HEALTH BEHAVIOR, PRIMARY CARE ACCESS, AND UNMET HEALTH

NEEDS IN CHINESE YOUNG ADULTS

by

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Abstract

Background and Purpose. According to the Canadian Community Health Survey conducted in 2000-1, 12% of Canadians reported experiencing an unmet health need compared to four percent in 1994-5. There is growing reason to investigate the increasing number of Canadians reporting unmet health needs, particularly among young adults (between 18 and 30 years of age) who access health services less frequently than any other age group. In particular, the growing population of Chinese living in Canada present unanswered questions regarding the health needs of Chinese young adults. The purpose of this study was to examine: 1) if Chinese young adults who primarily speak Chinese experience more unmet health needs when compared to English-speaking Chinese young adults and, if there are, 2) the reasons why Chinese young adults have unmet health needs.

Methods. A mixed methods approach was taken; in-depth interviews (n=8) with Chinese young adults were used to complement and explain findings from a secondary analysis of a larger cross-sectional survey of the primary health care seeking behaviours of Chinese-, English-, and Punjabi-speaking Canadians.

Findings. Fifty-eight Chinese young adults participated in the primary health care survey; ten percent (n=6) reported having an unmet health need related to the availability and accessibility of health care. Language preference was not found to be associated with unmet health needs. Close to two out of three young adults reported seeing a physician in the past year. Twenty-four percent reported accessing health care outside of Canada. In-depth interviews revealed that Chinese young adults had unmet needs due to the lack of a primary care provider and not accessing preventive care. Acculturation and health behaviour was found to be more predictive of unmet health care needs than language.

Preface

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Dedication

This thesis is dedicated to my little girl Elizabeth, who was born in the spring of this year, and to my best friend and husband, Anthony.

Chapter 1 – Introduction

1.1 Background

Medicare, a system of socialized health care, is often a source of pride amongst

Canadians. Different levels of care ranging from primary to tertiary health care are in place to be

accessed by all Canadians. It has come to light in recent years that, despite the declaration of the

Canada Health Act that Canadians must have reasonable access to necessary health services,

there are many barriers to receiving care (J. Chen & F. Hou, 2002; Sanmartin, Houle, Tremblay

& Berthelot, 2002). According to the Canadian Community Health Survey (CCHS) conducted in

2000-1, 12 percent or one in eight Canadians reported experiencing an unmet health need (J.

Chen & F. Hou; Statistics Canada, 2009). An unmet health need was defined as a time where the

respondents felt they needed health care but did not receive it. Although more than 55,000

Canadians aged 12 and older across Canada were surveyed, when weighted to represented the

Canadian population, we can infer that this potentially translates to 2.7 million Canadians

experiencing unmet health needs. It is of the utmost importance to identify who has unmet health

needs to ascertain if there are health care inequities in order to find solutions to improve access

to health care for all Canadians. Little research has been completed to examine if there are

groups who experience unmet health care needs differently.

One group who may experience higher unmet needs may be Chinese living in Canada.

Currently, there are more than one million people of Chinese ethnicity in Canada. Apart from

Canadians of European origin, they make up the third largest ethnic population after South Asian

Indians (Statistics Canada, 2009). Approximately two thirds of all Chinese in Canada are

immigrants, and the remainder are Canadian born (Statistics Canada, 2009). Chinese immigrants

are often faced with language barriers and limited knowledge of the health resources and care

available (Asanin, & Wilson, 2008; Marshall, Wong, Haggerty, & Levesque, 2010). In several studies, it has been shown that Chinese in English-speaking countries are less likely to access health care, and when they do, are less satisfied with the care that they receive when compared to the general population (R. Liu, L. So, & H. Quan, 2007; Siddiqi, Zuberi, & Nguyen, 2009; Sproston, Pitson, & Walker, 2001). Additionally, acculturation has been shown to affect health outcomes in immigrants (Kaplan, C. Chang, Newsom, & McFarland, 2002; Salant & Lauderdale, 2003). Chinese who are born in Canada pose a unique query, as it is not known if their health practices and ability to access health care differs from other Chinese who are immigrants or from other Canadian-born non-minority people.

Another group that may experience more unmet health care needs are young adults, who have the greatest potential for unmet health needs, as they are the age group least likely to access health services (Muyle et al., 2009). Additionally, being of ethnic Chinese origin, poses an interesting question of whether or not Chinese young adults experience even more unmet health needs than other young adults. Early adulthood, defined by as approximately ages 18 to 25, has been conceptualized by Arnett into a developmental theory of "emerging adulthood." This is distinctive from adolescence in that they are differentiated by the expectation of relative independence economically and socially (Arnett, 2000). Similarly the government of Canada classifies young people as those between the ages of 15 to 30 (Youth Canada, 2009). Significant transitions and milestone events such as leaving the family home, gaining financial independence, entering into relationships and child birth occur during this time. According to Statistics Canada, young adults are more likely to change residences and move between provinces than any other age group (2002). This may leave young adults in socially unstable and financially insecure environments when compared with other age cohorts. Although young adults

are generally thought of as a healthy age group, they are often at high risk for developing behaviours that have the potential to create health problems later in life. They may engage in risky sexual activity with multiple partners, develop unhealthy eating habits, and abuse alcohol, tobacco, and drugs. Compounding these risks for young adults are the known lower rates of utilization of health services when compared to children and older age groups (Mulye et al.).

A Canadian report of Quebec metropolitan residents revealed that young people and recent immigrants are most likely to report experiencing an unmet health need in the past six months (Levesque et al., 2008). At the heart of the issue, it is not known whether Chinese young adults are more or less prone to the health risks experienced by other Canadian young adults and whether or not they have greater unmet health needs. Health outcomes are known to be influenced and mediated by the level of acculturation for ethnic minorities (Hahm, Lahiff, & Barreto, 2006; Hahm, Lahiff, & Guterman, 2003). Additionally, grouping youth and ethnicity, visible minorities are on the whole, younger than non-minority Canadians with median ages of 33 and 39 respectively (Statistics Canada, 2008). On one end of the continuum, immigrant Chinese young adults who may speak little English, could have unmet health needs related to a lack of knowledge regarding how to access care. On the other end of the continuum, English-speaking, acculturated Chinese young adults in Canada may have unmet health needs related to similar reasons as their non-minority peers, such as engagement in high risk behaviours like alcohol abuse and unprotected sexual activity.

1.2 Assumptions

It is important to note that my own personal interest in this research topic stems from my ethnicity as a Chinese young adult. In this thesis process, I have attempted to do reflexive bracketing, by identifying my own preconceived beliefs and opinions to facilitate the

transparency of the research, without bracketing out my beliefs. Being cognisant of my own background as a Chinese immigrant who spent half of my childhood in Taiwan and the rest in Canada, I was aware of my assumption that I would find differences between Caucasian Canadians and Chinese Canadians (native or foreign born). I believe there is a difference in my own approach to health care and health practices despite growing up immersed in Canadian culture, and being a registered nurse trained in conventional medicine. My experience of growing up in a Chinese household in Canada include my mother treated us with self-concocted herbal brews based on Traditional Chinese Medicine first before taking my siblings or myself to see a physician. This has perhaps contributed to my own openness to alternative medicines and therapies. Although my well intentioned mother would frequently encourage us to exercise, we were also encouraged to eat a lot, rather than in moderation. In my adolescent years conversations regarding safe sex, contraceptive use, and related topics never occurred in our household. Now that I am in my later twenties, I have developed a good balance of accessing health care when I need it based on a combination of life experiences in school and work as a nurse, by formulating my own health beliefs and practices and integrating it with what I learned growing up.

1.3 Research Questions

There is growing reason to investigate the increasing number of Canadians reporting unmet health needs. Young adults are known to be at risk for unmet health needs within the context of primary health care (PHC). Intersecting with the aforementioned factors is immigrant status, which often presents a language barrier to accessing needed health care services. As one of Canada's largest visible minorities, it is unknown if Chinese, immigrant or Canadian-born, young adults have a higher rate of unmet health needs as compared to other Canadian young

adults. Secondly, the types of unmet health needs they have are not known. Therefore the research questions posed included:

1) Do ethnic Chinese young adults who primarily speak Chinese experience greater unmet health needs than ethnic Chinese young adults who primarily speak English?

Hypothesis: *young adults who primarily speak Chinese experience greater degrees of unmet health needs than young adults who primarily speak English.*

2) What are the reasons for unmet health needs for immigrant Chinese and Canadian born Chinese young adults?

