposes, on the grounds that the Prophet Mohammed's wives are the role model for the rest of Muslim women.

Even if a woman has a purpose outside her home, she needs the consent of her husband or another family member, such as her mother, father, or brother, before leaving home. The need to have approval before practicing any outdoor activity constrains physical activity behavior in daily life (7, 100, 103, 127). This command has a religious context as Islam requests that before leaving the house, women must have their husband's permission. Among some couples who enjoy mutual trust, this expectation can be modified. For example, if a woman knows that her husband is open to her leaving the house, she does not have to seek his permission before doing so. However, a woman is expected to obey her husband's wishes, so if a husband believes that the family would be disrupted by his wife's absence, he is authorized to prevent her from leaving the house. In this regard, the husband must remember that if he imposes himself with no justifiable reason, he would displease Allah. The Messenger of Allah (peace and blessings of Allah be upon him) said, "The best of you is the one who is best towards his family; and I am the best of you towards my family." (Narrated by Albany, 285). Nevertheless, some men use their authority and limit their wives' outdoor activities because they believe that physical activity is an unimportant reason to leave home. If a woman is unmarried, the usual practice is to seek permission of her father, mother, or their representatives, such as a brother, before leaving the house.

***Social role and caregiving responsibilities.*** Women's social roles, based on gendered cultural expectations regarding household activities and caregiving responsibilities, present significant constraints to physical activity (7, 8, 59, 103, 104, 112, 126, 189). As has been mentioned previously, many Qatari women have personal workers who take care of most household activities. Nevertheless, women still have many responsibilities to their children, parents, and families. Women's social role is mostly directed by socio-cultural factors. From the Islamic perspective, both men and women are responsible for raising their children, teaching, and

educating them. However, society puts an extra burden on women and considers them responsible for doing such work. The case is the same with honoring family and parents, as both men and women are requested by Islam to take care of their parents and family; however, society expects a man to provide money and a woman to provide care.

My results on the effect of culture on women's physical activity correspond with those from other studies on the Arab and GCC population. Consistent with research from this area of the world, my study concludes that family plays a key role in women's physical activity behavior, that physical activity is not a social activity, and that women have fewer opportunities than men to engage in physical activity.

**5.1.3 The physical environment.** Under the physical environment theme, I discuss my findings related to both natural and built environments, as well as their relation to the literature. Consistent with other Arab and Gulf-based studies, this study found that the natural environment of Qatar creates a burden for physical activity (7, 8, 100, 104, 178, 190). All study participants mentioned the high temperature as one of the strongest constraints for physical activity among women. However, the temperature in Qatar is not overly hot from October to March, which means that the weather is acceptable for physical activity for half of the year. As a resident of Qatar myself, I believe that people perceive the warm weather of Qatar as a barrier for physical activity more than it actually is. Nevertheless, the dusty and humid conditions can sometimes provide a sense of discomfort. Qatar has a desert environment, which is characterized by little rainfall. This requires a stronger effort from the government to plant trees and take other steps to create an acceptable environment for walking and physical activity.

Notwithstanding the desert environment, this study found that Qatar has many parks and walking friendly places that encourage physical activity (7, 8). Qatar also offers some female-only health clubs and gyms (7, 8). Nevertheless, the opportunity to attend these clubs and gyms is still limited because the availability is less than the demand, as has been reported in other GCC countries (93, 104, 180, 191). Several participants talked about the inaccessibility of government sports clubs and gyms. They attributed this to inadequate advertising and a lack of policies to encourage gyms to accept Qatari women as members. Some participants described private sports clubs as having an unacceptable environment due to rigid policies and non-adherence to the

Qatari culture. In spite of these complaints, the participants did admit that Qatar has some female-only gyms and places that are conducive for physical activity. However, interviews and observation activities revealed that the country has poor neighborhood environments to support daily physical activity. Neighborhoods in Qatar are characterized by the lack of pavements, the absence of aesthetic places, limited accessibility to facilities and public open spaces, and limited neighborhood connectivity. In addition, internal streets may be unsafe due to inadequate lighting. The poor built environment has been identified in other studies as a barrier to physical activity among Arab and Middle Eastern countries (29, 104, 177, 178).

The findings in this theme seem to be consistent with the Arabic, GCC, and Qatar literature, which has concluded that the natural and built environments create a barrier for physical activity. However, this study highlights a positive environmental feature in Qatar compared with some Arabic countries, which is the availability of walking-friendly places.

**5.1.4 Wealth and luxury.** Under the wealth and luxury theme, I address the impact of socio-economic transition on physical activity behavior.

This study, like others done among Gulf populations, documented the effect of wealth and luxury on physical activity behavior (146, 190, 192-194). Along with other Arab countries, Qatar has developed rapidly in a short time. Only a few decades ago, many Qataris were employed doing physical work under the desert sun. Now they are ensconced in comfortable air-conditioned offices and homes, and they have servants to do the physical work. The rapid urbanization and economic development in Qatar has created the opportunity for a more sedentary lifestyle and limited the need for incidental activity. Like other GCC women, many Qatari women rely on personal workers, depend on automated transport, and hold sedentary jobs (8, 104, 180, 195). All of these factors reflect the effect of the socio-economic transition on physical activity behavior in Qatar. Many studies conducted among Arab, GCC, and Qatari populations have highlighted this connection between rapid urbanization and the socio-economic transition, with the increased prevalence of modifiable risk factors such as physical inactivity and a poor diet (146, 192-194, 196-199).

Based on the findings of my study, wealth and luxury are not only limiting the opportunities of Qatari women to engage in physical activity behavior; the wealthy lifestyle has increased the required 'standard' for practicing physical activity. For example, some participants reported that they and other Qatari women have started to search for high quality gyms and programs with privileged access. They reported losing interest in the community-based programs, since these programs are not satisfying their needs. This could explain the findings of the *Report of Living Condition in the State of Qatar*, which shows that, when their level of socio-economic status increases, people tend to believe that their living conditions are no longer conducive to exercise (25).

In summary, consistent with the GCC literature, this study documented the effect of wealth and luxury on physical activity behavior.

## **5.2 Study Implications and Reflections**

In this section, I discuss the findings in relation to theoretical and practical applications. Most of the listed suggestions are from the participants' viewpoints; However, I elaborate on these perspectives based on the study findings and the available literature.

