The Perceptions about Healthy Lifestyles of Canadian Immigrant Women from Collectivist Culture Backgrounds

by

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Abstract

Objectives. To describe the barriers and facilitators to healthy lifestyle behaviours among immigrant women from collectivist culture backgrounds and to determine if the constructs emerging from the data were similar to the constructs of the Health Belief Model (HBM). Methods. Semi-structured in-depth interviews (n=10) and three focus groups (n=22) were conducted with eligible participants using interview guides. Constant comparison method was utilized to extract themes. Results. Four major themes appeared to influence the participants' health behaviours: cultural and ingroup influences, health behaviour beliefs, opportunities and challenges, and reactions to norms. The majority of HBM constructs were relevant only in relation to these major themes. Cues to action and perceived severity appeared to influence participants' health behaviours the least. Conclusions. HBM's constructs appear to be applicable to this group when they highlight the relevance of social relationships that underlie cultural values as these are the strongest factors influencing participants' health behaviours.

Keywords: immigrant, collectivist culture, health behaviour, health belief model

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At the end I turn to Allah and say thank You for all the wonderful people through whom You have brought ease and joy in my life. May I use every opportunity I get to serve Your creation by engaging in acts of virtue as "*whoever submits his whole self to Allah and is a doer of good- he will get his reward with his Lord*" (Quran, 2:112). Ameen.

Dedication

I dedicate this thesis to my parents who always tried to provide the best care for me. Their passion about education has been an inspiration to me ever since I was a child. I still remember feeling proud as a child in elementary school when I saw my father's name on my biology school textbook. My father and mother are educators and even though my father passed away during my graduate studies in 2011, he lives by way of his teachings as all educators do. Their contributions to future generations will live. Every time someone puts to good use the knowledge and skills that can be attributed to my parents, they will be granted the same reward by our Creator as that individual.

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My mother has been a strong role model for me in many ways. She has probably endured so much to raise me that I will never be able to repay. The number of nights she stayed up to rock me to sleep, the daily balancing of house chores and getting up early to cook so that we would have nutritious lunch while she was at work, and taking me to refugee schools so I would not fall behind my education and have a good future are very few of the countless things she lovingly did for me and my siblings. She would not miss a single birthday even when we were refugees with no oven in which to bake a cake, she still celebrated my birthday. With all that mothers endure, it is no wonder that the last Prophet Muhammad (Peace Be Upon Him) replied to the query as to who warrants the best companionship by saying "your mother" three times and then "your father". In another narration, the prophet pointed to paradise being at the feet of mothers.

May Allah bless my mother and father and all the parents who have sacrificed so much for the sake of their children. Ameen.

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Canada's population growth and consequent economic success is dependent on immigration. In fact, close to a fifth of Canada's population is composed of people who have been born outside of Canada (Human Resources & Skills Development Canada, 2013), hence first generation immigrants. Considering that immigrants make up a large part of the Canadian population, it is important to help immigrants maintain their health as majority do enter Canada in better state of health than that of the Canadian-born (Ali, McDermott, & Gravel, 2004; Chen, Ng, & Wilkins, 1996; DesMeules et al., 2004; Dunn & Dyck, 2000; Laroche, 2000; Newbold, 2006; Newbold & Danforth, 2003). Unfortunately, this health advantage deteriorates at a higher rate than that of the non-immigrant and in some cases not only converging with that of the Canadian-born (Ali et al., 2004; Chen et al., 1996; McDonald & Kennedy, 2004; Newbold & Danforth, 2003; Newbold, 2005; Perez, 2002) but becoming poorer than the health status of the non-immigrant population (Creatore et al., 2010; Jolly, Pais, & Rihal, 1996; Kampman et al., 1999; Newbold & Danforth, 2003; Sheth, Nair, Nargundkar, Anand, & Yusuf, 1999).

With the increasing cost of health care in Canada, it is timely to focus on ways to help immigrants maintain their health by way of engagement in beneficial health behaviours. One way of doing this is to realize whether the tools used to guide health promotion interventions decades ago are still relevant within the changed demographics of the Canadian population where a majority of the newcomers in the last few decades have come from countries with different cultural values and traditions.

Of interest in cross-cultural research has been the collectivist/individualist dimension of culture. Reflecting on the differences in this important cultural dimension among

populations can help health professionals better understand the influence of culture on health behaviours. Provision of culturally-sensitive care has been highlighted as an important factor in increasing the participation and adoption of health behaviours promoted to culturally and linguistically diverse populations in the West (Bentham, Hinton, Haynes, Lovett, & Bestwick, 1995; Caperchione, Kolt, & Mummery, 2009; Guerin, Diiriye, Corrigan, & Guerin, 2003; Lawton, Ahmad, Hanna, Douglas, & Hallowell, 2006; Weerasinghe & Williams, 2002).

Although prior to 1970's Canada was home mainly to immigrants from European countries, the early 1960's immigration legislation changes have allowed for non-Europeans to immigrate in increasing numbers to Canada (Human Resources & Skills Development Canada, 2013). In fact, a majority of the immigrants have tended to be from non-European countries in the last few decades (Chen et al., 1996; Human Resources & Skills Development Canada, 2013). Much research in Canada points to the rapidly deteriorating health status of mainly non-European immigrants in the last few decades coupled with concomitant decrease in positive health behaviours (Evenson, Sarmiento, & Ayala, 2004; Ng, Wilkins, Gendron, & Berthelot, 2005; Perez, 2002) and lower adherence to health advice than the Canadian-born population (Gilmour, 2007), especially in the area of women's health (Sun et al., 2010; Woltman & Newbold, 2007).

Female immigrants, specifically from regions of the world where collectivist culture is predominant, experienced poorer health than their male counterparts from the same regions residing in Canada (Creatore et al., 2010; Newbold & Danforth, 2003). Certainly, a number of variables have been highlighted as determinants of health and/or health behaviour of immigrants in the West. These include financial barriers (Caper-

chione et al., 2009; Dean & Wilson, 2010; Johnson et al., 2011) especially for non-European immigrants (Spitzer, 2005), education level and heath literacy (Gupta, Kumar, & Stewart, 2002; Hyman & Guruge, 2002; Newbold, 2005), knowledge of the official language in the new country (Caperchione et al., 2009; Evenson et al., 2004; Sun et al., 2010; Taylor & Doherty, 2005; Woltman & Newbold, 2007), experiences of discrimination and cultural insensitivity in health care settings (Access Alliance, 2005; Johnson et al., 2004; McKeary & Newbold, 2010; Magoon, 2005; Spitzer, 2004; Wahoush, 2009; Women's Health in Women's Hands, 2003), and environmental factors (Caperchione et al., 2009; Dean & Wilson, 2010; Lawton et al., 2006).

A majority of the studies of immigrants from non-European countries residing in Canada have been conducted in major metropolitan areas such as Toronto and Vancouver. The experiences of immigrants living in these metropolitan areas may be different given the large population of immigrants and the availability of a variety of ethnic-specific markets and towns within these cities, including health care providers who themselves may be immigrants and thus attuned to existing cultural differences and who may provide more culturally-sensitive services compared to experiences of immigrants in smaller urban areas. Other studies have focused on national data from surveys. No studies to the author's knowledge have focused on exploring the perceptions of immigrants from collectivist culture backgrounds on the prairies such as in Winnipeg, Manitoba. Understanding the barriers and facilitators to healthy lifestyles of immigrants from collectivist cultures can help in designing the type of public health interventions that would garner better participation of immigrants in various health promoting programs.

Thus, this study proposes to describe perceptions of immigrant women from collectivist cultural backgrounds related to healthy lifestyle and to examine the applicability of the Health Belief Model to designing health promotion programs for this population.

Literature Review

Health Status of Immigrants in Canada

According to World Health Organization (WHO) health is defined as a "a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity" (World Health Organization [WHO], 1998). While recognizing the mental, social and spiritual well-being as integral components of good health, this section of the review will focus mainly on physical health of immigrants. Moreover, there is far less information available about the nonphysical aspects of immigrants' health possibly because they are not as well-funded as services catering to physical health and because many mental conditions remain undiagnosed and underreported. As such, the term health in this review refers mainly to physical health.

Upon entry into Canada, immigrants are generally healthier than the Canadian-born population (Ali et al., 2004; Chen et al., 1996; DesMeules et al., 2004; Dunn & Dyck, 2000; Laroche, 2000; Newbold & Danforth, 2003; Newbold, 2006). This is a reflection of the comprehensive medical screening process to which all immigrants except refugee claimants are subjected (Beiser, 2005). According to Canada's Immigrant and Refugee Protection Act (Department of Justice Canada, 2001) an applicant can be denied residency in Canada if his or her health condition is deemed to create a burden on Canadian health or social services. Refugees and those closely related to Canadians are exempt from this rule.

Refugees, a subcategory of immigrants comprising of around 10% of the annual immigration quota in Canada (Beiser, 2005), on the other hand, have higher rates of acute diseases such as parasitic diseases, infections and dental problems than do the Canadian-born population; however, they still have lower mortality rates than that of those born in Canada (DesMeules et al., 2004). Such acute diseases are generally easily treatable. Of concern are the chronic health conditions that create a burden on the health care system and on the workforce from an economic stance in Canada. Immigrants generally have low prevalence of chronic health conditions upon entry into Canada. This good health of immigrants is not uniform across the settlers from various continents and countries who have come to Canada. According to the reports from Statistics Canada, it was the more recent settlers and immigrants who came from non-European countries that had better health than the native-born Canadians (Ali et al., 2004; McDonald & Kennedy, 2004). One study (Gee, Kobayashi, & Prus, 2004) showed that the health of immigrants who were 45-64 years of age was better in foreign-born immigrants who had lived in Canada for less than 10 years compared to the same age group that had lived in Canada for more than 10 years and to the Canadian-born group. These results were maintained even after variables such as income, education, race, language, sex, marital status, alcohol, smoking, and fruit and vegetable consumption were controlled.

How long it takes for this healthy immigrant effect to erode, is understandably difficult to quantify in a concise time range. Some studies (Ali et al., 2004; Chen et al., 1996; Newbold & Danforth, 2003) have demonstrated that the health status of immigrants who have lived in Canada for 10 or more years converged with that of non-immigrants. Newbold and Danforth (2003) used *self-assessed health* and *Health Utility*

Index to compare the health of immigrants to non-immigrants as per the Canadian National Population Health Survey. The authors, however, classified immigrants with a residency period of 10 years or more as long-term immigrants; therefore, no categories beyond 10 years' duration of residence were examined separately. Another study (Perez, 2002) demonstrated that the age- and sex-adjusted odds ratio for overall chronic conditions, including heart disease, diabetes, high blood pressure, and cancer, converged with that of the Canadian-born after 29 years since immigration to Canada. There were variations in this length of time among the chronic diseases selected, which ranged from 10 years for diabetes to 30 years for cancer. Based on 1996 National Population Health Survey (NPHS) and 2000-01 Canadian Community Health Survey (CCHS) data (McDonald & Kennedy, 2004), the rate of incidence for non-life-threatening chronic diseases (e.g. allergies, arthritis, asthma) among immigrants was similar to that of nonimmigrants within 20-25 years. Thus it appears that it has taken anywhere from 10 to 30 years for the healthy immigrant effect to erode.

Beiser (2005) challenged the healthy immigrant effect by arguing that these studies were cross sectional studies and thus they took into account neither out-migration of immigrants nor the fact that long-term immigrants might not have been subjected to screening processes to which later immigrants were subjected. Therefore, the comparison of the recent immigrants' health status to that of the long-term immigrants should not be an estimate of how the recent immigrants' health status would be, should the variables that influence immigrants' health prevail. To respond to this recognized knowledge gap, a longitudinal study of 1,305 immigrants aged 20 and up, excluding those who died or left Canada, was conducted using data from National Population Health Survey from 1994-

2001, which covered four survey cycles (Newbold, 2005). The results confirmed the *healthy immigrant effect* by demonstrating a declining health status with every cohort, with more recent immigrants having the most pronounced decline in health status compared to any of the remaining three cohorts. What is of interest is that the province of settlement in Canada was also shown to have an impact on the health status of immigrants with those living on the prairies having the highest risk of transitioning to poor health. In contrast, those living in Quebec had lower risk of experiencing poor health than that of the Canadian-born (Newbold, 2005). The Canadian prairies especially Manitoba and Saskatchewan have low population density and while the majority of their residents live in urban centres, these urban centres are nested in far and wide farmland areas and thus are strongly connected to rural areas in various ways. For example, Winnipeg, the capital of the province of Manitoba, is a unique urban centre with a population of over 663 thousand individuals (Statistics Canada, 2012a) as per the 2011 census. With vast rural areas in the province that has only 1.2 million residents in total and a population density of 2.2 compared to the national average of 3.7 people per square kilometre (Statistics Canada, 2012b), Winnipeg residents have close connection to the province's rural nature and culture. Despite Manitoba's low population density, Winnipeg is home to an ethnically diverse population. In fact, 21% of Winnipeg's population speak a language other than the two official languages; this compares to only 19.8% of the national population speaking a nonofficial language (Statistics Canada, 2012b). Thus Winnipeg is a prairie city that has this blend of ethnic diversity and rural cultural connection, which may have a unique effect on the experiences and perceptions of its resident immigrants.

Looking at immigrants as a single group obscures the differences among immigrants with diverse racial identities, their different cultural practices, health behaviours, and the utilization of healthcare services; thus the potential differences in the health status of various groups may be masked by the mean health status. Several studies (Ali et al., 2004; Chen et al., 1996; Newbold & Danforth, 2003; Ng et al., 2005; Tremblay, Bryan, Perez, Ardern, & Katzmarzyk, 2006; Tremblay, Perez, Ardern, Bryan, & Katzmarzyk, 2005) have shown differences in the health patterns of immigrants from various regions of the world. According to National Population Health Survey 1994-95 (Chen, et al., 1996) the age-adjusted prevalence of non-European immigrants' chronic conditions was significantly lower for recent immigrants (0-10 years' residency in Canada) compared to that of the Canadian-born. However, this advantage eroded considerably for long-term non-European immigrants. European immigrants' chronic conditions did not differ significantly from that of the Canadian-born. Thus it is the health of non-European immigrants that decline drastically after a decade of residency in Canada. Analyzing the data across four cycles of the NPHS, Newbold (2005) demonstrated that for those immigrants who had resided in Canada for four or fewer years in 1994, the proportion ranking their health as fair or poor increased by approximately 13 percentage points between 1994/95 and 2000/01, rising from 3.9% to 17%. Such drastic rise in poor health was not observed in other arrival cohorts. Since approximately 75% of the recent immigrants in 1994/95 were comprised of non-Europeans (Chen et al., 1996) compared to the reverse trend prior to 1970's (Newbold, 2005), this decline in health is probably a reflection of the health status of non-European immigrants.

Similarly, with the addition of the 2002/03 cycle of NPHS to the previous four NPHS cycles, Ng et al. (2005) determined the relative risk (RR) of decline in health among European, including immigrants from US, New Zealand, and Australia, and non-European immigrants. Compared to the Canadian-born population both recent and long-term non-European immigrants were the only groups that had a significantly higher RR of decline in health. Moreover, recent non-Europeans were almost twice as likely as the Canadian-born group to have a 10% increase in their BMI's. Thus this longitudinal study provides distinctions among two broadly diverse groups of immigrants: European and non-European. Furthermore, the study provided a comparison for the estimated frequency of physician contacts among the four groupings of the immigrants and the Canadian-born. This served as a method to improve the accuracy of the self-rated health status as the self-assessment could be merely perceived. The result showed that the RR of becoming frequent physician visitors was significantly higher for recent non-European immigrants than the Canadian-born population (Ng et al., 2005). The *healthy immigrant effect* (HIE), therefore, appears to be more representative of non-European immigrants than European immigrants.

The question arises as to whether there is a particular ethnic group that may influence the prevalence of disease or the risk of disease among the larger group of non-European immigrants. To address this query, an analysis of data from the Canadian Community Health Survey (CCHS) 2000/1 and 2003 (Tremblay et al., 2005) showed that the prevalence of overweight and obesity significantly rose for all ethnic groups except West Asian when recent immigrants' (0-10 years residency in Canada) body mass index (BMI) was compared to that of long-term immigrants (11+ years of residency in Canada)

of the same ethnicity. Tremblay et al. (2005) did not analyze the data for significance of differences in prevalence of overweight and obesity among various ethnic groups but rather within each ethnic group. A recent analysis of the 2005 CCHS data (Kobayashi & Prus, 2012) showed that the HIE existed for non-White middle aged recent immigrant males, with odds of 85% less likely to report poor/fair health than their counterpart Canadian-born men. In contrast, White middle-aged recent immigrant men had odds of 35% less than the Canadian-born for reporting poor/fair health. However, the HIE was not shown for recent immigrant women whose self-reported health was similar to that of the Canadian-born after the data was adjusted for demographic, economic, and lifestyle factors such as duration of smoking and BMI (Kobayashi & Prus, 2012).

Although the prevalence of overweight seemed lower for long-term South Asian immigrants than long-term Black or Latin American immigrants (Tremblay et al., 2005), for instance, this is not necessarily a sign of lower risk of overweight-related diseases such as diabetes. An Ontario-based study (Creatore et al., 2010) demonstrated that among the major ethnic groups who had obtained permanent residency status between 1985 and 2000, South Asians had the highest prevalence of diabetes in 2005. Odds ratios for South Asians indicated that a South Asian female is over three times and a South Asian male is four times as likely as an immigrant from Western Europe or North America to be affected by diabetes (Creatore et al., 2010). Thus the effects of body weight increases appear to pose higher health risks to South Asians than to Caucasians.

This trend is not restricted to immigrants in Canada only and has been shown for non-European immigrants in European countries as well (Baradaran, Knill-Jones, Wallia, & Rodgers, 2006; Greenhalgh, 1997; Wandell, Wajngot, de Faire, & Hellenius, 2007;

Kristensen, Bak, Wittrup, & Lauritzen, 2007). These studies demonstrate the high rate of diabetes as an example of chronic diseases that have afflicted the non-European settlers in the Western countries.

This observation has been coined *immigrant overshoot* (Beiser, 2005) where the health of immigrants has not only converged but in fact has deteriorated more than that of the native-born population of the host country. This phenomenon can be seen in the case of multiple (Newbold & Danforth, 2003) or specific chronic diseases such as diabetes (Sheth et al., 1999), cancer (Kampman et al., 1999) and coronary artery disease (Jolly et al., 1996).

Regarding the risk factors for chronic diseases, the most widely available and possibly the most conveniently measured risk factor is excessive weight. The CCHS 2000/01 data (Perez, 2002) showed that the adjusted odds ratio for overweight and obesity remained significantly lower for immigrant men. However, ethnicity was not factored in these results. When ethnicity was considered, Asian men appeared to have a doubling in their odds ratio of excess weight (marked by BMI>25) in a matter of 5-9 years post immigration (Cairney & Østbye, 1999). For women the odds ratio for excess body weight converged with (Perez, 2002) or exceeded (Cairney & Østbye, 1999) that of the Canadian-born in 10+ years of residence in Canada.

What makes the *immigrant overshoot* phenomenon of even greater concern is that this decline in health is not merely restricted to those born outside Canada or North America per say. This effect seems to transcend for some ethnic groups beyond first generation in the host country. Many of the studies on the health of immigrants (Chen et al., 1996; Ali et al., 2004; Cairney & Østbye, 1999; Newbold & Danforth, 2003; New-

bold, 2005; Perez, 2002) define immigrants as those born outside the host country. Their children born in the host country, however, are included among the non-immigrant population; thus obscuring whether the decline in health continues with the immigrants' descendants. Exploring the overweight trend beyond first generation immigrants, Tremblay et al. (2005) showed that the overweight trend was variable among the groups of immigrants. Although the non-immigrant groups of many ethnic populations in Canada had higher prevalence of overweight than the recent immigrants from the same ethnic groups, the prevalence was generally lower among the long-term immigrants in the same ethnic groups.

By observing some chronic conditions, the decline in the health of immigrants has been shown to continue onto the next generations in the host country. For instance, the relative risk (RR) of breast cancer among Asian women in the US increased as years of residency in the US increased for foreign-born immigrants (Ziegler et al., 1993). However, this RR was lower for the foreign-born Asians than Asian Americans born in the West. Similarly, in comparison to Chinese, Japanese and Filipino immigrants born in the East living in the US to Chinese-, Japanese-, and Filipino-Americans whose grandparents were also born in the West, the rate of incidence for breast cancer rose by 3, 2 and 1.5 respectively. A Canadian study (Lear, Humphries, Hage-Moussa, Chockalingam, & Mancini, 2009) concluded that with every 10 years of residence in Canada, Chinese, South Asian and European immigrants had a 2% increase in the thickness of their intima-media (in carotid artery). They also demonstrated that non-immigrants from these ethnic groups collectively had significantly higher total plaque area than the recent immigrants (<10 years residency in Canada) from the same ethnic groups.

A few studies have also compared the health of immigrants in the West to their counterparts in their home country showing worse rates for specific risk or prevalence of chronic diseases affecting immigrants in the West than those in their home country. This was demonstrated in the case of Japanese immigrants in the US (Marmot & Syme, 1976); the second generation Japanese immigrants in the US had higher prevalence of heart disease than the first generation Japanese immigrants in the US who in turn had higher prevalence of heart disease than their counterparts in Japan. Another US study pointed out that all minority immigrant groups in the US had higher prevalence of diabetes than their counterparts in their home countries (Carter, Pugh, & Monterrosa, 1996). Thus the increase in the length of time away from home country for some ethnic groups, if not all, seems to equate to progression towards declining health, as measured by some indicators, for immigrants in North America- a trend that persists beyond merely first generation immigrants from the East living in the West.

The health status of immigrant women. Immigrant women face similar, if not worse, health deterioration in regards to chronic diseases and their risk post immigration in Western industrialized countries. In a study of immigrants in Ontario (Creatore et al., 2010), although the odds ratio (OR) for acquiring diabetes was higher for South Asian men (4.01) than for women (3.22), the prevalence of diabetes was higher among South Asian women than among South Asian men in 2005. In fact, all recent immigrant women (those granted permanent residency between 1985 and 2000) except for those from sub-Saharan Africa had higher prevalence of diabetes than men from the same world region residing in Ontario in 2005 (Creatore et al., 2010).

Based on the analysis of a longitudinal study of immigrants in Canada (Newbold, 2005) the hazard ratio of moving from healthy to unhealthy for immigrant women was 69% higher than that of non-immigrant women. Self-reported health status data showed similar findings with more female immigrants (12.8%) rating their health as either fair or poor than their male counterparts (8.3%) (Newbold & Danforth, 2003). This may reflect barriers to good health that are experienced exclusively or to a greater extent by female than by male immigrants in Canada. The fact that the adjusted odds ratio for overweight and obesity for women converged to that of the Canadian-born in 10+ years whereas it remained significantly lower for immigrant men (Perez, 2002) likely attests to the difference in health behaviours between the two genders.

In the case of certain diseases, the situation seemed to persist or get worse for the immigrant women's female offspring. For example, in comparison to women born in Asia, US-born Asian women had 60% higher rate of colorectal cancer (Flood et al., 2000). While environmental factors inevitably can play a causal role in many diseases, changes in lifestyle and social factors post immigration also influence health behaviours for immigrant women in North America. Immigrant women's cultural roles, work and familial duties may restrict their access to health services and resources available to non-immigrants (Oxman-Martinez, Abdool, & Loiselle-Leonard, 2000). The factors that have been shown to influence health behaviours of immigrants living in Western countries will be explored further in the following sections.

Many of the studies reported thus far in this review provide evidence that the immigrants, especially women, who come from non-Western countries, are the ones who experience a deteriorating health status more so than the native-born or the European

immigrants in Canada. One of the main factors that unifies these immigrant groups yet distinguishes them from the European immigrants is their cultural orientation towards that of the collectivist than the individualist. This cultural dimension is the most researched one across cultural groups with the Western countries generally scoring high on the individualist and a majority of the non-Western countries leaning more towards collectivist culture. Culture has undeniably been recognized as a determinant of health (Public Health Agency of Canada [PHAC], 2001). Therefore, it is reasonable to argue that studying the role of culture in shaping lifestyles that influence the health behaviour and the status of immigrants from a different dominion of culture is essential. This is even more important when it is the immigrant women who are the target for health promotion and intervention programs.

Collectivist Culture

The term culture denotes shared norms in interactions among people that are continued throughout generations (Triandis, 1994). These shared norms vary across cultures and direct thoughts, behaviours, and feelings at psychological and sociological stages (Shweder & Levine, 1984). Hofstede, Pederson, & Hofstede (2002) described culture as "adaptations of a people to the conditions of life" (p. 34) that are carried over multiple generations and that become resistant to change even when conditions of life change.

Overall culture has been identified or studied along different dimensions. The most widely recognized dimensions are those of Hofstede et al.'s (2002) five dimensions: 1) power distance, 2) masculinity/femininity, 3) collectivism/individualism, 4) strength of uncertainty avoidance, and 5) length of orientation. Another dimension of monochronic/polychronic time orientation (Triandis, 1994) has also been noted. In cross-cultural re-

search, the dimension that has been highlighted the most has been individualism and collectivism (Leach & Liu, 1998; Neuliep, 2009). Individualistic cultures nurture social independence, attainment of personal goals, consistent behaviour that reinforces strong sense of self-identity versus group affiliation (Leach & Liu, 1998). In contrast, members of collectivist cultures display inconsistent behaviour when it comes to evaluating ingroup versus outgroup related information (Leach & Liu, 1998). Group identity is stronger than self-identity and interdependence is emphasized in collectivist cultures (Triandis, Bontempo, Villareal, Asai, & Lucca,1988). *Ingroup* members are those with whom an individual shares a sense of identity (Correia et al., 2012), therefore, those who do not have the shared attributes that make up the identity of the individual fall in the outgroup circle away from the individual. Collectivist culture members are regulated by group norms and have a more extensive family and personal social networks for social support as compared to individualist culture members (Leach & Liu, 1998). With the experience of immigration, members of collectivist culture may have additional challenges as they settle in a new country where individualist culture is predominant. It is unknown how these groups of immigrants cope with this difficulty and whether or how their settlement experiences affect their health behaviours.

Sims (2009) interpreted the fundamental differences between collectivist and individualist cultures by differences in values with food acquisition playing a central role in creating such differences. Sims (2009) argued that societies that, historically, had to migrate to acquire food valued self-reliance and assertiveness, two of the core values of individualist cultures, whereas those that were engaged in producing their own food and were more geographically stable valued a sense of obedience and respect, which are fun-

damental values in collectivist cultures. While multiple historical advents need to be explored to describe the roots of these two cultural orientations, readers are encouraged to refer to the article by Kagitcibasi (1997) to attain further information about the rise of this dimension of culture in different world regions.

Locating collectivist cultures. Collectivist cultures are observed in Asian (Leach & Liu, 1998), many African (Hofstede, n.d.; Stebleton, 2007) and Latin American countries (Hofstede, n.d.; Triandis et al., 1988). In addition, there are enclaves within various geographical locations that have collectivist cultures yet located in largely individualist culture spheres. An example of this is the Inuit and Iroquois cultures that are collectivist cultures yet they reside in Canada and in the United States (Carpenter, 2000). Thus collectivist culture is not associated with a particular religion as the former is present among a wide range of population groups globally.

Although cultural practices do change over time, they can be relatively stable or modified depending on the degree of contact with people of different cultures through immigration, trade, invasion, and economic changes such as industrialization. Even within relatively stable cultural groups, there are usually individuals or subgroups that do not represent some of the norms shared by the rest of their community (Leach & Liu, 1998).

Depending on the level of congruence to the specific culture its effect on lifestyle is inevitable. For example, a study of Bed and Breakfast (B&B) operators in US and Taiwan (Hsieh & Lin, 2010) showed that the Taiwanese B&B operators, who belong to a collectivist culture, received more support from family members for operating their business, but also spent more time providing care to elderly and children than did their coun-

terparts in the US. What has not been explored in the literature is how collectivist cultures, regardless of ethnicity, affect health behaviours of their members.

Immigration to Canada has brought many different cultures with it from all over the world. The majority of immigrants in Canada prior to the changes in the immigration policy in 1962 were from European countries (Newbold, 2009). In the 1970s the influx of immigrants from non-European countries started to increase. By 2002 only 17% of the immigrants entering Canada were from European countries with majority (52%) from Asia and the Pacific region, followed by (20%) Africa and the Middle East (Newbold, 2009). Thus, the majority of the Canadian immigrants in last few decades have come from countries where collectivist culture has been predominant; a trend that may continue for decades to come. It is timely to try to understand the effect of collectivist culture background on the health behaviours of these Canadian immigrant groups to improve the effectiveness of public health strategies.

Health Behaviours of Immigrant Minorities in the West

Adherence to medical advice and healthy lifestyle behaviours are important for well-being. What is of concern is that the level of adherence to medical advice in some ethnic groups from collectivist culture background has been shown to be lower than that in the majority population. For instance, the 2003 Canadian Community Health Survey (Sun et al., 2010; Woltman & Newbold, 2007) data showed significantly lower uptake of cervical cancer screening test for Asian immigrant women than for non-immigrant women. Such immigrants with collectivist culture backgrounds living in other Western countries seem to fare worse or be at par with some undesirable habits of the general non-immigrant population. For instance, a study of immigrants in Netherlands (Cornelisse-

Vermaat & Van Den Brink, 2007) showed that foreign-born immigrants of Turk, Moroccan, and Surinamese ethnicity ate out more and used more take-out foods than did Dutch natives. All groups had low vegetable intake and Turks had the lowest level of engagement in sports. Note that Turkey leans towards collectivist culture (Hofstede, n.d.).

In regards to engagement in sports, newcomers to Canada also appeared to have low participation rates (Perez, 2002; Evenson et al., 2004). Physical activity levels tend to decrease post-immigration. For example, the majority (73%) of recent Columbian immigrants reported being less physically active after coming to Canada than prior to immigrating to Canada (Ng, Rush, He, & Irwin, 2007).