A mixed method approach was taken in which semi-structured, in-depth interviews were used to complement secondary data analyses of a large cross-sectional survey completed by Chinese, Punjabi, and English speaking people residing in BC. The purpose of the secondary analyses was to ascertain which individuals report having unmet health needs (Chinese young adults in Canada who either primarily speak English or Chinese) and compare if there are significant differences between the two groups. Content analysis of the interview data helped to shed light on the reasons for unmet health needs that Chinese born Canadians and immigrant Chinese encountered.

1.4 Social Cognitive Theory and Health Behavioural Model

It is often beneficial to examine phenomena through the lens of an established theory or framework. This practice provides a more comprehensive understanding of the phenomena, linking theory and day-to-day behaviours and practices (Thompson, Angus & Scott, 2000). Bandura's social cognitive theory (SCT) was one such framework that provided a systematic way to gain insight as to how and why individuals have differing health seeking behaviours. SCT provided a model for understanding, predicting, and mediating human behaviour. In the simplest

form, the SCT identifies human behaviour as reciprocal interactions between personal factors, and the environment (Bandura 1986) (Figure 1). More in-depth analysis provides a core set of health determinants which include *personal knowledge*, *perceived self-efficacy*, *outcome expectations*, and *goals*. These are in turn further mediated by *perceived facilitators*, and social and structural *impediments* to desired behaviours.

Figure 1 Social Cognitive Theory Diagrammatic Representation
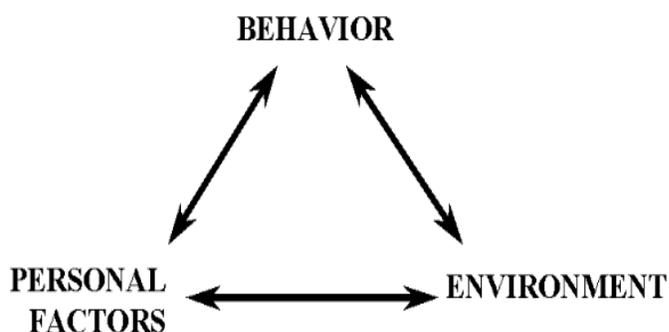
Figure 1. Social Cognitive Theory diagrammatic representation. Adapted from "Overview of social cognitive theory and of self-efficacy" by F. Pajares, 2002. Retrieved March 21, 2010 from http://www.emory.edu/EDUCATION/mfp/eff.html

The social cognitive theory was used as the over-arching theory for this thesis. Relevant to the research questions at hand, the SCT posits that behavioural outcomes (i.e. good health or bad health) are not solely attributable to individual capabilities, but that outcomes are resultant from personal factors relating to personal beliefs, and self efficacy as mediated by environmental factors such as resources available (Bandura, 1986). Health should be viewed in a holistic manner and not be considered in isolation at the individual level (Bandura, 2004). Culture and access to primary health care are exemplars of potential environmental facilitators and/or impediments to health promoting practices. The use of SCT facilitated the analysis and discussion of the data collected.

While the SCT provided a broad overview of the major factors that influence health behaviours and outcomes, Andersen's Behavioural Model of Health Services Use was used to examine the intricacies of reciprocal factors that contribute to health decision making, in this context, whether or not a person accesses or does not access health services (Figure 2). The environmental determinants described by Phillips, Morrison, Andersen, and Aday include health care delivery system characteristics such as policies, and resources influencing the accessibility, and acceptability of primary health care (1998). Population characteristics are inclusive of individual personal traits and their enabling resources may include family and cultural beliefs. This in turn determines health behaviours and whether or not one is able to utilize health services. Additionally, the Behavioural Model also incorporates outcomes into the framework. The Behavioural Model lends a holistic framework to understanding why Chinese young adults may have unmet health needs and complements the use of SCT by offering a more focused view of health services utilization.

Figure 2 Diagrammatic Representation of Behavioural Model

ENVIRONMENT   POPULATION CHARACTERISTICS   HEALTH BEHAVIOR   OUTCOMES
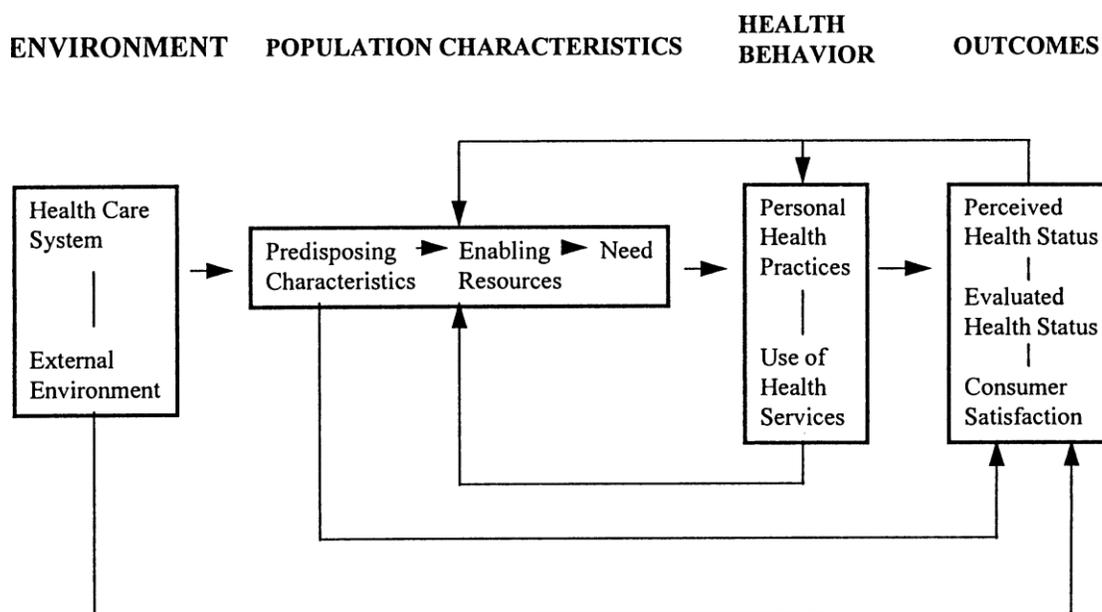
*Figure 2.*Adapted from "Revisiting the behavioural model and access to medical care: does it matter?" by R.M. Andersen, 1995, *Journal of Health and Social Behavior, 36*, p.8.

1.5 Operative Definitions

For the purposes of this study, the following operative definitions were used.

Unmet Health Need – An instance of when medical or health care was perceived to be needed by a respondent, but was not obtained for any reason.

Primary health care – Any first contact health service with a primary care practitioner, generally a family physician or a nurse for the purposes of episodic medical care, health screening, or health promotion.

Young Adults – This term was used in reference to adults between the ages of 18 to 30 years of age. Young adults are also referred to as "emerging adults" or "young people".

Immigrant – Refers to any migrant from another country into Canada.

Second generation – Refers to the descendants of immigrants that were born in Canada. May also be referred to as "native-born".

Chapter 2 – A Review of the Literature

2.1 Primary Health Care

At the Declaration of Alma-Ata in 1978, the World Health Organization (WHO) delineated primary health care as the first point of contact for all individuals within the place in which they reside and work to obtain preventive, promotive, therapeutic, and rehabilitative services, where they may be accessed comprehensively (WHO, 1978). The Canada Health Act corroborated this idea by stating that maintaining this access for Canadians without barriers is crucial to preserving and promoting health and wellness (1985). Today there is growing attention paid to the need for change as part of renewing primary health care in Canada. Based on feedback from Canadians, it is known that safe, timely, efficient, equitable and whole-person care are priorities (S.T. Wong, Watson, Young, & Regan, 2008).

Preventive and promotive health care play a significant role in the amelioration and prevention of growing disease trends such as obesity, heart disease, and communicable diseases (Low & Theriault, 2008). Moreover, in the current climate of economic recession and health care cutbacks, it has become increasingly urgent and necessary that primary health care be structured in such a way as to care for a growing number of chronic conditions (such as hypertension, asthma, and diabetes) in an ambulatory or community setting, to alleviate the over or improper usage of acute and tertiary care resources (Zelmer & Lewis, 2003). It is becoming emergent that we understand patterns of usage and non-usage of primary health care by different age and ethnic groups that reside within Canada to ensure that health needs are met equitably. Currently, there is a paucity of literature concerning health promotion that targets ethnic Chinese in English speaking countries despite their growth in numbers.