**5.2.1 Implications on policy and practice.** This study, like many others (104, 176, 178), supports the implementation of community-wide campaigns to raise the awareness of the benefits of physical activity and to resist the misconceptions and myths related to this behavior. Mass campaigns should not target women only but should also involve men, since men are the ones who control women's movement outside the home in Qatar. Mass campaigns would try to increase the value placed on women's physical activity as it is often be over looked as a consequence of cultural norms (104, 178). Such campaigns should recruit multiple media (TV, radio, social media), use segmented short messages, and offer community events and programs (176). Campaigns must be provided by multiple sectors such as health care providers, psychologists, sociologists, and religious institutions to support women's physical activity within Islamic guidelines. The influence of religion on Muslim health and the importance of religion as a resource to improve health and wellbeing have been documented by previous studies (200-203). To encourage women to integrate physical activity into their daily routines, behavioral

change programs (176) such time management, self-awareness, personal confidence, stress tolerance, and decision making are needed. These programs could help women to develop and reinforce personal skills.

This study's results suggest the need to use many approaches to promote physical activity. One of the suggested routes is to promote physical activity in primary health care, such as involving a physical activity component in patients' assessments, providing patients with customized physical activity prescriptions, and referring them to a qualified exercise physiologist if needed. Although clinical settings are ideal for promoting physical activity (204-206), Euro-western data show that physical activity promotion by health care professionals is far from optimal (207, 208). One of the most often cited reasons for this research-practice gap is the lack of formal education on physical activity promotion (209). Accordingly, it is important to provide health care professionals, such as physicians, nurses, and health educators, with physical activity training and workshops. Health care professionals also need to have formal guidance and education for conducting weight loss surgeries only for medical reasons and for the cases in which individuals can prove that they participated in a medically supervised weight loss programs without success.

The dress and behavioral codes, limited mobility outside of the home, and the need to receive approval all point to the importance of providing women with home-based physical activity ideas and support. A study conducted in Saudi Arabia, which found that 92% of Saudi women exercise at home, highlighted the value of the home as a setting for physical activity. Accordingly, policies should provide greater support for home-based physical activity; such policies can include subsidized equipment, zoning codes, home-work balance, and health care policies (36). To encourage home-based physical activity, campaigns need to provide women with the knowledge and skills necessary to practice physical activity at home. Information about physical activity can be also delivered to women through social media, such as Snapchat and Instagram, since many Qatari women use them. A helpline to support women's physical activity could also be useful. Such an approach has had success with other health behavior like smoking cessation, depression management, and chemotherapy support (210-212). A helpline can work in different ways: It can allow women to call whenever they need support in physical activity; it can also employ counselors and health care providers who call women to support their physical



activity.

To encourage Qataris to accept physical activity, social networks, such as buddy systems and physical activity groups, are needed. Evidence suggests that a social network or buddy system motivates people to be physically active, increases the frequency and duration of their exercise, and enhances their aerobic capacity (114). This initiative could be conducted by choosing Qatari champions of physical activity in different communities, neighborhoods, and workplaces. Each champion could later convince a group of women to take part in physical activity groups and become more active. These active women may work later as role models for other Qatari women (127). Active role modeling contributes to an increase in community acceptance of physical activity, as well as to an increase in the perceived community social support among women (112). A previous study conducted in Qatar suggested that encouraging women to practice physical activity with a group of friends might be an effective strategy to increase the level of physical activity, since these women would be role models for each other (7). In one study, Arabic women stated that a new trend towards small groups of women being seen walking in many areas has started to gain acceptance in their society (127). Perhaps these activities will also enhance self-efficacy for women to practice physical activity.

Urban design and high level policies to support physical activity are key to creating an active community in Qatar. The built environment for physical activity needs to improve by enhancing accessibility to physical activity-related settings and improving the characteristics of these settings. Interventions to enhance physical activity could be created through establishing walking paths, creating mass public transportation, offering more parks and recreation centers, as well as providing culturally-based gyms and health clubs (7, 49, 176, 191). Based on my study's findings, such facilities are available in Qatar but they are centrally located in specific areas. Accordingly, to encourage daily physical activity, policies should focus on developing amenities in neighborhoods near to where people live. Neighborhoods in Qatar need to be redesigned in order to ensure the availability and connectivity of sidewalks and streets as well as the proximity of residential areas to services facilities. Moreover, the Qatar government needs to plant trees in the neighborhoods in order to provide aesthetically pleasing landscapes. Separating buildings from parking slots with green space is also recommended (49). The environmental features of leisure facilities should be aligned with the Islamic and Qatari culture, which call for adequate

cover for women and separation of men and women so that women can practice physical activity comfortably (7, 8). Research from GCC members (Oman) suggests that creating gender-segregated walking paths could increase levels of physical activity among women and men (178).

Indeed, most of these initiatives require policy level intervention to fund, reframe, and modernize community design, land use, and zoning regulations. Policies also need to ensure the interdisciplinary collaboration between transportation, community planning, public health, as well as sport and recreation. Those who desire change should unite around a common goal: to increase levels of physical activity in the daily life of the community members. If physical activity interventions target large numbers of people, the result should be population-wide health promotion (36, 131).

To address the physical activity challenges that have accompanied the economic transition and rapid urbanization, innovative interventions are needed. Such interventions include linking physical activity behavior to wealth and luxurious lifestyles. Policies could facilitate or encourage the development of luxurious and attractive physical activity programs and facilities. High profile people as champions for physical activity could also enforce the luxurious picture of physical activity. A good example of this can be seen in the U.S. through the initiative of former American First Lady Michelle Obama who launched the *Let's Move* initiative, which is dedicated to solving the obesity problem among children. The First Lady has been seen many times practicing physical activity and offering healthy options for children and their parents. Qatari people like and admire their leaders; therefore, seeing Qatar's leaders practicing physical activity would make people adopt this behavior in their own lives.

**5.2.2 Reflections on theory and framework.** As has been mentioned, few academic papers are published in Arab countries (28, 29). This scarcity is not limited to the literature about physical activity but also concerns the epistemology and ontology of most knowledge that shapes physical activity-related papers, such as the theories and frameworks underpinning these works. The overwhelming majority of the literature – conceptually, methodologically, and substantively – is firmly grounded in a Euro-western context. Although this literature has provided this study with knowledge of the physical activity field, it has been unable to shed much light on physical

activity in the Arabic context. Nevertheless, applying both Feminism from the Islamic viewpoint and the Socio-ecological Model, which is firmly grounded within the Euro-western background, allows this study not only to provide the context of physical activity among Muslim and Arabic population, but also to inform the Euro-western literature, theories and frameworks.