With multiple challenges in adjusting to a new lifestyle, newcomers can find it difficult to access resources, which are available to the residents in their communities (Caidi & Allard, 2005) and would need time to settle in a new country. Initial settlement difficulties may explain the lower uptake of some recommended health behaviours for newcomers. The question that arises is whether their health behaviours improve or change post settlement period. Attending to this concern, some studies have made a distinction between recent immigrants and those with extended length of residency. In one such study (Tremblay et al., 2006) the level of self-reported leisure time physical activity as per CCHS 2003 was significantly lower among recent immigrants ($\leq$10 years residency in Canada) than among immigrants who had lived longer than ten years in Canada. However, the difference in leisure time physical activity did not diminish even with long length of stay in Canada with 20% prevalence of such activity among immigrants vs. 24% among non-immigrants. Similarly, Perez (2002) demonstrated no convergence of physical activity levels to those of the Canadian-born regardless of gender and the length

of stay in Canada. Exploring whether immigrants' low level of leisure time physical activity would be compensated for by other usual daily activities, Gilmour (2007) reported as per CCHS 2005 data that immigrants were less likely to be physically active or spend at minimum six hours walking or biking per week than non-immigrants.

Distinguishing among racial groupings Tremblay et al. (2006) showed that White immigrants had higher levels of leisure time physical activity than had immigrants from other ethnicities. What is intriguing is that the level of physical activity between recent and long-term South Asian immigrant women was not as different, 9% vs. 10%, respectively, as it was between recent and long-term South Asian men, 14% vs. 24% (Tremblay et al., 2006). Similarly, the 1994/5 National Population Health Survey (Chen et al., 1996) data showed decreasing levels of leisure time physical activity for non-European women as the length of residency increased. On the contrary, both European and non-European men's leisure time physical activity increased the longer they stayed in Canada (Chen et al., 1996). Respondent bias may have affected the results as the data was collected by using surveys rather than a more objective measurement of physical activity in all groups. Nevertheless, this finding implies that non-European immigrant women face different barriers or that they have more difficulty overcoming similar barriers than do their male counterparts or non-European men.

Factors Influencing the Health Behaviours of Immigrants

Factors that influence, whether directly or indirectly, the level of adherence to health behaviours are many. Many of the factors that shape health behaviours of immigrants are similar to those applicable to the native-born. However, there are some factors

or aspects of some factors that are unique to immigrants, specifically to the visible minority immigrants.

Economic status. Financial resources available to immigrants influence their health behaviours (Johnson et al., 2011). In Canada, with difficulties finding meaningful employment due to lack of recognition of foreign credentials and work experience (Becklumb & Elgersma, 2008) coupled with discrimination (Hyman, 2009), recent immigrants from non-European countries occupy low-paying jobs despite their high educational attainment from their home countries (Gilmore & Le Petit, 2008; Galabuzi, 2006).
The adverse effect of economic disadvantages is not limited to accessing health care services (Chen & Hou, 2002; Olah, Gaisano, & Hwang, 2013; Williamson & Fast, 1998), but also to adopting healthy behaviours such as engagement in physical activities for immigrants (Caperchione et al., 2009; Dean & Wilson, 2010; Lau et al., 2005)). Such disadvantage is more common for the non-European immigrants than the European immigrants (Spitzer, 2005).

Education, literacy, and knowledge. Low education, literacy level, or knowledge have been shown to affect adherence to medical treatment (Kim et al., 2007; Lau et al., 2005) and positive health behaviours including health protective behaviours (Caperchione et al., 2009; Gupta et al., 2002; Hyman & Guruge, 2002; Newbold, 2005) for immigrants in Canada.

Language. Poor knowledge of the host country's language has been noted as a barrier to healthy behaviours (Caperchione et al., 2009; Evenson et al., 2004; Hyman & Guruge, 2002; Lawton et al., 2006; Taylor & Doherty, 2005; Sun et al., 2010; Woltman & Newbold, 2007) including adherence to medical health advice (Lau et al., 2005). For

example, in the case of mammography, Asian immigrant women, who were able to speak in either French or English, were three times more likely to have utilized mammography screening than those who did not speak either of the official languages in Canada (Sun et al., 2010). Language has been recognized as a determinant of health in the revised Ontario Public Health Standards (OPHS) (Minister of Health and Long-Term Care, 2008), which points to the relationship of this skill to health outcomes.

Access to healthcare services. A number of factors that contributed to difficulties in accessing health services that were pointed above included the ability to use the host country's language, the immigrants' level of education, knowledge or awareness about the availability of services, and their income. Studies on the use of health care services showed that immigrants used the available medical services to the same extent as did the non-immigrants in Canada (Deri, 2005; Lasser, Himmelstein, & Woolhandler, 2006; Wang, 2007). However, the decline in immigrants' health did not reflect a concomitant increase in their use of health services (Newbold, 2005), which may indicate existence of barriers to accessing services in longer periods post-immigration. Also, a 2002 US-Canada joint survey indicated that compared to non-immigrant Canadians first generation immigrants in Canada had higher odds ratio for not having a regular physician (Siddiqi, Zuberi, & Nguyen, 2009).

External factors influencing health services access are not exclusively restricted to the health care professionals' poor provision of culturally-sensitive service but extend to structural reasons in the health care system (Blackman & Masi, 2006; Edge & Newbold, 2013). In the Canadian health care context, these systemic barriers have been noted as the complexity of insurance coverage for refugees creating demands on administrative

work (McKeary & Newbold, 2010), thus discouraging physicians to provide service to these clients; furthermore, increased workloads on health care providers due to financial restructuring of the Canadian health care system, would result in providers' avoiding patients that may require more time such as those with linguistic barriers (Spitzer, 2004).

When "a commonly cited barrier to health-care amongst minority groups in Canada is inadequate cultural competency and respect for alternative health values and practices" (Edge & Newbold, 2013, pp. 144-145) by health care providers, then immigrants who come from collectivist culture backgrounds to Canada could be facing such barriers more often than those from individualist cultures in Canada. As such these immigrant groups would be at great disadvantage when hoping to receive culturally-sensitive healthcare services within the health care service settings in Canada.

Discrimination. Discriminatory treatment received from medical professionals was noted in the treatment of minority populations (Blackman & Masi, 2006). In Canada, although there is a lack of research on exploring discriminatory provision of medical treatment or health services related to ethnic minority men and youth (Edge & Newbold, 2013), some studies have provided insight into immigrant women's experiences of discrimination and cultural insensitivity that adversely affected their medical service seeking or utilizing behaviours (Access Alliance, 2005; Johnson et al., 2004; Magoon, 2005; McKeary & Newbold, 2010; Spitzer, 2004; Wahoush, 2009; Women's Health in Women's Hands, 2003). For example, a recent study showed that both care givers and newcomers to a mixed urban-rural area in Ontario considered discrimination in health care as contributing to immigrants' dissatisfaction with the use of medical services (Sethi, 2012).

Perceived discrimination outside of health care settings can also affect health behaviours in various settings. Studies by Guerin et al. (2003) and Taylor & Doherty (2005) demonstrated how perceived discrimination negatively affected women and young females' participation in physical activity programs. Taylor & Doherty (2005) noted gender differences in reactions to discrimination where "boys tended to brush off any sense of being left out by others [in physical education classes' activity time], the girls tended to take it [the act of being discriminated against] more personally and even withdraw from the activity" (p. 226). It is worth noting that perceived or experienced discrimination may not deter some women from accessing health services (Dailey, Kasl, Halford, & Jones, 2007). Unfortunately, this is not the case for all health behaviours and/or for all those who experience discrimination (Williams & Jackson, 2005). The negative consequences of racial discrimination have certainly been recognized in health research literature with proposals for considering it a determinant of health (Hyman, 2009).

Social and environmental conditions. Climatic conditions, infrastructure or the built-environment, neighbourhood safety, availability of and access to both healthy and unhealthy choices have all been reported as determinants of health behaviour for immigrants in the West (Caperchione et al., 2009; Dean & Wilson, 2010; Lawton et al., 2006). While some immigrants reported feeling safe in Canada and thus allowing their children to use parks for their activities (Dean & Wilson, 2010), some reported poor climatic conditions limiting outdoor activities in countries with somewhat similar climate to that in Canada (Caperchione et al., 2009; Lawton et al., 2006) as well as in Canada (Lai & Chau, 2007; Oliffe et al., 2009). In terms of access to healthy foods, immigrants in Canada

pointed to ease of access to both healthy and unhealthy foods (Dean & Wilson, 2010), which influenced their food choices by inclusion of both types of foods. Although such environmental conditions are not the type of challenges unique to the immigrant population in Canada, the cold climate of Canada is a new phenomenon for most non-European immigrants.

The rural-urban nature of the areas where immigrants settle have also been shown to influence their economic success and social integration (Smart, 2003; Pan & Carpiano, 2013). While one study (Smart, 2003) showed that some immigrants find establishing a business in rural areas in Canada financially more rewarding than doing so in urban areas, another study (Pan & Carpiano, 2013) demonstrated a higher odds ratio of having thoughts of suicide among visible minority immigrants settled in rural areas than those settled in urban areas in Canada. Thus rural-urban settlements can affect health and health behaviours of immigrants.

Social capital. Social capital is defined as the "ability of actors to secure benefits by virtue of membership in social networks or other social structures" (Portes, 1998, p. 6). Social networks can be comprised of friends, neighbours, colleagues, organizations, relatives, and other groups (Xue, 2008). Social capital has been shown to provide financial and personal benefits to immigrants (Amuedo-Dorantes & Mundra, 2004; Lamba & Krahn, 2003) as well as better employment conditions (Mitra, 2012). An analysis of the Longitudinal Survey of Immigrants to Canada (Xue, 2008) showed beneficial effects of social capital for both male and female recent immigrants in gaining employment; however, the positive effect for females was greater than for males. This was probably because women may tend to rely on interpersonal ties to gain employment more so than

men (Sanders, Nee, & Sernau, 2002). Thus social capital appears to have differential effect on immigrant women's job finding activities versus those of immigrant men's.

The link between social capital and health of recent immigrants to Canada was demonstrated by its direct effect on self-reported health (Zhao, Xue, & Gilkinson, 2010) and indirectly by its impact on health via improving economic status of immigrants as stated above.

In the context of collectivist cultures, social capital is of utmost importance as it ensures access to shared resources among members of a group. Immigrants from these cultures who upon entry into another country have to rebuild their social capital may experience this loss at a greater extent than their counterparts from individualist cultures. For example, feelings of isolation, perceived lack of support with child care and limited socializing opportunities were noted effects of reduced social capital for female Somali immigrants in Australia (McMichael & Manderson, 2004).

Discrimination, knowledge of the new country of residence's official language(s), familiarity with the new country's social norms including administrative systems, and having access to individuals with extensive social networks influence the strength and the extent of immigrants' social capital (Subirós, 2011; Spaaij, 2012). Hence social capital is linked to a number of other determinants of immigrants' health.

Views on health and fitness. In addition to knowledge and motivation, other internal factors that influence health behaviours are health beliefs and views about health behaviours (Wells et al., 2008). While Western medicine's focus has been on bodily harm and disease reduction influenced by Cartesian philosophy of mind and body being distinct, non-Western cultures have a more holistic view of health that includes mental,

physical, spiritual, and social well-being (Guruge, Hunter, Barker, McNally, & Magalhães, 2010; Hilton et al., 2001; Lu et al., 2008). Such view of health may explain the use of alternative medicine and dietary supplements by those from collectivist cultures than those from individualist cultures (Albright et al., 2012; Hilton et al., 2001).

Religious fatalism was another view that has been pointed as being a barrier to physical activity among minority immigrant groups (Caperchione et al., 2009; Ypinazar & Margolis, 2006); however, this point has been challenged as an erroneous interpretation at least among Latino and Filipino immigrants (Joseph et al., 2009).

The findings of a Canadian study (Dean & Wilson, 2010) pointed to the perception of minority immigrants in Canada about the reasons for the decline in their health. None of the participants in the study pointed to any environmental or lifestyle factors that have been stressed in health promotion messages such as nutrition as the culprits for the decline in their health (Dean & Wilson, 2010). This finding suggested that some immigrants may be unaware of the adverse effects of certain behaviours common to Western lifestyles; thus they may have no reason to adopt promoted health behaviours such as a healthy diet and regular engagement in physical activities. Although some studies showed that immigrants' health beliefs did not translate into health behaviours (Mathieu IV et al., 2012; Kim et al., 2007), others have shown health beliefs to be a factor in shaping health behaviours (Albright et al., 2012; Caperchione, et al., 2009; Hilton et al., 2001).

Studies of Muslims indicated that religiosity impacted participants' views to a great extent (Ypinazar & Margolis, 2006). While Muslim scientists considered the daily prayers to be beneficial to psychological well-being (Al Gesir as cited in Ashy, 1999), lay

Muslims appeared to think of the daily prayers as a form of physical exercise for the body as well (Lawton, 2006; Ypinazar & Margolis, 2006).

Views about health and health behaviour are internal factors that are shaped by the cultural backgrounds of individuals and the norms practiced within cultural groups. Therefore, understanding culture can help understand such views that can influence health behaviours.

Acculturation. Acculturation refers to the process of changes in cultural markers of individuals as they come into regular close contact with individuals from different cultures (Berry, 1992). Although early cross cultural works using the concept of acculturation had one dimension, which is that of an immigrant adopting the culture of the new culture post-migration while becoming distant with her/his own culture, the later studies have poised a bi-dimensional aspect of acculturation. The added dimension termed enculturation (Cortés, Rogler, & Malgady, 1994) is that of an immigrant moving on a continuum from maintaining to abandoning his/her pre-migration cultural practices after migration (Matsudaira, 2006). Since the degree of acculturation can influence behaviours, as in the case of language acculturation's effect on health and health behaviours, many studies of immigrants have included acculturation scales to measure this phenomenon. Over 50 acculturation scales have been reported in the literature (Matsudaira, 2006) with various indicators of acculturation/enculturation such as language, dietary practices, and values.

Studies that have measured acculturation of immigrants and their health behaviours have shown both negative and positive effects of high levels of acculturation on health behaviours. The positive effects included higher Pap test rates (Gupta et al., 2002) and

physical activity levels (Evenson et al., 2004) with higher acculturation level for immigrants in Canada and the US, respectively. The negative effects are those related to adopting the new country's norms around unhealthy behaviours such as unhealthful dietary changes (Akresh, 2007; Varghese & Moore-Orr, 2002) and higher levels of smoking and/or drinking alcohol (Hyman & Dussault, 1996). Hyman and Dussault (2000) also showed that high levels of acculturation for Southeast Asian pregnant women in Canada were associated with more stress, less social support, and more preoccupation with body weight resulting in attempts to consume low calorie diets.

Findings that point to increased chronic disease morbidity (Singh & Miller, 2004) and the healthy immigrant effect in general (Tremblay et al., 2006) is an indication that the net effect of acculturation is negative for immigrants (Schwartz, Unger, Zamboanga, Szapocznik, 2010) or that the combination of adopted behaviours with the reduction of pre-immigration health protective behaviours is not favorable for immigrants' health, particularly those from non-Western countries as noted previously.

Considering the effects of acculturation on dietary practices, one study of Chinese ethnicity women in Canada and US (Satia-Abouta, Patterson, Kristal, Tech, & Tu, 2002a) investigated the effect of dietary psycho-social constructs on dietary practices of the participants and measured the dietary acculturation level of the participants. Results showed that while Western acculturated Chinese women did not think that Chinese diet was healthier than Western diet, women who maintained Chinese dietary practices due to family members' preferences had higher mean intake of fruits and vegetables. This study did not explore if there were factors related to the choice of dietary practices other than the psycho-social constructs included in the survey questionnaire.

While there has been research on the health beliefs and practices of immigrants in the West, little attention has been directed at learning what immigrants in different and in especially less metropolitan centres view what determines their health behaviours including dietary practices.

Culture as a dynamic phenomenon (Lee et al., 2001) is continuously being reconstructed and thus the knowledge about immigrants' views needs to be updated. Due to changes in political, social, and economic conditions in countries from where immigrants come to Canada, the behaviours and health views of recent immigrants may not be the same as those of the old immigrants as attitudes and behaviours in the immigrants' countries of origin can change (de Rezende & de Avelar, 2012).

Acculturation and exposure to health messages and the common medicinal practices and beliefs also affect the behaviours and views of immigrants. For example, de Medeiros et al. (2012) showed how after migration individuals may substitute, replace, abandon, or adopt new medicinal uses for their traditional medicinal plants. Therefore, it is important to update the state of knowledge about the health views and behaviours of immigrants to capture the relevant changes among immigrant groups.

Cultural factors. The literature lists studies pointing to cultural practices as factors shaping immigrants' and minority groups' health behaviours; it is at times labelled as being a 'barrier' to adoption of healthy behaviours (Caperchione et al., 2009; Taylor & Doherty, 2005). According to the Public Health Agency of Canada (PHAC, 2003), culture is a determinant of health. The premise for this conclusion is that culture is a determinant of health for those groups of individuals who live in "a socio-economic environment, which is largely determined by dominant cultural values that contribute to the per-

petuation of conditions such as marginalization, stigmatization, loss or devaluation of language and culture and lack of access to culturally appropriate health care and services" (PHAC, 2003). In the case of immigrants in Canada, the ones whose cultural values are in stark contrast to the dominant culture in Canada are the non-European immigrants.

Some of the ways in which culture influences health behaviours as noted in the literature are described below. The search for studies was limited to the health behaviours of members from collectivist cultures in the West to highlight the challenges they faced while living in mainly individualist cultures.

The cultural concepts of time. While lack of time as a barrier to health behaviour engagement has been a common theme in non-immigrant as well as immigrant populations (Caperchione et al., 2009; Kegler, Escoffery, Alcantara, Ballard, & Glanz, 2008; Keim et al., 2011; Strazdins et al., 2011a; Taylor & Doherty, 2005; Thomas & Irwin, 2009), there appears to be fundamental differences in the concept of time among collectivist and individualist cultures. Collectivist culture is generally seen as polychronic; in polychronic cultures time is fluid and flexible; it is based on seasons, religious festivities rather than based on a mechanical clock, which is the hallmark of monochronic cultures (Nonis, Teng, & Ford, 2005).

Obligations to ingroups. Studies of immigrants from collectivist culture backgrounds have highlighted the importance of interpersonal relationships that have been shown to be given precedence over tasks that may be exclusive to self-interest (Abbasi et al., 2011; Johnson & Nies, 2005; Lawton et al., 2006; Netto, McCloughan, & Bhatnagar, 2007; Taylor & Doherty, 2005). A sense of obligation to *ingroups* have been noted to influence various aspects of the immigrants' lives including the consumption of foods

(Lawton et al., 2008) and the allocation of time and effort to daily activities (Lawton et al., 2006). Findings of a review paper (Johnson et al., 2011) on barriers and facilitators to community based lifestyle interventions among Black and ethnic minority in UK indicated that family and friends had strong influence on encouraging, but also in some cases on discouraging change in health behaviours. This review paper (Johnson et al., 2011), however, was not focused on those from only collectivist cultures. Although studies with individuals from individualist cultures have also demonstrated the role of family members on encouraging and discouraging healthy behaviours (Thomas & Irwin, 2009), this effect, in collectivist cultures, extends beyond the immediate definition of a family to include ingroup members. Similar observations were reported in studying Aboriginal communities that engaged in serving communal meals that incorporated the extended family's food preferences (Adams, Harvey, & Brown, 2008). The participants in this study explained that they "did not feel comfortable asserting what their own children should eat" (p. 314) when others in the same household were taking care of their children (Adams, Harvey, & Brown, 2008). The authors did not explain the reasons for this perception, which was a critical point missed.

The obligation to cater to the preferences of family members was demonstrated among immigrants from collectivist culture backgrounds living in UK (Netto et al., 2007). This was considered a barrier in changing food preparation methods (Netto et al., 2007). The significance of relationships in collectivist cultures is best described by Pasick et al. (2009); in a study of Latino and Filipino immigrants in the US (Pasick et al., 2009) *relational culture* was identified as one of the overarching social context domains supported by their data. The authors (Pasick et al., 2009) described that the participants'

decisions about mammography was influenced by their social context; being in a *relational culture* meant that "people think of themselves less as individuals and more in terms of their place in relation to others" (p. 25S). This can explain not only the individual's influential relationships that affects his/her personal behaviours and choices that pertain to his/her health but also his/her perceived obligations towards his/her *ingroups*.

Cultural identity. Engaging in practices that enforce or confirm membership in a particular culture has been demonstrated in immigrant studies in the West (Lawton et al., 2008; McEwen, Straus, & Croker, 2009; Mukherjea, Morgan, Snowden, Ling, & Ivey, 2012; Ristovski-Slijepcevic, Chapman, & Beagan, 2010; Shatenstein & Ghadirian, 1998; Silva, 2009). With migration to the West, immigrants acculturate to the norms of the dominant society to various degrees; however, this does not mean that acculturated immigrants' pre-migration cultural practices diminish at the same rate of their acculturation. The existence of 'nostalgia trade', which denotes the importing of cultural goods to the country of destination for immigrants (Newland & Taylor, 2010, p. 15) and transmigration (Joseph et al., 2009) where ties with home country are maintained, speak to the efforts and desire of immigrants to maintain their cultural identities. In her study of South Asian Americans Silva (2009) argued that a reason for the maintenance of cultural identities for the immigrants in her study was to sustain a sense of belonging. This was, at least in part, due to the experiences of discrimination the participants perceived in the US that induced feelings of alienation in the US, a sentiment that had carried over to second and third generation South Asian-Americans. This necessitated engagement in behaviours such as having food that marked an ethnic identity to create a sense of belonging to a place called 'home', a place where the visible minority immigrants in the West felt they

had the right to exist without having to endure racist statements like being told to "go back home" (Silva, 2009, p. 693).

Certain dietary practices and cultural dishes, as a symbol of belonging to a cultural group, has been a means for immigrants to maintaining their cultural identity (Lawton et al., 2008; McEwen et al., 2009; Ristovski-Slijepcevic et al., 2010; Silva, 2009); hence, interventions that aim to change such food behaviours can be interpreted as severing one's link to one's cultural identity, a strategy that would be doomed to fail in promoting health for the minority immigrant groups. Ristovski-Slijepcevic et al. (2010) agreeably noted that African-Canadians were unwilling to abandon food choices that were considered nutritionally unhealthy as long as they were central to the concept of their cultural identity. Similar findings were observed among Somali and South Asian immigrants in UK (McEwen et al., 2009; Lawton et al., 2008). Similar findings have been reported in relation to other behaviours such as the use of culturally specific tobacco among South Asian immigrants in UK (Mukherjea, Morgan, Snowden, Ling, & Ivey, 2012).

In a review of factors influencing the diet and health behaviours of ethnocultural groups, Shatenstein & Ghadirian (1998) pointed to the value of such behaviour stating that "food traditions" are essential to psychological well-being as they are a means of maintaining cultural and religious identity. Although most of these studies included population groups that would be considered as having collectivist culture backgrounds, none of the authors positioned their findings in such cultural context.

Social norms. Adherence to social norms of a cultural group confer membership to that group whereas non-adherence signifies enforced rejection of membership to a cultural group depending on the degree of collectivity of the group. A number of cultural prac-

tices that pertain to food and physical activity behaviours of immigrants in the West have been reported in the literature. For example, two studies of Bangladeshi immigrants in UK (Chowdhury, Helman, & Greenhalgh, 2000; Grace et al., 2008) demonstrated that serving foods such as curries with reduced oil and spice to guests was considered inhospitable and associated with not honouring the guests. Similarly, a UK-based study of Somali immigrants indicated that eating fruits and vegetables was equated with poverty and, therefore, it was more desirable to have meat regularly (McEwen et al., 2009). The high frequency of meat, ghee and traditional sweets consumption, traditionally indicative of wealth, in the diet of South Asian immigrants in UK post-migration was noted to be due to the affordability of such foods in the West (Chowdhury et al., 2000).

Regarding physical activity engagement, the types of physical activities that fell outside the social norms seemed to be avoided by the immigrants from collectivist cultures in the West (Grace et al., 2008; Lawton et al., 2006). For instance, exercise in a formal setting like a gym was not a familiar concept to Bangladeshi immigrants in UK, so engagement in such activity engendered ridicule, especially for older individuals and women (Grace et al., 2008). On the other hand, immigrants readily engaged in activities that were in compliance with social norms in their cultural community such as doing house chores (Lawton et al., 2006).

Since religious practices seem to be integrated in cultural practices, they have been included under cultural practices in most studies. Religion has been noted for its influence on dietary practices extensively (Johnson et al., 2011; Lawrence et al., 2007; Shatenstein & Ghadirian, 1998). Studies with cultural groups that follow Islam as their religion showed immigrant Muslim women's unwillingness to participate in mixed gen-

der physical activity opportunities or in environments where women's bodies were exposed such as in swimming (Caperchione et al., 2009; Caperchione, Kolt, Tennent, & Mummery, 2011; Guerin et al., 2003). All the studies referenced in the current section related to immigrants from predominantly collectivist cultures.

Culturally identified gender roles. One of the important aspects of culture is the assignment of gender specific roles. Although in both individualist and collectivist cultures women carry more of the child rearing and household chores than men do (Mencarini & Sironi, 2012), women from patriarchal societies that include Eastern European countries like Greece and Turkey generally carry out the bulk of household chores as compared to the women in Western European countries (Mencarini & Sironi, 2012).

To understand the role of culture in shaping immigrants' behaviours, observing women's behaviour would be an efficient method of learning about cultural effects since "women in general have the role of culturally reproducing the collectivity as they are perceived as the primordial intergenerational transmitters of cultural traditions such as language and customs" (Clycq, 2012, p. 160). Attending to this fact, many studies of cultural groups, especially those related to dietary and food-related behaviours, have included mainly women. Women in the West have been struggling to move away from being exclusively responsible for domestic food preparation, a task that has been perceived as lower in status, to those that are associated with the masculine gender (Harbottle, 2000, pp. 14, 24). On the contrary, domestic food preparation was shown to be perceived as a source of power and respect for immigrant Asian women (Beagan & D'Sylva, 2011; Harbottle, 2000, pp. 26, 107-121). Beagan & D'Sylva (2011) described how in the context of settlement within a society that is shaped by a culture different than one's own,

skills in preparing one's cultural foods can "be experienced as a form of power or 'currency' for women, because they are able to produce a highly significant symbol of culture" (p. 210). What it means for men, may be a sense of little control over what is prepared at home (Lawton et al., 2008). Immigrant women from non-Western countries living in the West being in charge of domestic affairs especially in relation to food preparation cater to the perceived physical needs of the family members but not neglecting the psychological aspect of food consumption (Chapman, Ristovski-Slijepcevic, & Beagan, 2011; Lu, Sylvestre, Melnychuk, & Li, 2008; Netto et al., 2007; Ristovski-Slijepcevic et al., 2010) such as by way of preparing foods that would please the majority of the family members, especially children (Ristovski-Slijepcevic et al., 2010; Lu et al., 2008). This view was also upheld by Aboriginal parents living on reserves (Adams et al., 2008), who were lenient about their children's food and activity choices. It should be noted that this practice is not exclusive to ethnic groups from collectivist cultures. Children's role in influencing food choices served at home for the family has also been shown among White low-income families (Brown & Wenrich, 2012). Therefore, it is unknown whether it is culture or income level that shapes food governmentality or power over foods served at home.

Women's caregiving responsibilities in collectivist cultures were shown in different studies (Elliott, Di Minno, Lam, & Tu, 1996; Lawton et al., 2006; Lewis & Ausberry, 1996) to take precedence over their own personal interests and needs. Additionally, since many cultural and religious festivities include special food preparation that normally fall in the domain of the household women's responsibilities, it adds to the load of the traditional responsibilities of women. This activity is especially important in the context of

immigration as it is a means of preserving the family's cultural identity. The blurred boundaries between family and business domains can create even further responsibilities for family members because one's time is a resource shared among all family members (Hsieh & Lin, 2010) including extended family. This leaves little time as well as energy and attention for self-care particularly in the face of reduced social capital[1] for immigrant women and men (Putnam, 2007). Often not having the support of extended family, generally available in their home country (Aubel, 2012), leaves immigrant women unassisted in their day to day domestic chores especially in their child rearing-related tasks.

Another aspect of culture that affects health behaviours of women, in particular, is the perception of modesty. Concerns for preserving female modesty has been reported to be factors influencing behaviour related to cervical cancer screening (Redwood-Campbell, Fowler, Laryea, Howard, & Kaczorowski, 2011), mammography (Schoueri-Mychasiw, Campbell, & Mai, 2013), and physical activity engagement in the West (Dagkas & Benn, 2006; Koca, Henderson, Hulya, & Bulgu, 2009) among different immigrant groups such as Chinese, Arab, and those who are Muslim from non-Western countries. Meston & Ahrold (2010) pointed that behaviours related to female sexuality were considered inappropriate due to the conservative culture of Asians.

A recent situational assessment of newcomers in Winnipeg reported the need for female-based programs for Muslim women (Ambtman & Ali, 2009) to facilitate their engagement in physical exercise, a recommendation that was also supported by previous research in other geographical locations (Guerin et al., 2003; Lawton et al., 2006). Despite

[1] See next section for a definition and description of *social capital*.

the growing number of Muslims in North America and the strong influence of their religious convictions on their views on health (Ypinazar & Margolis, 2006), research in the area of health behaviours in this population group is limited.

Health Promotion Theories

The role of theories in health promotion and health education is to help predict or explain changes in behaviours or environments (Sharma & Romas, 2008, p. 27). Theories help in conveying "assumptions and hypotheses […regarding the] strategies and targets of interventions" (National Cancer Institute, 2005, p. iii). Theories are notional or discrete, and "they do not have a specified content or topic area" (Glanz, Rimer, & Viswanath, 2008, p. 26). Therefore, an ideal theory can be applied in a variety of community programs. Health promotion theories are generally designed at one of these three levels of foci: intrapersonal, interpersonal, and community level (National Cancer Institute, 2005, p. 11). When exploring the health behaviours of immigrants using intra- and interpersonal theories is more appropriate to guide health promotion interventions. This is because intrapersonal and interpersonal theories take the circumstances of individuals' into consideration rather than focusing on the characteristics of a community. The literature points to many health promotion theories and models. Some of the popular ones are: Health Belief Model, Stages of Change Model, Theory of Planned Behaviour, and Social Cognitive Theory (National Cancer Institute, 2005). It is important to note that many of the popular theories used in health promotion are based on majority culture-based research (Hyman & Guruge, 2002); a fact that may make them inappropriate for diverse subgroups in the population. Burke et al. (2009a) noted that the theories upon which most health behaviour research was based, assumed a shared 'norm', which was that of

White, urban, middle-class Americans. The authors further pointed that these theories assumed a shared rationality- that if given appropriate information, people would choose to perform the recommended health practice. Such assumptions may have resulted in the application of inappropriate theories to ethnically and economically diverse populations within multicultural societies (Pasick & Burke, 2008). For example, the construct of self efficacy in Social Cognitive Theory (Bandura, 1977, 1986) was criticized for disregarding social and cultural contexts (Burke et al., 2009a). The same construct is part of HBM too, which is the oldest and the most well-known theory in health promotion (National Cancer Institute, 2005, p. 13; Burke, Joseph, Pasick, & Barker, 2009b; Becker, 1974; Hyman & Guruge, 2002; Rosenstock, 1974a). The HBM started as a basic model with only four constructs and over the years has undergone many tests in various situations that resulted in establishing this model as a theory with two constructs added to its original four (Sharma & Romas, 2008). The latest additional construct of self efficacy was taken from Social Cognitive Theory (Bandura, 1977, 1986) and added to the HBM in the late 1980s (Sharma & Romas, 2008). The HBM is well recognized for its use in preventive health behaviour, illness behaviour, and sick role behaviour with strong predictability and explanatory power (Sharma & Romas, 2008). The constructs of this popular theory for health promotion and education used in North America are described below.