2.1.1 Social cognitive theory and behavioural model. The patterns of primary care access and unmet health needs were explored through the dimensions of the core determinants of health behaviours explained by the environment and personal factors (Bandura, 2004). Viewed through the more focused lens of the Behavioural Model, these core determinants encompass individual knowledge of the health risks and benefits of certain health practices, and collective knowledge from family and community that act as enabling resources for the individual. These core determinants are in turn mitigated by perceived facilitators and structural or social impediments, which are explored extensively throughout this literature review.

2.1.2 Current unmet health needs of Canadians in primary health care. Unmet health needs can be defined as the difference between the health services necessary to deal with a health problem compared with the actual services received (Sanmartin, Houle, Tremblay & Berthelot, 2002 citing Carr & Wolfe, 1976). For the purposes of this thesis, it refers to the absence of care received when a person perceives the need for care for whatever reason (Levesque et al., 2008). Recently, Sanmartin and Ross found that 15% of Canadians reported difficulty in accessing routine care for health screening and ongoing care for illnesses, and 23% experienced difficulty obtaining immediate care for non-life threatening health problems (2006). For both routine and immediate care, younger Canadians were more likely to report challenges in obtaining necessary health services. Moreover, it is known that immigrants are more likely to encounter barriers to obtaining health care (Z. Wu, Penning, & Schimmele, 2005). Levesque et al., found that 18% of residents residing in a metropolitan area of Quebec reported having unmet health needs in the past six months (2008). Young people and recent immigrants were more likely than others to report having an unmet health need. This is cause for concern as first contact health services need to be easily accessible for all individuals and warrants further exploration as to who is

experiencing unmet health needs. Primary health care in Canada is essentially a gateway to specialized and tertiary care for conditions that cannot be managed in a primary care setting through referral by primary care physicians. Implications of unmet health needs may include delays in obtaining necessary treatment which may be detrimental to health and quality of life, and may necessitate greater use of health care resources due to the worsening of untreated illnesses.

2.2 Chinese and Health

As the ethnic Chinese population grows in Canada and in other Western nations such as the United States, New Zealand, and United Kingdom, there is growing attention to the access and utilization of health care by Chinese people. A number of studies reveal that Chinese in Western countries tend to self-report better health, utilize health care resources less, and even have longer life expectancies than other ethnic and Caucasian groups (C. Lu, Sylvestre, Melnychuk, & J. Li, 2008; Quan, F. Wang, Schopflocher, & DeCoster, 2007). Despite this seemingly positive view, there is still cause for concern as many qualitative and quantitative studies reveal that Chinese are often less likely than people from other ethnic groups to consult primary care physicians, even after accounting for relative health status (Sproston et al., 2001; Miltiades & B. Wu, 2008; L. Wang, Rosenberg, & Lo, 2008). There is abundant evidence to suggest that Chinese (immigrant and second generation) satisfaction with the primary health care experience is appreciably lower when compared with the general population in Western countries (Mead & Roland, 2009; Saha & Hickam, 2003; Taira et al., 1997). Notably, access to primary health care for immigrant Chinese is often found to be a challenge (Asanin & Wilson, 2008; L. Wang, 2007; L. Wang, et al., 2008; Lasser, Himmelstein, & Woolhandler, 2006). Coinciding with the fact that 17% of Canadians in 2005 did not have a regular family physician

(Nambalamba & Millar, 2007), there exists an urgency to unravel the reasons that contribute to difficulty in health care access and securing a family physician. This snap shot of unmet primary health care needs relates to the core determinants of health behaviours specified by the SCT. Specifically, there is an implicit need for assessing the knowledge of health risks and current health practices in different populations.

2.2.1 Immigrants. Foreign born new migrants to Canada have often been described as having the "healthy immigrant" effect, whereby the health status of immigrants is optimal at arrival, with low utilization of health care resources (Sheth, Nair, Nargundkar, Anand, & Yusuf, 1999). However, this period of good health often deteriorates with time and becomes on par with the general population (Kaplan, Chang, Newsom & McFarland; Perez, 2002; Newbold, 2005, 2009). Newbold proposes that when immigrants move from their country of origin, they trade a set of health risks, constraints, and behaviours for another set in the new environment. Moreover, lower usage of primary health care resources precipitates immigrants towards worsening health over time owing to the relative under usage of preventive and promotive health services.

Immigrant and ethnic women commonly report not participating in cervical cancer screening, breast self examination, and mammography, which has been attributed to a lack of knowledge, beliefs that it is not necessary, lack of time, and for reasons relating to modesty and comfort level with a foreign practitioner (Amankwah, Ngwakongnwi, & H. Quan, 2009, Hislop et al., 2004; H. Lee, J. Kim, & H. Han, 2009; W. Liang et al., 2009). Despite the fact that breast and cervical cancer are a significant threat to all women, immigrants and ethnic minority women still need to be targeted for appropriate health screening.

In North America, the under-recognition and subsequent under-treatment of depressed Chinese in the primary care setting is prevalent (Yeung, Yu, Fung, Vorono, & Fava, 2006). It

was found in the Joint Canada/US Survey of Health in 2003 that, despite visible minorities

(including immigrants and native born) reporting similar levels of mental health issues such as

depression as other Canadian and American Caucasians, visible minorities and immigrants were

half as likely to receive consultation and care (Lasser et al., 2006). This again, may be attributed

to the lower access of primary health care by ethnic Chinese. Additionally, in the United States,

Yeung et al., (2004) cited the US Surgeon General's 2001 report on Chinese American health,

and revealed that Chinese Americans have the lowest utilization of mental health services of all

ethnic groups. Even when Chinese persons suffering from depression or mental illness do visit a

primary care practitioner, Ryder et al., (2008) reports a tendency for Chinese people to express

their distress through somatic symptoms, which may lead to the under diagnosis of depression

and subsequently not receiving appropriate treatment.

      2.2.2. Barriers to care. Compounding the discrepancies between the general population

and visible minorities in health screening and mental health treatment, immigrants in Canada are

two and a half times more likely to experience problems in accessing immediate care when

compared with Canadian born individuals (Sanmartin & Ross, 2006). Viewed through the lens of

the SCT, challenges with accessing primary health care can be understood by social and

structural impediments in the environment. In the current literature, this has been attributed to

geographical, socio-cultural, and economic barriers to health care access. Geographically, the

uneven distribution of care providers, care not being available when required (i.e. hours and

appointment times outside of work hours), and transportation difficulties, were cited by almost

thirty percent of Canadians as the reason for their unmet health need in the 2001 CCHS (Wu,

Penning, & Schimmele, 2005). Given that recent immigrants are new to their surroundings, it can

be doubly challenging to locate a place to obtain care when it is needed. Economically, arriving

in a new country entails getting a job, and establishing a household, often leaving little in the way for health spending. Additionally, recent immigrants are more likely to experience unemployment as compared with the Canadian born population (Picot & F. Hou, 2003). Despite the purported universal access to health care, immigrants find additional costs for health care such as Medicare premiums and prescription medications a burden (Asanin & Wilson, 2008).

    2.2.3 Chinese values and health beliefs. Likely, the largest barrier facing ethnic Chinese immigrants is socio-cultural in nature. There is much evidence that recommends culturally appropriate care that meets the language and psychosocial needs of Chinese people. The inability of new immigrants to speak English well enough during a medical visit frequently leads to foregoing care (Sproston et al., 2001; Asanin & Wilson, 2008; Liang et al., 2009). Repeatedly throughout the literature, Chinese immigrants demonstrated a preference to see general practitioners that speak their language (X. Jin, Slomka, & Blixen, 2002; L. Wang, Rosenberg, & Lo, 2008; L. Wang, 2007; Miltiades & B. Wu, 2008).

    In multiple cross-sectional surveys and qualitative studies, it has been demonstrated that Chinese people want a bicultural system of care, which better integrates their Chinese health beliefs and Western medicine (M.F. Chan et al., 2003; V.C. Chung, C. Hong, E. Wong, Yeoh, & Griffiths, 2009; Green, Bradby, A. Chan, & M. Lee, 2006). This may be a very important link to the perceived facilitators of desired health behaviours in social cognitive theory. There appears to be an implicit desire for harmonizing the two schools of health care to achieve the goal of good health. Bandura asserts that goals rooted in a value system provide effective incentive to guide health behaviours (2004). Chinese philosophy and upbringing influence the way that Chinese live and think about health and health care, which may put ethnic Chinese at odds when pursuing health care in environments where Western medicine is predominant (Y. Chen, 2001).