Through analysis, Islamic Feminism points to some considerations, such as religious, spiritual and gender matters, that should be reflected in the Socio-ecological Model. At the beginning, I concurred with this view: to accurately represent Muslims and Arab populations, the Socio-ecological Model, I believed, needed to include these considerations. However, upon reviewing the literature for the purpose of writing up the discussion chapter, I realized that these considerations affect not only the physical activity of Muslims and Arabs but also that of people from different religions and backgrounds, including the Christian Euro-western population.

A key contribution of Islamic Feminism to the Socio-ecological Model is that it points to the importance of religious and spiritual factors on health behavior. Religious and spiritual factors are not actually discussed, neither when addressing individuals nor the social factors of socio-ecological models (36, 50-52, 55, 213). The Socio-ecological Model classifies the individual factors of physical activity as demographic, physiological, and psychological (36, 51, 55, 213), while the social factors of physical activity focus on culture, social support, and other parameters such as the social climate (36, 51, 55, 213). Based on my study's findings, religious commands and beliefs play a critical role in shaping physical activity behavior in the Muslim population. Accordingly, I believe that religious and spiritual factors should be considered in any theory or framework that aims to understand physical activity or other health-related topics among Muslims. It is also likely important to consider these factors in studying people from other religious backgrounds, including the Euro-Western population. My argument is supported by a recent review (214), which highlights the influence of religion (including Islam, Christianity and Judaism) on health behaviors. This review includes 37 studies that focus on the association between religious and spiritual involvement and physical activity engagement. The majority of these studies report a significant positive relationships between these two variables (214).

Another area where Islamic Feminism informs the Socio-ecological Model is in the model's focus on gender. Most ecological models, including the adapted one in my study (36),

consider sex as a factor that can shape physical activity and other health-related opportunities and constraints, but they do not consider gender. Whereas sex refers to physical and biological differences, including hormones, chromosomes and genitals, gender depicts the social roles and lifestyle that a culture considers to be masculine or feminine (91). Based on my study, gender ideologies shape religious and cultural beliefs that, in turn, influence the opportunities, constraints, and needs regarding physical activity among Muslims. Although gender should be acknowledged when studying any population, it is particularly critical when studying populations with lower gender-equality status, such as those in Arab and Asian countries (215, 216). Both biological and social factors should be acknowledged as having an effect on health. For this reason, both sex and gender should be represented in health-related models.

Another limitation discovered in this study is the tendency for most physical activity- and health related-theories and models to ignore the effects of global influences, such as economics, urbanization, and modernization (36, 50, 213). For example, global influences were not considered in the model adopted in my study: *An Ecological Model of Four Domains of Active Living* (36). Therefore, it was difficult for me to categorize the data related to economic change, wealth, and urbanization that emerged in my study. My findings suggest that global influences, such as the pressure of urbanization and modernization and their related economic and technological changes, should be recognized as influencing physical activity behavior. Accordingly, these factors should be considered in any ecological model aimed at understanding physical activity behavior.

### **5.3 Reflection on the Research Journey**

Having completed this study, I have reflected on the process and identified the strengths and limitations of the research. I really enjoyed my research journey. This was my first qualitative study, which empowered me in data collection and analysis and helped me to think deeply and ‘out of the box’ to understand the phenomenon under study.

**5.3.1 Limitations.** As with any research, there are limitations to this study. One of the limitations is that the observation activity was conducted only in the city of Doha. Also, the sampling strategy faced some challenges. I proposed using both the purposeful and snowball

sampling techniques before settling on opportunistic sampling. I planned to employ purposeful sampling through recruiting participants from community-based programs based on their physical activity level and demographic backgrounds. I thought that participants from these programs could later provide me with access to other participants; however, this sampling strategy produced some challenges. Therefore, I changed my strategy and employed the opportunistic sampling to collect data. This change in the sampling strategy (from the purposeful and snowball sampling to the opportunistic sampling) decreased the opportunity for diversity of experiences with physical activity. As a result, this change could impact the transferability of some of the study's results since some results might not be applicable for less privileged women, such as women with low levels of education, women from low socioeconomic status, and marginalized women like single mothers. The following paragraphs provide more details about my experience with participant recruitment.

I attempted to identify my initial participants through community-based programs that aim to enhance population physical activity such as the *Step into Health* (SIH) and *Exercise is Medicine Qatar* (EIMQ). SIH encourages participants to achieve a minimum of 10,000 steps daily by using a free smart phone pedometer application (app) or a free pedometer. At the beginning of my data collection period, there were 8,102 Qatari women registered in this program, 3,046 of whom were physically active (116). I was interested in knowing the factors that make some members active and some not. I met the SIH program organizer who agreed to help me in approaching some physically active and non-physically active members. With the help of the SIH team, we phoned some participants to request their involvement in the study; however, they refused, without explaining the reason for their refusal. I faced the same experience with the other community-based program, EIMQ, a global initiative managed in Qatar by Aspetar Orthopedic and the Sports Medicine Hospital (117). It is designed to integrate physical activity and exercise into the treatment of people with chronic diseases. My intention was to meet with two clients, one who had high compliance in the exercise classes offered as part of the EIMQ treatment plan and another who had low compliance. However, after going through the approval process, it was again difficult to convince clients to participate in the study.

I realized that it is not practical to speak to a Qatari woman for the first time and request her participation in a time-consuming qualitative study as most probably she will refuse.

Therefore, I changed the strategy and the route of recruiting participants. Instead of using community-based programs to purposefully recruit participants based on their physical activity level and demographic backgrounds, I decided to use opportunistic sampling and recruit women who met the study criteria after socializing with them.

When I found a woman who met the study criteria, I introduced myself to her. I tried to break the ice before inviting her to participate in my study. For example, when I met participant 3 in the Hamad Aquatic Center, a swimming facility, I asked her which team her child was on and when he started swimming lessons. After some socializing and after being sure that she met the study criteria, I told her about my research interest and invited her to be a part of my research activities (interview and/or photovoice). Qatari women were amenable to this approach as it facilitated their acceptance to take part in the research. It is difficult to speak to a Qatari woman for the first time and ask her immediately to participate in a research study, as most likely she will refuse and that is what happened when I invited women through the community-based programs. However, meeting the participant face-to-face, breaking the ice, and then inviting her to the study was a more effective technique.