Constructs of the Health Belief Model. Constructs are concepts that have been "developed or adopted for use in a specific theory" (Glanz et al., 2008, p. 28). For example, *perceived susceptibility* is one of the constructs of the HBM. The six constructs of the HBM are listed in Table 1. In this study the context for these constructs will be health behaviours and healthy lifestyles.

Table 1

Constructs of the Health Belief Model

Construct	Definition	Example
Perceived susceptibility	"Subjective belief that a person may acquire a disease or enter a harmful state as a result of a particular behavior" (Sharma & Romas, 2008, p. 80).	Diabetes is in our family.
Perceived severity	"Belief in the extent of harm that can result from the acquired disease or harmful state as a result of a particular behavior" (Sharma & Romas, 2008, p. 80).	My grandma died because she broke her hip because she had osteoporosis. You don't see it but it is very dangerous.
Perceived benefits	"Belief in the advantages of the methods suggested for reducing the risk or seriousness of the disease or harmful state resulting from a particular behavior" (Sharma & Romas, 2008, p. 80).	My dad always worked in the garden and that kept him strong even when he was very old he could carry big buckets of water.
Perceived barriers	"Belief concerning actual and imagined costs of performing the suggested behavior" (Sharma & Romas, 2008, p. 80).	Going to gym is expensive.
Cues to action	Precipitating force that makes person feel the need to take action (Sharma & Romas, 2008, p. 81).	My friend calls me to go for a walk every weekend.
Self efficacy	Confidence in one's ability to pursue a behavior (Sharma & Romas, 2008, p. 81).	I can bike to school in the summer.

Knowledge Gaps

As described above the immigrant literature demonstrates the declining health status of immigrants, especially for those from collectivist culture backgrounds, and their poor adherence to common health promoting recommendations. To uncover the reasons

behind such poor adherence, however, little research has been conducted in exploring the perspective of immigrants in a Canadian context. Furthermore, while many of the immigrant studies in Canada appeared to be concentrated in large urban centres with high concentrations of immigrants, no studies have explored the perspectives of the prairie immigrants regarding what they perceive as determinants of their health behaviours. Whether all the ten major factors outlined that determine the health behaviour of immigrants in major urban centres such as in London, UK or in Toronto, Canada are relevant and how they play a role in determining the health behaviours of immigrants in the unique cultural atmosphere of Winnipeg have not been explored.

Other gaps in the literature pertain to the limited number of studies framed by the cultural orientation of immigrants such as collectivist vs. individualist cultures whereas the focus was more on large immigrant groups from specific ethnicities such as Hispanics, South Asians, and Chinese. Focusing on a particular ethnicity changes the frame of the research lens and hence may limit the applicability of the findings and their usefulness at a public health level for population-based interventions in multi-ethnic communities.

Furthermore, many of the immigrant studies are reported from the US and UK, whose findings may present a different picture of what influences the health behaviours of immigrants in those countries than the factors at play for those living in Canada. Moreover, most of the immigrant studies in Canada have focused on immigrants' health status and health behaviours, but far few have explored the perceptions of immigrants about what they see as barriers and facilitators to their adoption of health promoting behaviours. Lastly, many studies with South Asians have been conducted in the context of

diabetes or cardiovascular disease management or prevention in the case of at-risk individuals. While the findings from these studies can be useful for health promotion program design, information about general health behaviours from healthy immigrants is likely to provide guidance on designing effective health promotion programs before such population's health starts to deteriorate. Furthermore, there is a need to explore the barriers to healthy behaviours that immigrant women from collective cultures and those who are Muslim face so that appropriate interventions can be developed to promote the uptake of positive health behaviours among these immigrants.

Regarding the HBM, while its applicability to ethnically and economically diverse groups has been critiqued, no studies to author's knowledge has specifically evaluated the appropriateness of all of its constructs to Muslim immigrants from collective cultures backgrounds living in an individualist dominant culture. Understanding the strengths and shortcomings of these constructs for health promotion use among immigrants from collective cultures is the first step to addressing the need for providing culturally-appropriate health interventions.

Research Design

The ontological approach taken in this study was constructivism, a concept that is based on the assumptions that individuals develop subjective meanings of their experiences that are often shaped by social, historical, and cultural norms (Creswell, 2009). This research was a qualitative case study of perceptions about health promoting behaviours of immigrant women from collectivist culture backgrounds. It fit Robert Stake's (1995) criteria for instrumental case study, which is defined as "research on a case to gain understanding of something else" (p. 171). An instrumental case study provides insight into an issue of interest by studying the issue within the context of a particular case. The findings shed light upon the issue, which is the primary interest of the researcher, rather than on the particular case, which is of secondary interest. In the present study the focus was on the collectivist culture of the group so that the findings would be instrumental to understanding how such cultural background might influence other similar groups' perceptions about healthy lifestyles. Both in-depth interviews and focus group sessions were conducted for data collection purposes. This type of data collection provided the following advantages:

- Information about the perceptions of the participants could be obtained, which might have been impossible to obtain via other types of data collection;
- The use of open-ended questions allowed for the exploration and expression of participants' perceptions about a particular subject; and
- The researcher had control over the line of questioning (Creswell, 2014, p. 191).

These advantages formed the basis for the selection of interviews and focus groups in this study with the purpose of gaining insight into the factors that influenced the selected participants' health behaviours. Furthermore, a focus group is a form of non-directive interviewing providing a permissive environment to encourage self-disclosure (Krueger, 1994). This is critical when working with vulnerable groups such as visible minority immigrants. The selection of participants with commonalities is important in conducting focus groups (Krueger, 1994). In this study, the commonalities among the participants were: their religion, their broad cultural values, their gender, and their belonging to visible minority groups. They were also all immigrants although with varying lengths and experiences of immigration in Canada. This is explained further in the 'participants' section.

Research Questions

The questions that this study aimed to answer were:

1. What influenced the health behaviours of immigrant women from collectivist culture backgrounds in Winnipeg?
2. Were these perceptions represented by the constructs of the Health Belief Model?
3. Were there constructs that this particular group of the Canadian population used, while these constructs were not part of the Health Belief Model?

Objectives

1. To conduct and analyze interviews and focus groups with immigrant women from collectivist culture backgrounds living in Winnipeg to describe their perceptions about the barriers and facilitators they faced in engaging in health promoting behaviours;

2. To further interpret the data to determine whether the emerging constructs were the same or different from the constructs of the Health Belief Model.

Participants

This study targeted immigrant Muslim women from collectivist culture backgrounds, thus immigrants from countries that scored high in individualism as per Hosftede's ranking system (Hofstede, n.d.) such as United States, Canada, United Kingdom, Australia, and Western European countries were excluded. Muslims were targeted for the following reasons:

1. Islam, as a religion, has been observed to be associated with collectivism (Cukur, De Guzman, & Carlo, 2004).
2. Religious affiliation has been shown to affect perceptions that may influence health behaviour (Shatenstein & Ghadirian, 1998). Thus focusing on the followers of one religion allowed for better focus to understand and explore health behaviours that might have been influenced by religious practices. It also helped facilitate recruitment through religious events and centres as well as data collection by building trust within participants in focus group sessions.
3. Muslims comprised the largest non-Christian religious group in Canada with 579,640 Muslims reported in the 2001 census (Statistics Canada, 2005). Jedwab (2005) pointed that Muslims were the fastest growing religious group in Canada with the projection of reaching 1.4 million by the year 2017. In 2001, the Muslim population composed 1.9% of the Canadian population, with a calculated projected increase of 3.7 to 4.9% by the year 2017 (Belanger et al., 2005).

4. Another factor in deciding to select this population was the shared religious background of the principal researcher with this group conferring an insider advantage, which is known to be valuable in the field of qualitative research (Gair, 2012).

Women were selected to participate in this research for the following reasons:

1. The health of female immigrants seemed to fare worse than that of their male counterparts as described earlier.
2. Women tended to bear the responsibility of transmitting culture to their children as observed in studies of immigrants in the West. Therefore, selecting women as participants in studying culture was preferred.
3. The principal investigator's gender was female, which was conducive to fewer barriers to participants' sharing their perspectives with a female investigator. This also allowed for ease in recruitment and comfort in interview settings in a culturally safe relationship for the participants.

Methods

Recruitment of Participants

Approval from the Joint Research Ethics Board at the University of Manitoba was obtained prior to participant recruitment (see appendix A).

A number of organizations catering to potential participants were approached to help advertise the study to their clients. These included Mount Carmel Clinic, Waverley Mosque, Winnipeg Central Mosque, Welcome Place/Immigrant Centre, two ethnic stores in Winnipeg, Islamic Social Services Association, and Canadian Muslim Women's Institute. Mount Carmel Clinic was instrumental in advertising the study to the community organizations in its network, which included Wolseley Family Place that helped organize and recruit participants for a focus group. A poster was used to advertise the study (see appendix B for a copy of the poster that was printed on dark yellow color paper). Posters were also posted at the Muslim prayer room at University of Manitoba after obtaining permission from the executive of the Muslim Students' Association, a student group at the University of Manitoba. A smaller version of the poster in the form of a flyer (see appendix C) was also distributed at religious events and some congregational prayer times by the principal investigator (PI) to help recruit participants for the study. The PI provided information about the study when potential participants showed some interest or asked questions. Snowball sampling method was also utilized by asking participants to inform their contacts who met the inclusion criteria to contact the PI. Individuals who were interested in the study and approached the PI were screened for eligibility using a short questionnaire (see appendix D). A mutually appropriate time and place was chosen to conduct interviews with participants.

Inclusion criteria. To be eligible for participation in the study each participant had to meet all of the following criteria:

- Be a first generation immigrant from Asia, Latin America, or Africa excluding South Africa due to the latter's orientation towards individualistic culture;
- Been in Canada for at least one year to leave time for the initial period of settlement and for the potential participant to become aware of or familiar with the services and the environment in Canada;
- Able to carry out a conversation in English to avoid the cost of hiring interpreters, which would take up interview time but more importantly to exclude those who would possibly have linguistic limitations that would influence how they received or perceived health promoting messages and whether they engaged in health-related activities. Since language had already been established in the literature as a determinant of health, the focus was to explore other factors influencing health behaviours;
- Be female;
- Be 18 years of age or older as identified by the participants themselves; and
- Be apparently healthy to exclude motivations for engaging in health behaviours as part of a treatment program or recommendations by a health care professional. Therefore, those who self-reported having chronic conditions were to be excluded from the study.
- Self-identify as Muslim.

All participants were provided with an honorarium amounting to $15 in the form of a gift certificate to a grocery store and those needing a bus ticket were provided with two bus tickets to thank them for their voluntary participation in this study.

The difficulty in engaging minority groups has been documented in the literature (Chen, Kramer, Chen, & Chung, 2005; Rodriguez, Rodriguez, & Davis, 2006). Two of the recommended methods to enhance recruitment were to collaborate with community organizations with which potential participants had established relationships and to recruit in person by face-to-face interaction with potential participants (Rodriguez et al., 2006). Both these methods were used in recruiting participants in this study. Furthermore, having participated in a number of religious and community events at recruitment sites, the PI had some inroads into the population group under study. This helped with recruitment of participants through word-of-mouth as well.

Data Collection

In-depth individual interviews were conducted in the first stage of data collection. The data collected through these interviews helped in identifying important themes and those that needed further insight and confirmation. These preliminary themes composed the focus group agenda, which helped substantiate the strength of some themes while weakening some others. Thus this strategy helped in identifying major themes and important insights as well as the minor themes.

Most of the interviews took place in participants' homes or familiar places where participants visited such as Waverley mosque or another public space such as the classrooms at the University of Manitoba that was reserved for the duration of the interviews.

Focus groups were held at Wolseley Family Place, Winnipeg Central Mosque, and Waverley Grand Mosque.

A consent form (see appendix E) was explained to participants before each interview or focus group session and signatures were obtained on these forms prior to the start of the session. All sessions were recorded using a digital tape recorder. Two tape recorders were used for focus group sessions to help with clarity of statements for transcription. All the recorded interviews were transcribed verbatim. I recorded my insights and observations throughout data collection and analysis. I took brief notes during the majority of the interviews about the participants' responses. I also took note of the nonverbal communication signals such as nods emphatically affirming a response or body language showing signs of interest or boredom, which helped me rearrange the sequence of questions and to decide on the extent of probing during interviews. I reflected on the notes taken during or shortly after the interviews while I was transcribing the interviews and assigning labels to the responses provided to assess if they may in some way have influenced the meaning of the verbal responses provided by the participants. I also recorded my thoughts and how I saw the relationship among different labels as I was going through the transcripts to assign labels to further responses from other interviews. These notes and memos along with raw data (transcripts), and the copies of the analysis process at different stages showing how the specific labels were merged under broader themes and relabelled formed an audit trail that showed a clear picture of how decisions related to data analysis were made. An audit trail is known to help with building trustworthiness of the findings (McBrien, 2008). At the end of each interview and focus group sessions, I asked each participant to fill out a demographics' questionnaire (see Appendix F). I in-

cluded this questionnaire to obtain information that would help describe the study participants. I also appended an acculturation scale (SMAS) (Stephenson, 2000) to this questionnaire (see Appendix G) to help in describing any potential observed differences among the participants' responses. I asked the participants to clarify any questions they had about the questionnaires and if the meaning was unclear. Many participants had questions about the meaning of the statements in the acculturation scale. A number of participants failed to answer the total number of people living in their household, which was one of the questions in the demographics questionnaire. I obtained this information either by asking the participant after reviewing the questionnaires for completeness or by referring to the information they shared during the focus groups or interviews with me. Otherwise, I left them unanswered as reflected in Figure 2 in the results' section. It was difficult to obtain accurate information about the participants' household income as many participants whose children had casual jobs or they had part-time jobs or even with full-time jobs did not know how much each member of the family was earning annually. Some participants only included their own income in the space on the questionnaire where they were asked to report their household income. The reasons for household income unawareness were not explored or questioned by the PI. Therefore, it was difficult for me to state whether it was the lack of awareness, authority over family finances, or unwillingness to report income or any other reasons. After each focus group, I invited the participants to share any extra information or additions to their responses that they wanted with me. Only one participant in one focus group shared extra information. I provided this window in order to provide more privacy in case any participant wanted to share information outside a group and only with me.

In-depth interviews' description. The first phase of data collection started with interviewing participants. The interviews were semi-structured where I asked participants open-ended questions . There were two main reasons I selected the interviews as the first phase for data collection:

1. Interviews allowed for in-depth exploration of data as there was more time available to follow-up on questions and expand on responses than in focus groups. This helped provide insight into a wider range of themes allowing me to decide which themes to explore in focus groups to examine how widely shared those perceptions were.
2. One-on-one interviews allowed for a more intimate conversation with the interviewer. This created a sense of comfort and allowed for sharing of stories and perceptions more freely than in focus groups. Sensitive topics from the interviews could be brought up in focus groups for further discussion. This would facilitate sharing of opinions on sensitive topics rather than trying to elicit that information initially in a group setting.

Interviews as a first stage for data collection was also useful in facilitating recruitment via snowball sampling method through interviewees sharing the information about the study with their contacts.

After initial greetings and introduction to the study, each participant signed a consent form. I used an interview guide for conducting all the interviews (see Appendix H). To test the interview guide for face validity I informally interviewed two potential participants. None of the questions were changed as the responses appeared to provide the kind of information that was desired. After conducting the three initial interviews, I

changed the interview guide slightly to provide better focus and exclude topics that seemed peripheral to the research objectives. For example, one of the questions in the initial interview guide related to exploring the influence of religious leaders in the community on health behaviours. In the first three interviews with individuals from different age and ethnic categories, I did not note any influence by religious leaders on the attitude towards or the actual health behaviours of the participants. Therefore, I eliminated this question to allow for other questions to be explored further. Most of the interviews took around one hour on average with a range of slightly more than half an hour to two hours.

Open-ended questions helped guide the interviews by providing ample direction but also allowed flexibility to hear a variety of relevant responses from participants in their own words. Recording the interviews helped prevent distortion of participants' responses and freed me to listen attentively to the responses and ask appropriate probing questions for gaining a deeper understanding of the participants' views. Recording interviews has been noted for its usefulness in maintaining the participants' responses intact, which can help investigators discover information that would otherwise be lost (Palys & Atchison, 2008, p. 158). Recording also freed me to jot some notes including key responses to questions that needed to be further explored as well as marking questions that were answered out of order as appeared on the interview guide sheet. The first three interviews took place at a reserved room at the University of Manitoba. I conducted one interview at a mosque and the remaining six interviews at the participants' residences. At the end of the interview I asked each participant if she wanted to add to any of her responses or provide further comments related to the study that was not asked during the interview.

Participants filled out the acculturation scale and the demographic questionnaire after I stopped the tape recorder.

Since I carried out the data analysis parallel to the data collection, I was able to monitor data saturation regularly. More information on data saturation is provided in the data analysis section below. Ten interviews appeared to provide ample information to allow moving to the second phase of data collection. The second phase of data collection began soon after I completed and reviewed the tenth interview.

Focus group description. I organized three focus groups with two located in the centre of the city and one in the southern part of Winnipeg in an effort to capture participants from different neighbourhoods with varied socio-economic status. I used two digital recorders to audiotape the first session. One audiotape produced better quality sound records, which I used for transcribing. In the second session, one of the digital recorders failed to record while the other one ran out of battery power when the focus group was almost three quarters done. In this instance I utilized my field notes to capture the main points of the discussion. In the third focus group, I used the good quality digital recorder. The issue with audio recording was some noise interferences such as coughing, sneezing and other noise that obscured some of the participants' statements. If I could not discern the participants' statements, I left them blank in the transcriptions. During one of the focus groups, a child pulled the fire alarm, which caused delay in completing the focus group as the fire department entered the room to reset the alarm. Some participants also walked out to check on their children or to pray while the focus group discussions were on-going and they returned shortly to resume their participation in the focus group. Some participants joined the group late and some left before the discussion was over due to

their other family commitments. Participants were seated around joined tables facing the digital recorder in the middle during the focus group sessions. I asked the participants to select fake names for themselves, write them on the stickers provided and attach to their top or place them somewhere visible in front of them. I instructed them to say their fake name every time they wanted to share their points. Many times the participants would forget to do this last step and would get into the conversation naturally. In this case I would thank them and say their fake name after they had finished talking or at the beginning when inviting them to speak. In one of the focus groups, a participant brought her friend who was an elderly lady who did not speak English. Although she was not eligible for the study, I did not ask her to leave the room because it may have been considered disrespectful and could possibly leave a negative impression on the rest of the participants. This individual did not participate in the discussions. Also, I did not include the questionnaire she filled out in the data. In the first focus group, it took long for some participants to get engaged and be interested in the discussion. This was probably due to the fact that participants were not too familiar with one another. In the other two focus groups the participants knew almost everyone else in the group; many were friends in the group. The interest level in these two focus groups was quite high and the participants shared their personal stories and experiences freely. In all focus groups refreshments were provided to participants. In the interest of time, participants chose to have refreshments while continuing the discussion. Focus groups lasted one and a half to two hours in length. Participants in one focus group took a 15-minute break to attend a congregational prayer after which the focus group session resumed. In the same focus group, the reserved room was not available for the session at the specified time. A round table and

chairs were set up in an open area, which was not ideal since other people and children walked into the area and passed the group making noise. In fact, one woman joined the group not knowing that it was a focus group for a study. She joined the conversation. The recording was stopped shortly after and the study was explained to the woman. She signed the consent form and wanted to continue the discussion in the group. Her responses were included in the data.

I used informal member checks in interviews as well as in focus group sessions to ensure correct understanding of the participants' responses was captured. I did this by rephrasing a statement made by a participant in response to a question for which I needed some clarity. Informal member checks have been noted to enhance validity and reliability of the data (Creswell, 2009).

Another factor that enhanced the quality of the data collected and consequently its analysis was the fact that I am a Muslim immigrant and thus I had an insider advantage (Unluer, 2012) among the target group for the study. This helped me have a better understanding of the challenges that Muslim immigrants face in Canada as well as understand the linguistic terminology that was used in specific situations that was culturally considered appropriate. Having some commonalities with the target group has been noted to confer advantages to data collection and understanding of respondents' responses (Palys & Atchison, 2008, p. 10; Unluer, 2012). A potential disadvantage to being an insider has been noted to be less objectivity in data collection and analysis (Unluer, 2012). This potential disadvantage was offset by techniques such as peer debriefing, keeping memos during data analysis, and constantly reflecting on study questions and possible ways of looking at the data when searching for an understanding for participants' responses.

Data Analysis

All the transcribed interview scripts were imported into NVivo8 (QSR International, 2007), a software program used to facilitate analyzing qualitative data. After the release of the newer version, the data was imported into NVivo9 (QSR International, 2010) and the remainder of the analysis was completed using this newer version. The first two interviews were analysed using open-coding (Gobo, 2010, pp. 3-15; Liamputtong, 2009, p. 216) method from grounded theory. In this technique every point made by the participants in the interview transcripts was assigned a label that represented that construct. This method yielded many labels (over 50), which were then reviewed for similarities and differences. The constructs that were similar were grouped together under a broader label that represented all the related original labels. This method of grouping similar labels together or collapsing labels into a broader theme is known as axial coding (Gobo, 2010, pp. 3-15; Liamputtong, 2009, p. 217). Subsequent interviews were read and coded using the constant comparison method (Leech & Onwuegbuzie, 2011; Boeije, 2002) where the responses were coded under the previously identified broad labels. Open coding analysis continued for the rest of the interviews where the emerging constructs that they did not fit under previously identified labels, were given new labels. Subsequent labels were reviewed periodically throughout data analysis to determine whether they could be grouped under a broader theme. The identified themes were also continuously refined and redefined to better reflect the additional data as more transcripts were analyzed.

To maintain the unique concepts distinguished from other concepts under the same theme, sub-themes were created. After each theme and sub-theme that was created, the previously coded responses were compared to these to ensure they still fit under the new

label and if they did not, then they were rearranged to find the best place for these responses. If the responses contrasted with the previously identified themes, they were included under a new label or the identified themes were modified to reflect the constructs that the responses illustrated.

By the sixth interview no additional major themes emerged. The PI continued searching for new themes by contrasting any emerging concepts in the remaining data to the already identified themes. To ensure saturation of data as well as to determine the relative strength of the identified sub-themes, four more interviews were conducted and analyzed. Each of the interview's analysis helped in refining the sub-themes and in determining what sub-themes were major and which ones were minor.

The preliminary findings from the interviews were reflected upon to determine the breadth of questions for the focus groups. These findings demonstrated that the concepts of '*ingroup* influences' and 'cultural and value preservation' appeared to be quite prevalent across the interviews. Moreover, the experiences of settlement and cultural clash in Canada emerged as integral to the understanding of the phenomena under study, which were the health behaviours of the participants. Therefore, in an effort to substantiate as well as to explore these findings further, interview questions were modified to focus on these concepts for use in focus groups. It is noteworthy to mention that there was considerably less time available per person in focus groups, thus requiring reduced number of questions for group discussions. As such major themes that emerged from the interviews were used for focus group questions (see appendix I). This approach helped to explore these themes not only across a possibly wider range of view-points but also with a narrower focus on the prominent preliminary themes.

All three focus group sessions were transcribed verbatim. A template of the major themes and sub-themes and some minor themes that had emerged from the analysis of the interviews was created. The focus group data were analyzed using this template. This template was used to search for supporting data via deductive analysis. If the data supported either a previously recognized minor sub-theme or new themes, these were noted and the template was adjusted to accommodate the additional themes. For instance, one of the minor sub-themes labelled 'altered gender role', which had not been included in the template and dismissed as a minor theme from the interview data, appeared to be a strong sub-theme in two of the focus groups. Therefore, instead of dismissing it, it was included in the template. Whenever themes were merged, the previously coded transcript parts included in the previous themes were re-read to ensure all the pertinent respondent statements were coded appropriately and not missed or placed in the wrong category of themes. Focus groups were coded using MS Word software initially. Thematic analysis (Braun & Clarke, 2006) was used by reading the focus group transcripts and coding the important major themes rather than coding every statement as was done in the first few interviews. Afterwards, each participant whose statements were captured under any of the major themes or sub-themes were entered as an independent case in NVivo software with their corresponding demographic data. This step helped with using NVivo's built-in features to compare responses according to demographic data categories such as different age, employment, and education status groups.

Memos (Snyder, 2012) were used to record PI's understanding of the participant's responses and her thoughts about how two or more codes were merged into one theme or how themes were modified and the labels were redefined to include emerging constructs.

Memos were also helpful in developing a vision or understanding the possible relationships among various themes throughout data analysis. The phase of analysis included consultations with three advisors who were not involved in data collection but were aware of the study objectives. In particular, one-on-one consultations were helpful in the early stages of data collection and analysis as the PI met with the main advisor and discussed her thought process in approaching the data analysis. Such peer debriefing (Houghton, 2013) was also helpful in data collection as it guided the PI in utilizing more objective interviewing techniques and in probing in ways that would yield an in-depth understanding of the participants' views.

To further enhance the reliability of the findings, an external researcher was asked to analyze two interview transcripts. Information about the study, its objectives and methods were provided to this researcher in a meeting between her and the PI. A template of the themes that had emerged from the interview data was provided to the researcher and she was asked to code the transcripts using this template. To determine the level of agreement over the placement of responses under various themes between this researcher and the PI, the coded parts of the interviews were compared. A high degree of agreement appeared to exist between the two sets of codes. Although the portions of the transcripts that the PI assigned to a particular code were larger than that assigned by the external researcher for some parts of the transcripts, the statements coded by the external researcher were located in the larger text coded under the same label by the PI. There were few disagreements where some part of the transcript coded by the PI was not coded at all by the external researcher. However, such instances were negligible and quite minimal as indicated by a calculated Cohen's kappa score of 1 that was achieved in both in-

terviews. Kappa is an indicator for inter-coder reliability (Burla et al., 2008) that takes into account incidental agreement between coders. The aggregate agreement percentages between the PI and the external coder for the first and second interviews' codes were 98.24% and 98.96%, respectively. The reasons for such high agreement level and a high kappa score that was calculated using NVivo software can be attributed to the fact that the external coder coded the two transcripts using a template that was highly developed and simplified by the PI. The PI had coded many interview transcripts, and the themes that had emerged had already undergone a great deal of modification and refinement. These well-defined themes made up the template that was provided to the external coder to use for analysis. Furthermore, the high frequency of occurrence for similar concepts that could be recognized to belong to the same label likely facilitated achieving high inter-coder agreement.

Having more than one researcher analyze a sample of the transcripts, in this case two, has been noted as a strategy to reduce bias in the data analysis (Hale, 2010, p15, 23). Therefore, this step was taken to reduce bias and increase reliability of the findings.

The level of acculturation of the respondents was assessed using the Stephenson Multi-group Acculturation Scale (SMAS). The completed SMAS questionnaires were graded on a Likert-type scale with the following grading: 'false'=1, 'partly false'=2, 'partly true'=3, and 'true'=4. The mean grade from answers to questions 1, 3, 6, 8-10, 12, 14-16, 18, 20,21, 24, 25, 27 and 28 indicated the level of enculturation, or the level of ethnic society immersion, of the participants whereas the mean grade from answers to the remaining 15 questions indicated the level of acculturation, or the level of dominant soci-

ety immersion, of the participants. The scores were added up and categorized according to these groupings:

Enculturation minimum Score = 17

Enculturation Maximum Score = 68

Low Enculturation = 17-34

Medium Enculturation = 35-51

High Enculturation = 52-68

Acculturation Minimum Score = 15

Acculturation Maximum Score = 60

Low Acculturation = 15-30

Medium Acculturation= 31-45

High Acculturation = 46-60

Results

The results of the study are relayed through the lens of the PI. It is important to note that the PI had a critical role not only in recruiting and interviewing participants, which was pointed earlier as having an insider's advantage, but also in understanding the beliefs and how these beliefs are communicated in various situations by Muslim women. The PI was an immigrant woman from a collective culture background and a practicing Muslim with knowledge of religious dietary guidelines and other religious practices including variations in the interpretations of relevant behaviours like dietary restrictions. The PI was also familiar with Urdu, Farsi, and Arabic languages, which helped in understanding some terminology that some participants used during interviews or focus groups. Furthermore, the PI had experience delivering nutrition education programs to new immigrants in Canada. Having this experience was valuable in providing the PI with better insight into the difficulties newcomers faced in the process of their settlement in Canada. These characteristics and experiences of the PI was advantageous in having effective communication and in understanding participants views and points clearly.

In total ten interviews with ten individuals and 3 focus groups with 22 individuals were conducted. One participant who participated in a focus group did not fill out the demographics' questionnaire; however, information about her country of origin was available from the screening questionnaire. Tables 2-7 and figures 1 and 2 summarize the demographic profiles of the participants.

Demographics

Table 2

Participants' age (n=30)*

Age category (yrs)	Number of Participants
18-24	3
25-34	8
35-44	16
45-54	2
55-64	1

* Two participants did not indicate their age group in the demographics' questionnaire.