Specifically, many Chinese are raised with family and cultural beliefs about Traditional Chinese Medicine (TCM), wherein the views of the mind, body, and soul are integrated and inseparable (Bowman & Hui, 2000). Comparatively, conventional medicine views health as an absence of illness and abnormalities in bodily and organ function and structure. As a result conventional medicine may offer insufficient explanations and options for treatment when dealing with illness for Chinese individuals (Bowman & Hui). That being said, Chinese typically consult physicians trained in Western medicine as well as practitioners of TCM (F. Chan et al., 2003; Green, Bradby, A. Chan, & M. Lee, 2006; Miltiades & B. Wu). However, in the event of misgivings or doubts about a prescribed regimen, they may simply fail to comply with the treatment or preventive measure (Green, Bradby, Chan, & Lee, 2006; Y. Chen.). We can relate this to the outcome expectations as explained by the social cognitive theory. Self-regulation of chosen behaviours occurs when there is personal and social approval or disapproval (Bandura).

Compounding this potential problem is the knowledge that satisfaction with Westernized primary health care is significantly lower among Chinese than Caucasians as mentioned earlier (R. Liu, L. So, & H. Quan, 2007; Johnson, Saha, Arbelaez, Beach & Cooper, 2004; Saha & Hickam, 2003; Taira et al., 1997). Satisfaction, or lack thereof, relates back to outcome expectations for practicing a health behaviour, in this case, seeking primary health care. In the light of this knowledge, we need to make it a priority to determine the extent to which Chinese in Canada experience unmet health needs and what kind of unmet health needs they have in order to improve primary health care for this population. This brings us to an overlapping population of young adults who have questionable access to primary health care. Ethnic minorities, tend to be younger demographically than the general Canadian population (Statistics Canada, 2006). Thus, their potential for unmet health needs may be duly compounded.

2.3 Young Adults and Health Care Utilization

      2.3.1 Emerging adulthood and health. Arnett (2000) conceptualizes 'emerging adulthood' as the ages between 18 and 25. This is described as an important time of profound change, which offers would-be adults the opportunity to explore their identity. This is often done through education, obtaining work experience, and forming social relationships. During this time individuals start gaining autonomy; emerging adults can pursue experiences more freely than adolescents as they are less likely to be monitored by parental figures (Arnett). Adult behaviours including alcohol and other substance use, driving, working, and sexual activity are often initiated. Habits and behaviours formed at this time have the ability to influence health in the long and short term. Mulye et al., (2009) suggests that the many conventional markers of adolescent health including rates of homicide, substance use, drinking and driving, sexually transmitted infections, and unintentional injury peaks during the time of young adulthood. Disturbingly, longitudinal data has indicated that diet, obesity, inactivity, substance use, health care access, and reproductive health worsens with age, regardless of ethnicity in the United States (Harris, Gordon-Larsen, Chantala, & Udry, 2006).

      There exists a relative paucity of literature about the health risks and health care behaviours of young people beyond adolescence when compared with the plentiful adolescent and older adult literature. From a recent review of the literature, the writer found that frequently there was an overlap in range of age groups with researchers studying a mixture of ages between 12 and 34 years of age. Specifically, this section includes a combination of adolescent and young adult literature, with a focus on young adults between the ages of 18 to 30. This age range extends beyond Arnett's definition of young adulthood. The minimum cut-off of 18 years of age was based on the desire to capture people who have or are finishing high school, in order to capture the transition from adolescence to adulthood. The government of Canada defines

adulthood and the minimum voting age to be 18 (Elections Canada, 2010). A maximum cut-off

of 30 was similarly based on the Canadian government's view of youth in the employment place

as up to 30 years of age (Youth Canada, 2009). The sparse literature that is available on ethnic

Chinese and Asian young adults was integrated.

      2.3.2 Access and utilization of health services by young adults and adolescents. A

closer look at reported unmet health needs by Canadians in the CCHS revealed that close to 15%

of young adults report having an unmet health care need, higher than the average of 12%

reported by Canadians of all age groups. When broken down further, comparatively, 7% of

adolescents (between 12 to 17 years of age), 12%, 10%, and 7% in subsequently older age

groups experienced an unmet health care need at the time of the survey (E. Marshall, 2008). This

is further substantiated by data from the Canadian 2003 Health Services Access Survey.

Sanmartin and Ross (2006) found that a considerable proportion of young people (under 35 years

of age) experienced difficulty in obtaining routine and immediate care (18% and 26%

respectively). Young people were also more likely to report that they had an unmet health need

as a result of personal circumstances and attitudes than any other age group. Circumstances and

attitudes, such as being too busy, believing that care would be inadequate, and not knowing

where to access care contributed to the unmet health needs young people experienced (J. Chen,

Sanmartin, Houle, Tremblay, & Berthelot, 2002) . When seen in the context of Andersen's

Behavioural Model, these reasons for unmet health needs enumerate the predisposing

characteristics such as health beliefs and social context of young adults as well as external

environmental factors that pose impediments to obtaining primary care. These characteristics

contribute to whether or not young adults proceed from a perceived need for care to accessing

primary care.

Ford, Bearman, and Moody (1999) found that close to 19% of adolescents reported not accessing health care when they thought they needed it in the National Longitudinal Study of Adolescent Health carried out in the United States in 1995. A different longitudinal study of 14,000 adolescents in the United States showed that there were significant increases in health disparities and risks from adolescence into young adulthood across gender and ethnic groups (Harris, Gordon-Larsen, Chantala & Udry, 2006). Further evidence of unmet health needs in young adults is provided by a wide-scale cross-sectional survey which revealed that 1 in 5 young adults in an urban environment between 16 and 24 years of age reported a time when they did not receive medical care when they needed it, taking into consideration that half of these young adults did not have health insurance (Tandon, B. Marshall, Templeman, & Sonenstein, 2008). In New Zealand, where socialized health care is readily available, Jatrana and Crampton found that young adults between 15 to 24 years of age were less likely to have a primary care provider when compared with other age groups (2009). This is echoed by young people between 14 to 24 years of age residing in a suburban setting in Australia, wherein access to health services is a concern expressed by young adults (Kefford, Trevena, & Willcock, 2005). Focusing on Asian adolescent New Zealanders (Chinese and Indian), secondary analysis of Youth 2000, a cross-sectional survey of high school students revealed that they are less likely to access primary care when compared with New Zealanders of European descent (Ameratunga, Tin Tin, Rasanathan, Robinson, & Watson, 2008).

Again, relating to the predisposing characteristics of young people that contribute to the decision of accessing health care, Ford, Bearman, and Moody found the number one reason for foregoing health care for adolescents between 13 and 19 years of age was that they, "thought the problem would go away" (1999). Additional attitudes about health care included fear of what the

physician would say or do, and not wanting parents to find out about their health problem.
Lehrer, Pantell, Tebb, and Shafer also found confidentiality to be a primary concern of
adolescents when making the decision to obtain health care (2007). It is likely that there is a
degree of carryover of these attitudes and beliefs from adolescents into young adulthood as well.

   Campbell, Ramsay and Green found that when young people do actually access care,
they are frequently less satisfied with the care they receive compared with other age groups
(2001). Beliefs, attitudes, and values are often primary reasons why emerging adults and
adolescents do not seek care or delay their care. Marcell and Halpern-Felsher observed that
adolescent beliefs on the efficacy of physicians being able to diagnose, treat, or advise on certain
health scenarios such as smoking, depression, sex, and pneumonia was significantly associated
with their intention to seek care (2005). In the limited literature available on young adults, Balfe
and Brugha (2009) found that embarrassment, stigma, and clinic hour availability were often
barriers to testing for sexually transmitted infections (STI) for people between 18 and 29 years of
age. This frequently led to delays of weeks and even years before respondents received testing
after making the decision to get tested. Factors that encouraged young adults to seek care were
the beliefs that STI clinics had the necessary expertise, a sense of responsibility over their own
lives, and the future partners they might affect. In a series of focus groups with young people
between 14 and 24 years of age, it was identified that relating to primary care, that health needs
to be more about quality of life than illness or disease. Additionally young people seek health
information from other sources other than primary care providers (Kefford, Trevena, &
Willcock, 2005). This provides food for thought when figuring out what kind of unmet health
needs young people have and why.