**5.3.2 Strengths.** This qualitative study provides a deep and rich understanding of the factors shaping the physical activity behavior among Qatari women. It reveals the required interventions for enhancing physical activity from the women's own perspective. It also offers insight into things that need to be considered in physical activity programs or facilities for Qatari women. The results provide insight into the GCC and other Arabic countries as they share some of the same socio-cultural and environmental characteristics. This study provides a valuable contribution to the literature on physical activity and healthy lifestyles among Arab populations.

To establish credibility and enhance the confidence in the findings, different strategies were used in this study. These strategies include triangulation, member checking, peer examination and long-term engagement. First, the triangulation technique helped me to establish the accuracy and complexity of understanding as I checked sources of information (participant observation, interview, and photovoice) against each other. Second, the member checking procedure helped to strengthen the integrity of interpretation and decrease the potential for introducing ethnographer bias. This procedure involved checking some of my results with three

participants. Third, using the peer examination strategy, I involved my advisory committee members in each step of the process, with the aim of confirming emerging interpretations. Finally, my long-term engagement with the Qataris helped me to yield deeper understanding and to develop a holistic sense of the research setting. Although this study ultimately used a fairly homogenous group, it generated themes that are likely transferable. The congruence of many of the findings with the literature from the Arab world suggests this is the case and lends strength to the potential transferability of some of the study's unique findings as well.

To my knowledge, this is the first study to utilize the photovoice tool among Qatari nationals in a move both to go beyond the traditional methods of data collection and to involve technology. The Qatari women in my study seemed to enjoy participating in the photovoice method. It helped them to think deeply about physical activity behavior. It also provided more angles to examine the results of this study. For example, no participant pointed out a relationship between eating habits and physical activity behavior during the interview activity; however, two participants spoke of this relationship during the photovoice activity.

Another important strength in this study was my ability to analyze data as an insider and outsider at the same time. I consider myself an insider because I come from the same socio-cultural background of Qatari women: Muslim, Gulf, and conservative society. However, I am also an outsider as I have been exposed to different beliefs and viewpoints as a result of living in multiple cities and in a range of different societies (Saudi Arabia, Canada, Qatar, and Palestine). This experience helped me to analyze the collected data from both viewpoints. Being an insider helped me to present the data in the right way. In his discussion of the cultural barriers to female sports participation in Qatar, Harkness (27) claims that "Islam does not require the hijab." (p. 2168.) However, the hijab is required by Islam as most Islamic scholars agree that the hijab is a religious obligation for Muslim women; however, there is no agreement on the hijab outfit, such as the abaya and shayla. As an outsider, Harkness (27) was not able to differentiate religious and cultural nuances. Some Muslim people who have seen my findings have criticized me for adopting the outsider viewpoint in addition to the insider one, specifically, when I expressed the effect of Islamic commands and cultural expectations on physical activity among Qatari women. This criticism has led me to acknowledge that I am not clarifying these issues to criticize Islam or the Qatari culture; rather, I am trying to explain the factors that need to be considered when

planning to enhance physical activity behavior among Qatari, Gulf, and Muslim women. I hope that I was able to clarify both viewpoints to deepen the understanding of the issues under study.

#### **5.4 Future Research**

As mentioned, not much academic work has been done on physical activity and other health-related issues in the Arabic countries (29, 190). To understand the current situation and the behavioral trends, Qatar needs to conduct routine health-related surveys including physical activity parameters. Further research is needed to follow the physical activity behaviors among Qatari females from childhood to old age. This research would help understand the threshold in physical activity and the reason behind it. More research is required to understand the effect of key life changes, such as marriage, having children, and menopause on physical activity behavior. More studies are needed to investigate the best strategies to address the reported barriers and to promote physical activity among women. Physical education for girls should be examined through a scientific study to understand and address the lack of sports' skills among women. More research is required to understand physical activity among other sub-populations such as men, youth, and older adults.

#### **5.5 Summary**

This ethnographic study aimed to understand the factors that influence Qatari adult women to be physically active. It also aimed to explore effective interventions to enhance active living from the perspective of women themselves. The study is framed by Islamic Feminism and guided by a socio-ecological model. It involved three data collection methods: participant observation, interview and photovoice. Observation sessions were conducted in public areas, such as malls, parks, gyms, workplaces, various neighborhoods and streets, and several entertainment places. A total of eight Qatari women aged 18 to 44 years were involved in interviews and/or photovoice activities. Participants were recruited through an opportunistic sampling technique. A thematic analysis was used to identify key themes and sub-themes across all transcripts, field notes, and photographs.

The findings of this study were organized under the following themes: beliefs and faith, culture, the physical environment, and wealth and luxury. Four sub-themes emerged within the



beliefs and faith theme: positive perception of physical activity with some misconceptions, perceived low motivation for physical activity, Islam's support for women's physical activity within specific guidelines, and Islamic activities create a domain for physical activity. The results suggest that physical activity is influenced by gender ideologies, which shape religious and cultural beliefs that in turn inform a framework that men and women use to make decisions about physical activity behavior. Six main cultural issues that impact Qatari women's physical activity were identified: social roles and caregiving responsibilities; the need for approval to engage in outdoor physical activity; the conservative dress codes and behavioral expectations; the negative perception towards walking in streets and neighborhoods; the restricted time rules for physical activity; and the fact that physical activity is not a leisure and social activity. The results show that the natural environment in Qatar creates a challenge for the adoption of physical activity behavior. The Qatar built environment supports physical activity only in specific locations such as in parks because it lacks a community-based urban design. This study documented the effects of wealth, luxury, socio-economic transition, and the rapid urbanization on the physical activity behavior in the state of Qatar.

In conclusion, various cultural, environmental, and economic factors play a key role in Qatari women's PA. All of these factors are integrated to shape physical activity behavior among Qatari women. The opportunities, constraints, and needs identified in this study provide important insights about factors that need to be considered in any physical activity programs or facilities for women. Further research is required to identify the best strategies to address the physical activity barriers reported in this study.