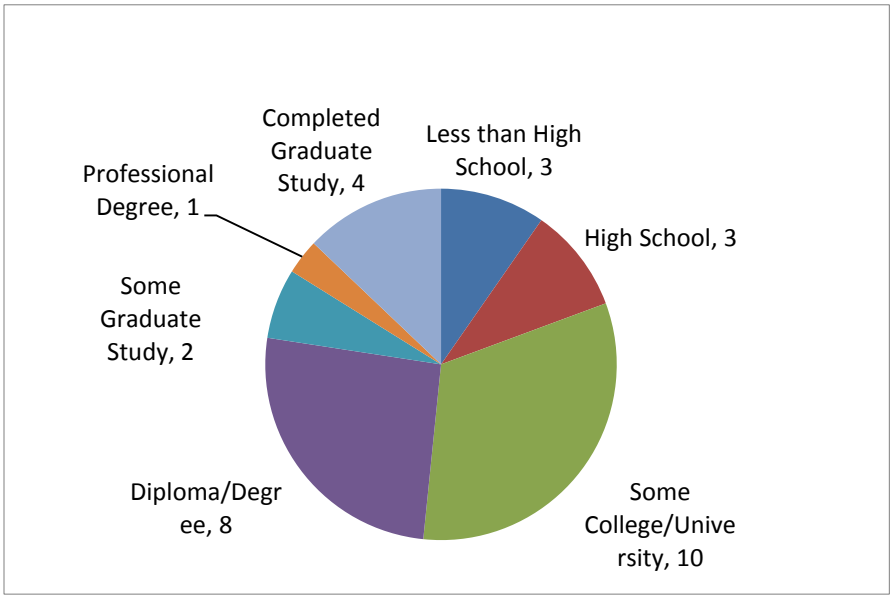

Figure 1. Participants' education level (n=31)

Table 3

Participants' Employment Status (n=31)

Employment Status	Number of Participants (n=31)
Working Full-Time	6
Self-employed	1
Working Part-Time or Casual	10 (half of these were students thus included in the row below)
Student	8 (5 students also indicated working part-time thus included in the row above)
Unemployed	3
At Home/Choose not to Work	8

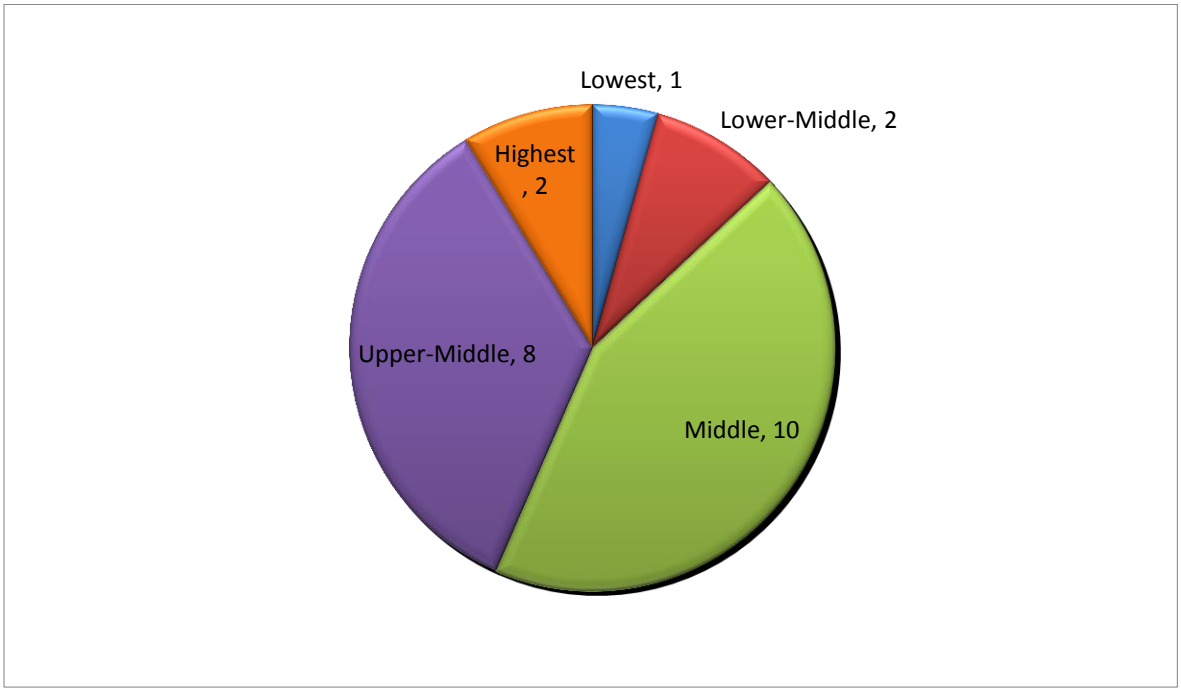

Figure 2. Participants' economic status (n=23*)

* Nine participants did not fill out their household size in the demographics' questionnaire. This information was necessary for determining their economic status.

Table 4

Participants' Self-rated Religiosity (n=31)

Self-rated Level of Adherence to Religious Practices	**# participants (n=31)**
Non-practicing	0
Somewhat Practicing	6
Fully Practicing	25

Table 5

Participants' Level of Acculturation and Enculturation (n=31)

n=31	**Level of Acculturation**		
Level of Enculturation	**High**	**Medium**	**Low**
High	11	11	7
Medium	1	1	0
Low	0	0	0

Almost half of the participants (3 out of 7) who scored low on their measure of acculturation had less than high school education. None of the participants, who scored medium in their measure of acculturation, had graduate or professional degrees. Of the participants who scored high on their level of acculturation, only one had less than high school education, but this participant had lived in Canada for more than 20 years.

Table 6

Participants' Estimated Years of Residency in Canada (n=31)

Years of Residency in Canada	**# participants**
1-10	22
11-20	6
21-30	2
31+	1

Table 7

Participants' Country of Origin (n=32)

Country of Origin	**# of participants (n=32)**
Afghanistan	2
Egypt	3
Ethiopia	1
Jordan	2
Kuwait	1
Lebanon	1
Morocco	1
Pakistan	9
Palestine	1
Somalia	4
Sudan	3
Syria	2
United Arab Emirates	1
Uzbekistan	1

Perceptions about Healthy Lifestyles

The perceptions of the participants about healthy lifestyles, including their perceptions of factors that influenced their health behaviours are presented under four major themes as depicted in Figure 3. The overarching theme of '*cultural values and ingroup influences*' seemed to govern the lifestyle of the participants, their health behaviours, and social activities. The concepts of cultural identity, religious practices, duties to *ingroups*, and *copycat recipients* were included in this theme. The three major themes that were funneled through this overarching theme were:

- *health behaviour beliefs*,
- *opportunities and challenges*, and
- *reactions to norms*.

These three themes were filtered through *cultural values and ingroup influences* as it had a great impact on all the other major themes. All the major themes and their corresponding sub-themes are discussed in detail in the following sections. The applicability of the HBM's constructs is also discussed in light of the findings within the relevant sections.

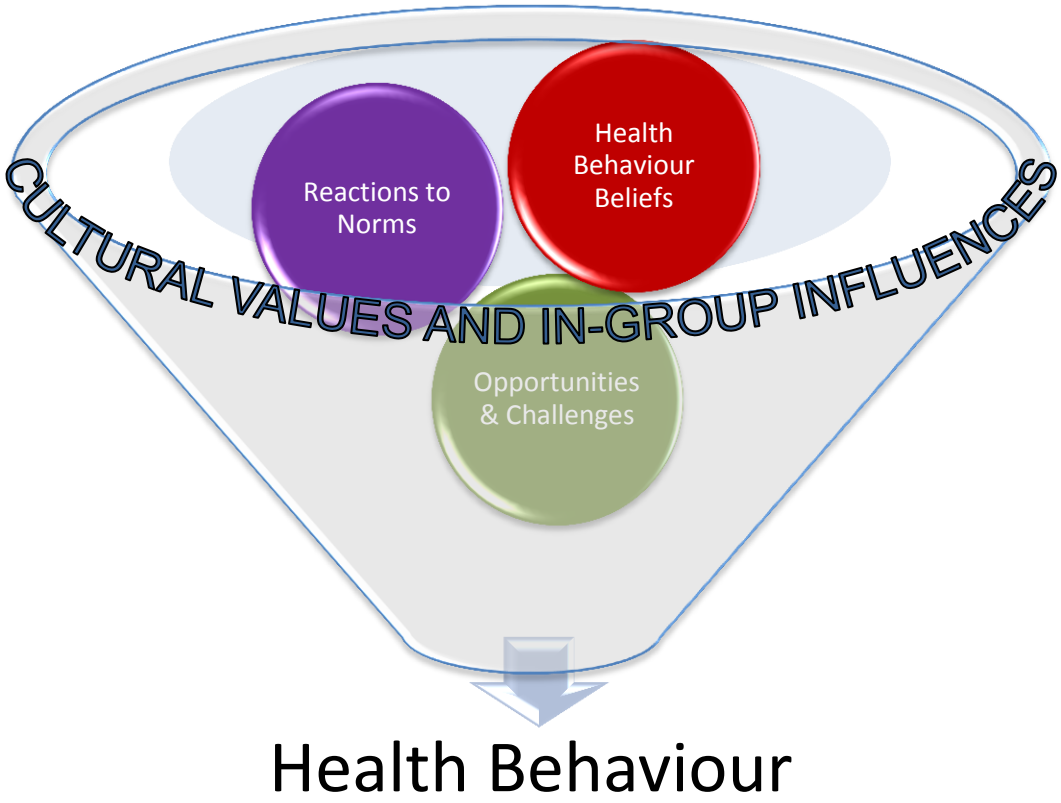

Figure 3. Themes relevant to perceived health behaviours of immigrant women from collectivist cultures

Cultural values and ingroup influences. This theme was defined as 'expressions and actions demonstrating the influences of the participant's *ingroup* members and cultural influences including those of religious beliefs on health behaviours'. This appeared to be a very strong theme in all the interviews and focus groups.

Although participants referred to some practices as religious obligations or rituals, many of the elements of religion were embedded in cultural practices and vice-versa. Thus it was difficult to separate culture and religion as distinct entities. Therefore, religious practices were included under this theme as part of cultural practices.

Participants seemed to dedicate a lot of time and effort and in some cases pay extra money to uphold their religious practices such as purchasing *halal* food[2], checking food labels carefully to ensure the product is *halal* and avoiding activities that may be deemed inappropriate or in violation of religious injunctions.

> "*when you have to go to grocery you have to watch sooo many things that have stuff that we can't eat. […] In a bakery like we can't eat gelatin for, for example. Or lecithin or those 2 things are in everything. […] we go just for grocery and you see- you take any other person with you, their cart will be full within 20 minutes and we'll just be standing there reading the ingredients for one hour and we won't even find 10 things. […] And going to the restaurants […] scares me sometime because you don't know what other food will be touching your food and you will be putting it inside you, which we are not allowed to eat*" (Participant 10).

Majority of the participants expressed experiencing some degree of difficulty when adhering to religious dietary guidelines: "*For 3 years I didn't eat meat. Because I don't wanna eat nonhalal and it wasn't convenient for me to go [to ethnic stores that sold halal meat]. So I was eating meat only when people invite me (laugh) […to] something when there is halal meat offered*" (Participant 9).

Surprisingly, limited access to *halal* food was not perceived as a factor that would restrict participants from eating less healthful foods while eating out since "*they [Muslim*

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[2] Halal food is a term referring to food produced according to Islamic law (Rarick, Falk, Barczyk, & Feldman, 2012). "Halal literally means "what is permissible" under Islam. Halal food must be free of alcohol, pork and other prohibited substances. In addition, meat and meat products must be from animals slaughtered according to Islamic guidelines. The process is inspected by a halal certification organization before a company can advertise its products as halal." (Agriculture and Agri-Food Canada, 2011)

immigrants] mostly eat lentils if they couldn't find the meat" (Participant 1) or "*back home they used to eat a lot out. Here they don't eat outside a lot.*" (Participant 5). On the contrary, participants expressed that this created stress and was also a barrier to healthy eating. One participant referred to limited options available for those who chose to uphold their religious dietary guidelines:

> "*They gave up the proteins for, in my case. And also gelatin. For example, I don't eat yogurt. I love yogurt but I am so conscious now about gelatin in everything. So it is affecting so much. So we are not getting proper nutrition, because of less choices*" (Participant 9).

So the limited availability or access to *halal* food was perceived as a barrier to healthful choices. Another participant pointed that the only *halal* food options available when eating out were "[…] *two, three Arab restaurants. Not restaurant, but they are […] fast food type of places. Yea. They have only deep-fried chicken and fries and shawarma, those kinds of things only. Yea. And those things are not healthy*" (Participant 10).

Cultural and religious values influenced participants' choices not only of foods, but also their choices of other health behaviours such as decisions about physical activities to perform in what type of circumstances or how to handle psychological stress in life. One participant suggested that it would be nice if

> "*maybe once a day, once a week […] the swimming pool will be only for women and please please no cameras, no glasses nothing, coz when you are talking about like [a private fitness centre]. Yea, this is for women, but then you see the cleaner or the one who fix things, the maintenance guy, a guy just walk. Isn't that a guy?*

> *[…] So when you are talking about women side, it means like no men and man is the opposite gender (laugh). It happens […] in many places*" (Participant 8).

Thus lack of a female-only facility and poor understanding about privacy for women were *perceived barriers* to using community facilities for these women. The same concern was expressed by other participants,

> "*Back home we have women separate program, right. Here it is co-ed. […] there is not too much privacy. But back home, for example, if you go for these kind of activities no body is watching you and it's boundary wall. But here it is always like you know you are thinking twice if you go out to do any physical activity.*" (Participant 9)

Participants did not refer to this desire for privacy for women as part of religious injunctions per say, although it can be traced to religious rules. This indicates that it is a practice integrated into their culture.

As illustrated in the examples above, the importance of spiritual health was evident in the amount of effort participants were making to fulfil their religious obligations or to practice their religious rituals. Lack of culturally or religiously appropriate facilities for physical activities or lack of *halal* food choices were *perceived barriers* to participants' engagement in health promoting behaviours. Even when they had to "*compromise* [some of their religious food rules], *but it makes it stressful too*" (Participant10). Thus *perceived severity* of harm to their spiritual health was the driving force behind behaviours that the participants believed were protective of their and their children's spiritual health.

In response to stress relieving activities and resources, participants referred to religious practices and *ingroup* support. Having faith and upholding religious practices ap-

peared to protect mental health and contribute to stamina at the face of difficulties in life. "[W]*e have a faith like encourage us to be all time, like aaah positive. Doesn't matter what happen to you, you just have (pause) keep going going until you reach what you want*" (Participant 16). Thus this participant seemed to derive strength and motivation from her faith to overcome pessimism and difficulties in life.

In terms of *ingroup* support, many participants shared information about how talking to their friends and relatives helped them to deal with stressful situations in life. Since a wide number of attributes can be used by an individual to distinguish between *ingroups* and *outgroups*, I explored who would be included in the *ingroup* circle by the participants. It seemed that in the larger social context, the participants' *ingroup* circle included their family and relatives, followed by their home country compatriots who shared the same religion, those who had migrated from the same subcontinent as the participants themselves and finally Muslims in Winnipeg who formed the farthest circle of the *ingroups* in Canada. Such classification was apparent in references provided by a number of the participants as below:

Participant 5 stated how her role as a volunteer in the Muslim community in Winnipeg became secondary to her role in volunteering to help her relatives after they arrived in Canada: "*my friends in the community, they used to ask me, I said no my family is here I think they deserve more than me, than you guys. I do come to you guys, I went to the community but for a while I, I start going. Still I don't go as much as I used to go before because my family comes first. They need, they ask me, I go to them rather than first I go to the masjid for volunteer.*" By family this participant was referring to her relatives who had immigrated to Canada a number of years after she had come to Canada.

People who speak the same language and share the same cultural background were called their "*own people*" as Participant 6 described: "*when people they come from a different part of the world and they come to West, the first thing they do they look for their own people. Because they feel comfortable. Because they know how it works. It's like trying to find a system that they know already and they know how to adjust. When I say system, it covers everything: social norms, behaviours.*"

The more shared attributes a participant had with other people, the closer she felt to them and the stronger their influence was on her. As such language was another attribute that brought people closer to one's *ingroup* circle. This was explained well by Participant 5: "*people are from Urdu speaking, they will befriend with Urdu speaking. And the people from Punjabis they would be most of them would be from Punjab*".

Furthermore, when determining the *ingroups*, I explored the role a religious leader would play in influencing health behaviours. Although I expected that religious leaders would be role models for those who wished to abide by religious injunctions, when it came to lifestyles and health behaviours, their role was diminished and their messages appeared to have no effect on the uptake of health behaviours for the participants in this study. When asked if religious leaders influenced women's lives, the answer was in the lines of "*Not a lot*" (Participant 5), and when asked if the families would engage in a behaviour promoted by the *Imam*[3] while the members of the family did not care about that behaviour, Participant 1 responded with laughter: "*I think not.*" It seemed that it was the

[3] Literally, Imam is the person who leads the congregational prayers. The way the term is commonly used, however, refers to the leader who conducts religious rituals and provides religious guidance to the community.

personal relationships that had a stronger influence on the participants rather than the religious leaders in the community despite the fact that most of the participants in this study identified themselves as fully practicing their religion.

How *ingroups* influenced health behaviours depended on the participant's perception of her role and duties towards her *ingroups*. In their role as mothers, the participants catered to their children's wishes: "*It's always children I think*" (Participant 10) who influence the decision about what kind of food to prepare at home. "*My kids, they love meat. And myself I like like vegetables. So I don't care that once in a week meat is good enough for me*" (Participant 7). When asked if she would make different dishes to cater to her choices and that of her children's, she said "*No no. I, I don't like to do that. I am like to [cook] this one thing. Everybody should eat that. When it's time to choose what to cook, meat has to be there. My kids they don't like beans; they don't like vegetables*" (Participant 7). Majority of the mothers with children pointed that their children's food preferences highly influenced their food choices for the family. Unfortunately, the children's food choices seemed less than optimal in most of the cases, especially when the children were young:

> "*before, when we were eating all kind of food, the kids were small, so I had to prepare everything for them. Then when the kids started growing up, then they didn't need all the fries and stuff so they wanted to eat healthy food. So the kids were little bit growing. […] So when they started growing we didn't need all those cheesy stuff and this and that*" (Participant 5).

Similarly, the duties the participants sensed towards their *ingroup* members, led to food choices that were oilier, with greater variety in dishes prepared than what the family

normally ate. Most of the participants acknowledged this as a duty towards their *in-groups* with some emphasizing the importance of this as a way of honouring and caring for their *ingroups*. This sense of duty towards *ingroup* members required dedicating resources such as time, attention, effort, and money.

It was this sense of duties to *ingroups* that strengthened the effect of the construct of *perceived susceptibility* from the HBM to motivate participants' engagement in health behaviours. The HBM states that if people perceive to be susceptible to a disease, they will be motivated to act in ways to minimize their risk of contracting the disease (Sharma & Romas, 2008, pp. 74-94). On its own, this construct did not seem to be a motivator for adopting a health behaviour by most of the participants. However, when the *perceived susceptibility* to a negative health outcome motivated the same behaviour that would help the participants fulfil their duties towards their *ingroups* then the behaviour was more likely to be adopted. Participant 4's explanation for the reason she wanted to take care of her health, was because she believed it would enable her to provide support to her family.

> "*I always make time for myself to do little bit for myself. Ya. Since my husband get sick I am always worried about my family. You know like I don't want to […] get sick […because] I am the provider. I am the one who take care of my family so I should take care of myself first to take care of them*." (Participant 4)

Thus it seemed that although Participant 4 felt susceptible to negative health conditions, it was her *perceived benefits* of her engaging in a health behaviour (in this case walking) that helped her fulfill her duties to her family that combined with the sense of susceptibility motivated her to take action.

Upon exploring the reasons for the sense of obligations or duties towards *ingroups* and how they were maintained, the following was discovered: One response was that participants "*feel so […] worried, they do not feel comfortable when they have guests, because they know that people will judge their cooking. And they give them credit for cooking well or cooking bad. Then they will be criticized*" (Participant 6). So criticism from *ingroups* was one reason for the maintenance of behaviours that were not necessarily desirable to the participants themselves. This was a *perceived barrier* to certain health behaviours. Another participant expressed how providing company to her friend was important although it would take her away from engaging in health behaviours such as walking. She acknowledged that "*I have few friends you know like, they love to stay home. They wanna watch TV. They call me sometime you know like "oh I am getting bored, can you come over? […] We'll sit down and watch a movie". Ok now I am gonna think oh she is getting bored. She wants my support. She wanna talk to me or she wanna sit down and watch movie. If I say no she gonna be more upset. I […] eventually gonna say ya ok I am coming. Because I am gonna say oh I am not gonna hurt her feelings*" (Participant 4). Maintaining amicable relationships, thus, seemed to be very important to participants as females: "*women always think about you know like ok what kind of relationship I have here. If I am gonna say yes it's gonna be ok. If I say no is gonna be ruin this relationship*" (Participant 4). Thus pressure to be harmonious was reported by this participant to be greater on women as they tried to maintain and not break the social norms for the fear of jeopardizing their relationship with their *ingroups*. Thus social norms appeared to possibly affect the two genders differently.

Likewise, when the individual was at the receiving end, she felt a sense of obligation to accept what was offered to her in regards to food:

> "*if you go for a visit, you know, even if it's uninvited visit, and you can't get out from that place without eating from that place, you know. You have to you know, otherwise, […] they feel you [are] making them lower, and they can't feed you or they can't provide you with anything. So that's why you are avoiding their food. […] Unacceptable!*" (Participant 19).

Another participant criticized extravagance in foods served when inviting one another to break their fast together during the month of Ramadan. However, she pointed that "*we can't say to our friends while they are arranging those kind of iftaris*[4] *[meal for breaking the fast] we can't say that ok please don't do that. We can say it politely but we can't argue…like ok it's not appropriate*" (Participant 2). Thus obligations existed on both the giving and the receiving ends for the participants despite the fact that both might have preferred avoiding certain practices at least when it came to food preparation and eating. However, these practices persisted since they were perceived as culturally expected or revered behaviours. These examples illustrate how the construct of *perceived benefits* seem to motivate behaviours that are related to maintaining social ties rather than simply physical health.

The maintenance of cultural practices was also due to the fear of consequences an individual would encounter if she engaged in counter-cultural behaviours. For instance, when asked what if the individual did not offer festive foods to her guests, Participant 17

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[4] Iftari refers to the meal that is eaten at the end of a day of fasting.

answered: "*Shame! […] if they came to you and you didn't feed them. What they [would be] saying [is] "oh she did [not] want [us] to come [to] her home. [So] We [are] not going back*". Thus, the Participant was fearful of having a relationship severed or of causing her *ingroups* to have a negative view of her.

It was interesting to observe that if some behaviour was in violation of the culture-specific social norms and resembled a behaviour associated with stereotypes associated with Western women, that was Caucasian women from Western countries, then it was criticized and reprimanded. "*I have people calling me that you are a Western woman. […] I have had people […] tell me you are a Western woman. And I asked him what is it. He said oh the way you talk, the way you don't feel embarrassed to express your opinion. I said that is right being confident. Being confident is being translated as being a Western woman*" (Participant 23). Such reactions from *ingroups* demanded strict adherence to traditional role of women and cultural practices. Another participant explained her perspective on adjusting in Canada stating that

> "*if they [Asian women] totally want to um..integrate in Western culture, then they have to give up some of their rules, cultural norms, and practices, and of course all of those differences will be seen by their community and they will like [say] "oh she has deviated […]" and then they won't accept her. They won't tell her [directly] but they will not keep a contact with this person, for sure."* (Participant 6).

Although such obligations to *ingroups* were expressed as creating stress in the lives of some participants, some regarded this as something positive that provided satisfaction to participants. For example, Participant 6 explained how when a guest came over uninvited, "[t]*hen you are not expected* [to make food for them in Canada] *but if you are a*

good host, you do it. I do it. I think it's a habit. This from my background coz I like it". In a focus group, one participant pointed that providing food for uninvited guests was stressful while another participant argued that even if there was no food ready when the guests arrived, "*Say* [to the guests] *go watch TV.* […] *And when they watch TV, you have to cook quickly*" (Participant 20). By doing so, "*I think you feel better*" (Participant 20). Thus participants regarded such cultural practices as duties that when executed properly provided personal satisfaction to the participants in spite of its associated stress.

Ingroups inevitably provided support to participants in engaging in health behaviours too. The type of support varied from verbal encouragement to inviting or joining participants in engaging in health behaviours. The statements in Table 8 present a sample of kinds of supports participants shared.

Ingroup support also mobilized the participants' *perceived susceptibility* to undesirable outcomes into influencing participants' health behaviours. The undesirable outcome pertained mainly to weight gain rather than the chronic diseases that the participants had mentioned earlier in the interviews and focus groups. For instance, Participant 10 described how her children would point out that she had gained weight and needed to exercise and how they would show the mother how to do certain exercises. "[my children] *say mama you growing this way* [widthwise]. […] *they say yea. It's not good shape so you should be doing more* [exercise]. *They tell me to do crunches more*" (Participant 10).

Culturally defined gender roles appeared to guide the behaviour of the participants. In their roles as wives, the participants indicated that they were responsible for caring for their husbands and for doing house chores. A mother and a wife's duties seemed to be

Table 8

Types of Support Provided by Ingroup Members

Verbal support:

"*My husband say you have to take gym and you buy one gym [treadmill]. I don't wanna buy, I don't wanna buy my money and then he is pushing me and then I buy*" (Participant 20).

Inviting to join an activity:

"*My friends have a bike so they were biking along and they said why don't you join us.*" (Participant 22).

Psychological support:

"*most of my friends that I know, they usually when they feel stressed, they talk. So they talk to me or other friends.*" (Participant 16)

Transportation support:

"*If you need help, like ehh like I, I find like too much people. Alhamdulillah they help us. Like to find these thing. Because you know like sometime like we don't have car, we don't have car to go to farm and this stuff. But Alhamdulillah they have us and like we share with them.*" (Participant 27)

Support to fulfil religious obligations:

"*after we know some people, we start to share and get a veal from the farm and cut it for four families.*" (Participant 29)

given priority over activities that seemed to benefit herself alone such as exercising or socializing.

> "*Before you go to gym, you should have a proper place, have food ready, the kids are all, all rest. Everything is ok. You are not going to do something accessor, and leaving something like necessary. It's your duty. Your own duty. Yeah. You should do what you have to do as a wife, as a mother and after do whatever you want to do. And even it's affects your psychology because when you go to do that, you feel more comfortable, you didn't miss anything at your place.*" (Participant 16)

Another way by which *ingroups* influenced the health behaviours of participants was through vicarious experiences. Seven participants shared some of their health behaviours that showed how their *ingroup*'s health-related experiences shaped their own behaviours. For example, Participant 6 described how she would avoid frying onions because her father's physician had advised her father against consuming that. Although she was not living with her father, she believed that this was an unhealthy practice and would avoid doing so when she would cook food for herself. Similarly, Participant 5 stated that she never thought that eating beef was bad for health until her husband was diagnosed with high cholesterol, "*then we stopped having beef. We added no, no more*" (Participant 5). This was not due to the expectation that the reason for avoiding a certain food were the inconvenience of preparing more than one type of main dish to cater to all the family member's needs. In fact, it seemed that what was believed to be harmful for an *ingroup* was perceived as being unhealthy for oneself as well. This construct was thus named *copycat recipient*. *Copycat recipient* was defined as 'perceiving the advice received by *ingroups* as being applicable to oneself or internalizing advice received by *ingroups*

about what things are beneficial or harmful for health'. Likewise, if a practice was believed to be beneficial for an *ingroup,* the participant would perceive it as beneficial for herself or others as well. When asked what would help maintain good health, Participant 29 said, "*Drink lots of water*". When asked where she had heard that advice from, she said, "*I have my uncle who passed away about 10 years ago. He had kidney problem and the they said this water is very important*" (Participant 29). It seemed that the health care professionals' advice received by *ingroups* would get internalized by some participants as if it were applicable to them. Note that *perceived susceptibility* to a disease was a more effective motivator if the participants' *ingroups* had experienced a health condition, which required the adoption of certain health behaviours. Thus *copycat recipient* should be incorporated into the construct of *perceived susceptibility* to make it relevant to populations from collectivist culture backgrounds.

Participants' perception of *self efficacy* appeared to be contingent upon their culture-specific social norms, duties towards *ingroups*, and their perceived roles. The examples presented demonstrated how participants would forego engaging in a health behaviour for the sake of caring or performing her duties towards her *ingroups*. In all of the three focus groups, participants expressed their obligation to provide elaborate dishes that they considered not too beneficial to their *ingroup* visitors' physical health because this practice was culturally expected of them. Furthermore, collective activities seemed to enhance self efficacy as Participant 7 stated:

> "*I always want to do something for ladies*. […] *That they should come out so they can do something together*. […] *They can support each other you know. If I'm doing alone sometime I get lazy too. I will do it you know tomorrow tomorrow tomor-*

row but if there is a fixed date and other people they are supporting you, you get lots of support."

Similarly, Participant 16 expressed how doing an activity individually would make "*you give up….if somebody don't encourage you, you give up*". Therefore, *ingroups* and cultural values were integral to building participants' confidence in engaging in a behaviour or their level of *perceived self efficacy*.

Regardless of employment status, age, and the level of acculturation and enculturation all participants expressed the strong role cultural values and *ingroup* influences played on their health behaviours. Surprisingly, in comparison to those with low level of acculturation, participants with high level of acculturation expressed more motivation to engage in activities that nurtured a sense of connectivity with their *ingroups* or provided opportunities for collective activities. All except one of these participants also had high enculturation level scores. A possible explanation might be that these participants who were highly acculturated and enculturated considered opportunities for connection with their *ingroups* valuable in order to maintain their ethnic culture while having acquired the culture of the dominant society already. However, a more viable explanation might be the fact that highly acculturated participants had better language skills that made it enjoyable for them to participate in activities within the Muslim community since Muslims from various ethnic backgrounds would participate in such activities. Based on the participants' narratives, it seemed that the focus on collective activity was on close family members rather than the larger community among the highly acculturated participants. Another point to note is that collective activities provided *cues to action* for participants that motivated them to engage in health behaviours such as Participant 10's setting up a

schedule with her friends to remind one another about doing a physical activity. However, *cues to action* for activities that were done individually were either nonexistent or did not have long lasting effects. For example, Participant 10 explained how she along with her friends "*tried actually one time to phone each other and remind this is our exercise time, we should do something. And we continued for at least for 4, 6 month. It was working really good. And everybody slip down from the track so it didn't happen again*". Thus although the reminders helped the participant and her friends engage in some physical activity on their own for few months, the effectiveness of this approach dwindled in few months.