2.3.3 Health risks and behaviours of young adults. While it is generally true that young adults are resilient and healthy (and this seems to echo the trend with immigrants), most young people will experience problems related to physical and mental health problems at some point. Many of the afflictions that young adults experience may also become chronic in nature and may range from depression, to poor stress management, and to binge-drinking. These are serious potential areas of unmet health needs that are experienced by young people. Applying the Behavioural Model, in order to understand the unmet health needs of young people, there is an urgent need to assess enabling resources within the family, personal and community contexts, or lack thereof, that influence health care utilization for young adults.

Relating to gender differences in health practices of young adults, much of the literature points to young men being much less likely than young women to access health care and/or participate in preventive care such as having annual check-ups, visiting primary care providers, and other health screening like blood pressure, cholesterol testing in the United States (Callahan & Cooper, 2010; Dawson, Schneider, Fletcher, & Bryden, 2007; Fortuna, Robbins, & Halterman, 2009; Park, Mulye, Adams, Brindis, & Irwin, 2006).In Canada, young adults and women in the 15-24 age category, in general were found to be more likely to have unmet health needs, especially related to the acceptability; being eight times more likely to have an unmet need than persons over 65 years of age (Nelson & Park, 2006).

It is known that young adults, particularly males, are at increased risk of injury and death related to motor vehicle accidents, unintentional injuries, and violence (Abelson-Mitchell, 2007; Blum & Nelson-Mmari, 2004; Mulye et al., 2009). However, researchers suggest that it is not good enough to view the general health of young adults through indicators such as mortality, as the main causes of death in young people (such as traumatic injuries and accidents) are not

related to overall wellbeing (Eckersley, Wierenga, & Wyn, 2005). In relation to vehicle accidents and other behaviour related injuries, the involvement of alcohol and other substance abuse often goes hand in hand. High-risk drinking in young adults is becoming a critical public health problem, with many young people reporting patterns of binge-drinking (Grossberg, Brown & Fleming, 2004; Laska, Pasch, Lust, Story, & Ehlinger, 2009; Keller, Maddock, Hannover, Thyrian, & Basler, 2008).

Speaking to the importance of adequate primary care access, Grossberg et al., (2004) suggests that interventions carried out by physicians for high-risk young adult drinkers can be effective for long-term reduction of binge-drinking behaviours, and that this should be implemented as part of health promotion for young adults in primary care settings. In Asian Americans (primarily Chinese, Filipino, Korean and Vietnamese) between 18 to 27 years of age, it was found that college students were more likely to report higher levels of alcohol consumption when living outside the family home. Interestingly, being born in the US was a significant predictor of higher alcohol consumption in Asian women, indicating a difference in risks for young adults, immigrants and native born (C. Lum, Corliss, Mays, Cochran, & C. Lui, 2009).

Smoking poses long term health risks to young people for the obvious reasons of contributing to lung disease, cardiovascular disease, and mortality (Mokdad, Marks, Stroup, Gerberding, 2004). Many studies suggest that although overall smoking rates have gone down in the general population, this is not true for the young adult population (Grace, 1997; Keller, Maddock, Hannover, Thyrian, & Basler, 2008; Harris et al., 2006; Mulye et al., 2009). Relevant to Chinese young people, looking at New Zealand's Youth 2000 survey, acculturation and being native born, were factors associated with increased risk of regular smoking (G. Wong,

Ameratunga, Garrett, Robinson, & Watson, 2008). In Canada, the 2001-2 British Columbia Youth Survey on Smoking and Health revealed that Chinese non-smoking adolescents were found to have the same risk of susceptibility to smoking as non-smoking white adolescents (Chen, Bottorff, Johnson, Saewyc, & Zumbo, 2007).

Another health risk that young Canadians face is that of high risk sexual activity. Twenty percent of young Canadians between the ages of 15 to 19 engaged in unprotected sex, while 44% of 20 to 24 years olds reported not using a condom during intercourse (Statistics Canada, 2005). Hahm, Lahiff, and Barreto found that in the United States, foreign-born Asian adolescents who spoke English at home had the highest rate of sexual intercourse for males and females amongst categories of Asian adolescents when looking at where they were born (US or foreign born) and what language they spoke at home (English or other language). Again, in the United States, Asian (predominately Chinese, Korean and Vietnamese, but immigrant status not differentiated) and Caucasian young women between the ages of 17 and 30 were compared in their breast self examination and pap screening habits. It was found that Asian young women were half as likely to participate in either screening (T. Tang, Solomon, Yeh, & Worden, 1999).

Many sources indicate that young adults are more likely to suffer from mental health problems, such as depression, yet are least likely to seek care compared with other adult age groups (Mauerhofer, Berchtold, Michaud, & Suris, 2009; Van Voorhees et al., 2006; Vanheusden et al., 2008). This translates into a major problem health for young people, as untreated mental illness during this time of emerging adulthood may increase the risk of substance abuse, and cause school, work, and relationship problems (Arnett, 2000). There is no reason to believe that this would be different for Chinese young adults.

Cardiovascular disease and other chronic illnesses such as diabetes, often have antecedents in adolescence and young adulthood. Harris et al., found that as adolescents grew into young adults, they were more likely to eat unhealthily, become obese, smoke, and become physically inactive (2006). This was true across all ethnic and Caucasian groups. These negative lifestyle practices are confirmed by other researchers who have found that many young adults frequently self-report unhealthy eating habits and lack of participation in physical activity (Keller et al., 2008; Laska et al., 2009; Grace, 1997). Compounding this problem, Roshania, Narayan, and Oza-Frank found that the risk of obesity in young people, who are immigrants to the United States, increased dramatically with time. Young adults 20 years of age or younger at the time of immigration were 11 times more likely to become overweight or obese after having resided in the United States for greater than 15 years (2008). Kandula and Lauderdale also found that Asian Americans (primarily Chinese and Filipino) between 18 and 39 years of age, especially immigrants, were at risk for high levels of physical inactivity when compared with non-Asian adults (2005). Many of the population and environmental characteristics that contribute to the enacting of health related behaviours as outlined by the social cognitive theory have been reviewed for young adults and Chinese young adults. However, there exists a gap in our knowledge of the goals, outcome expectations, and perceived self-efficacy for desired health behaviours in Chinese young adults. This leads us to a discussion of acculturation and how that influences health behaviours.

2.4 Acculturation

Bandura declares that cultures are no longer insular (2002). Intracultural diversity and intraindividual variation play a key role in understanding the interaction of culture and health within the context of social cognitive theory. There is a common theme of acculturation being

associated with increased risks in ethnic and immigrant young adults. Acculturation is described as a complex psychological process of adaptation to a different culture, by which members of an ethnic group may adopt behaviours, values, attitudes, beliefs, and language of the new culture (Despues & Friedman, 2007). A critical review of acculturation and health in Asian immigrant populations demonstrates that acculturation influences health outcomes (Salant & Lauderdale, 2003).

Despite the better health that immigrants typically enjoy (as they are required to go through medical screening before immigration) when compared with native born Canadians, there is an attenuation of health status and increase in engagement of risky health behaviours as time passes resulting in health status that becomes comparable to that of native born Canadians (Newbold, 2005). Specifically when comparing Canadian born-Chinese and immigrant Chinese young adults, it may be expected that unmet health needs and barriers to care for recent immigrant Chinese may be more similar to that of their parents. Canadian-born Chinese are usually influenced by their Chinese upbringing. However a consistent exposure to Canadian culture through school and language align their unmet health needs and barriers to care closer to the rest of the population. For instance, while immigrant Chinese may have unmet health needs related to a lack of knowledge regarding available health resources and language barriers, Canadian-born Chinese may have unmet health needs attributed to personal circumstances such as not prioritizing the need for health care access.

There exists a perception of Asians in English-speaking countries as being a "model minority" in that they tend to place academic achievement, industriousness, and good social behaviour in high-esteem (Hahm, Lahiff, & Barreto, 2006; M. Tang, 2007; F. Wong, & Halgin, 2006). As such, many Chinese young adults, despite the varying levels of acculturation, may

hesitate to reveal health problems that arise from participating in health risk behaviours to health care providers, families, and even themselves (F. Wong & Halgin). This may result in the under-detection of mental and physical health problems that Chinese young adults have, and in turn, limit the number of health services and resources that specifically target this population.