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## Appendix A



UNIVERSITY OF  
SASKATCHEWAN

Behavioural Research Ethics

### Certificate of Approval

PRINCIPAL INVESTIGATOR  
Bonnie Janzen

DEPARTMENT  
Community Health and Epidemiology

BEH#  
15-132

INSTITUTION(S) WHERE RESEARCH WILL BE CONDUCTED  
Qatar

SUB-INVESTIGATOR(S)  
Sylvia Abonyi

STUDENT RESEARCHER(S)  
Lena Mohammed Zimmo

FUNDER(S)  
INTERNALLY FUNDED

TITLE  
Factors Influencing Qatari Women to Adopt Active Living Lifestyle

ORIGINAL REVIEW DATE	APPROVAL ON	APPROVAL OF:	EXPIRY DATE
08-May-2015	04-Jun-2015	Application for Behavioural Research Ethics Review Interview Guide Interview Consent Form Photovoice Consent Form Photovoice Interview Guide Transcript Release Form Participant Photographs Release Form Third Party Photographs Release Form	03-Jun-2016

Full Board Meeting

Delegated Review

#### CERTIFICATION

The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

#### ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month prior to the current expiry date each year the study remains open, and upon study completion.

Please refer to the following website for further instructions: <http://research.usask.ca/for-researchers/ethics/index.php>

Scott Tunison, Vice-Chair  
University of Saskatchewan  
Behavioural Research Ethics Board

Please send all correspondence to:

Research Ethics Office  
University of Saskatchewan  
Box 5000 RPO University, 1602-110 Gymnasium Place  
Saskatoon SK S7N 4J8  
Telephone: (306) 966-2975 Fax: (306) 966-2069

## Appendix B



### *Interview Consent Form*

---

**Project Title:** Factors Influencing Qatari Women to Adopt Active Living Lifestyle

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email:

[lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology, Telephone:

+ (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

**Purpose(s) and Objective(s) of the Research:**

This study aims to identify the factors that influence Qatari women, aged 18-44, to adopt a physically active lifestyle. It also aims to discover the most effective interventions for enhancing their active living from their own perspective.

**Procedures:**

- You are kindly requested to answer some questions that help us to understand the facilitators and inhibitors of physical activity among Qatari women. You will also be invited to offer some interventions that you believe can help you and other Qatari women to be more physically active.
- With your permission, the interview will be recorded on a tape. During the interview you may ask me to turn off the audio-recording device at any time.
- This interview will take approximately one and a half to two hours.
- You may answer only the questions you are comfortable with during the interview.
- You will not receive money for your participation.

- Please feel free to ask any questions regarding the procedures and goals of the study or your role.

**Potential Risks:**

This research is considered to be minimal risk. There are no known risks to those who take part in this study.

**Confidentiality:**

- Only I and my PhD committee of this study will be aware of your identity.
- Only I and my PhD committee members will have access to the original data.
- Your data will be kept confidential. All identifying information (consent form and master list) will be stored separately from data collected (audio tape, field notes, and transcript). So that it will not be possible to associate your name with any given responses.
- All paper data and audio tapes will be saved with me and my supervisor in locked filing cabinets. Electronic data (transcribed interviews and field notes) will be encrypted and stored on password protected personal computers, USBs, and/ or hard disks. In addition, a copy of the collected data will be stored in a secured filing cabinet in the Department of Community Health and Epidemiology at University of Saskatchewan and in a secure password protected area of the University of Saskatchewan server.
- The data from this research project will be used for my PhD thesis, published in academic journals and reports, presented at conferences and public meetings, and may be used for media purposes; however, your identity will kept anonymous, as your name will not appear in any report, presentation, or publication about this study, unless you choose to be identified.
- Unless otherwise indicated, the confidentiality of you and your data will be protected. Although we may report direct quotations from the interview (if you consent on the Interview Transcript Release Form) you will be given a pseudonym name. Some of your information (ex: age, socioeconomic and health status) will appear for the need of research, but nobody can relate this information to you.
- Data will be stored with the researchers for at least 5 years after end this project. After that data will be destroyed.



### **Right to Withdraw:**

- Your participation is voluntary and you can answer only those questions that you are comfortable with and you may change your answers later if you wish. You may withdraw from the research project for any reason. However, your right to change or withdraw data from the study will apply for an 8 week period starting from the date of consent. After this period, it is possible that your data will have already been analyzed, and written in the results part of the thesis, and it may not be possible to withdraw your data.
- If you wish to withdraw, please inform me through my contact information that appears at the top of the consent form. If you withdraw before the mentioned deadline, I will confirm with you which aspect of your data you wish to be destroyed.

### **Follow up:**

- If you wish, you will have the opportunity to review the transcript of your interview, so that you may approve, change, or remove any of your responses. If you decide to review the transcript, please let me know your preference: Would you like me to send it to you OR would you prefer me to review it orally with you. If you prefer to receive the transcript, you will be given one week to reply with your feedback; otherwise the transcript will be considered approved from your side. Also, if you decide to review the transcript orally with me, you will be asked to select a suitable time for this review within one of the initial request. Otherwise, the transcript will be considered approved from your side.
- If you wish, you can participate in photovoice activity, in which you will be requested to use your personal camera or camera phone for two weeks to take 10 photographs of things that you believe can facilitate or inhibit your (and/or other Qatari women) physical activity behavior, After that, we will meet to discuss your photos. Please be informed that there is a separate Consent Form to participate in the photovoice activity “Photovoice Consent Form”.
- Results of this study will be shared with you through your preferred method. You are welcome to ask me any questions related to the results. Please refer to the researcher contact information for further communication. Also, results may be published in related journals, presented at conferences and meetings, or released in the media.

**Questions or Concerns:**

- Contact the researcher using the information at the top of page 1
- This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office [ethics.office@usask.ca](mailto:ethics.office@usask.ca) (306) 966-2975.

**Continued or On-going Consent:**

- Please be informed that I may contact you to seek clarification or follow up on the interview data.

**Consent:**

**ORAL CONSENT**

The Interview Consent Form will be dated, and signed by the researcher, on behalf of the participant:

- I have received a copy of the consent form for my files:  
   ----- Yes                  ----- No
- I agree to have my interview audio taped:  
   ----- Yes                  ----- No
- I wish to have my transcript returned to me so that I may review it for omissions and errors:  
   ----- Yes                  ----- No
  - If yes, I prefer the researcher to:  
   ----- Send it to me                  ----- review it orally with me

Mail or email address if you wish to receive your transcript: -----  
-----

- I would like to be contacted for the photovoice activity:  
   ----- Yes                  ----- No
- I want to receive this project results through: -----  
   .....