In conclusion, *ingroup* influences both encouraged and discouraged the adoption of healthy behaviours such as healthy eating, physical activity, and coping with life challenges. Lack of religious or culturally compatible opportunities were noted to deter women from engaging in publicly available activities and using available facilities. Participants' responsibilities towards their *ingroups* took precedence over their individual health behaviour goals. Collective engagement was a strong determinant of health behaviours as it provided *ingroup support* and *cues to action*. *Ingroup* influences and cultural and value preservation were inter-related since cultural and value preservation efforts led to seeking and establishing close relationships with members of one's own cultural group and such members in turn reinforced cultural practices. Figure 3 demonstrates how the theme of cultural values and *ingroup* influences fit in relation to the other three major themes that emerged from the data. These themes are described next.

Health behaviour beliefs. This theme was defined as 'beliefs about what constituted healthy or unhealthy behaviours'. The circumstantial factors that influenced the participants' perception of health behaviours included extrinsic messages, the experienced outcomes, *perceived benefits* from engaging in a particular behaviour, and perceived duties as depicted in Figure 4.

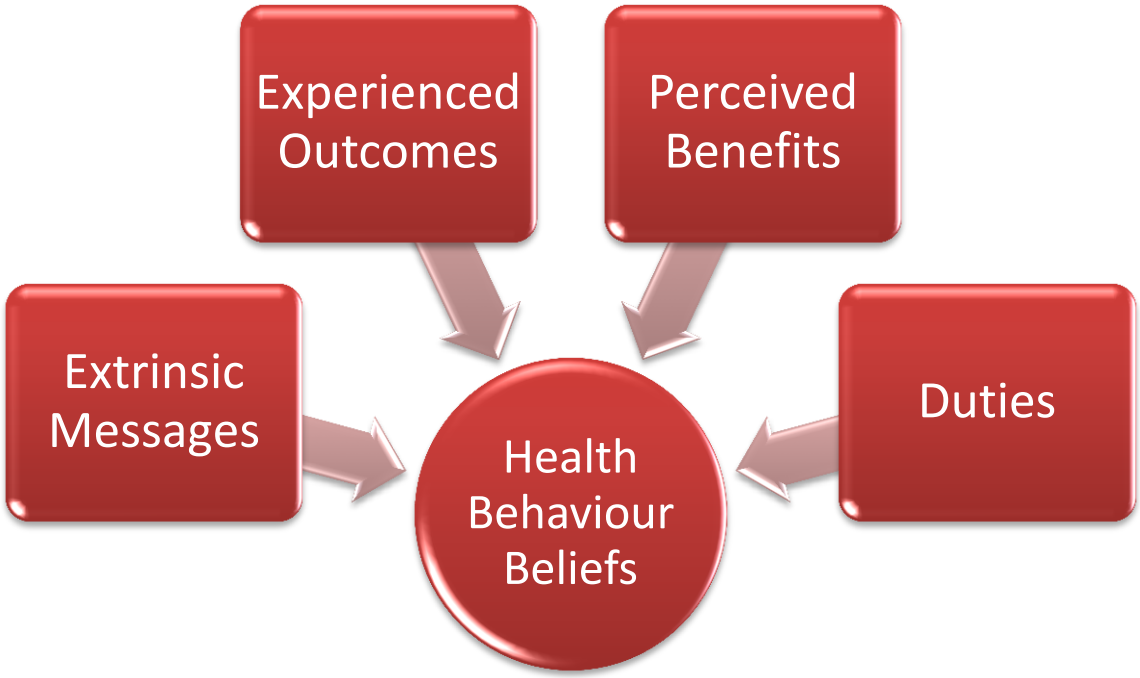

Figure 4. Factors influencing the beliefs about health behaviours

Participants assessed health behaviours based on the factors such as experienced outcomes from engagement in a particular behaviour by oneself or by other *ingroups*, the latter noted in the previous section under the sub-theme of *copycat recipients*. For instance, one participant stated that she would fast to lose weight because of her experience when "*I tried before Ramadan, many many times to lose weight I couldn't. When I lost some pounds in Ramadan, I [thought] 'oh it's good', so I will continue*" (Participant 32).

Another participant stated that walking on a treadmill or walking outdoors alleviated her stress "[a]*nd because, you know, in and out for your breathing so it help you to relax down, you know. And that's for winter time. Summer time, it's the best for outside. Even if I feel nervous, I feel stress, if I fight with my kids, I just get out of the house and walk, specially early morning*" (Participant 29). This participant assessed the benefit of walking based on her experience after engaging in the behaviour. Thus positive outcomes encouraged the adoption of health behaviours or at minimum helped build a positive association with particular a health behaviour.

Ingroups again seemed to play an important role in building positive or negative perceptions of or associations with health behaviours. Some participants perceived some health behaviours beneficial because it allowed them to have collective experience with their *ingroups*. Participant 6, for instance, stated that "*Volleyball is more of a social gathering to me.* […] *interacting with other people. And mmm it is healthy. It makes me feel better.*"

For many of the participants, efforts to improve an existing health condition influenced their subsequent health behaviour. What determined their perception of healthy behaviours was information received through the broadcast media, educational institutions such as schools, or other outlets. These were labelled *extrinsic messages* in this study. Participant 27 stated that she started "*to drink more water*", "*because I have some problem of this thing, like hormones*" and she read an email from a friend that suggested it would be helpful for such condition. Therefore, she started to push herself to drink more water although she said "*I don't like to drink water*" (Participant 27). Another participant purchased exercise equipment because "*I had* [back] *pain* [so] *When I saw it, I*

got it" (Participant 14). The promise of improvement of a health condition seemed to influence whether or not a behaviour was perceived as health promoting. Extrinsic messages for those with lower education level were in the form of messages broadcast on television and taught in school. Participants with higher levels of education referred to more detailed information about food content such as vitamins, fibre, fish oil and received these messages in a wider variety of formats such as health magazines and text books. One participant was also critical of the subliminal messages in the broadcast media that was adverse to health giving the example of movies where "*there is a policeman and there is donut. Police, donut. You see how they brainwash the consumers*" (Participant 8). Thus participants' level of education was critical in how they received extrinsic messages related to health behaviours.

The *perceived benefits* from engagement in a particular health behaviour were not exclusive to the improvement of personal physical health. Other benefits such as opportunity to build relationships or spend time with *ingroup* members were also factors that encouraged engagement in certain behaviours as was pointed earlier. When asked if health behaviours mentioned by participants would help prevent any diseases, participants mentioned diseases "*like diabetes*" (Participant 1), "*heart diseases, the stroke, diabetic*" (Participant 4), "*gaining too much weight* […] *high cholesterol*" (Participant 6), "*obesity, a lot of mental disease like depression, anxiety*" (Participant 8), and "*maybe cancer or heart disease*" (Participant 28). However, they did not refer to such examples to explain why they engaged in certain health behaviours later in the interviews or focus groups. Instead, when asked about the reasons participants engaged in health behaviours, participants tended to focus on reasons that concerned ailments and conditions that af-

fected them at the time such as their weight rather than the long-term disease preventative benefits of the health behaviours. In fact, the only fear participants had about negative outcome of being obese was possibly because of the social stigma attached to it rather than because of its associated diseases. Participant 10 pointed to this by describing how men would encourage one another to play sports but "*they mostly do it, their physical activities I see more for fun*" whereas for women it is "*more to stay fit; to look good*". Thus the reasons for physical activities taken up were perceived to be different for men and for women. Therefore, *perceived susceptibility* and *severity* of diseases did not appear to play any role in promoting health behaviours pertaining mainly to physical health. However, behaviours linked to preventing harmful consequences to social image or mental well-being such as overweight and obesity seemed to motivate health behaviour more so than the prospects of preventing diseases pertaining to physical health.

Through sharing their experiences, a number of participants demonstrated altruistic behaviours where they put their close *ingroups'* well-being and happiness before those of their own. This was expected in their role as mothers, putting their children's health before that of their own. For instance, one of the participants enjoyed playing Wii Fit, which she claimed was a good exercise instrument. However, her motivation for purchasing the Wii Fit video game was her concern for her children's inactive lifestyle. She stated:

> "[T]*hey were asking me to bring them Nintendo, to bring them the Game Boyz. And I found that it's not really useful for the kids. We have already computers, we have already something affected our kids. So I found the Wii is very useful for them and very helpful. They have many many sports, many activities they can play. So*

when they bored of the computer something, I ask them go play the Wii. I found them they sweat. They play. So it's very good for them" (Participant 26).

Thus, it was the fulfillment of her role as a caring mother and her duties towards her children that moved her to purchase the game initially. Such sense of duty towards others was not restricted to their role as mothers; it extended to other relatives and even other people in the lives of the participants. While some found happiness in reaching out to others, others felt this was an obligation on their part, because if they did not show care to others, they would not be in the position to expect care from others too. One participant explained that the way it worked was "*you try to make other people happy […] they do something wrong, you just forgive them and just forget. And then you always sacrifice this things to make other people happy. If you do that then I believe they will be doing it in return to you too. So if you try to make other people happy, I don't see why [they] won't try to make you happy*" (Participant 10). Another participant emphasized volunteering in the community as a way to keep oneself healthy. "*As long as you are serving the humanity. It doesn't matter [what kind of volunteer work you do]. That will makes you feel good. When you do these kind things, and it what makes you feel good, keep you healthy*" (Participant 5).

This sense of duty was part of the religious values of the participants, a value they were worried about losing when raising children in the West: "*you raise in eh in a family, Muslim family. But <u>here</u> the kids, they will take something from other people. They will [be] just thinking about themselves. They don't have uncles, they don't have grandparent, they don't have ANY relatives here. So then they just think about themselves, and <u>maybe</u> about parents when they grow up. Because all the people here are the…like this*

way," (Participant 24). This displays the importance of caring for *ingroups* such as relatives as an important value for this participant, a comment that was agreed upon by other focus group participants since no one disagreed or challenged this remark in the focus group.

In conclusion, the factors that influenced the perception of health behaviours as having positive or negative effect on health appeared to be extrinsic messages, outcomes experienced from prior engagement in the behaviour by self or by *ingroups*, and other *perceived benefits* from behaviours such as the fulfilment of duties to *ingroups*. The belief of the participants about the benefits of a particular behaviour alone seemed to be insufficient to lead to the adoption of the behaviour. Support from *ingroups* and cultural compatibility whenever relevant had to accompany the behaviour for it to be implemented by the participants.

Opportunities and challenges. This theme defined as 'opportunities that facilitate or circumstances that hinder the adoption of perceived health behaviours' was comprised of a number of sub-themes. These sub-themes were competing time allotments, economic drivers, external socio-ecological factors, perceived ease, and temptations. These sub-themes are depicted in figure 5 below.

Figure 5. Opportunities and challenges influencing health behaviours

Time was a resource used to fulfill duties first. These included work, school, caring for *ingroups*, which extended beyond the nuclear family, and religious practices. Taking time for exercising and leisure physical activities was secondary to the above mentioned duties. One participant mentioned she would like to go to gym with another female if "*her schedule it would be same or similar to my schedule or neighbour, you know. You will find like time you will see our schedules, the time children not home, or you are not going to school*" (Participant 14).

It appeared that the shortage of time was mainly a challenge for engaging in physical activities or mainly leisure time physical activities. Although time was still allocated to food preparation, traditional foods were either simplified or not prepared as frequently as prior to immigration by participants. The reason for dedicating time to traditional food preparation was *ingroup* duties and the association of food with cultural events and practices. For instance, one participant mentioned "*I walk every day. Not in Ramadan, not every day. Before Ramadan I was doing every day*." When asked what took the time away from this routine, the participant answered: "*we have to prepare iftari and then we have to do all the prayers*" (Participant 1). Thus religious and *ingroup* duties were given priority and due to its social and cultural meaning, food preparation was given time by the participants.

One of the reasons for not preparing traditional foods as frequently was because "*traditional cooking is aahhh takes lots of time*" (Participant 2). Another reason was the separation of family members and close relatives from the participant "*Well at* [back] *home you have lots of family support you know. And anytime you need any things like you're sick or you can't do anything, somebody is there to help you. You know here it's*

hard. You feel more lonely here" (Participant 7). Another participant shared this perception as well: "*I am living independently. Everything is on my own. I have to work; I have to cook; I have to clean; I have to go grocery. I have to do everything*" (Participant 9). She stated that she would still try to accommodate the food preferences of her relatives who liked to eat meat: "*I, you know, buy some kind of chicken, ground chicken [...] beef…that kind of stuff.* […] *So I make arrangement for that. But I need to know one week before, you know. I can't do it right away*" (Participant 9).

The influence of economic factors on health behaviour engagement was common across almost all participants. This seemed to affect a number of health behaviors negatively: "*the gym is expensive. How can I afford that*" (Participant 14); "*the organic stuff, it is more expensive than the regular stuff so that's* [a barrier]" (Participant 16). However, one participant reported that the cost of driving a private vehicle was the reason she chose to walk to her workplace: "*it is stupid to pay 10 dollars per day for parking plus gas when I can walk*" (Participant 9). This participant, however, did not initially realize that shortage of money would have a pleasantly positive effect on her level of physical activity. Participants from the middle-income class seemed to be most vocal about economic factors influencing their health behaviours. Nevertheless, many participants dedicated financial resources to fulfill cultural duties towards *ingroups* and to uphold religious practices. For instance, Participant 16 stated that although "*halal chicken is more expensive than the not halal chicken*", it should not force any Muslims to compromise their religious practice of eating *halal* poultry because "*even if it's more expensive than but it's my faith it's not ..I can't ..it's just price. It's nothing worth* [compromising your religious obligation for] *it*" (Participant 16).

Similarly, efforts were made to fulfill *ingroup* duties even if it meant incurring a higher cost and/or more time and effort. For example, participants talked about the concept of prestigious foods as foods that took extra time, showed effort was put in preparing them, looked more festive with garnishes, those containing meat, more variety in dishes prepared and were considered rich foods, meaning the prepared dishes were oilier and calorie-dense. When asked if participants thought whether what they referred to as 'rich food' was healthy food, the responses were: "*Unfortunately, no*." (Participant 26), "*No, it's not*." (Participant 25), and "*Sometime*" (Participant 24). Thus this was a *perceived barrier* to healthy eating as was noted previously. In exploring the reasons for continuing to do what the participants thought was unhealthy, Participant 27 stated: "*You know like Arabs, like Muslims like in general they want to be generous. And if there is like guests, we do many different dishes.* […] *it's not healthy but I will do too many dishes*." "*So that's how you show [to] people that you are welcoming them*," Participant 29 added. Clearly, the sense of duties to *ingroups* and the symbolic role of food in communicating values and influencing personal relationships in this population were broader than the reductionist view of assessing food for its intrinsic nutrient content and its effect on physical health of which the participants were quite informed.

Due to the maintenance of their relationships with family members and relatives in their countries of origin, participants assessed the value of money in Canada relative to that in their countries of origin. One participant stated that instead of paying for participation in indoor physical activity opportunities, she would rather "*send that money back home*" (Participant 9). Thus duties to relatives overseas took precedence over what the

individual thought of as an activity that could be forgone without substantial negative consequences to herself.

Many participants provided examples of how they would actually eat foods that they thought were not healthy for their bodies because they would get tempted to do so. For example, whenever available and easily accessible, temptations to have junk food influenced the food intake of many participants. Participant 6 explained "*Whatever* […] *taste good, whatever they enjoy more, doesn't matter it's healthy or not, they will do it. Basically even though I know chocolate is not good for me, but I cannot resist*." Some of the ways the participants tried to avoid being tempted to eat what they considered unhealthy foods, were by making a decision not to bring the food inside their house and trying alternative options to satisfy themselves. However, they still catered to children's tastes, which ended up influencing their own food intake "*You're buying for kids and of course the thing is coming home so you will eat it too*" (Participant 7).

Another factor that influenced participants' health behaviours was the perceived ease of engaging in an action. A behaviour was deemed easy to do if it was naturally integrated in the participants' life without requiring constant conscious efforts, a habit, or if it was of interest to the participants. Regarding habits, Participant 6 said:

> "*people that they have practiced something for long time, it's so hard for them to give up and adopt something new in old age, because they feel more comfortable with their own ways. Doesn't matter if this is food or if this is any other practice. Umm so for them it is hard.*"

Some of these habits were perceived to be good and some to be bad for health. For example, Participant 31 mentioned that she was using little salt in cooking "*because in*

my house, the house where I was raised, we don't always use spices and salt and put things. It's not. It's always our food has been always mild. That's how I have been raised, my. We don't anything salty, we don't use salty". However, with the adoption of technology that took over domestic labour, old habits changed as Participant 9 expressed:

> "*Back home you are active, you don't do dish washing or you don't do laundry in the machine. You are doing physical activities when you are doing house work stuff, you know. Also vacuuming, you know. You have to broom, sit down and broom. So there you get physical activities there back home* […]. *But here they don't do that. Everything is electronic.*"

What seemed to initiate the formation of a healthy habit was the activity's integration in the participants' lives without the participants actively seeking the behaviour for its health benefits. For instance, for Participant 29 the fact that she had to "*walk my kids to school early morning, that how I, I felt how much is good, so became as a habit*." Many participants acknowledged that engagement in physical activity that was part of their daily chores or job was more likely to be a routine and happen without the need to have motivation to do it. Two of the participants who reported they did not have cars pointed to the convenience of going to their work by walking not because they actively sought walking as an opportunity to be physically active.

Interest or lack thereof in an activity was another reason the participants reported influenced their activity choice. Speaking about her experience with a treadmill she purchased, Participant 10 said "*I think it's it boring, not tiring, it's get boring after half an hour. That's good enough*". Another participant preferred not to use canned vegetables and sauces because "*I can feel like that kind of smell and taste is not that strong and there*

are; like fresh thing is fresh; […] *while you are making a stir fry vegetable it will be good when it is fresh. In few days oh no there is not tastes in there. So how come in that jar or bottle we can preserve that taste*" Participant 2. So it was a matter of interest and personal taste that made it easy or uneasy for participants to engage in certain behaviours.

Socio-ecological factors such as the physical characteristics of the environment like the climate and the location of resources and amenities, societal factors, and availability and access to goods and services influenced participants' health behaviours. *Physical environmental factors* were defined as 'features of the physical environment that influenced the adoption of health behaviours'. Harsh climate was one of these environmental factors that was highlighted the most in interviews and focus groups. As one participant put it: "*Oh winter winter stress! Winter stress. Can't go anywhere. Whatever shopping, grocery you have to prepare yourself*," Participant 10. This was not limited to winter time, in fact, Participant 2 pointed that "*we can walk together in the afternoon but it's only possible in the summer and sometime kids they don't like; it's rainy and sometime it's sunny, and lots of mosquitoes;and that kind of problem*". Some participants indicated they lived close to natural attractions which encouraged them to walk. Participant 29 said: "*I go around. We have a lake behind our house so I walk around*."

Availability of culturally acceptable goods and services related to health behaviours influenced the participants' health behaviours. For instance, one participant stated how her food preparation had changed since she moved to Canada because "*I don't have the same utensils like at home, like pots I need to cook my dishes. So I cook very simple and mostly I buy food from the store or like I cook a little bit but very simple version*" (Participant 22). Many participants complained about the lack of exercise gyms that would pro-

vide ample privacy for women. Another participant criticized the lack of availability of age specific programs stating that "*Even if there is community centres, their programs are more for aaa youth, not for the people like me*" (Participant 9). Thus participants' *perceived self efficacy* was attenuated by the availability of culturally-appropriate settings in Winnipeg.

Societal factors defined as 'features of the host society such as social norms, health care and education systems, and the overall culture of the host society that facilitate or reduce the barriers to the adoption of healthy behaviours in Canada as compared to the native country'. A stark example of this was the observation of Participant 4 who stated: "*here* [in Canada] *the life is inside the house.* […] *Back home you know kids go outside. They play with the neighbourhood kids. And they are not that much you know like inside the house all the time*." This possibly creates a challenge for parents to provide activities for children that are safe and yet allow parents to meet the challenges of settlement in a new country. Another participant discussed how not having to pay to see a physician has resulted in better access to medical services and as result to better health as "*everybody was more conscious about their health. And medical facilities over here's are better*" (Participant 5). Another participant criticized the work culture in Canada encouraging workers to drink coffee and donuts by pointing how the breaks are short and the fact that "*they even call it coffee breaks, which is not healthy thing*" (Participant 8) simply promotes unhealthy food choices.

In conclusion, opportunities that enabled health behaviours included the ease of implementing a health behaviour such as when it was the habit of a participant, integrated in her lifestyle, and when it was of interest to her. Finances played a role in the level of

adoption of a health behaviour; This, however, was in subjugation to the *ingroup* and religious duties. Socio-ecological factors played a role in facilitating or hampering a behaviour while temptations that were mainly expressed in relation to perceived junk food were noted in relation to the consumption of unhealthy foods. Time was a scarce resource that was dedicated mostly to the participants' perceived duties such as fulfilling religious rituals, working, caring for children and other family members and doing house chores.

Reactions to norms. This theme was defined as 'reactions whether behavioural or perceptual to social norms in the new home country during the process of settlement'. These reactions by the participants influenced many areas of their daily lives including health behaviours. Figure 6 illustrates the components of the theme of *reactions to norms*.

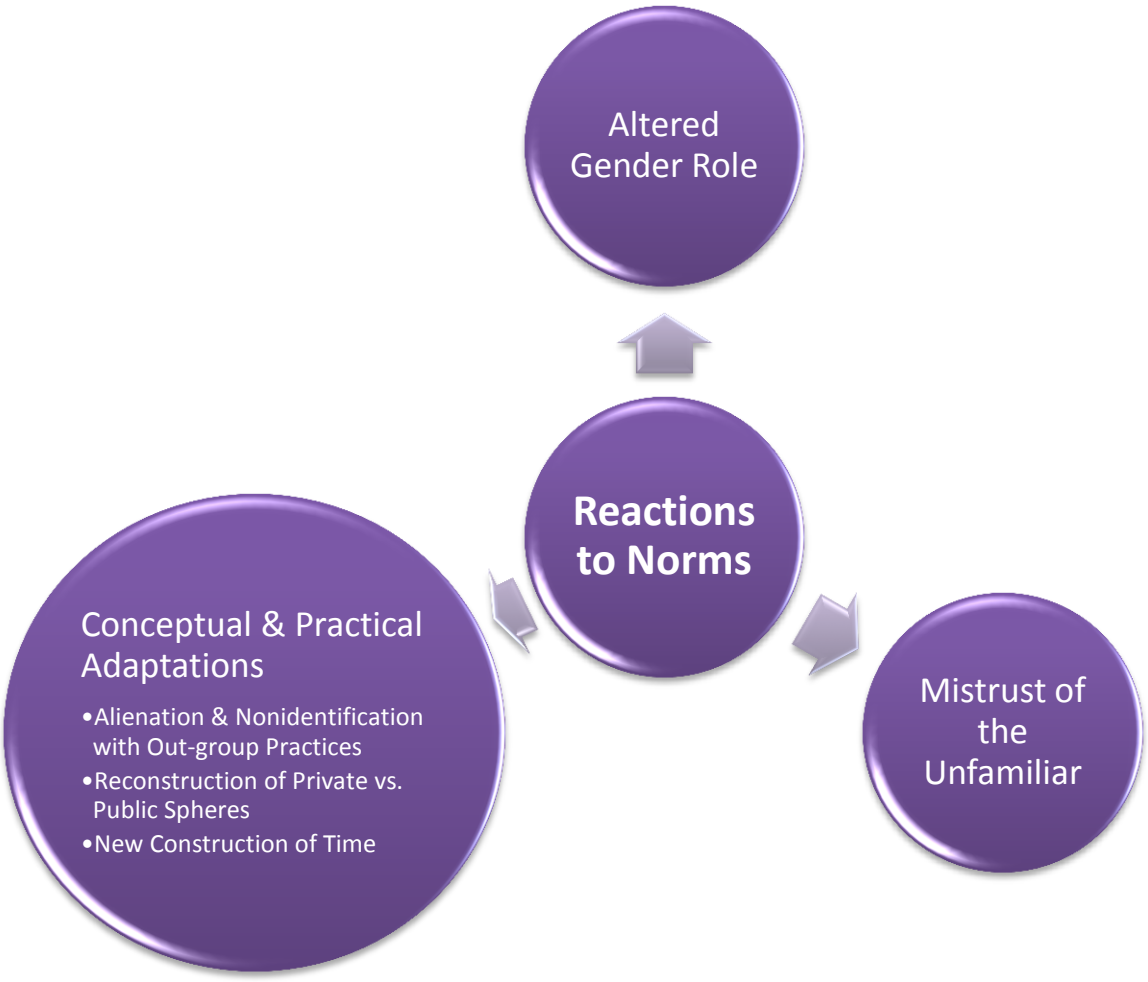

Figure 6. Reactions to norms that influence health behaviours

The participants, who came from countries where traditional ways of life had persisted in regards to the male and female gender roles mainly patriarchal societies, experi-

enced a shift in their role after immigration. This *altered gender role* increased the responsibility of some participants in their new role in Canada as they struggled to maintain their traditional role or negotiated with their families more than with their other *ingroups* to create a new role for themselves in their new home. Participant 15 described this situation well in her words:

> "*lady back home maybe not working [and] at home all day. Here different. I am school, have a [lot of things on] her mind yea. It's change. Big change. My husband said, "No, it's not my job. It's your job." Yesterday morning he wake up late. I say "Why you wake up late?" He say, "Yes. My, my wife you [do] everything good why I wake up!" I said, "No. You can wake up early. Help me about my children. You dress him up". Everything. He said "No, no. This not my job. This your job." Difficult change man here. Difficult. Very difficult.*"

Not surprisingly few participants pointed to this as a problem although many participants probably experienced this change of roles. Those who did not protest this change or demand complimentary changes in men's roles had accepted their traditional role as part of their duty as a mother and a wife as stated by Participant 16 (see page 80).

While Participant 16 found the fulfillment of her role despite the additional components as conferring peace of mind, Participant 23 found it: "*very stressful. The responsibilities of the woman have not reduced. It's just multiplied.*" This difficulty was compounded with the reality of having fewer relatives who traditionally provided tangible support to women in raising children. One participant explained this situation in a focus group:

"*I have this children back home. At morning, 6 o'clock sometime or 7, I take my children for my auntie house. Stay all day in my auntie house. No…sometime not the [only place] for my children, because I have sister, I have grandma, whatever. Sometime here Canadian they said [you have] 4 children! Why you have 4? This big big family. I said because back home, I have good care [for] my children with me, [I am] not alone*." (Participant 15)

Thus the duty of raising children was no longer shared by the community. Such *altered gender role* resulting in additional responsibilities for women certainly had implications for the immigrant women's health behaviours and their perceived health. Shortage of time, noted as a barrier to engagement in physical activities, can be linked directly to this concept.

Another health behaviour influencing concept was the reaction of participants towards unfamiliar practices or objects in their new environment. They viewed a number of things in Canada as confusing and not to be trusted. Such *mistrust of the unfamiliar* influenced participants' perception of their health behaviours. For instance, one participant pointed to the complexity of nutrition labels as a new concept to her, which made it difficult and worrisome at times to purchase even the basic foods to eat. She pointed how in her home country "*you don't have to go to the store and look at the ingredients and read what's in this package. You just go and buy it fresh.* […here] *everything is packed nicely and they listed all the ingredients and with the vitamins.* […] *It has an expiry date, it has nutritious facts* […] *Over here, you think that you have to watch for that, you have to see what is more processed, what it has, how much for example, it have. Even if you are buying a bagel for example, you have to watch for that. And back home you don't*

have this problem. […] *when first I came, I was like wow everything is so organized, clean, proper in the right places and you get them. But right now like I am, like oh it's not a big deal. Fine. If they are organized and they are in the right shelves and clean but what they give me, so I have to watch for that. Back home I understand that they are not really nicely packed but I am very sure that I am not getting something bad or wrong*." (Participant 6)

Similarly, another participant from a focus group shared her concern about the safety of available food in grocery stores in Winnipeg in comparison to the food available in her home country: "*we even don't use the word organic because mostly all the food is organic. Here when we came, when I came they say this is organic, this is nonorganic. So you just know that you are buying nonorganic and killing yourself*" (Participant 22). Whether such concerns and fears affected food purchasing behaviours cannot be answered by this study's data.

Regarding novel or unfamiliar physical activities, however, it appeared that participants were unlikely to engage in them. For example, having heard about kickboxing fitness classes, Participant 1 stated that it was an example of an exercise that would help a person maintain one's health. When asked if she would consider engaging in that activity, she chuckled in disbelief and rejected the idea because "*it's like you have to boxing and all that*," Participant 1 explained. When asked why that would be a problem, she stated after a pause "*aaah because I have never done it."* When asked further what she thought would happen if she tried it, she said "*you will get like bad injuries*" (Participant 1). Here the mistrust of a novel activity seems to have prevented this participant from engaging in the activity due to the fear of unwanted consequences.

Unfamiliarity created stress and fear as Participant 14 expressed: "*Never stop worrying about how to keep myself safe, healthy, my kids*. […] *You know here…I still didn't get what I want. I don't know. Like I came like yesterday. I still new in this country.*" This participant had lived in Canada for 10 years at the time of the interview. Simply being faced by a new way of shopping for foods used on a daily basis in an effort to make sure they are culturally appropriate, acceptable to all family members, suitable for serving to guests and sharing with *ingroups* outside the immediate family, and on top of it all, worrying about the safety of the already familiar foods because of the way they are perceived to be produced all amounted to stress that might not be experienced by the nonimmigrant population in the same way.

Mistrust of the unfamiliar was a sub-theme mostly expressed in comments made by those with post-secondary education and those who had been in Canada one to ten years. So it was the highly educated and the relatively new comers who expressed mainly a mistrust of the foods in Canada. This was mainly due to the desire to follow religious rulings pertaining to food.

Another sub-theme under *reactions to norms* was the *conceptual and practical adaptations* that the participants expressed as they talked about their settlement experiences. One of the conceptual adaptations was to the new construction of time based on the clock rather than prayer times that depend on daylight changes. In the modern Canadian society activities are not generally based on daylight; more activities are scheduled over the 24 hour day concept of time. The fast pace of life and a hectic daily schedule was noted as something that was different from the lifestyle in the participants' native country. Partic-

ipant 8 assessed the fast pace of life in Canada as the reason for her using more processed foods than before coming to Canada. She pointed that since

> "*everything is fast fast fast here in Canada, it's not like back home.* […] *So it it even affects the way of eating. We eat really fast. This is not healthy*. […] *we look for some kind of food that you can prepare in* […] *minimum time, which is not good. We abandoned stove and oven and we went towards the microwave, which is not good. Aaa, anything prepared and frozen was our best friend now. So you just bring it from the freezer, put it in the microwave, done!*" (Participant 8)

Faced with pressure for time, many participants shared the frustration that cooking traditional dishes took time and many used ways to have meals with minimal time investment in their preparation. Participant 4 pointed to this reconstruction of the concept of time as a requirement of the nature of work shifts: "*some people works night, some people works day time. And it's the schedule, day schedule night schedule is totally different* [here in Canada]."