Varying degrees of acculturation likely affects whether or not Chinese young adults experience personal or structural difficulties in accessing health care. Primary language, either English or Chinese, will be the main predictor variable in this study. Although the best method to determine degree of acculturation (low to high on a continuum) is to use a validated tool that is able to measure exposure and knowledge of Chinese and Canadian culture, language skills, ethnic identification, and social affiliation among other things, language has been shown to be a good proxy measure of acculturation (X. Chen et al., 1999; Hahm, Lahiff, & Guterman, 2003; Unger et al., 2000). Phinney (1990) suggests that language is a stronger component of acculturation than place of birth. This becomes apparent if one considers Chinese young adults who are foreign born, but prefers to use English as their primary language. They are likely to be considered more acculturated than Chinese who are Canadian born but prefer to speak Chinese.

2.5 Summary

In the year 2000, the leading causes of death in the United States for young adults were related to tobacco use, poor diet and physical exercise, and alcohol consumption (Mokdad, et al., 2004). This translates to an urgent need for strengthening primary care access and provision of care, especially preventive care for Chinese in Canada. We know that many of these health risk behaviours are adopted during young adulthood. Additionally, as we have seen, immigrant status, being part of a non-white ethnic group, and being a young adult are factors that contribute to difficulty in accessing primary care. Gender affects health seeking behaviour, with more of the

literature pointing to males being less likely to access health care. The extent to which immigration, ethnic status, language, and acculturation affect health care access and utilization for Chinese young adults in Canada remains unknown. Many studies addressing the health of Chinese people often cluster Chinese with other Asian subgroups, producing a muddled picture, while studies relating to the health of young people vary significantly in age ranges spanning adolescence to mid adulthood. Unmet health needs in young adults are echoed by the unmet health needs in Chinese population living in Western countries and may be amplified for Chinese young adults. On the one hand, recent Chinese young adult immigrants may face barriers to attaining health care relating to lack of knowledge concerning how and where to obtain primary care, while on the other hand, Chinese young people in English-speaking countries that are highly acculturated increase their participation in risky behaviours that may negatively impact health. Therefore, this study sought to specifically address why Chinese young people between the ages of 18 and 30 experience unmet health needs and how experiencing an unmet health need varies with English-language ability.

Chapter 3 – Methods

This chapter outlines the study design including the description of a sequential, exploratory mixed research method design, sampling, data collection and planned analysis, as well as ethical considerations.

3.1 Quantitative Component

3.1.1 Design and sampling. To answer the following questions; 1) do Chinese young adults who prefer to speak Chinese experience greater unmet health needs than Chinese young adults who prefer to speak English, and subsequently, 2) what are the reasons that contribute to the experience of unmet health needs in Chinese young adults, a secondary analysis of data collected through the Chinese and South Asians' Preferences and Expectations of Primary Health Care study led by Dr. Sabrina Wong's team was performed.

The larger study is a three phase mixed-methods study. The objective is the development and validation of an instrument that can measure the performance of primary health care for Chinese (English or Chinese speaking) and South Asians (Punjabi or English-speaking). The first phase involved the conducting of 12 focus groups (n=96) with Cantonese and Mandarin speaking Chinese, and Punjabi-speaking South Asians. Multidimensional questionnaire items were derived from subsequent thematic analysis of focus group data in the second phase. The survey was then translated, using forward and backward translation techniques, into Chinese and Punjabi and administered to a random sample of Chinese, Punjabi, and English speaking residents of British Columbia. For the purposes of the secondary analysis of Chinese young adults, the Punjabi data was not used. The final phase of the study involved extensive construct validity testing and psychometric analysis by group (English or Punjabi speaking South Asians

and English or Chinese speaking Chinese) of the survey instrument (S. Wong, Personal

Communication, February 22, 2010).

      3.1.2 Telephone survey recruitment. A random sample of ethnic Chinese, South Asian

and white European participants (n=1,492) living in British Columbia living in the Greater

Vancouver Regional District (GVRD) and outside of the GVRD was obtained. This was

achieved through accessing an enhanced random sample of telephone numbers of known

Chinese or Punjabi first language speakers in census dissemination areas purchased through

ASDE, which maintains the Canada Survey Sampler. This resulted in a purposeful oversampling

of Chinese and South Asian households. Data were collected from 188 white European

participants through a random selection of telephone numbers from areas where at least two

surveys were completed in either Chinese or Punjabi.

      Data collection procedure. Computer assisted telephone interviews (CATI) were carried

out in Chinese (Mandarin or Cantonese), Punjabi, or English. For each household called, one

adult was selected for interview by the interviewers asking to speak to the adult with the next

birthday. A standard telephone script was used for each person. Potential participants were then

given an explanation of PHC as entailing health care services outside of a hospital setting (for

example, illness prevention and treatment from a family physician or nurse) in relation to the

subject matter of this survey. Participants were eligible if they were: (a) between 19 and 90

years of age, (b) English, Chinese or Punjabi-speaking, (c) had no cognitive impairments and (d)

if they had visited a primary care provider such as a family physician or nurse practitioner within

the past year. Verbal consent was obtained. All procedures were approved by the University of

British Columbia's Behavioural Ethics Board. Each CATI took an average of 27 minutes to

complete.

3.1.3 Secondary analysis. Secondary analysis was conducted on a subsection of

questions relating to unmet health needs from the PHC survey instrument. Question items in the

survey included those that were open-ended, for example, "what was the most significant health

problem you had in the last year for which you needed care?", and closed-ended. An example of

a closed-ended question that was relevant to the examination of unmet health needs included,

"thinking of the most recent time when you needed care for a health problem, why didn't you get

care?" Responses varied from "difficulty contacting a physician", to "waited too long to see the

physician", and "service not available in area" among other response options. Participants were

also given an option to specify a reason why they had an unmet health need. (Appendix A).

3.1.4 Data preparation. In order to answer the research questions, participants who were

between 18 and 30 years of age and of self-reported Chinese ethnicity were selected for analysis

(n=58). Predictive Analytics Software (PASW) 18, formerly Statistical Package for Social

Sciences, was used for the statistical analyses. The dependent or outcome variable of interest for

the first research question was the experience of an "unmet health need" with answers being

"yes" or "no". Specific to question 1, the primary independent variable was primary language

preference of either English or Chinese. This was ascertained by the question "what language are

you most comfortable speaking in?" The goal of data analysis was to determine whether or not

language preference (English or Chinese) in Chinese young adults is associated with the level of

unmet health needs experienced, after controlling for demographic variables.

The selection of potential explanatory factors was guided by the SCT and Andersen's

Behavioural Model. In keeping with the environmental and personal level elements that

contribute to behavioural decisions in SCT, and more specifically, by looking at the predisposing

characteristics and potentially enabling resources cited by Andersen's Behavioural Model, the

writer explored the following explanatory variables to examine the amount of variation to see if they explained the variation in potential unmet health needs experienced by Chinese young adults. Demographic nominal level variables such as gender, marital status (married, or living with a partner, separated/divorced/widowed, or never married), immigrant status (Canadian born or foreign born), and employment (employed, unemployed and looking for work, at school, or unable to work) were extracted. Ordinal level demographic variables such as education (did not complete high school, completed high school, some university education, completed bachelors degree, completed graduate degree), and income (less than $10,000, between $10,000 and $30,000, between $50,000 and $80,000, and greater than $80,000) and self-report of general health (excellent, very good, good, fair, or poor) were also examined. Ratio level data of age and age immigrated to Canada if not Canadian born was also examined.

Data were examined for missing values and out of range values. Descriptive statistics of the sample characteristics were carried out in order to answer the first research question. Percentages and frequencies were examined for all nominal and ordinal level variables such as language preference, gender, immigrant status, marriage status, education, income, the experience of an unmet health need in the past year, and self-report of health. Sampling distributions for the ratio level variables of age and age of immigration to Canada if not Canadian born were examined for central tendencies, variability, skewness and kurtosis. Variability of age was examined through the use of range, standard deviation, and box plots to look for outliers.

Type I and Type II errors were addressed through a consideration of the alpha level and carrying out a post-hoc power analysis. Type I errors occur when a difference is found in the sample even when there is no difference in the population. For the purpose of this study, the

acceptable alpha level was set at 0.05, meaning that 5 times in 100 we would find the null

hypothesis to be false when it is true in the population. In this case the null hypothesis was that

there were no differences in unmet health needs between English-speaking and Chinese-speaking

Chinese young adults in Canada. As this was a secondary analysis, with an existing data set, a

post-hoc analysis of power using a power calculator from Dartmouth University (Demidenko,

2007) was performed to determine the adequacy of the sample size for detecting significant

differences between groups.