I, Lena Zimmo read and explained this Interview Consent Form to the participant before receiving the participant's consent, and the participant had knowledge of its contents and appeared to understand it.

---

---

*Name of Participant*

---

*Researcher's Signature*

---

*Date*

## Appendix C



### *Photovoice Consent Form*

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**Project Title:** Factors Influencing Qatari Women to Adopt Active Living Lifestyle

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email:

[lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology,

Telephone:

+ (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

**Purpose(s) and Objective(s) of the Research:**

This study aims to identify the factors that influence Qatari women, aged 18-44, to adopt a physically active lifestyle. It also aims to discover the most effective interventions for enhancing their active living from their own perspective.

**Procedures:**

- You are kindly requested to take 10 photographs of things that you believe can facilitate or inhibit your (and/or other Qatari women) physical activity behavior. You may take more than 10 photographs; however, you will be asked to choose 10 photos that you think best present your ideas about physical activity facilitators, barriers, and needs. You will be required to take these photos with your personal camera or camera phone.
- For photo release purposes, please number your selected photos from (1 to 10), this will allow us to easily identify each which photos should be released and which should not.
- After 2 weeks, I will meet with you at your preferred time and place in order to receive the photos in person and to conduct an interview about your photographs.
- The photos will then be transferred to my laptop, USB, and /or hard disk. All of my devices (laptop, USB, and hard disk) are password protected.

- This interview will focus on your explanation of the selected 10 photographs and their relevance to physical activity.
- During the interview, we will go through each photo and I will ask you about your preference of photo release. You may choose to completely release all (or some) of your photographs for analysis, publication, and academic purposes **OR** partially release all (or some) of your photographs to the researchers of this study for the purposes of analysis and interview with you.
- If you provide photos that include other person(s), you will be requested to take their oral permission on the Third Party Photographs Release Form.
  - Each third party will have a separate form.
  - If there is more than one photo with the same third party, I will confirm from you which photos should be released and which not. Remember we will identify photos based on the numbers that you have given to them. For example, photo number 6 “completely release”, photo number 9 “partially release”.
  - I will sign the Third Party Photographs Release Form based on your declaration on photos.
- With your permission, the interview will be recorded on a tape. During the interview you may ask me to turn off the audio-recording device at any time.
- This interview will take approximately one and a half to two hours.
- You will not receive money for your participation.
- Please feel free to ask any questions regarding the procedures and goals of the study or your role.

**Potential Risks:**

This research is considered to be minimal risk. There are no known risks to those who take part in this study.

**Confidentiality:**

- Your data will be kept confidential. All identifying information (consent form and master list) will be stored separately from data collected (ex: audio tape, photographs, field notes and transcripts). So that it will not be possible to associate your name with any given responses.
- Only I and my PhD committee of this study will be aware of your identity.

- Only I and my PhD committee members will have access to the original data.
- All paper data, audio tapes, and photos will be saved with me and my supervisor in locked filing cabinets. Electronic data (transcribed interviews, field notes, and photos) will be encrypted and stored on password protected personal computers, USBs, and/ or hard disks. In addition, a copy of the collected data will be stored in a secured filing cabinet in the Department of Community Health and Epidemiology at University of Saskatchewan and in a secure password protected area of the University of Saskatchewan server.
- The data from this research project will be used for my PhD thesis, published in academic journals and reports, presented at conferences and public meetings, and may be used for media purposes; however, your identity will be kept anonymous, as your name will not appear in any report, presentation, or publication about this study, unless you choose to be identified.
- Unless otherwise indicated, the confidentiality of you and your data will be protected. Although we may report direct quotations from the interview and may use some of your photos (if you consent on Interview Transcript Release Form and Participant photographs Release Form) you will be given a pseudonym name. Some of your information (ex: age, socioeconomic and health status) will appear for the need of research, but nobody can relate this information to you. On the other hand, please remember that as this study includes photographs, people may link you to your photographs and your comments about those photographs, especially, if those photos include you or include persons related to you. This can jeopardize your anonymity. Therefore, I advise you to consider this.
- Data will be stored with the researchers for at least 5 years after the end of this project. After that period the data will be destroyed.

**Right to Withdraw:**

- Your participation is voluntary and you can answer only those questions that you are comfortable with and you may change your answers later if you wish. You may withdraw from the research project for any reason. However, your right to change or withdraw data from the study will apply for a period of 8 weeks from the date of consent. After this period, it is possible that your data will have already been analyzed, and written

in the results part of the thesis, and it may not be possible to withdraw your data.

- Should you wish to withdraw, Please inform me through my contact information that appear at the top of the consent form. If you withdraw before the mentioned deadline, I will confirm with you which of your data should be destroyed.

**Follow up:**

- If you wish, you will have the opportunity to review the transcript of your interview, so that you may approve, change, or remove any of your responses. If you decide to review the transcript, please let me know your preference: would you like me to send it to you OR would you prefer me to review it orally with you. If you prefer to receive the transcript, you will be given one week to reply with your feedback; otherwise the transcript will be considered approved from your side. Also, if you decide to review the transcript orally with me, you will be asked to select a suitable time for this review within one week from the request. Otherwise, the transcript will be considered approved from your side.
- Results of this study will be shared with you through your preferred method. You are welcome to ask me any question related to the results. Please refer to the researcher contact information for further communication. Also, results will be published in related journals, presented at conferences and meetings, as well as in the media.

**Questions or Concerns:**

- Contact the researcher using the information at the top of page 1
- This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office [ethics.office@usask.ca](mailto:ethics.office@usask.ca) (306) 966-2975.

**Continued or On-going Consent:**

- Please be informed that I may contact you to seek clarification or follow up in your interview data.

**Consent:**

**ORAL CONSENT**

The Photovoice Consent Form will be dated, and signed by the researcher, on behalf of the participant:

- I have received a copy of the consent form for my files:

----- Yes          ----- No

- I agree to have my interview audio- taped:

----- Yes          ----- No

- I wish to have my transcript returned to me so that I may review it for omissions and errors:

----- Yes          ----- No

- If yes, I prefer the researcher to:

----- Send it to me          ----- review it orally with me

Mail or email address if you wish to receive your transcript: -----

-----

- I want to receive this project results through: -----

-----

-----

I, Lena Zimmo read and explained this Interview Consent Form to the participant before receiving the participant's consent, and the participant had knowledge of its contents and appeared to understand it.