Quite expectantly those with high level of education and employed made statements that fit under this sub-theme more than participants with lower level of education and the unemployed. Such variable work schedules around the clock and additional responsibilities on the participants appeared to have resulted in disruption in the normal way of life for these immigrants post-migration. For example, Participant 3 described how "*back home everybody sits down and everybody eats together, but here it's like you never get to have a family dinner. Everybody eats whenever they are hungry*". Such reorganization of the activities of daily living did not just affect the immediate family but also extended to the larger circles of friends and *ingroups* in Canada. Participant 15 ex-

plained this phenomenon as such: "*I have [Samira, Fatema]*[5] *and whatever, you came in my house, in my country; You drink coffee, whatever* […] *you organize face*[6]*, everything together. We* [were] *like this! Because here everybody [is] busy, [it is] difficult [to] bring some aaahh five or six woman together*. […] *Now this [is] very stress[ful] for me. Because my country, not like this*." This quote clearly demonstrated the difficulty these immigrants faced while trying to work around a new concept of time where sundown did not signal the end of the day, rather time was determined by the mechanical clock as another participant pointed: "*We have the timing with our prayers like if we wanna eat for supper or dinner time we say ok inshaAllah*[7] *it will be after maghreb*[8] *, we never say that it will be like it's at 6 o'clock or 7 o'clock. And here like kids are this is lunch time! And this is snack time!*" Such shift in the construction of time created some stress for the participants.

Alienation and nonidentification with outgroup practices was another theme under the sub-theme of 'conceptual and practical adaptations'. A number of participants felt alienated due to two reasons: 1) they perceived racism in their new home in Canada, or 2) they simply did not see certain social practices as something that would be acceptable to them. This was mainly because such practices were foreign or even condemned by the participants' social norms. Participant 6 expressed the reason for her sense of feeling alienated by saying:

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[5] These are substitute names for this participant's friends' names.
[6] Referring to facials or make-up for women
[7] God willing
[8] Prayer right after sunset.

> "[B]*eing* [participant's nationality] *is a taboo in the West and a lot of people don't have a good image of* [participant's nationality] *people. So for them I didn't want to be around those people that they judge people before knowing them. And just say oh she is* [participant's nationality] *I don't want to interact with her at all or she is Al-Qaeda, definitely you get that stamp on your head right away.*"

Such feelings created the sense of alienation from the mainstream possibly affecting the participants' choice of social activities, which in turn can impact health behaviours. Another participant shared an example of how religious practices of some Muslim families were criticized by "*the teacher, for example,* [who] *consider the families who ask their kids to fast Ramadan that these abusing their family or their kids*" (Participant 8). Such perceptions further increased feelings of alienation among this group in their new home. An example of nonidentification with outgroup practices was provided by Participant 1. When asked why she did not want to jog since she mentioned that it would help keep one fit, she chuckled and said, "*coz it's for Canadians. Canadians do jogging*". This demonstrated that participants did not see themselves engaging in certain activities that were not common among their *ingroups*. They possibly saw it as something strange or unusual for themselves or their *ingroups* to do. Cultural differences at the level of the neighbourhood also seemed to contribute to the feelings of alienation and thus social isolation. This was apparent in the culture of food sharing that was common in the participants' native countries, but had to change in Canada. Participant 24 described this situation in the following way:

"*Normally in Ramadan, for example, overseas we just, when we cook before azaan*[9]*, we just send some dishes for this neighbour and that neighbor, but here now we don't do this.* […] *Sometimes I try that with my neighbour, but* […] *they are picky. They ask you what's the ingredients and* [pause] *I don't blame them. Because some they do have kids. Maybe they have allergic for some kind of foods, you know. It's not as easy.*"

Another minor but important theme under the sub-theme of *practical and conceptual adaptations* under the major theme of *reactions to norms* was the *reconstruction of private and public spheres*. This was defined as 'adjusting to different private/public spheres in the new host country where private sphere is expanded and strictly guarded by the prevalent social culture in individualist societies'. The *reconstruction of private and public spheres* was one of the big adjustments participants had faced in Canada. They had come from countries where they had "*neighbours and relatives all the time around you. You can just* [give] *your stress to them*" (Participant 19). In an individualist context, family matters would be considered private. This individualist culture norm was a challenge for immigrant women that made them feel "*lonely*" (Participant 7) and feel like "*Here you don't have any ehh anybody to help you*" (Participant 24). The loss of personal support network was magnified by the perceived cold treatment from neighbours referred to by one participant as the "*silent neighbour*" (Participant 18); "*yea, right now like my neighbour also*", Participant 21 agreed to the above remark emphatically. This *reconstruction of private and public spheres* where the private realm, or what is socially

[9] Call to prayer

understood as the private business of a family, had increased for the participants after moving to Canada, typical of individualist cultures, had affected the social health behaviour and the psychological wellbeing of participants. They could no longer share their problems and stresses with their neighbours or ask for support from their neighbours. This was a change from "[back home where] *you have people from, you know, something goes wrong the neighbours are there, immediately the neighbours are there*" (Participant 23). Adding to this cultural shock is the experience when "*sometimes if they* [neighbours in Canada] *hear noisy or something in house, they call 911 and they say oh this house is* [pause] *is very noisy*. *And sometime if you need help, you can't get help. Everybody like it's just look* [at] *you and just pass you*" (Participant 21). Thus not only did these women not find support in their neighbourhoods but on the contrary their neighbours added to the stress in their lives. Thus the participants found this to be a challenging adjustment that affected their daily activities including their health behaviours directly and indirectly. Whether or not the participants were highly acculturated, they found adjusting to this cultural difference difficult.

In conclusion, *mistrusting the unfamiliar* settings and/or products seemed to hinder and in some cases promoted healthier choices. *Conceptual and practical adaptations* in the face of cultural differences created challenges for the participants that added to the regular challenges faced by any other immigrants or nonimmigrants practicing individualist culture. Perceived alienation and racism were major contributors to the marginalization of minority groups. The participants' experiences demonstrated how this perception affected and could potentially affect many of their health behaviours that had to do with participating in social activities and settings. The two concepts that negatively affected

the health and health behaviours of the study participants seemed to be *altered gender role* and *reconstruction of private and public spheres*. Both of these phenomena were perceived to have led to extra responsibilities and/or reduced support for the participants to fulfill their duties. Based on how participants reacted to the norms in Canada, these reactions seemed to hinder or promote engagement in both healthy and unhealthy behaviours. Adapting to a new gender role in Canada and the loss of a close-knitted social network were the two concepts that represented mainly a negative outcome on the ability of the participants to engage in health behaviours.

Other Findings

Some other interesting findings emerged from the data in this study that were not actively sought during data collection. Although these do not answer the original research questions for the present study, they provided valuable insight into the phenomenon of dietary acculturation among immigrant women from collectivist cultures. The process of dietary acculturation, which is a "process by which immigrants adopt new dietary practices" (Satia-Abouta, 2003), is explained as "multidimensional, dynamic, and complex" (Satia-Abouta, 2003, p. 74). This description is based on the observations of how immigrants may continue to consume their traditional foods, modify the ways in which they prepare their traditional foods, and adopt the mainstream dishes at home, outside home or in both places (Satia-Abouta, 2003). Satia-Abouta (2003) provided a detailed account of the factors that attribute to dietary acculturation such as the long duration of residence in the new country, working outside home, high level of education, income, and language acculturation, the latter exposing immigrants to the social norms as disseminated via popular media channels and other culture-specific social norms. A proposed model of the process of dietary acculturation and its contributing factors presented by Satia-Abouta (2003, 2010) also point to the availability and access to traditional foods and ingredients and lack of time to prepare traditional foods, increased knowledge of the link between diet and disease, and living with younger and elder family members as factors that influence dietary acculturation, which have been pointed out elsewhere as well (Chapman et al., 2011; Satia-Abouta, Patterson, Neuhouser, & Elder, 2002b).

Many participants in this study also pointed to children as agents of change who demanded nontraditional and mainstream foods. Congruent with the role of mothers in

collectivist cultures (Ristovski-Slijepcevic et al., 2010), the mothers in the present study seemed to put extra effort to provide foods that would make their children happy. For example, Participant 2 would provide *halal* ingredients for her children to make pizza at home because that is what her children wanted. However, young family members' desire for mainstream food does not seem to be simply a matter of taste preference for mainstream foods. There are psychosocial forces that play an important role in shaping such food preferences or choices for children, whose food likes and dislikes in turn influence the family's food choices. Participant 2 explains:

> "*I* [am] *proud to be wear*[ing] *my own traditional clothes. I never mind what any body will think about it. But kids- "oh look at that!" I try to force them, but while they are out there, they are all comfortable with wearing not our traditional dresses; they are more comfortable with the lifestyle what's right up here* [in Canada]. […] *Even what they are eating, what they are, everything that affect the kids*."

Participant 15 echoed the same situation with her children: "*my children, they say my mom why not cook Canadian food. Like the Canadian food. I say why! This is my food- my country food. They* [say] *"No. In school if I bring my country food, children laugh." I say why laugh?* [School children] *say: "it's […] yucky food.""*

Thus, for children it appeared to be a matter of being accepted and not mocked at that influenced their food choices rather than simply taste. As mothers, it was the perceived role of a good mother to keep her children happy that led to the incorporation of Western foods in their diets. As unmarried adults or as youth, it seemed to be more a matter of reconciling their ethnic identity with their Canadian identity that influenced their choices of food. As Participant 1's examples of foods that she would take to her

work were things such as "*noodles, sandwiches*", which was not common in her ethnic cuisine whereas at home, she explained how her mother would cook "biryani" if the guests were from their ethnic culture. This was consistent with the hybrid identity concept that has been described in the context of immigrants from collectivist cultures living in the West (Shankar, 2008). When asked about whether it was easier to have healthy lifestyles in Canada or in the country where the participant came from, Participant 1 responded that it was easier in Canada because Canadians "*eat healthy foods like cereals*"; likewise, when asked what would keep one healthy, Participant 3, who had also, like Participant 1, attended high school in Canada, said "*foods that has lots of vitamins. Proteins, meat* […] *food that has less fat in it*" and when asked for an example, she said "*potatoes, eggplants*". Both cereals and potatoes are not too common in these participants' ethnic cuisine. The accuracy of the information was irrelevant but the association of health with foods uncommon in the participants' ethnic cuisine pointed to the social and educational discourse on food and health that alienated or excluded foods common in non-Western traditions. Similarly, a study of Chinese-Canadians (Lu et al., 2008) reported that while older Chinese perceived Chinese diet to be superior to Western diet, young Chinese-Canadians did not think Chinese diet had any superiority over Western diet. A similar finding was reported by a study of African and Punjabi families in Canada (Ristovski-Slijepcevic, 2010) that indicated how "there was discrepancy between older and younger generations in conceptualizations of healthy eating, grounded in different social standards or discourses" (p. 475). These discourses may not simply be different; in the context of immigration and the experiences of transculturation, the concept of neo-colonialism (Joseph et al., 2009) has been shown to be at play in creating differential status for these dif-

ferent discourses often positing the Western discourse to be superior in the context of health because it is perceived to be based on science (Ristovski-Slijepcevic, 2010). Ristovski-Slijepcevic et al. (2010) summarized this well in a Canadian context by pointing how "official dietary guidelines comprise a particular worldview concerning 'healthy eating' that marginalizes other understandings of the relationship between food and health" (p. 472).

Another factor that encouraged dietary acculturation for immigrants from collectivist cultures was the cultural concept of fluidity of time and its effect on dietary behaviours. The concept of fluidity of time in everyday life and work of individuals from collectivist cultures means that typically there is less division of work life and family or personal life than there is in individualist cultures (Hsieh & Lin, 2010; Movsessian, 2013). The noncompartmentalization of tasks across time and the value of work (Lawton et al., 2006; Movsessian, 2013) coupled with economic needs and, as newcomers, being employed in low-paying jobs all amount to lack of family time. A relevant immigrant study showed how work was given precedence over other aspects of life (Lawton et al., 2006) including family time. While this might not have been a problem in societies where majority of employment opportunities at least in urban areas were during daylight leaving evenings for family time naturally, in the Canadian context work schedules can be any time of the day or night. Participant 3 described this situation like this:

> "*[…] basically everyone have the same routine there [back home] but here somebody eats you know 3, 4 times a day; somebody eats twice a day. ya. […] And because they are mostly outside working and stuff they don't really care about what they are eating. Go to McDonalds, go to Burger King*".

Having a meal outside home and working long hours seemed to lead to eating out mostly what was easily accessible and probably cheap. Since there were not many ethnic food outlets in Winnipeg compared to cities with high ethnic populations such as Toronto, participants pointed to eating at common fast food outlets in Winnipeg.

Another factor that appeared to lead to dietary acculturation was the need to adjust to a fast pace of life post-immigration. Such perceived fast pace of life seemed to make the consumption of conveniently accessible foods and meals that would take minimal time to prepare the norm as Participant 8 stated (see page 105). This has certainly been reported as the driving force behind fast-food consumption for most people living in Western societies including Canada (Caperchione et al., 2009; Kegler et al., 2008; Keim et al., 2011; Strazdins et al., 2011a; Taylor & Doherty, 2005; Thomas & Irwin, 2009). While Participant 22, a student, pointed how "*traditional cooking* […] *takes lots of time*", Participant 8 talked about the competing factors that lead to fast food consumption:

> "*because of the system how things is really fast and do this fast fast fast, so we we went towards the easiest way which just to grab food from outside. And options outside is not necessarily is a healthy one. And most of the healthy food is expensive. So we are talking who…what you wanna sacrifice. Do you wanna sacrifice your huger, or do you wanna sacrifice your money or do you wanna sacrifice your time?!*"

Participant 3, a working mother, also presented the same point saying when one is "*hungry, it's so easy to make a bowl of pasta while I have to make too much stuff [to make a traditional meal]*".

Other factors that facilitated dietary acculturation were the availability and access to ready food outlets, taste, and the price of commonly available foods including fast-foods. The following statements illustrated this well:

"*If I am close to Tim Horton, I take bagel with cheese. Bagel is not good. I will eat a lot of bagels.*" (Participant 8)

"*well we look at the prices of healthy food. And junk food is so cheap while […] healthy food is so expensive; specially you want everything like proper and right ….if you wanna have just McDonald whole meal could be $5 and something while you make a healthy salad a good portion of rice, meat and everything it would be cost more than that.*" (Participant 2)

While most of these findings about factors contributing to dietary acculturation are not novel and have already been included in the proposed model of dietary acculturation by Satia-Abouta (2003), at least one finding expands upon the identified factors contributing to the process of dietary acculturation that is not clearly included in this model, which is the effect of neocolonialism in the marginalization of traditional foods, especially those of the minority ethnic groups', and its relevance to health discourse.

Discussion and Interpretation

The discussion about the important topics in the findings of the present study is organized under relevant sub-headings. First, the findings are discussed in light of the literature, followed by a discussion of the relevant concepts that were found in the literature, but were absent from the findings in the present study.

The Theme of Cultural Values and *Ingroup* Influences

Many of this study's findings reflected those of previous studies of immigrants from certain ethnic groups living in Western countries. The finding that the participants' cultural practices and beliefs and their *ingroups* had a major influence on their health behaviours that emerged in this study were noted previously too (Caperchione et al., 2009; Chapman et al., 2011; Grace et al., 2008; Guerin et al., 2003; Johnson et al., 2011; Joseph et al., 2009; Lawton et al., 2006, 2008; Lu et al., 2008; Netto et al., 2007; Pasick et al., 2009; Satia-Abouta et al., 2002a). Furthermore, the role of food rituals as a symbolic means of sustaining religious beliefs and ethnic identity was noted early on (Shatenstein & Ghadirian, 1998) and confirmed later in another review paper (Johnson et al., 2011) as well. The influence of social norms was not exclusive to relatively recent immigrants living in the West. It was reported in a study by African American women (Rowe, 2010) pointing to food rituals and expectations around commensality that affected food-related behaviour such as preparing, eating and sharing of food as well. This was possibly due to the rooted collectivist culture background of the African American participants in this study that had persisted for generations. An observation from this study (Rowe, 2010) in light of the findings from the present study that can be made is that acts of commensality

appear to be prevalent in all ethnic groups from collectivist cultures. Such behaviour may be considered to be shaped by social norms.

The concept of social norms has been identified as a factor that influences health behaviours of groups from individualist cultures as well and as such has been included as a determinant of behaviour in Ajzen and Fishbeins' theory of Reasoned Action (1980; Fishbein & Ajzen, 1975) under the title of subjective norms. However, in individualist cultures social norms refer to the norms that are identified as what others think whereas in collectivist cultures these norms appear to influence behaviours at the level of the sub-conscious (Joseph et al., 2009). Joesph et al., (2009) pointed that subjective norms were more ingrained within individuals from collectivist cultures than within individuals from individualist cultures. Many of the present study's participants' sayings illustrated this point.

Duties to *ingroups* that appeared in the present study were apparent in a number of studies of immigrants from collectivist cultures living in the West. The effect of *in-groups* was best represented under the theme of 'relational culture' by Pasick et al. (2009). Pasick et al. (2009) defined relational culture as "the processes of interdependence and interconnectedness among individuals and groups and the prioritization of these connections above virtually all else" (p. 24S). The findings from the present study illustrate the existence of relational culture among the participants. Many participants in the present study pointed to the practices they engaged in for the sake of fulfilling their duties towards their *ingroups* even though they considered these practices harmful to their own physical health. For example, preparing elaborate high calorie dishes for *ingroup* visitors was seen as a duty although many of the participants stated they were not healthy. An-

other study referred to this concept as *obligations to others* (Lawton et al., 2006) that took up a lot of that study's participants' time leaving little time for exercise for themselves. The strength of this concept is remarkable since not only was it apparent in the present study with apparently healthy immigrants but it also influenced behaviours of participants in studies with participants with an existing health condition (Lawton et al, 2006; Leach & Liu, 1998) the management of which created conflicts with the participants' cultural duties to their *ingroups*. Although in these studies the concept was described as obligations to others, the present study's findings pointed out that these were perceived as duties rather than obligations. Many participants in this study pointed out that providing support and honouring their *ingroups* was not merely fulfilled because they were afraid of being shunned in their ethnic community, but also because they perceived it as a virtuous act the performance of which brought satisfaction to participants. Therefore, though at times participants expressed how difficult it was for them to engage in these culturally expected behaviours, performing these behaviours at times also gave them personal satisfaction similar to what one feels when accomplishing a duty. This shows that the sense of obligation may not be the appropriate term for this concept. Rather the term duty better reflects this concept since fulfilment of duties is what produces a sense of contentment rather than fulfilling obligations.

As care takers of their families, participants in the present study expressed their responsibility to prepare foods that would please their family members. This finding was also reported in a UK-based study (Netto et al., 2007) of immigrants from Pakistan, India, and Bangladesh where some female participants pointed that if they used less fat in food preparation, they would need to cook other dishes to satisfy their family members. This

sense of duty to provide the type of food that would satisfy the family members appeared to be more important to the participants in the present study than focusing on preparing only nutritious foods for their families. The family members who played a major role in influencing the type of food prepared at home were often the children in the household. This finding of the present study was similar to the findings in a study of mothers from three ethnic groups residing in Vancouver and in Nova Scotia (Ristovski-Slijepcevic et al., 2010). Although the authors did not view their results in light of their participants' cultural orientation (collectivist vs. individualist), they noted a major difference in the perception of the role of a good mother between European immigrants and many African, Punjabi, and few European immigrants (Ristovski-Slijepcevic et al., 2010). Many European mothers were not only the food preparers but also the regulators of healthy eating practices in their families; they used socially prevalent science-based nutrition information to guide their food choices. On the other hand, African and Punjabi immigrants and few European immigrants saw the role of a good mother as keeping her children satisfied rather than regulating their children's food choices. The participants in the present study also appeared to fulfil a role similar to the latter. For instance, a number of mothers in the present study purchased foods that their children liked even though the mothers did not prefer those choices themselves or they did not think those choices were healthy food choices. What they regulated in terms of food choices was ensuring the foods provided at home were *halal*.

Lack of control over children's food choices and leisure time activities was also noted among Aboriginal parents (Adams et al., 2008) referring to the parents' view of child health that encompassed psychological, physical, spiritual, and familial elements, as

the reason for such behaviour. Similarly, Chinese Canadians (Lu et al., 2008) reported that one of the reasons for their eating junk food was to please their children and youth. Whether this phenomenon is a characteristic of only collectivist cultures is difficult to establish based on these studies as socio-demographic information that may influence such behaviour was neither factored into the analysis of data, nor was it reported. However, the findings from the present study indicated that it was only the participants with low income that reported this behaviour. Therefore, it is possibly a characteristic of members of collectivist cultures. This behaviour can also represent the broader view of health, common in collectivist cultures, that includes social, spiritual and mental health rather than focusing primarily on physical health.

While religious practices such as abiding by religious dietary laws and gender-appropriate physical activities were often perceived as prohibiting engagement in normal physical activity opportunities and healthy eating practices, it may in reality curb unhealthy eating such as limiting eating out, encouraging lower meat consumption, encouraging the habit of reading food labels, connecting consumers to beef and sheep farmers and sustaining the skill of slaughtering to obtain meat for consumption. Surprisingly, the participants' perspectives were the opposite. The need for holistic nutrition education that not only focuses on physical benefits of good food choices for the body but also connects good food choices to improved mental and spiritual health is highlighted in this finding. For some participants the search for *halal* meat also created a collective activity opportunity with their ingroups in Winnipeg.

Ingroup support was reported by a number of participants mainly received from close family members. Certainly, group support has been noted as a determinant of phys-

ical activity in nonimmigrant individuals who belong to mainly individualist culture group (Beck, Gillison, & Standage, 2010) also. In this study, participants expressed receiving *ingroup* support, which was mainly verbal support or words of encouragement to eat healthy, control one's weight, and engage in physical activities. However, the accounts of participants did not seem to provide too many examples of how *ingroups* would provide tangible support for eating healthy or engaging in physical activities. In fact, the participants did recognize that *ingroups* at times hindered healthy eating and physical activity engagement of participants in action by, for example, providing calorie-rich foods when *ingroups* visited one another.

It is important to note that cultural and *ingroup* influences seem to be related to the core characteristics of collectivist cultures regardless of the experience of migration. For example, a study of expecting Iranian parents living in Iran (Abbasi et al., 2011) and another study of Aboriginal Indians living in the US (Adams et al., 2008) both showed that *ingroups* have considerable influence on participants' health behaviours. Similarly, a study of low-income African Americans (Eugeni, Baxter, Mama, & Lee, 2011) demonstrated that the participants would abandon healthy eating practices when visiting their family and relatives and that satisfying all the people in the household was an important factor in the choice of food served for the family. These studies did not provide insight into the experiences of culture clash between individualist and collectivist cultures. The present study shed light on the clash between individualist and collectivist cultures and showcased how the experience of settlement influenced the health behaviours of immigrants from collectivist culture backgrounds living in a predominantly individualist culture. These findings are discussed in the *reactions to norms* section.

The Theme of Health Behaviour Beliefs

The factors that influenced attitudes and beliefs about health behaviours in this study were reported in other studies as well. The effect of extrinsic messages is contained in the concept of social norms that was noted for their influence on the attitudes and beliefs about behaviours in not only immigrant but also nonimmigrant populations. This was discussed in the ingroup influences section above. What was unique to the immigrant populations from collectivist cultures, as the present study's findings suggested, was how the perceived benefits of health behaviours were boosted when the behaviours were associated with fulfilling duties and with providing social and spiritual benefits rather than solely providing benefits to the physical health of the participants. This reflected the values of relationships with *ingroups* and religious beliefs.

The perceived credibility of information received is based on the relationship of the messenger with the receiver in collectivist cultures (Pasick et al., 2009). The credibility of the information received is perceived stronger, the closer the messenger is to the receiver in relationship. A recent study of East Africans showed that East African immigrants in the US would engage in health behaviours if the behaviour was recommended or performed by other East Africans (Simmelink, Lightfoot, Dube, Blevins, & Lum, 2013). This was similar to the concept of *copycat recipients* under ingroup influences in the present study. Having commonalities such as same language, religious beliefs and practices, same ethnicity, and other characteristics were sought by immigrants in building *ingroups* as indicated by the participants in the present study. It should be acknowledged that a lot of attention has been paid to this factor in designing health promotion programs by employing lay health care workers who have often been selected based on the com-

monalities they share with the target population (Earp et al., 2002; Han, Lee, Kim, & Kim, 2009; Lam et al., 2003; Navarro et al., 1998; Reijneveld, Westhoff, & Hopman-Rock, 2003). Thus this is a well-known and used factor in providing community-based health promotion programs.

The Theme of Opportunities and Challenges

The theme of *opportunities and challenges* in this study encompassed a number of health behaviour determinants that have been reported in the literature already. *Competing time allotments*, one of the sub-themes under the theme of *opportunities and challenges*, was shown to be a barrier to engaging in healthy behaviours for both immigrant and nonimmigrant groups from individualist and collectivist cultures (Kegler et al., 2008; Keim et al., 2011; Strazdins et al., 2011a; Strazdins, Broom, Banwell, McDonald, & Skeat, 2011b; Slater, Sevenhuysen, Edginton, & O'Neil, 2012). Although both women from collectivist and those from individualist cultures would forego their self-interest for the sake of tending to their children, the participants in this study seemed to dedicate their time to care for their relatives, extended family, and friends in the community. This clearly reflected the concept of relational culture as described by Joseph et al. (2009) where relationships among individuals and groups are of utmost importance for the individuals from collectivist cultures. Georgas et al. (1997) notes that those from collectivist cultures have higher emotional attachment and contact with extended family members such as uncles, aunts, grandparents and cousins than those from individualist cultures. Thus it comes as no surprise that the participants in the present study expressed spending time and effort to provide support to *ingroups* including their families, which at times came at the expense of neglecting their health and overlooking engagement in behaviours

they perceived as beneficial for their health. It also entailed bearing financial costs related to providing elaborate food to ingroups as guests.

The sub-theme of *economic drivers* is embedded in the concept of economic status, which is a well-recognized key determinant of health for all population groups (PHAC, 2011; Mikkonen & Raphael, 2010). Similar to the present study's findings, the cost of using resources and services to support health and well-being has been reported as a barrier to health behaviours as perceived by participants in other studies of immigrants (Caperchione et al., 2009; Dean & Wilson, 2010; Johnson et al., 2011; McEwen et al., 2009; Shatenstein & Ghadirian, 1998). Some studies have noted no reporting of cost as a barrier to health behaviours such as a study of Chinese American and Canadians (Satia-Abouta et al., 2002a). This can probably be explained by the fact that these participants were recruited from areas with high population of Chinese immigrants (Satia-Abouta et al., 2002a) and, therefore, relatively easy and less costly access to food and other cultural specific and familiar goods and services in those metropolitan areas as compared to the participants in the present study. Another possible explanation may be that low income families who are recent immigrants or refugees may have come from poorer backgrounds pre-migration. Thus their perspective about their financial situation may be relatively less negative than those who have lived in Canada longer or who belonged to higher income classes in their countries of origin. This may explain the finding from the present study showing how the participants who were from middle income class seemed more concerned about economic barriers than those who were from low income category.

Likewise, *availability and access to goods and services*, another sub-theme under the theme of *challenges and opportunities*, that influenced the health behaviours of the

participants in the present study was also common in studies of both immigrants in the West and nonimmigrant populations in influencing health behaviours (Caperchione et al., 2009; Dean & Wilson, 2010; Eugeni et al., 2011; Fleury & Lee, 2006; Hendrickson, Smith, & Eikenberry, 2006; Johnson et al., 2011; Lu et al., 2008; Razee et al., 2010; Roos & Mustard, 1997; Shatenstein & Ghadirian, 1998). However, limited access is compounded for immigrants from minority ethnic groups who have specific cultural and religious duties to fulfill that may not be accommodated in the geographic areas where they reside post-immigration. For example, lack of culturally sensitive facilities was a finding in this study that was pointed out as a barrier to physical activity in other studies of immigrants from non-Western countries as well (Guerin et al., 2003; Lawton et al., 2006).

Similarly, environmental factors, specifically the cold climate in Winnipeg was a deterrent to common outdoor activities for the immigrant women in this study the majority of who came from countries with mild or hot climates. This was an issue highlighted in other studies of immigrants as well (Caperchione et al., 2009; Lawton et al., 2006).

In addition to the physical characteristics of the environment, societal factors such as social norms, neighbourhood safety and temptations were reported as factors that influenced the health behaviours of participants in other studies(Adams et al., 2008; Johnson et al., 2011; Karasek, Ahern, & Galea, 2012; Lally, Bartle, & Wardle, 2011; van Genugten, van Empelen, & Oenema, 2012) and were certainly not restricted to shaping health behaviours of only immigrants.

The Theme of Reactions to Norms

A theme that was unique to immigrants from collectivist cultures living in an individualist-dominant culture was the theme of *reactions to norms*. Norms here refer to the

norms in Canada. The sub-theme of *altered-gender role* was expressed and agreed upon by many participants in few interviews and in focus groups. Coming from patriarchal societies where men were the heads of households, the immigrant women in this study experienced a sudden expansion in the roles they had to assume post immigration. While some women were working full-time or part-time, others were students either learning English or attending post-secondary educational institutions in the present study with few staying home to take care of children. This finding was also reported in other studies of immigrants from collectivist cultures that were mainly patriarchic living in Western countries with predominantly individualist culture (Calderón, 2011; Essers, Benschop, & Doorewaard, 2010; Harbottle, 2000; Renzaho, McCabe, & Sainsbury, 2011). With women's *altered gender role,* support from the husbands was needed in the domestic and child rearing chores to balance the familial responsibilities between the two spouses. However, some participants indicated how it was expected of them to fulfill their traditional roles in addition to their new role in their new home country. Thus, demands on their time and energy became too great to allow for self-care.