After a thorough investigation of the descriptive statistics of the aforementioned

variables, bivariate associations between the binary outcome variable "experience of unmet

health need in the past year—yes or no", and each of the potential explanatory variables

identified earlier were examined. This was done using a chi-square test for the nominal level

variables, and Spearman's Rho for ordinal level variables. Simple logistic regression was carried

out between the outcome variable and the ratio level variable of age. The writer looked for

independent variables that achieved statistical significance ($p<0.05$) with the outcome variable to

be entered into a model for multiple logistic regression.

3.1.5 Inferential statistics. In order to better understand the variables that contribute to

the experience of an unmet health need in the past year for each group (Chinese who primarily

speak Chinese, and Chinese who primarily speak English), a logistic regression was conducted.

Logistic regression required that the dependent variable was dichotomous while the predictor

variables in logistic regression may be categorical or continuous in nature. The predictor

variables that were used included that of demographic information (age, gender, marital status,

immigrant status), education level, and self-report of health. This was conducted in order to see

what variables account for the greatest amount of variance in the experience of an unmet health

need. In logistic regression, there are no assumptions made about the distribution of the explanatory variables. However, logistic regression assumes that the probability distribution of the dependent variable, for the given values of the explanatory variables, is binomial, thus fitting a logistic curve. (Bewick, Cheek, & Ball, 2005; Peng, K.L. Lee, & Ingersoll, 2002).

Originally, chosen predictor variables (including the main independent variable of primary language preference) and the outcome variable of experiencing an unmet health need or not was to undergo multiple logistic regression using a forced entry method. In forced entry regression, all independent variables are entered simultaneously and this ensures that the variance in each individual regression coefficient that relates to the dependent variable is accounted for (Field 2009). Comparatively, stepwise and hierchical methods of regression assign predetermined value or importance on each independent variable and can dramatically affect the regression coefficients obtained. These methods were not pursued as the writer wanted all significant predictor variables to emerge without assistance. However, as the secondary analysis in the next chapter will reveal, the sample size obtained was not sufficiently powered to carry out any meaningful logistic regression.

3.1.6 Research question 2. "What are the reasons for unmet health needs in English-speaking and Chinese-speaking Chinese young adults", was answered using statistics from the secondary analysis of the PHC survey data and qualitative data from in-depth interviews. The second research question was answered by extracting answers to the question from the larger PHC survey study: "What are the reasons you did not get the health care you needed?" Possible answers include 1) regular doctor not available, 2) specialist doctor not available, 3) some other type of care provider not available, 4) nobody available to see me at my regular clinic, 5) do not have a regular doctor or clinic, 6) difficulty making an appointment, 7) wait for an appointment

was too long, 8) wait in waiting room was too long, 9) clinic was not open during hours I could attend, 10) experienced transportation problems, 11) costs of receiving care was too high, 12) language problems, 13) did not know where to go, 14) unable to leave the house because of health problem, 15) other reason. Participants were able to select as many reasons that applied. This was modeled through the usage of percentage frequencies.

The experience of unmet health needs for Chinese young adults was also answered using semi-structured in-depth interviews. This was carried out to explore the experiences of unmet health needs in Chinese young adults and is described later in this chapter.

Ensuring rigor & addressing the limitations of the quantitative design. The use of a secondary analysis for the larger study ("Chinese and South Asians' Preferences and Expectations of PHC") for answering the first and second research question is reasonable given that observational, cross-sectional designs are appropriate in determining associations and relationships—in this case whether or not language preference in Chinese young adults is associated with a higher rate of unmet health needs. Secondary analyses are economical and time-saving as data that has already been collected can be used to test new hypotheses and explore new relationships (Polit & Beck, 2008). However, given that this is a secondary analysis, there are also some drawbacks that will be explored.

Polit and Beck assert that it is important to use instruments that have been tested and validated (2008). Some limitations that will be encountered will be that of the initial uncertainty about the PHC instrument's reliability and validity as psychometric testing will occur after the data collection in the larger study. However, it would be plausible to report on this at the end of the larger study. The probability sampling that was employed in the larger study is both a source of potential strength and limitation in the context of the secondary analysis. Probability sampling

allows for a representative sample of the population and increases the external validity/generalizability of the results to the larger population. However, probability sampling may not guarantee adequate numbers of subjects of interest, such as Chinese young adults with unmet health needs. In order to address this limitation, a posthoc power analysis was performed to ascertain the number of Chinese young adults needed to detect a difference. Additionally, as participants in the larger study were recruited and interviewed over the phone, non-response bias must be taken into consideration as potential participants may decline due to the lack of time or interest.

Internal validity of the study was enhanced by the use of CATI, as data quality is often improved because of greater consistency of interview technique by the interviewer (the interviewer is prompted by the computer), thus reducing the number of missing responses (as the computer will repeat unanswered questions). Statistical tests performed were also checked by Dr. Wong and the writer's committee for appropriateness and validity.

3.2 Qualitative Component

3.2.1 Design, sampling, and recruitment. In-depth semi-structured interviews were conducted with eight Chinese young adults between the ages of 18 to 30 years in order to determine what kind of barriers to health care and experiences of unmet health needs Chinese young adults encountered. Equal numbers of male and female participants were recruited from those who answered the larger PHC survey and agreed to be contacted for future related research. Participants were first contacted by telephone by the writer regarding participating in an in-depth interview either over the phone or in person depending on their location and availability. When potential interviewees verbally agreed to participate, they were mailed a letter that explained the purpose and objectives of the study and contained the writer's contact

information. A copy of the consent was also enclosed along with a stamped return envelope that potential participants mailed back to the writer (Appendix B). The mailed letter was followed up by a telephone call within two weeks if no mailed response was received. Through purposive and strata sampling, via a study of demographics from the larger study, equal numbers of Chinese young adults who prefer to speak English and those who prefer to speak Chinese were sampled. A 25 dollar honorarium was given to participants upon the completion of the interview.

The method of sampling employed most resembled one for phenomenological studies, since a measure of criterion sampling (i.e. being a Chinese young adult,) was used (Munhall, 2007; Polit & Beck, 2008). Although the naturalistic paradigm does not call for random sampling as qualitative research strives for information from rich data sources rather than representative samples, the sampling plan used did not necessarily provide a saturation of information relating to the unmet health needs that Chinese young people experience. The writer was only able to recruit one participant out of the six who had initially stated that they had an unmet health need in the larger PHC survey.

A contingency plan to recruit Chinese young adults was also available to the writer, in order to meet the stated sample size. The writer expected to liaise with the University of British Columbia Chinese Student Association and recruit through presence at club events, as well as by placing posters in high-traffic campus areas. The United Chinese Community Enrichment Services Society (S.U.C.C.E.S.S) was also another possibility for recruiting Chinese young adults who were immigrants. All procedures were approved by the UBC Behavioural Ethics committee.

Semi-structured in-depth interviews. Many young adults initially declared that they had no unmet health needs. Marshall and colleagues (2010) found that although many South Asians

and Chinese people answering a survey question about unmet health needs reported having none, yet, over the course of a dialogue, many participants shared experiences falling under the theme of unmet health needs. Their findings suggest that unmet health needs is a concept that has deeper implications or considerations related to different aspects of "need for care". Therefore, it was imperative to explore in-depth the experiences of unmet health needs and contributing factors to unmet health needs beyond that of asking an individual survey question about whether or not someone has an unmet health need.

Additionally, although young people tend not to have chronic health issues because of their age, there are variations in behaviours and attitudes that each individual defines as necessary to maintain good health (Bandura, 2004). As such, the writer explored what constituted good health practices (i.e. healthy diet, exercise, stress relief) and whether or not participants felt they fulfilled the requirements for good health. The type of stressors they had related to work, relationships, family, school, and life in general and how they coped with those stressors to investigate a contextual understanding of current issues in their lives (Appendix C). Finally, the interviews explored how Chinese young adults' upbringing in varying degrees of Chinese cultural immersion influenced their attitudes and beliefs toward health. In order to comprehensively capture the above, interviews were conducted over the course of thirty minutes to an hour.

Furthermore, the consequences of experiencing unmet health needs were elucidated through inquiring about the outcomes of their unmet health needs using questions developed by Levesque et al. (2008). Questions such as, "were you worried about your health," and "were you bothered by pain," were asked. The writer also explored with the participant whether the health problem affected daily activities, work, school, or family, and ascertained if the health concern

was resolved and how. Although this set of questions was embedded into the larger study's cross-sectional survey, the writer believed that the narration of the personal experience with unmet health needs and its outcomes provided much richer contextual data.