---

*Name of Participant*

---

*Researcher's Signature*

---

*Date*



## Appendix D



### *Interview Guide*

---

**Project Title: Factors Influencing Qatari Women to Adopt Active Living Lifestyle**

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email:

[lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology, Telephone:

+ (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

**Purpose(s) and Objective(s) of the Research:**

This study aims to identify the factors that influence Qatari women, aged 18-44, to adopt a physically active lifestyle. It also aims to discover the most effective interventions for enhancing their active living from their own perspective.

- I. **Introductory Questions** (these questions are introductory questions to break the ice but they are also important to understand the individual factors of physical activity).
  - What is your name?
  - How old are you? (**individual-biological-age**):
  - What is your education level (elementary, intermediate, secondary, bachelor, graduate)? (**individual- demographic- education**):
  - What is your job? (**individual- demographic- socioeconomic**).
  - Where are you working? (**individual- demographic- socioeconomic**).
  - What are your working hours?

- What is your monthly income range? (Less than 20000, 20000- 40000, 40000- 60000, 60000-80000, more than 80,000).
- What is the average monthly house income? (Less than 30000, 30000- 60000, 60000- 90000, 90000-120000, more than 120000).
- Where are you from originally? (native Qatari, Irani, new Qatari)? (social- cultural)
- What is your marital status? (social)
- Where do you live? (Individual- demographic- socioeconomic)
- Who lives in your house? (social)
- What do these people do? (work, study etc.) (social)
- Do you have home maid? ----- if yes, how many? (individual- demographic- socioeconomic)
- Do you have driver? ----- if yes, how many? (individual- demographic- socioeconomic)

## II. Perceptions of Physical Activity:

- How do you define physical activity? (individual- cognitive)
- Do you see any differences between sport, exercise, and active living? (individual- cognitive)
  - Prompt:
    - If yes, what are the differences?
    - If not, how come?
- What are your feelings about physical activity? (individual- psychological- attitude)
  - Prompt:
    - Negative feelings (eg. getting hurt, sweating, non-feminine and aggressive, others) or
    - Positive feelings (eg. improve health status, lose weight and maintain good body shape, control stress, improve sleeping, others).
- How important is physical activity in your life? (Individual- psychological).
  - Prompts:
    - If it is important, why?
    - If it is not important, why not?
- Is it difficult for you to be physically active?

- Prompts: Why or why not? (**Individual- psychological- self efficacy**).
- In your opinion, does Islam support women physical activity? (**social**)
  - Prompts:
    - If yes
      - To what extent
      - Under which circumstances does Islam allow women physical activity? (outside home, gym, work place, etc)
    - If no, why not?
- Do you see any differences between men and women in respect to physical activity? (**social**)
  - Prompts:
    - if yes, - Tell me more about these differences?  
- What are the sources of these differences?
    - if no, Why not?

### **III. Level of physical activity:**

- How physically active do you think you are? (active, not active, or in-between)? (**individual**)
- What physical activities do you currently engage in?
  - Prompts:
    - If yes,
      - What kinds of physical activities do you do in the home, workplace, during leisure time, for transportation, etc?
      - Why have you chosen these activities?
    - If no, why do not you participate in any physical activities?
- Can you tell me about your daily routine?
  - Prompts:
    - How is your weekday routine different than your weekend routine?
    - What does a typical day look like during the month of Ramadan?
    - What do days during your holidays and vacations looks like?
    - What does your day look like when you travel outside of Qatar?

- How does your routine change in different seasons?

#### IV. Influences on physical activity

(Above questions already covered the individual factors; demographic (education and socioeconomic), biological (age), and some of psychological (attitude and self-efficacy). The following questions will consider individual factors (motivation, barriers, and childhood history) and social factors

- Thinking back on what you told me about how active you are, can you offer any reasons that explain your level of physical activity?
- What motivate you to be physically active **(individual- psychological- motivation)**
  - Prompt: for example, personal fitness, body shape, health, leisure, stresses control, etc.
- What help you to be active? **(individual, social, environmental, and policy)**
- What prevent you from being active? **(individual, social, and environmental, and policy)**
- Can you give me an example of an activity you have done that you have really liked?
  - Prompts:
    - Why you liked it?
    - When you think of the activities you like to do, why do you like to do them? (Prompts: felt good at it, felt like fit in, have my friend do it with me)
- Can you give me an example of an activity you have done that you really disliked?
  - Prompts:
    - Why do you dislike it?
    - When you think of the activities you do not like to do, why do you not like to do them? (Prompts: feeling not good, it is costly, feeling unfit in, having none of my friends do it with me etc.)
- If you could try an activity you have never done before, what would it be?
  - Prompts:
    - Why do you not do this activity till now?
    - What do you need to try this activity?
- What is your family's attitude towards physical activity? **(social)**

- Prompts:
  - Are any of them involved in physical activity? What kinds?
  - Do they encourage you to be physically active?
    - If yes, how?
    - If not, why not?
- What attitudes do your friends have towards physical activity? (social)
  - Are any of them involved in physical activity? What kinds?
  - Do they encourage you to be physically active?
    - If yes, how?
    - If not, why not?
- What are the attitudes of your boss and colleagues towards physical activity? (social)
  - Are any of them involved in physical activity? What kinds?
  - Do they encourage you to be physically active?
    - If yes, how?
    - If not, why not?
- Do you feel that your home environment help you to be physically active? (environment)
  - Prompts:
    - If yes: how?
    - If no: why not?
- Do you feel that your work environment help you to be physically active? (environment)
  - Prompts:
    - If yes: how?
    - If no: why not?
- Do you feel that your neighborhood environment help you to be physically active? (environment)
  - Prompts:
    - If yes: how?
    - If no: why not?
- Do you feel that Qatar environment help you to be physically active? (environment)
  - Prompts:
    - If yes: how?

- If no: why not?
- Did you do any physical activity during the Qatar National Sport Day? (policy)
  - Prompts:
    - If yes:
      - What kind of physical activity did you participate in?
      - Why did you choose these activities?
      - Where did you practice physical activity? Why you choose this place and/ or this program?
      - How do you see Qatar National Sport Day affect your perception and level of physical activity?
    - If no,
      - Why did you not participate in physical activity in that day?
      - What should be done to make you and other Qatari women practicing physical activity during Qatar National Sport Day?
- When you were a child, what kinds of physical activities were you involved in, either in school or outside school?
  - Prompt:
    - Why did you choose these activities?
- How has your participation in physical activities changed over time? (individual, social)
  - Prompts:
    - At what age did your level of participation change?
    - What are the factors that influenced changes in your level of physical activity?
- How do you see the recent development in Qatar affect Qatari women physical activity? (global)
  - Prompts:
    - Can you compare the level and types of Qatari women physical activity previously and recently?