While the new role or additional responsibilities for immigrant women from collectivist cultures living in the West were noted to have provided a sense of power (Essers et al., 2010; Renzaho et al., 2011), the opposite perception was expressed by some immigrant men from collectivist cultures living in the West (Calderón, 2011; Renzaho et al., 2011). However, resilience to such partial loss of power and status in the family for men has been variable in different ethnicities. For example, Calderón (2011) showed how Karelian men were more resilient than Puerto Rican men living in the US by taking up a complementary gender role. It took Puerto Rican men more than two generations in the

US to adapt. Harbottle (2000, pp. 104-106) also showed the resilience of Iranian men who although were engaged in food catering business, while cooking was mainly a woman's traditional role in Iran, did engage in child rearing activities and house chores as they perceived their gender to be biological rather than socially constructed. They also pointed to fast food restaurant work as a risky job due to its late working hours and interaction with possibly violent customers and as such they considered this to be a job more appropriate for men rather than for women (Harbottle, 2000, p. 105). This can be interpreted as the resiliency or coping strategy for Iranian men who engaged in food catering type of jobs. In these two studies (Harbottle, 2000; Calderón, 2011) coping, resiliency, education and language skills were noted to determine the degree of complementary gender role alterations for immigrant men from patriarchic societies. Therefore, although the present study's participants' *altered gender role* did create great demands on their time and energy, to provide a better picture of the situation, alterations in men's gender roles need to be observed as well.

The next sub-theme under *reactions to norms* was *mistrust of the unfamiliar*. As expected, the newcomers who had lived in Winnipeg one to ten years expressed lack of trust in the safety of products and services especially as they related to possible infringement of religiously nonpermissible acts. This was probably due to unfamiliarity with the available products and environmental settings that created a sense of unease among the newcomers as compared to long-term resident immigrants who may have become quite accustomed to the new environment in Winnipeg or in Canada. The highly educated participants' mistrust of the unfamiliar probably stemmed from a critical view of what was normal in Canada such as nonorganic foods and preservatives and the possible coverage

of such information in the media and in academia that triggered such mistrust among these participants. Religiosity of the participants certainly played a role in not trusting unfamiliar products and environments as they would be suspected of being unlawful according to Islam. A study of Muslim Somali immigrants (McEwen et al., 2009) and a study including immigrants from Zimbabwe (Lawrence et al., 2007) in UK indicated similar findings in terms of participants' views of nonorganic or frozen vegetables.

In terms of unfamiliarity with normal exercises in the West, South Asian immigrants' perceptions of symptoms of physical exertion such as increased heart rate as being possibly injurious to health, was reported (Caperchione et al., 2009). The importance of providing culturally sensitive and religiously-compliant services has been emphasized in the Canadian context (Weerasinghe & Williams, 2002) and has been shown as an area that still needs considerable improvements in eliminating not just prejudicial encounters in health care service delivery but also systematic shortcomings evidenced by poor provision of cultural training and knowledge (Weerasinghe, 2012). Thus it can be said that the concept of *mistrust of the unfamiliar* demonstrated in this study has been recognized in the immigrant literature.

The third sub-theme under the theme of *reactions to norms* was *conceptual and practical adaptations* that immigrant women in this study described. Gauging time or organizing daily activities based on a mechanical time common in Western societies based on industrial type of workplace productivity, was different from the concept of time in collectivist cultures, which has been noted to be flexible and fluid (Nonis et al., 2005) . Moreover, working erratic shifts and odd jobs with variable work hours of immigrants in the West has been noted in other studies (Netto et al., 2007) as well as in the

present study. Such work hours along with the temporal adjustment made it difficult for the participants to dedicate specific time for self-care. Although this characteristic of collectivist cultures has been recognized (Levine, 1997; Nonis et al., 2005), none of the studies of immigrants to author's knowledge have pointed to this aspect as a factor that can influence health behaviours. Nevertheless, daily prayer times and the month of fasting that is based on lunar calendar have been recognized as religious necessities that need to be incorporated for exercise programs targeting Muslims (Guerin et al., 2003). However, the implications of sudden change in temporal concepts can influence all kinds of social activities such as having meals, socializing with *ingroups*, engaging in social and other health related activities with outgroups, and dedicating time to care for physical health needs. Therefore, the difference in the cultural concept of time between collectivist and individualist cultures can carry a lot of weight in influencing health behaviours of immigrants from collectivist cultures.

Alienation and nonidentification with outgroup practices was another concept that has been reported in the literature to some extent. Alienation in some instances was expressed in ways that seemed like perceived racism, a factor that affects access to health care (Joseph et al., 2009; Reitmanova & Gustafson, 2008; Weerasinghe, 2012; Weerasinghe & Williams, 2002), health behaviours or attitudes towards health behaviours (Gibbons et al., 2012; Guerin et al., 2003; Harris et al., 2012; Johnston & Lordan, 2012; Williams, Neighbors, & Jackson, 2003), employment opportunities (Creese & Wiebe, 2012; Galabuzi & Teelucksingh, 2010; Shinnaoui & Narchal, 2010; Tastsoglou & Miedema, 2005), which has great impact on health, and possibly other areas of life and social activities. The direct effect of perceived racism on health or markers such as de-

pression and anxiety has been documented in the literature as well (Brondolo, Rieppi, Kelly, & Gerin, 2003; Gee,Ryan, Laflamme, & Holt, 2006; Harris et al., 2012; Schulz et al., 2006). The present study did not quantify the impact of perceived racism on health behaviours or health. However, it is important to note that for the participants, the effect of perceived racism on health and health behaviours may be larger than the literature suggests. This is because the participants were not only from racialized minority groups, recognized as a trigger for experiencing racism regardless of immigrant status (Larson, Gillies, Howard, & Coffin, 2007), but they were also Muslims. Muslims have been portrayed often negatively in popular Western media especially post 2011 (Johnston & Lordan, 2012) possibly causing Muslim minority group immigrants experiencing more racism than non-Muslim minority immigrants as demonstrated by a US-based study of Arab immigrants (Awad, 2010).

Differences in the composition of a city's population, employment opportunities and simply the level of education of the different groups in the population can have modifying effects on perceiving or experiencing racism (Forrest & Dunn, 2013). Other factors can also play a role in modifying discriminatory behaviours and experiences that can vary across regions. Therefore, the studies in other geographical areas may not reflect the realities of immigrants and their perception or experiences of racism in Winnipeg.

While the longer time spent in the West, the more racism is reported by non-Western immigrants (Gee et al., 2006), it is interesting to note that with chronic and long-term experiences of racism, individuals have been noted to develop coping mechanisms that allow them to adopt health promoting behaviours by maneuvering around hurtful perceived experiences of racism (Dailey et al., 2007). The present study's findings did

not provide information on whether the participants in the study behaved similarly and if so what enabled them to do so. Furthermore, the effect of religiosity in this process would be another variable of interest.

In the present study, perceived racism only appeared in the context of employment and school setting rather than in direct relation with health behaviours. This may be likely due to the fact that the participants were interviewed about health behaviours specifically and hence relied on participants' conscious linking of racism with their health behaviours. Many of these behaviours may be shaped unconsciously. Also, participants may not have remembered to share relevant information during the interview. Moreover, the questions in the interview were not focused on exploring the effect of perceived or experienced racism on health behaviours and thus did not provide adequate cues and time for participants to share their perceptions on this topic.

Nonidentification with outgroup practices was shown in at least one other study of minority racialized groups in Canada (Weerasinghe, 2012) and has been heeded to in designing health promotion materials in Canada in general. For example the use of culturally sensitive print material in immigrant women's native language (Ahmad, Cameron, & Stewart, 2005) and the use of ethnic celebrity images (Boutin-Foster, George, Samuel, Fraser-White, & Brown, 2008) to promote healthy behaviours have been reported in Canada and the US, respectively.

Participants in this study appeared frustrated by the individualist culture norm of privacy particularly in their neighbourhoods. As a result, the challenge of the loss of personal support network or social capital (Caperchione et al., 2009; Putnam, 2007) due to immigration was magnified by the perceived cold treatment from neighbours. A relevant

finding from a Canadian Toronto-based study (Du Mont & Forte, 2012) showed that immigrant women trusted their neighbours, co-workers and the individuals in their schools less than did nonimmigrant women. The immigrant women in the same study also reported higher levels of cultural, racial, and linguistic discrimination (Du Mont & Forte, 2012). Although the authors did not point to collectivism playing a role in explaining this finding, such low level of trust could be due to the differences in the social norms in individualist versus collectivist societies around private and public spheres. While immigrant studies shed light upon the problem of reduced social capital, no study to author's knowledge has pointed to the role that the reconstruction of private and public spheres in an individualist society can play in influencing potentially the health and health behaviours of immigrant women from collectivist cultures.

Health Belief Model Constructs in Collectivist Cultures

None of the constructs of the Health Belief Model (HBM) seemed to adequately and/or solely drive the participants' health behaviours. They were, however, meaningful if situated in the context of cultural values and *ingroup* influences. The findings from this study about the strength of *perceived susceptibility* and *severity* in influencing health behaviours of immigrant women from collectivist cultures appeared to be weak. Participants appeared to be knowledgeable about the adverse effects of not engaging in healthy behaviours yet they did not attribute their health behaviours to any threats they mentioned except for obesity. Knowledge of harmful consequences to health often did not appear to translate into health behaviour engagement. This was consistent with what has been shown in studies of immigrants from collectivist cultures (Lawton et al., 2006, 2008; Netto et al., 2007). Although a study of Somali immigrants (McEwen et al., 2009) reported

that knowledge of what constituted healthy eating was poor among Somali immigrants pointing that there was a need for education, meat rather than vegetable and fruit consumption was noted to be connected to Somali identity. Based on the findings from the present study whether knowledge alone would encourage increased consumption of vegetables and fruits would be questionable if not unlikely. In agreement with Pasick et al. (2009) it would be reasonable to say that education programs that only focus on the provision of information to increase immigrants' knowledge about a health behaviour may prove to be unsuccessful in changing health behaviours especially those that may be interpreted as compromising duties to *ingroups* and those that undermine religious and cultural values. Indeed, a critique of the HBM was that it did not account for socio-cultural norms (Noh, Gagne, & Kaspar, 1994, p. 379). Overall, the constructs of *perceived severity* and *susceptibility* may be weak predictors or may have a negligible effect in influencing health behaviours of immigrants from collectivist cultures unless the perceived threat is related to the perception that engagement or lack of engagement in a particular behaviour would compromise cultural values and *ingroup* relationships.

Regarding perceived benefits and barriers, literature is rife with studies of barriers and facilitators to various health behaviours in specific population groups. Although a number of perceived benefits and barriers in adopting healthy lifestyles in this study were similar to those indicated in the nonimmigrant population, some benefits and barriers were unique and of high relevance to immigrants from collectivist cultures mainly. For example, environmental factors such as access to perceived junk foods which triggered temptation to consume, were common to nonimmigrants and those from individualist culture backgrounds as well (Dean & Wilson, 2010; Findholt, Michael, Jerofke, & Brogoitti,

2011; Huybrechts, De Bourdeaudhuij, & De Henauw, 2010). Benefits and barriers unique to immigrants from collectivist cultures were related to the consequences of the health behaviours that led to or inhibited the enhancement of social relationships and/or fulfilment or lack thereof of duties towards *ingroups* (Johnson & Nies, 2005; Lawton et al., 2006, 2008; Netto et al., 2007; Taylor & Doherty, 2005). Certainly the considerable number of health promotion programs employing co-ethnic lay health workers (Jandorf et al., 2012; Stolzenberg, Berg, & Maschewsky-Schneider, 2012;Taylor et al., 2009) has been employed in recognition of the importance and effect of *ingroup* relationships and the perceived credibility of information received from *ingroup* networks among target groups that are hard to reach such as immigrants and low-income groups. This approach has been recognized as a potentially effective method for health behaviour promotion (Gibson, Cave, Doering, Ortiz, & Harms, 2005; Reinhardt, Löpker, Noack, Klein, & Rosen, 2009; Stolzenberg et al., 2012) as it provides a sense of empowerment to the peer-educators and the targeted communities. With respect to immigrants' experiences of discrimination, unfamiliarity, and mistrust, the present study's findings echo a number of the results of other studies of immigrants from collectivist cultures (Pasick et al., 2009; Silva, 2009); however, few differences did surface. For example, unfamiliarity with the effects of exercise reported in a review of studies of culturally and linguistically diverse immigrants in Western countries (Caperchione et al., 2009) did seem not influence the participants' attitudes towards exercising in the present study; thus it was not perceived as a barrier to engagement in physical activity. This can be due to the inevitable exposure to various physical activity promoting messages including visual representations of physical activities not only in Canada but also in the participants' home countries and

possibly among their peers making the symptoms of physical exertion look normal and shown in a positive light. Overall, the constructs of *perceived barriers* and *benefits* appeared applicable to the immigrants from collectivist cultures backgrounds in this study. However, it is important to note that the context of *ingroup* and cultural influences can modify the strength of any of these constructs in motivating health behaviours.

The additional two constructs of the HBM that were not originally part of this theory are *cues to action* and *self efficacy*. *Cues to action* is not a well-studied construct of the HBM (Quick, Fiese, Anderson, Koester, & Marlin, 2011). Although many studies have pointed to this construct as being influential in motivating health behaviours such as cancer screening and physical activity engagement (Allahverdipour, Asghari-Jafarabadi, & Emami, 2011; Chou & Wister, 2005; Farooqui et al., 2013), in the present study it did not appear to play a major role in determining health behaviours. Few participants mentioned cues provided by *ingroups* to engage in physical activities when the activities were performed collectively with the same *ingroups*. Since participants relied on their memory to recall things that cued them to engage in a health behaviour that may have happened a long time prior to the interviews or focus groups, it was probably difficult to recall those cues and report them during data collection. Also, it has been noted that at times cues are subtle and individuals may not attribute their motivation or behaviour to a trivial nonmemorable cue that may have actually been important for the behaviour to be performed (Rosenstock, 1974b, p. 6). These may be the reasons why *cues to action* did not appear to drive the participants' behaviours in the present study.

Self efficacy is another constructs of the HBM that has received a fair amount of attention in the literature and has been included in other health behaviour theories (Ban-

dura, 1997; Ryan & Deci, 2000) as well. Burke et al. (2009a) pointed to the different dimensions of self efficacy in a US-based study of immigrant women from collectivist cultures. The authors (Burke et al., 2009a) argued that women's efficacy in the domestic sphere was culturally expected to be higher than her efficacy in other domains of society. The present study's findings support this argument since the results from the data showed that cultural expectation of women's efficacy to care for her children and spouse often meant that they came before her.

Another dimension of *self efficacy* in a collectivist culture recognized by Burke et al. (2009a) related to the concept of *social capital*. Burke et al. (2009a) argued that an immigrant from collectivist culture who works within his/her ethnic community enclave may have a different level of *self efficacy* specific to a behaviour that can occur within the same enclave than one that takes the individual outside that enclave in a social environment where minority immigrants may encounter discrimination and unfamiliar surroundings, settings, and norms. This description appears to explain the observations in the present study as well as in the example of engagement in physical activities that took place for some participants when the activity was done collectively rather than individually. Although a review paper (Becares et al., 2012) illustrated no association between health and ethnic density in residential neighbourhoods of immigrants, positive protective effects were noted to outweigh the negative effects of living in ethnic dense neighbourhoods. Participants in the present study relayed the loss of *social capital* most strongly in the context of child rearing duties, a finding that was in agreement with a review of studies of immigrants to Western societies (Aubel, 2012). Furthermore, reports of unfamiliarity and perceived alienation in the present study, despite moderate to high levels of ac-

culturation among most of the participants, were other social factors that could reasonably influence immigrants' perceived *self efficacy* as reported in other studies of immigrants living in the West (Burke et al., 2009a; Heslin, Bell, & Fletcher, 2012; Williams et al., 2012).

The findings from the present study uphold the applicability of the construct of *self efficacy* in predicting health behaviours of immigrants from collectivist cultures provided that the construct captures the social realities such as social capital, unfamiliarity or fear of the unknown and the meaning of efficacy that considers the significance of *ingroups* or relational culture (Joseph et al., 2009) in influencing these immigrants' behaviours.

One of the constructs relevant to the health behaviours of participants in the present study was the construct of *reactions to norms*. The important concepts within this construct such as perceived alienation and reconstruction of private and public spheres hold the potential to be an additional construct or multiple constructs that if incorporated in the HBM, the model's applicability to immigrants from collectivist cultures could be improved. While many of the components of this construct such as *perceived alienation* and *altered gender role* have been presented extensively in the immigrant literature, other components such as *new construction of time* and *reconstruction of private and public spheres* need to be developed further and refined so that their relation to health behaviours of immigrants from collectivist cultures living in individualist cultures can be measured and tested.

Other Relevant Concepts Absent from the Findings in the Present Study

There were some important concepts influencing health behaviours reported in other studies of immigrants from the East living in the West that did not appear in this study.

For example, the concept of *religious fatalism*, reported as a de-motivator to engagement in health behaviours (Caperchione et al., 2009; Horne & Tierney, 2012) did not emerge from the present study's data although majority of the participants considered themselves to be fully practicing Muslims.

In a study of British Bangladeshis (Grace et al., 2008) religious fatalism was reported by few participants while some other participants associated this concept with the older generation. This may erroneously lead to the conclusion that religious fatalism is fading away at least in the Bangladeshi population whose perspectives are reflected in the study. In fact, it may be safe to say that religious values are as strongly, if not more, held by individuals as cultural values and hence resistant to change. It can be said, however, that cultural research has started to provide a better understanding of this concept. The findings of two qualitative studies of immigrants living in UK and US (Darr et al., 2008; Joseph et al., 2009) illustrated that the participants disagreed with the concept of fatalism by placing the responsibility to try to prevent disease on the individual and the outcome in the hands of God. All the participants in the present study identified health behaviours that would help maintain one's health, which negates the concept of fatalism. On the contrary, few participants referred to religious beliefs as promoting taking responsibility for healthy behaviours. The absence of this finding, however, was not limited to the present study and was reported in two studies of immigrants from collective cultures living in the West as well (Darr, Astin, & Atkin, 2008; Joseph et al., 2009; Joseph et al., 2009). There may be a number of factors that could account for this. The most important factor was the fact that the PI was a practicing Muslim with a good understanding of the belief in the will of God and how it is expressed in various circumstances by other Muslims.

The questions asked from participants did not revolve around God's control over participants' health, which appears to be the case in one of the studies (Evenson, et al., 2004) included in the review paper by Caperchione, et al. (2009) that points to the existence of this concept. Also, the participants in this study were apparently healthy and younger compared to participants in some of the studies that reported the concept of religious fatalism (Lawton, et al., 2006; Webster, Thompson, & Mayou, 2002; Horne, Speed, Skelton, & Todd, 2009; Bedi, LeBlanc, McGregor, Mather, & King, 2008). Being younger and healthy can affect the sense of mastery over life events. Furthermore, the participants in this study were highly educated, which may have influenced how they perceived the benefits of health promoting behaviours.

Another concept that did not appear in this study but has been reported in the literature was the concept of associating overweight with health and prosperity and thus perceiving it as something desirable. Such positive perception of overweight has been noted as a barrier to physical activity in studies of immigrant ethnicities with collectivist culture background living in the West (Johnson et al., 2011; Netto et al., 2007). These two studies included South Asian participants. South Asian participants in the present study perceived overweight as a negative attribute and some even expressed a desire for weight loss. Socio-demographic differences may account for the differing perceptions of what constitutes an ideal body image for women in a particular ethnic group (Swami et al., 2010). Although larger body types have been reported to be viewed in positive light in African American communities (James, Fowler-Brown, Raghunathan, & Van Hoewyk, 2006; Rowe, 2010), a recent study (Puoane, Tsolekile, & Steyn, 2010) of Black young girls aged 10-18 in South Africa showed that while two-third of the participants viewed

overweight as a sign of wealth, one-third expressed both advantages and disadvantages of being overweight, especially viewing overweight as a risk factor for noncommunicable diseases. Hence, it appears to be a perception that is changing. Another factor that influences the perception of women to view thinness as desirable has been reported to be exposure to Western media (Swami et al., 2010). Since all of the participants in the present study had lived in Canada for at least one year at the time of recruitment for the study, their view of overweight may have been influenced in the direction of viewing thinness as ideal. Furthermore, with obesity having been recognized as a global epidemic (WHO, 2000), increased awareness about its associated health risks across the globe may have directed attention at dispelling the myth of overweight and obesity as a positive attribute in participants' countries of origin as well.

English language fluency was another health behaviour determinant reported extensively in the literature (Caperchione et al., 2009; Grace et al., 2008; Lawton et al., 2006, 2008) that did not appear in the present study. This was expected since one of the screening criteria for eligibility as a participant in the present study was the ability to carry out conversations in English.

The concept of back *home sentimentality* was explored to find whether such sentiments or nostalgia created potential barriers to the reception of health messages and the adoption of healthy behaviours in Canada. The results were consistent with at least two of the more recent studies of immigrants in Canada (Dean & Wilson, 2010; Lu et al., 2008) that indicated participants perceived more health promoting environment and opportunities in Canada than in their home countries. Participants provided tangible examples to demonstrate health promoting aspects of the Canadian society that were superior

in comparison to the societies from which they came. At the same time, participants also pointed examples of how certain activities that were integrated in their lifestyle in their home countries were health promoting in comparison to their adopted lifestyle in Canada. For example, easy free access to physicians and good quality medication (Participants 5 and 10) was referred to as a health promoting aspect of the Canadian society, while good social support from family, relatives, and even neighbours (Participants 2, 18, 19, 24) and integration of physically demanding house chores such as washing clothes by hand (Participant 10), accessible amenities such as mosques within walking distance (Participant 4) were some of the things mentioned as health promoting in the home country. Thus the concept of *home sentimentality* while demonstrated by many participants in their longing for social ties in their home countries and feelings of loneliness in Canada, did not appear to influence their positive perception of life in Canada. This was displayed by the fact that participants pointed to the negative aspects of their home country as well as the positive aspects of life in Canada, which negates the concept of *home sentimentality*.

There may still be an association between sentimentality towards the country of origin and health behaviours, but it is best to explore this concept taken into account the factors that affect such sentiments. Some of these factors are the immigrants' economic success and employment in the new country (Beiser, 2006; Reinders & Van Der Land, 2008), having a confidant who would provide emotional support (Beiser, 2006), possibly immigration status e.g. refugees (Beiser, 2006) and perceived racism encountered in the new country, which has been shown to affect immigrants' sense of belonging (Reinders & Van Der Land, 2008; Silva, 2009). All of these factors can be variable across immigrants and thus data on these should be collected to help recognize and categorize the ef-

fect of home sentiments in relation to health behaviours of immigrants. In the present study, while accounts of experiences of racism were shared by some participants, it was not elicited directly and neither was any information collected about whether participants had any confidants or the circumstances under which they immigrated to Canada. Furthermore, home sentiments may be reasonably stronger for those who have low incomes in their new countries of residence, whereas the majority of the participants (29 out of 31) in the present study did not fall in the lowest income category. All of these factors could have influenced participants' home sentiments. Thus it can be said that the eligibility criteria in this study did not allow for recruitment of adequate number of participants from low income earners to obtain ample perspectives regarding the concept of *home sentimentality* and its possible link to health behaviours. Also, a low-income family in Canada may be considered an adequate income family from perspectives of some immigrants who lived in poverty in their home countries as well. Thus this factor should be considered as well when exploring the concept of home sentimentality within immigrant populations.

Limitations of the Study

Almost all the participants in this study were moderately to highly practicing Muslims, which can be a limitation of this study as the voice of the non-practicing-Muslims was not reflected in the findings. The reason for this might be due to self-exclusion of non-practicing-Muslims for the fear of being criticized by the researcher who is a visibly practicing Muslim or other Muslim participants. There was also a fear or mistrust in the Muslim community towards situations where they would be asked personal questions, because Canadian Security Intelligence Service (CSIS) personnel had been conducting an investigation within the Winnipeg Muslim community around the present study's data collection time in 2010. Furthermore, since the researcher was a recent resident of Winnipeg, she was not known very well in the Muslim community, therefore, potential participants may have felt uneasy to volunteer for the study. Non-practicing-Muslims, in particular, may have tried to deliberately stay away from associating with the Muslim community in light of the CSIS investigation. In fact, the researcher utilized her community contacts to help with recruitment, which may have resulted in recruitment of like-minded individuals.

There was also some tension in the community regarding the role of the hired religious leader within the administration of one of the biggest Muslim organizations in Manitoba providing religious and other social services to the Muslim community at large. Disagreements and varying opinions among the members of the community about the Imam's role had probably weakened the influence of the Imam and thus influencing the results of this study regarding the role of the religious leaders in influencing behaviours of the community members engaged in community affairs.

Furthermore, individuals in focus groups might not have shared information or thoughts that would have been considered unacceptable in the Muslim community or deemed inappropriate or controversial. To overcome this challenge, conducting interviews was a good method so that some of the points that might have been controversial would be gleaned from the interview data and presented to the focus group to elicit responses and views from the group. In addition, the fact that the researcher had a head scarf, which normally denotes practicing Muslim, may have influenced the responses from the participants. For example, one participant talked quite strongly about the extent she went to practice her faith yet surprisingly she ranked her religiosity as 'somewhat practicing' rather than 'fully practicing'. She might have ranked her option as such since she was not wearing a head scarf and the researcher was. At the same time, having a researcher who was visibly dressed as a practicing Muslim could have made it easy and comfortable for the participants to share their experiences and opinions about the perceived barriers to religious practices in the secular society in Canada and their struggles within their families and communities. For example, one participant expressed her dismay at the lack of help from the Muslim community when she had contacted the mosque authority for possibly financial support. Despite this, participants who only found out about the study through the posters, were probably hesitant to share some of their thoughts about the problems they faced in Canadian society to a researcher who although Muslim was affiliated with a Canadian university and the consent forms had an official logo on it that was not affiliated with any Muslim organization. For example, one participant indicated this unease by saying that she is conscious of the fact that she is being

recorded when starting to share one of her points towards the end of a focus group when similar sensitive points were, in fact, brought up by other members in the focus group.

Another limitation of the study was the exclusion of immigrants who were unable to carry out a conversation in English. Since inability to speak English was assumed to restrict the opportunity for immigrants to gain an understanding of or have a lot of first-hand experiences in their new environment in various settings to share with the researcher, those who could not speak English were excluded from this study. This meant that the participants had already acquired some degree of acculturation, which was again helpful in bringing to light the factors that influenced their health behaviours after the immediate new-comer experience of worries about settlement and possibly the excitement of having come to Canada had dissipated. However, at the same time this could be a disadvantage in this study since the barriers faced by immigrants with poor English literacy skills may be different from those who can speak English. Therefore, this study did not serve to reflect their voices and the findings should not be used without taking this limitation into consideration.

Ideally, maximum variation sampling method should have been used to recruit participants since this method allows for a comprehensive picture of the phenomenon under study, which was in this case the factors that influenced health behaviours of immigrant women from collectivist cultures. This, however, would have made it difficult to recruit participants since individuals might have not liked to provide personal information such as household income, level of education and other demographic data at the screening phase before they were deemed eligible for the study. The demographic questionnaire

was distributed at the end of the interviews and focus groups so the participants would have developed some level of trust and would provide accurate information.

Having included only female participants in this study, the immigrant males' perspectives were not explored. In fact, a considerably higher number of studies of immigrants are focused on women only, creating a void in understanding men's perspectives and challenges. Women's health behaviours are not shaped in isolation from men's behaviours and their perception of the role they as men occupy in the family and in the community. With the changing role of women in the workforce especially post-immigration and possibly their economic independence from men and at times even the reliance of men upon their wives' income in the period immediately post-immigration it is important to understand how men from collectivist cultures adjust in their new home country. Understanding their challenges, coping mechanisms, and perceptions can provide valuable information in advancing the health of families collectively rather than focusing on immigrant women's health behaviours solely.

An important factor that imposes another limitation on the findings of this study was reliance on the awareness and memory of the participants. There might have been factors influencing the health behaviour of the participants that they might have not been aware of or thought about or remembered to report during the interviews or focus groups. Conducting a formal member check would have provided another opportunity for collecting information that might have been missed in the first round of data collection. The use of prompts during interview questions and focus groups were expected to help with stimulating not simply continuity of and guidance for the conversations, but also to help participants remember relevant information that they could share with the researcher. In-

formal member checks were helpful in increasing the accuracy of understanding participants' responses.

The factors that influenced participants' health behaviours of which the participants' might have not been cognizant could be captured by including key stakeholders' perspectives since they are often in a position to observe such factors. Key stakeholders such as community leaders and service providers might also be more aware of systemic structures such as the way social services were delivered or how health interventions and health promotion campaigns were communicated and presented to potential participants that could provide valuable information.

An ethnographic study design might have also helped in learning about salient factors that influenced the participants' health behaviours by observing them in their family settings and the multiple roles they presumed, as well as exploring the perceptions of these immigrant families' children about various factors that influenced their health behaviour choices. An ethnographic study would have also allowed the observation of how health behaviours of each family member were shaped by other family members' behaviours, beliefs, and attitudes.

Another limitation of this study was in the measurement of acculturation and enculturation of the participants. Stephenson's Multi-group Acculturation Scale used in the present study to measure acculturation and enculturation was not developed specifically for Muslim immigrants. For example, the survey question about listening to ethnic or Canadian music was not applicable to all the participants, because some participants indicated that they did not listen to music, possibly because of their perception of some religious restrictions regarding listening to music. This limitation probably resulted in erro-

neously indicating a slightly lower enculturation score than would have been achieved had the scale been validated in a Muslim population. Another limitation of SMAS was in regards to its administration. A number of the survey statements are closely related such as items that have to do with speaking, knowing, and liking to speak one's ethnic language. Some participants questioned why these statements were repeated; this required explanation by the researcher. It is possible that many other participants, whose English language knowledge was not strong, might have mistakenly circled their responses inaccurately. In fact, few participants seemed to look at other participants' answers so they would not have to ask or wait to ask the researcher for clarification about the SMAS statements. Some words such as "current affairs" was not understood by a few participants who asked the researcher for the phrase's meaning. Since SMAS survey was given at the end of the focus groups, many participants were in a hurry to leave so they might have not asked for clarification even if they, otherwise, would have done so. Furthermore, some participants may have come from areas where oral culture was stronger or more prevalent than literate culture, thus the question about reading newspapers in the SMAS might have not been appropriate in measuring the levels of acculturation and enculturation of such participants. These problems faced when administering SMAS, might have produced inaccurate reflections of reality and thus limit the accuracy of the findings.

There was no information about the history of immigration or immigration status collected from participants. Family-sponsored immigrants arriving in Canada where family support was readily available might have had a very different experience settling in Canada than refugees or business or skilled worker immigrants. Such variety of expe-

riences could produce different perceptions about the new environment and consequently influenced the perception of health behaviours and actual health behaviours.

Conclusion

The three major concepts that influenced the health behaviour of apparently healthy participants who were immigrant women from collectivist cultures living in Winnipeg, were beliefs about what behaviours were healthy or not, social, environmental, personal, and economical opportunities and challenges encountered, and their reactions to the norms in Canada. These concepts were influenced by the umbrella concept of *cultural values and ingroup influences*. *Ingroups* appeared to provide various types of support in promoting physical, mental and most importantly spiritual health behaviours to the participants. Cultural values and ingroup influences created the parameters within which food, physical activity, and stress relieving activity choices were made.

The benefits of a health behaviour were assessed in relation to public information disseminated about the behaviour via various channels such as the popular media as well as ethnic media including information accessed online, and via institutional settings such as schools. The perception of a health behaviour was also shaped by vicarious and self-experiences of prior engagement in the behaviour and by how it facilitated or inhibited participants' duties towards their *ingroups* and towards preserving their cultural values. Several challenges were identified by the participants such as exposure to cheap junk food, time limits, and monetary cost of engaging in health behaviours as barriers to adopting health promoting behaviours. Ecological factors were pointed to as having both positive and negative impact on adopting healthy behaviours. Behaviours that were aligned with the participants' interests, habits, and embedded within their regular activities were perceived as easy to implement in comparison with behaviours that were not interesting to the participants or were not naturally part of their activities and habits.

Unfamiliarity with products and some behaviours appeared to create mistrust and stress for participants especially when the behaviour or product was perceived to possibly carry the risk of violating religious duties. Some of the participants found the expansion of their role beyond domestic responsibilities taxing on their time.

The major conceptual and practical adaptations the participants reported in the process of their settlement in Canada were the need to reconstruct their concept of time, to accept a different sphere of what was considered private versus public space, and to cope with feelings of alienation. The reconstruction of time and private and public spheres in the host country were the points of friction between individualist and collectivist cultures that surfaced in daily living activities of the participants.

Exploring the applicability of the constructs of the HBM to immigrant women from collectivist culture backgrounds indicated that most of the constructs can be appropriate for use with these participants; however, certain elements needed to be clearly included in the constructs to reflect the reality of participants' engagement in health behaviours. *Perceived susceptibility* appeared influential only when a relative or family member of the participant was afflicted by a disease. *Perceived severity* seemed only a motivating factor for a health behaviour if the negative outcome related to not just physical, but also to psychological and social well-being of the participants.

The *perceived benefits* of a behaviour were measured not solely in terms of how it benefited the participants themselves but whether the behaviour had any positive impact on their relationships and the health of their families. Again, the focus was not only physical health, but also on psychological health. *Perceived barriers* to some health behaviours were noted to be the lack of availability or poor access to culturally-sensitive

opportunities, settings or products that would help engagement in health promoting behaviours.

Cues to action did not appear to influence health behaviours for most participants. The only time it was noted to cue a participant to action was when the participant participated in collective activities.

Self efficacy was not simply about assessing one's ability to overcome barriers. It was a construct tied to assessing whether engagement in a behaviour impeded the participant from fulfilling her perceived duties. Thus, cultural values and *ingroup* influences appeared to be integral to the participants' assessment of their ability to adopt a health behaviour. Overall, the constructs of *self efficacy*, *perceived barriers* and *benefits* all appeared to have the capacity to incorporate cultural and *ingroup* influences provided their operationalization does not exclude these influences; *cues to action* and *perceived severity* were not major drivers or motivators of health behaviours, and *perceived susceptibility* shaped health behaviours if a family member or relative of the participants was affected by a disease. The concept of *Reactions to norms* appeared to have the potential to be added as a health behaviour influencing construct unique to this population.

Future Direction

Future studies are needed not only to confirm the findings about the aspects of the HBM constructs requiring change as indicated in the present study, but more so to test the applicability of the revised constructs of the HBM to immigrants from various ethnic and religious groups from collectivist culture backgrounds. Moreover, tools to measure each of the HBM constructs quantitatively need to be developed to assess and possibly predict the health behaviours of such immigrants. At the community level, programs and interventions based on the HBM should utilize the findings from this study to revise or design future pilot programs to test the validity of the revised constructs of the HBM and their usefulness in motivating desirable health behaviours when applied to immigrants from collectivist culture backgrounds. In addition, the concept of reactions to norms should be further researched, refined and tested for its influence on health behaviours of immigrants from collectivist cultures.

Although much literature has been produced in the last few decades related to immigrants' health, employment, and other pertinent topics, knowledge gaps still exist regarding determinants of health behaviours for immigrants from collectivist cultures. The topic of dietary acculturation is one that has been recognized in the literature and tools for its measurement have been developed, yet the broader social factors that may influence dietary acculturation especially as it relates to the sense of identity forming for immigrants' children from collectivist cultures' backgrounds have not been explored in detail. The topic of marginalization of descriptions of healthy eating that may not align with how governmental institutions and dominant social media define healthy eating is worth further exploration to determine how this relates to inter-generational conflicts, identity

formation, and possibly a sense of inferiority towards those who rely on traditional knowledge rather than Western science.

Future research should also determine the effectiveness of engaging religious leaders as health ambassadors in promoting healthy behaviours in their communities and identifying the circumstances that moderate the effectiveness of their role.

Another area of needed research has to do with immigrant men from collectivist cultures to determine their perceptions of settlement, coping mechanisms, and whether they perceive a change in their gender role like the women do from collectivist cultures in their new country of residence that is predominantly individualistic. In addition, the challenges faced by immigrant children in their new environment post-migration and the ways that help them cope with challenges and the development of their hybrid identities and its inherent issues should be explored. This knowledge would be helpful in identifying programs that may help the whole family or even a community move forward on the promotion of healthy lifestyles agenda.

Since there are no acculturation/enculturation measurement tools developed specifically for Muslims from collectivist cultures and validated within that population that I know of, such a tool needs to be developed to better capture the level of acculturation and enculturation of such groups. Furthermore, such a tool should take into account the fact that the individual's religiosity can influence their use of ready-made and served foods available in major fast food chains and other commonly found restaurants that would affect the way questions related to dietary acculturation are perceived and answered. Another factor that should be considered is whether the participants come from oral cultures or are illiterate where questions related to reading newspapers and books may fail to cap-

ture any meaningful data to determine the level of acculturation/enculturation for these individuals.

Another research question that was triggered by this study was whether the mistrust of the unfamiliar such as the fear that nonorganic food is harmful, in fact, influences food choices and in what circumstances is this effect stronger in exerting its influence on food purchasing and consumption behaviours for people but specifically for immigrant women from collectivist cultures who may often highly value their traditional dietary practices yet are also confined by unfavourable financial circumstances.

Trans-migratory relations that overcome geographical boundaries by keeping immigrants connected to their original country's communities and relatives virtually and by frequent visits have been noted for immigrants from collectivist cultures. Such global connections do not keep the Canadian immigrants secluded from economic and political turmoil that brews in the parts of the world to which the immigrants feel connected. The effect of such global relationships on the psychological well-being, health behaviours, and possible financial stress of immigrants is an area in need of research.

The following are proposed recommendations for practice based on the information from this study; however, each recommendation needs to be tested within the context of food behaviour change interventions or other health behaviour change interventions targeting immigrants from collectivist culture backgrounds to determine its validity.

1. Promoted behaviours should incorporate perceived duties so that performing the behaviour would fulfil the target populations' perceived duties in addition to its health benefits.

2. Show how positive health behaviour has positive consequences on an ingroup's health. For example, personal stories by ingroups can be used to promote a particular behaviour.

3. Think about holistic definition of health instead of a single focus on physical aspect of health only and point this out when promoting the behaviour.

4. Include activities that incorporate opportunities for maintenance of cultural identities rather than ignoring them. Cultural sports can be an example of this.

5. Incorporate familiar settings and activities in the intervention.
6. Provide information and education about novel products and activities employing trusted voices.

7. Use ethnic role models to diffuse novel activities.
8. Strengthen the construct of perceived susceptibility to potential chronic diseases by using ingroup's examples and by pointing to harm beyond physical health if behaviour is not improved.

9. Collective activities would create effective cues to action as well as motivation; therefore, incorporate collective activities in the design of health interventions.

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Appendix A

Approval from Board of Ethics at the University of Manitoba

UNIVERSITY OF MANITOBA | Ethics
Office of the Vice-President (Research)

CTC Building
208 - 194 Dafoe Road
Winnipeg, MB R3T 2N2
Fax (204) 269-7173
www.umanitoba.ca/research

APPROVAL CERTIFICATE

August 5, 2010

TO: **Ghezal Sabir** (Sevenhuysen)
Principal Investigator

FROM: **Brian Barth, Chair**
Joint-Faculty Research Ethics Board (JFREB)

Re: **Protocol #J2010:095**
"Describing the perceptions about healthy lifestyles of Muslim immigrant women in the prairie"

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- **if you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to Eveline Saurette in the Office of Research Services, (e-mail eveline_saurette@umanitoba.ca, or fax 261-0325), including the Sponsor name, before your account can be opened.**

- **if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.**

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/ors/ethics/ors_ethics_human_REB_forms_guidelines.html) **in order to be in compliance with Tri-Council Guidelines.**

Appendix B

Poster used to advertise the study for participant recruitment purposes

University of Manitoba

Let's Chat

If you are an immigrant Muslim woman with no major diseases, I would like to invite you to join us to talk about your healthy lifestyles.

This is for a research study on immigrant Muslim women and who have lived in Winnipeg for one or more years.

You will be asked to provide your opinions during an individual or a group interview, scheduled at your convenience.

You will be provided with $15 gift certificate from a food store or equivalent to thank you for your time if you decide to participate in this study.

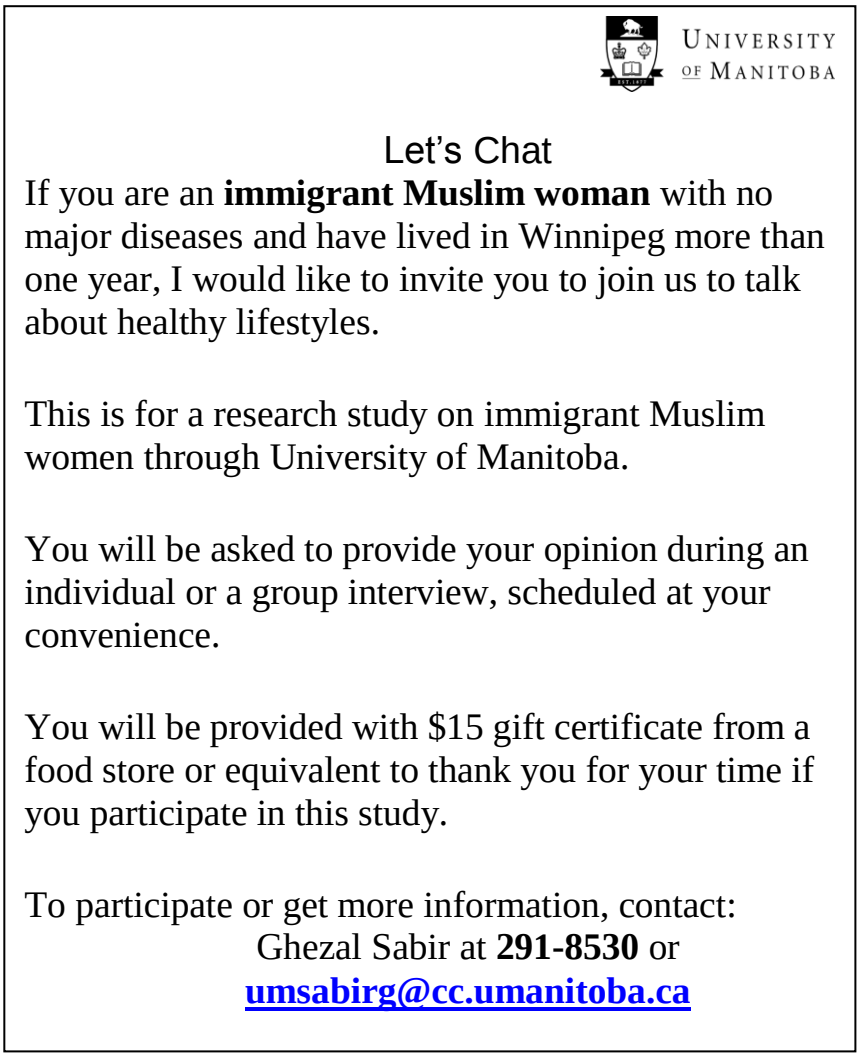
If you are interested in this opportunity or would like more information, please contact:

Ghezal Sabir at **291-8530** or umsabirg@cc.umanitoba.ca

Ghezal Sabir
204-291-8530
umsabirg@cc.umanitoba.ca

Appendix C

Research flyer handed to potential participants for recruitment purposes



Appendix D

Screening survey used to recruit eligible participants for the study

<table>
<tr><td colspan="2">Date:</td><td>Code_____</td></tr>
<tr><td colspan="3">Preamble-
My name is _____. I am doing a research study that explores the perception of Muslim immigrant women about healthy lifestyles. I am looking for participants who would be willing to do an interview with me individually/at a group setting with other Muslim immigrant women.
Would you mind if I asked you a few questions to see if you are eligible for this study?</td></tr>
<tr><td colspan="3">Name:
Contact: (Phone-); (email-)</td></tr>
<tr><td colspan="2">1- To which ethnic group do you belong? OR: What is your ethnicity?
(Eligible ethnicities: Any country in Asia (except New Zealand), Latin America and Africa (except South Arica)</td><td>Yes___ No___</td></tr>
<tr><td colspan="2">3- How long have you lived in Canada? _____ years</td><td>If <1 year, no____

Otherwise, yes____</td></tr>
<tr><td colspan="2">4- Are you comfortable with being interviewed in English language? Yes____ No___

If no: In what language are you comfortable speaking?</td><td>Language: _____</td></tr>
<tr><td colspan="2">5- Are you 18 or over 18 years of age?</td><td>Yes___ No___</td></tr>
<tr><td colspan="2">6- Do you identify yourself as a Muslim/Muslima?</td><td>Yes___ No___</td></tr>
<tr><td colspan="2">7- Do you have any major health conditions?
(Eligible if no major health conditions i.e. diabetes, heart disease, high blood pressure, etc)</td><td>Yes___ No___</td></tr>
</table>

If respondents are not eligible for the study:
It seems that you are not eligible for this study but I appreciate your interest and taking time to answer my questions. If you know of any one else who would be interested, please ask them to call me at this number. (*Provide phone number if respondent does not have it*.)

If respondents are eligible for the study:
I am glad to see that you are eligible for this study. I would like to invite you to a group/individual interview at a time that would be convenient for you. Would you like more information about the study before setting up the group interview? (*If respondent desires more information, read the consent form information to the respondent. If the respondent doesn't want more information, book the interview time and location* or *obtain information about availability of the respondent and inform the respondent you will be in touch to confirm a date and place for the individual or group interview*).

Appendix E

Consent Form

UNIVERSITY OF MANITOBA

407 Human Ecology
Winnipeg, Manitoba
Canada R3T 2N2
Phone: (204) 474-9901
Fax: (204) 474-7592
h_ecology@umanitoba.ca

Faculty of Human Ecology
Dept. of Human Nutritional Sciences

Research Project Title: Describing the perceptions of Muslim immigrant women in the prairie about healthy lifestyles

Researcher: Ghezal Sabir, RD, MSc Student at University of Manitoba

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Purpose of Research:
The purpose of this research is to obtain information about the perceptions of Muslim Afghan, Pakistani, and Indian women about healthy lifestyles. This is a qualitative study that involves individual interviews and focus groups with the above specified Muslim immigrant women in Winnipeg. The number of participants who will be included in the interviews will be around ten for individual interviews and an average of 28 women for focus groups.

Procedures:
A research investigator will conduct either an individual interview with you or a group interview with you and other selected Muslim women who have immigrated to Canada from Afghanistan, Pakistan, and/or India. The individual interview is estimated to last one to one and a half hour in length. The focus group interview is expected to last around one and a half to two hours. This researcher will ask you questions about your opinion on and experiences related to healthy lifestyles. The interview will take place at a location convenient for you or at the University of Manitoba. An interpreter may be present if you require.
The individual interviews will be recorded using one digital audio recorder and the group interviews will be recorded using two digital audio recorders.

Risks and Benefits to Participating:
There are no known risks and direct or immediate benefits to your participation in this study.

Withdrawal:
Your participation in this study is completely voluntary. If you wish you to withdraw from the study at any point prior to or during your interview, you may do so without any penalties. To withdraw please indicate to the researcher that you would like to withdraw from the study. Your withdrawal from this study in no way limits your participation in any future research studies.

Privacy & Confidentiality:
The voice recordings will be transcribed by the research team. The audio taped recordings will be destroyed after 2 years. If the results of the study are published, your name will not be used. Only the researcher and her advisor Dr. Sevenhuysen will have access to your identity. Instead of your name a false name or a number will be used to present any data needed in the results. Any documents containing your real name and contact information will be locked in the researcher's office.

If you would like to find out about the result of this study, you may contact the researcher in 2012 to enquire about the findings.

If you decide to participate in this study, you will be provided with an honorarium in the amount of $15 in gift certificate for a local grocery store. Public transit bus tickets will be provided to all participants as needed for their participation in the study as well.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Researcher: Ghezal Sabir, umsabirg@cc.umanitoba.ca, 291-8530

Advisor: Dr. Sevenhuysen, Dean of the Faculty of Human Ecology, University of Manitoba. Phone No. 474-9704

This research has been approved by the Joint Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122. A copy of this consent form has been given to you to keep for your records and reference.

_____	_____	_____
Participant's Name	Participant's Signature	Date
_____	_____	_____
Researcher's Name	Researcher's Signature	Date

Appendix F

Demographics Questionnaire

For the purposes of this research study, we are collecting demographic data from participants. Please note that this information will be reported anonymously to describe the participants.
Please select which category applies to you by placing (X) on the lines provided:

<table>
<tr><td>Education:
____Less than High School
____High School Graduate
____Some College/University
____Diploma/Degree
____Some Graduate Study
____Professional Degree
____Completed Graduate Study</td><td>Age:
____18-24 years
____25-34 years
____35-44 years
____45-54 years
____55-60 years</td></tr>
<tr><td colspan="2">Household Size: How many people including yourself live in your house? _____</td></tr>
<tr><td>Work Status:
_____Employed full-time
_____Self Employed
_____Employed part-time or casual
_____Student
_____Unemployed
_____At Home/Choose not to be Employed</td><td>Annual Household Income:
____ Less than $10,000 per year
____$10,000 - $14,999
____$15,000 - $19,999
____$20,000 - $29,999
____ $30,000 - $39,999
____$40,000 - $59,999
____$50,000 - $59,999
____$60,000 – $69,999
____$70,000 – $79,999
____≥$80,000</td></tr>
<tr><td colspan="2">Religiosity:

Please select which category best represents the degree to which you practice Islam:

____Non-practicing
____Somewhat practicing
____Fully practicing</td></tr>
</table>

Thank you for participating in this research study!

Appendix G

Stephenson Multigroup Acculturation Scale (SMAS) (Stephenson, 2000, p. 88)*

Below are a number of statements that evaluate changes that occur when people interact with others of different cultures or ethnic groups. For questions that refer to "COUNTRY OF ORIGIN" or "NATIVE COUNTRY," please refer to the country from which your family originally came. For questions referring to "NATIVE LANGUAGE," please refer to the language spoken where your family originally came.

Circle the answer that best matches your response to each statement.				
1. I understand English/French, but I'm not fluent in English.	***False***	***Partly false***	***Partly true***	***True***
2. I am informed about current affairs in the United States.	***False***	***Partly false***	***Partly true***	***True***
3. I speak my native language with my friends and acquaintances from my country of origin.	***False***	***Partly false***	***Partly true***	***True***
4. I have never learned to speak the language of my native country.	***False***	***Partly false***	***Partly true***	***True***
5. I feel totally comfortable with (Anglo) American people.	***False***	***Partly false***	***Partly true***	***True***
6. I eat traditional foods from my native culture.	***False***	***Partly false***	***Partly true***	***True***
7. I have many (Anglo) American acquaintances.	***False***	***Partly false***	***Partly true***	***True***
8. I feel comfortable speaking my native language.	***False***	***Partly false***	***Partly true***	***True***
9. I am informed about current affairs in my native country.	***False***	***Partly false***	***Partly true***	***True***
10. I know how to read and write in my native language.	***False***	***Partly false***	***Partly true***	***True***
11. I feel at home in the United States.	***False***	***Partly false***	***Partly true***	***True***
12. I attend social functions with people from my native country	***False***	***Partly false***	***Partly true***	***True***
13. I feel accepted by (Anglo) American.	***False***	***Partly false***	***Partly true***	***True***
14. I speak my native language at home.	***False***	***Partly false***	***Partly true***	***True***
15. I regularly read magazines of my ethnic group.	***False***	***Partly false***	***Partly true***	***True***
16. I know how to speak my native language.	***False***	***Partly false***	***Partly true***	***True***

17. I know how to prepare (Anglo) American foods.	***False***	***Partly false***	***Partly true***	***True***
18. I am familiar with the history of my native country.	***False***	***Partly false***	***Partly true***	***True***
19. I regularly read a American newspaper.	***False***	***Partly false***	***Partly true***	***True***
20. I like to listen to music of my ethnic group.	***False***	***Partly false***	***Partly true***	***True***
21. I like to speak my native language.	***False***	***Partly false***	***Partly true***	***True***
22. I feel comfortable speaking English.	***False***	***Partly false***	***Partly true***	***True***
23. I speak English at home.	***False***	***Partly false***	***Partly true***	***True***
24. I speak my native language with my spouse or partner or siblings.	***False***	***Partly false***	***Partly true***	***True***
25. When I pray, I use my native language.	***False***	***Partly false***	***Partly true***	***True***
26. I attend social functions with (Anglo) American people.	***False***	***Partly false***	***Partly true***	***True***
27. I think in my native language.	***False***	***Partly false***	***Partly true***	***True***
28. I stay in close contact with family members and relatives in my native country.	***False***	***Partly false***	***Partly true***	***True***
29. I am familiar with important people in American history.	***False***	***Partly false***	***Partly true***	***True***
30. I think in English.	***False***	***Partly false***	***Partly true***	***True***
31. I speak English with my spouse or partner or siblings.	***False***	***Partly false***	***Partly true***	***True***
32. I like to eat American foods.	***False***	***Partly false***	***Partly true***	***True***

*Reprinted with the author's permission.

Note: Modifications made to this version of the scale were as follows:

1. Wherever the word "English" or "Anglo" appeared, it was followed by "/French" or "/Franco", respectively, to acknowledge the other official language in Canada.

2. The United States was replaced by Canada and American was replaced by Canadian.

Appendix H

Interview Guiding Questions and Prompts

1. What are some of the things someone could do to help keep them healthy?
   - Are there any types of diseases that can be prevented or delayed? (what are some examples?)

2. Which of these practices are you interested in?

3. How did you get started on implementing these practices?
   - What helped you do it? (family, relatives, money, geographical location, knowledge, etc.)
   - How did you start doing it?
   - What did you think about that behaviour?
   - What did your family think about it?
   - Did the environment (workplace, school, neighbourhood, your community) encourage you or discourage you? How?

4. Do you have plans to start any of the other activities you mentioned that you were not doing currently?
   - What is preventing you from implementing it?
   - What would help you with starting it?

5. What has changed in terms of lifestyles ever since immigration for you? (oriented to situations or feelings related to culture in home country)

6. Was it easier to have a healthy lifestyle back home or is it easier to have it here in Canada?
   - How so? Can you give examples?

7. How does access to halal food affect food choices of immigrant Muslims in Winnipeg?
   - Does that pose any stress or compromise in religious practices/eating habits?
   - Do eating habits change in any other ways? Why is that?
   - Is it the same for parents as it is for children?

8. How do Muslim immigrants deal with stress in life post immigration?
   - Does prayer play any role? What kind of prayer (congregational vs. individual).
   - Is there a difference between congregational vs. individual prayer? (social influence)
   - Are there any other ways that can help with stress? (note to PI- key words to explore if mentioned by participants: exercise, food, social networking)

9. How do Muslims influence each other in a) promoting and b)preventing healthy behaviours (Note to PI: refer to behaviours mentioned in the answer to first question)?
   - Is it what other Muslims say or do that is affecting an individual?
   - Is there a difference in how it affects a Muslimah (Muslim woman) vs. how it affects a Muslim (Muslim man)?

10. Who are the most influential persons in immigrant Muslim women's lives?
    - Who influences what food is purchased, cooked, and how it is served at home? How does/do he/she/they influence the choice of foods eaten at home?

11. How often do you have visitors at home? Do you provide any food or drink for them? How do immigrant Muslims decide what to prepare for guests? What is usually served? Why? What would happen if that is not served?

Appendix I

Focus Group Guiding Questions

1. What are some of the things someone could do to help keep them healthy?
- Are there any types of diseases that can be prevented or delayed? (what are some examples?)

2. Which of these practices or health behaviours are difficult for an immigrant Muslim woman to do?
- What would help make it easier?

3. What are some of the things you are doing currently that is good for your health?
- How did you get started on implementing these practices?
- What helped you do it? (family, relatives, money, geographical location, knowledge, etc.)
- How did you start doing it?
- What did you think about that behaviour?
- What did your family think about it?
- Did the environment (workplace, school, neighbourhood, your community) encourage you or discourage you? How?

4. How does access to halal food affect immigrant Muslims in Winnipeg?
- Does that pose any stress or compromise in religious practices/eating habits?

5. How do Muslim immigrants that you know deal with stress in life post immigration?
- Are there any other ways that can help with stress? (note to PI- key words to explore if mentioned by participants: exercise, food, social networking, prayer)

6. How do other Muslims that you know help you or Muslim friends in engaging in health behaviours OR make it more difficult for you to choose healthy behaviours.
- Is it what other Muslims say or do that is affecting an individual?
- Is there a difference in how it affects a Muslimah (Muslim woman) vs. how it affects a Muslim (Muslim man)?

7. How often do you have visitors at home? Do you provide any food or drink for them? How do immigrant Muslim women decide what to prepare for guests? What is usually served? Why? What would happen if that is not served?

Appendix J

Glossary of Terms Used in This Thesis

Term	Definition Used in the Present Study
Acculturation	The process of changes in cultural markers of individuals as they come into regular close contact with individuals from different cultures (Berry, 1992).
Altered gender role	A change from the traditional gender-specific roles that occurred in Canada.
Collectivism	"The extent to which people in a society from birth onwards are integrated into strong, cohesive groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty." (Hofstede, 1998, p. 26)
Constructs	Concepts that have been "developed or adopted for use in a specific theory" (Glanz et al., 2008, p. 28)
Copycat recipient	Perceiving the advice received by ingroups as being applicable to oneself or internalizing advice received by ingroups about what things are beneficial or harmful for health.
Cues to action	Precipitating force that makes person feel the need to take action (Sharma & Romas, 2008, p. 81).
Culturally safe space	A space where a people's worldview, key traditions, and their historical, contemporary, socio-cultural and political realities are understood and respected (Wilson & Neville, 2009).
Cultural values and ingroup influences	Expressions and actions demonstrating the influences of the participant's ingroup members and cultural influences including those of religious beliefs on health behaviours.
Enculturation	The process of moving on a continuum from maintaining to abandoning one's pre-migration cultural practices after migration (Matsudaira, 2006).
Extrinsic messages	Information received through the broadcast media, educational institutions such as schools, or other outlets.
Halal food	Halal refers to what is permissible according to Islamic jurisprudence. Pork and alcohol are among the things that are prohibited. Other meat and meat products must be from animals slaughtered according to Islamic guidelines. The process is inspected by a halal certification organization before a company can advertise its products as halal in Canada (Agriculture and Agri-Food Canada, 2011).
Imam	Literally Imam is the person who leads the congregational prayers. The way the term is commonly used, however, refers to the leader who conducts religious rituals and provides religious guidance to the community.
Individualism	"The extent to which the ties between individuals in a society are loose, so that everyone is expected to look after himself or herself and

	his or her immediate family only." (Hofstede, 1998, p. 26)
Ingroups	Individuals with whom the participant feels a sense of shared identity and belonging and from whom the participant receives emotional support. In the larger social context, the participants' ingroup circle included their family and relatives, followed by their home country compatriots who shared the same religion, those who had migrated from the same subcontinent as the participants themselves and finally Muslims in Winnipeg who formed the farthest circle of the participants' ingroup circle.
Health behaviour beliefs	Beliefs about what constitutes healthy or unhealthy behaviours.
Mistrust of the unfamiliar	Feelings of mistrust towards objects or practices that were unfamiliar to participants in Canada.
Nostalgia trade	The importing of cultural goods such as cultural foods produced in the country of origin to the country of destination for immigrants coming from that country of origin (Newland & Taylor, 2010, p. 15).
Perceived barriers	Belief concerning actual and imagined costs of performing the suggested behavior (Sharma & Romas, 2008, p. 80).
Perceived benefits	Belief in the advantages of the methods suggested for reducing the risk or seriousness of the disease or harmful state resulting from a particular behavior (Sharma & Romas, 2008, p. 80).
Perceived severity	Belief in the extent of harm that can result from the acquired disease or harmful state as a result of a particular behavior" (Sharma & Romas, 2008, p. 80).
Perceived susceptibility	"Subjective belief that a person may acquire a disease or enter a harmful state as a result of a particular behavior" (Sharma & Romas, 2008, p. 80).
Physical environmental factors	Features of the physical environment that influence the adoption of health behaviours'
Reactions to norms	Reactions whether behavioural or perceptual to social norms in the new home country during the process of settlement
Reconstruction of private and public spheres	Adjusting to different private/public spheres in the new host country where private sphere is expanded and strictly guarded by the prevalent social culture in individualistic societies
Self efficacy	Confidence in one's ability to pursue a behavior (Sharma & Romas, 2008, p. 81).
Social capital	"The ability of actors to secure benefits by virtue of membership in social networks or other social structures." (Portes, 1998, p. 6)
Societal factors	Features of the host society such as social norms, health care and education systems, and the overall culture of the host society that facilitate or reduce the barriers to the adoption of healthy behaviours in Canada as compared to the native country.
Theory	A set of interrelated, concepts, definitions, and propositions that present a systematic view of events or situations by specifying relations among variables in order to explain and predict the events or situations (Glanz et al., 2008, p. 26).

Transmigration	Physical migration of people to other countries where their ties with home country are still maintained (Joseph et al., 2009).