V. Intervention (environmental and policy)

- If you are in charge of enhancing the level of physical activity for Qatari women aged 18-44 years old, what would you do?

- Prompts:

- What will you do to make them more active in their home?
- What will you do to make them more active in their workplace?
- What will you do to make them to make them walking more?
- What will you do to make them more active in their leisure time?
- Will you design a program for them?

- Prompts:

- If Yes

- How the program will look like?
- Would there be someone in charge? If yes, what would then be like?
- Where would the program be?
- When would the program occur?
- What time of day would it be?
- How important is the time of day, location etc would you
- What would you be sure to not do?
- Do you think your friends or other people in your age would come to a program like this?

Prompt: Why? Or why not?

- If no, why not?

## Appendix E



### *Photovoice Interview Guide*

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*This Photovoice Interview Guide will be given to the participant along with the Photovoice Consent Form in order for them to know what kind of question they should expect in the photovoice related interview.*

**Project Title: Factors Influencing Qatari Women to Adopt Active Living Lifestyle.**

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email:

[lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology, Telephone: + (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

**Purpose(s) and Objective(s) of the Research:**

This study aims to identify the factors that influence Qatari women, aged 18-44, to adopt a physically active lifestyle. It also aims to discover the most effective interventions for enhancing their active living from their own perspective.

**Photovoice procedure: *Please return to the Photovoice Consent Form for the detailed information about the Photovoice procedure.***

These are some of questions that you need to expect in the interview:

- Why did you take this photo?
- How this photo is related to physical activity?
- If photo is of something that is facilitating physical activity among Qatari women, what make it facilitate physical activity?
- If photo is of something that is inhibiting physical activity among women, what make it inhibit physical activity? What could be done to change this?



Appendix F



*Transcript Release Form*

**Project Title:** Factors Influencing Qatari Women to Adopt Active Living Lifestyle

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email:

[lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology,

Telephone:

+ (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

I, -----, have been given the opportunity to review the complete transcript of my personal interview in this study, and have been provided with the opportunity to add, alter, and delete information from the transcript as appropriate. I acknowledge that the transcript accurately reflects what I said in my personal interview with (Lena Zimmo). I hereby authorize the release of this transcript to the researchers of this project to be used in the manner described in the consent form. I have received a copy of this Transcript Release Form for my own records.

If I have any questions or concerns, I will contact the researchers at the contact information listed above.

**Oral consent:** The Transcript Release Form will be dated, and signed by researcher, on behalf of participant: Lena Zimmo read and explained this Transcript Release Form to the participant before receiving the participant’s consent, and the participant had knowledge of its contents and appeared to understand it.

\_\_\_\_\_  
*Name of Participant*

\_\_\_\_\_  
*Researcher’s Signature*

\_\_\_\_\_  
*Date*

Appendix G



*Participant Photographs Release Form*

**Project Title:** Factors Influencing Qatari Women to Adopt Active Living Lifestyle

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email: [lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology, Telephone:

+ (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

I, -----, have reviewed the photographs I have taken during this project.

I agree to the following release of my photographs:

- A- Complete release for analysis, publication, and academic purposes.
- B- Partial release to the researchers of this study for the purposes of analysis and interview with me.

Photo	1	2	3	4	5	6	7	8	9	10
A										
B										

I hereby authorize the release of the photographs to the researchers on this project to be used in the manner indicated above. I have received a copy of this Participant Photographs Release Form for my own records.

If I have any questions or concerns, I will contact the researchers at the contact information listed above.

**Oral consent:**

The Participant Photographs Release Form will be dated, and signed by researcher, on behalf of the participant:

I, Lena Zimmo read and explained this Participant Photographs Release Form to the participant before receiving the participant's consent, and the participant had knowledge of their contents and appeared to understand it.

\_\_\_\_\_  
*Name of Participant*                      \_\_\_\_\_  
*Researcher's Signature*                      \_\_\_\_\_  
*Date*

## Appendix H



### *Third Party Photographs Release Form*

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*Participants will be asked to take the oral permission from anyone who may be identified in pictures they have taken for this study. If there is more than one photo with the same third party, the participant will need to refer to the photo number to clarify which photos should be released and which not (note: the participant has been asked to number their photos before the photovoice interview, this is part of the brief training session on photovoice that we went through during the Photovoice Consent Form). I will sign this form on behalf of the third party after checking the photo release status with the participant.*

**Project Title: Factors Influencing Qatari Women to Adopt Active Living Lifestyle**

**Researcher:** Lena Zimmo, PhD student, Community Health and Epidemiology, University of Saskatchewan, Saskatoon, SK, Canada, telephone: + (974) 66209898, Email: [lmz577@mail.usask.ca](mailto:lmz577@mail.usask.ca)

**Supervisor:**

- Dr. Bonnie Janzen, Associate professor, Community Health and Epidemiology, Telephone: + (306) 966-7841, Email: [bonnie.janzen@usask.ca](mailto:bonnie.janzen@usask.ca).

**Information about the study:**

- This study aims to identify the factors that influence Qatari women, aged 18-44, to adopt a physically active lifestyle. It also aims to discover the most effective interventions for enhancing their active living from their own perspective.
- Participants of this study will use their personal camera or phone camera for 2 weeks, to take 10 photographs of things that they believe can facilitate or inhibit their (and/or Qatari women) physical activity behavior.

- The data from this research project will be used in my PhD thesis, published in academic journals and reports, and presented at conferences and public meetings. Moreover, it may be used for media purposes.

I, -----, release the photographs including images of me taken during this project.

I agree to the following release of the photographs including images of me:

C- Complete release for analysis, publication, and academic purposes.

D- Partial release to the researchers of this study for the purposes of analysis and interview with me.

Photo	1	2	3	4	5	6	7	8	9	10
A										
B										

I hereby authorize the release of photographs including images of me to be used in the manner indicated above. I have received a copy of this Third Party Photographs Release Form for my own records.

If I have any questions or concerns I may contact the researchers using the contact information listed above.

\_\_\_\_\_  
*Name of Participant*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Researcher's Signature*

\_\_\_\_\_  
*Date*