Apparent in the literature review were gender differences in health access and health risk behaviours. Equal numbers of male and female Chinese young adults were interviewed in order to let any gender differences in unmet health needs, and primary health care seeking behaviours emerge. Gender-role expectations and health practices from both a family and societal perspective were explored. For instance, with Chinese young adult women participants, the writer asked if a maternal figure or family member had ever advised the female participant regarding good health practices originating in either Traditional Chinese Medicine or conventional medicine.

The interviews were all conducted in English except for one that was conducted in Mandarin over the phone with the help of an experienced Mandarin translator. All interviews were audio-recorded and transcribed verbatim. The interview that was conducted in Mandarin was transcribed and translated directly into English from the audio-recording. Accuracy of the Mandarin to English interview was ascertained by having another fluent Mandarin and English speaker, H.H.O, review the audio recording and English transcript. Consensus was established through thorough repeated reviews of the transcripts and audio data and by having the author and H.H.O review two of the transcriptions and audio data.

Content analysis of interview data. After data transcription and cleaning was carried out, the transcribed data underwent qualitative content analysis. Elo & Kyngas contend that content analysis allows a researcher to systematically and objectively describe and quantify phenomena (2007). Through content analysis, communication in the form of interviews, text, or visuals can

be distilled into themes that are relatable. There are two methods of content analysis—inductive and deductive. Inductive content analysis is used when there is fragmented or limited knowledge about a phenomenon. On the other hand, deductive, also known as directive, analysis can be used when there has been established literature, theory and models about the phenomenon under study (Elo & Kyngas; Hsieh & Shannon, 2005). This study employed deductive content analysis as it was guided by the SCT and Andersen's Behavioural Model.

In the preparation phase of content analysis, the goal is for the researcher to become immersed in the data by reading through the written material numerous times based on the assumption that no insights can occur without the researcher becoming intimately familiar with the data (Polit & Beck, 2008). In the organizing phase, open coding begins by headings written in the margins of the text to describe all aspects of the content which are then collected from the margins and composed into coding sheets. This deductive content analysis was performed using Andersen's Behavioural Model. The SCT supplements the areas of environment, personal factors, and behaviour by adding the component of self-efficacy. Paper and pen open-coding and text categorization method of interview transcripts was employed and the coding of all the interview transcripts was reviewed by the writer's supervisor and committee members.

The transcripts were examined using deductive content analysis. Two levels of coding were applied to the interview transcript data. The three main components of Andersen's Behavioural Model, environment, population characteristics and health behaviour, served as the major categories for the coding process (Figure 1). The next level of coding applied was identifying themes within each major component of the Behavioural model. For example, themes were identified in the areas of: 'predisposing characteristics', 'enabling resources', and 'need' under the main category of population characteristics. Finally, in order not to overlook other

contextual aspects of the phenomenon being examined, such as acknowledging their

development as young adults, emergent themes that arose across variables and categories were

also identified and noted.

Figure 3 Levels of Content Analysis Coding using Andersen's Behavioural Model
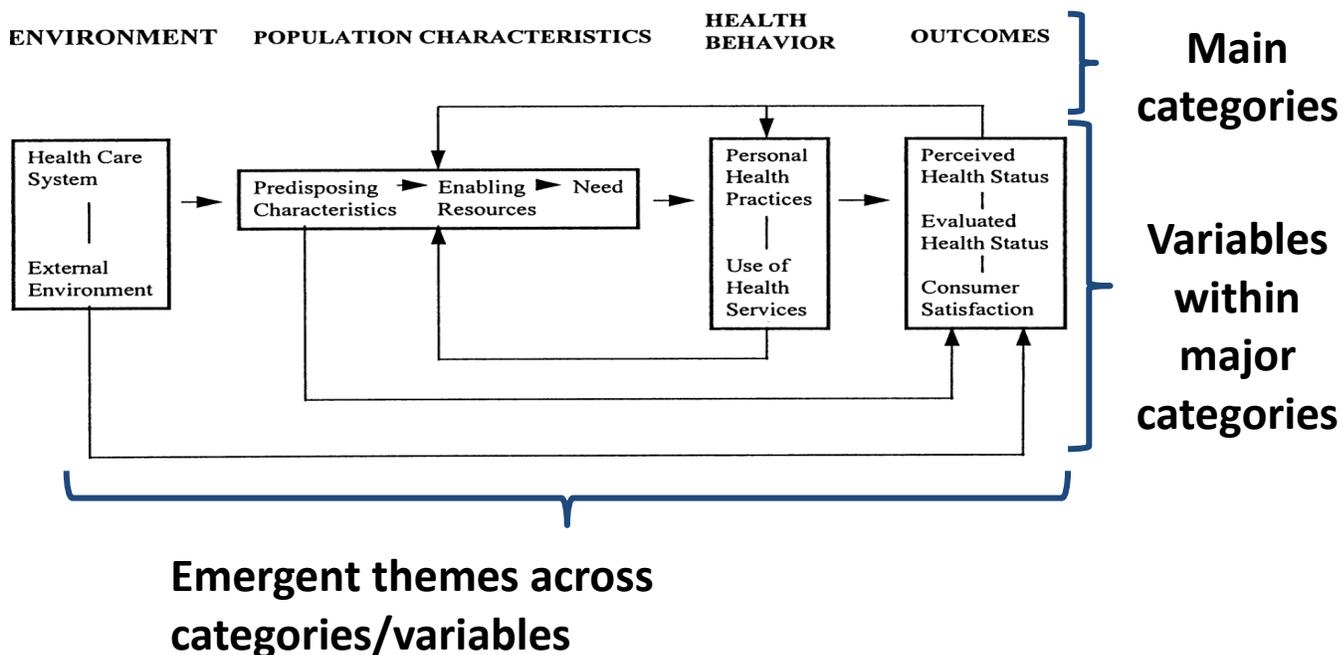
Figure 3. Levels of content analysis coding using Andersen's Behavioural Model. Adapted from

"Revisiting the behavioural model and access to medical care: does it matter?" by R.M.

Andersen, 1995, *Journal of Health and Social Behavior, 36*, p.8.

Although the interview contents are analyzed using the Behavioural Model, Bandura's

Social Cognitive Theory remained useful for organizing the discussion of interview findings.

The SCT posits that the three domains of environment, personal factors, and behaviour interact

to explain health seeking behaviours in people. These domains parallel the main categories of

Andersen's Behavioural Model. The two frameworks predominantly differ in the specific

examination of self-efficacy, with the SCT attributing this factor as responsible for people's

health goals, behaviours, and outcome expectations, which are in turn mediated by social and

environmental facilitators and impediments. Self-efficacy as a determinant of health was not specifically assessed within the context of this study as it was not the main focus of the study.

In the process of content analysis, it is important to address trustworthiness of the data. Lincoln and Guba assert that *trustworthiness* in qualitative research parallels validity and reliability in quantitative research (1985). In the Lincoln and Guba framework for upholding trustworthiness in qualitative research, credibility, dependability, confirmability and transferability need to be maintained. Credibility and dependability, as defined as the confidence a reader has in the truth, interpretation of the data and the subsequent reliability of the data over time was maintained by accurate and thorough documentation of the qualitative research process. Confirmability was achieved through the appropriate usage of verbatim quotes from interview text to support the interpretations of the data. Finally, transferability was addressed by providing readers with a thick description necessary for readers to decide if the analysis can be applied to similar populations in other settings.

Ensuring rigor & addressing the limitations of the qualitative design. A mixture of phone and in-person interviews was conducted with this sampling method (contacting Chinese young adults who participated in the larger cross-sectional PHC survey who have agreed to be contacted again). Although this may have been a factor which influenced participants to consent to the interview (i.e. convenience factors)—the mixture of telephone and in-person interview techniques could have resulted in differing levels of response to the interview questions. For example, an in-person interview allowed for greater interaction between the interviewer/writer and participant as the writer could read the participants non-verbal cues (body language, facial expressions etc.,) and could direct the dialogue accordingly. However, as this was really a pilot study relating to health behaviours and potential unmet health needs of Chinese young people, it

will allow opportunities in the future for better refinement of sampling techniques and design based on the initial data.

Philosophical debates about the use of terms such as *rigor* and *validity* in qualitative research exists. Akin to validity for quantitative research, trustworthiness ensures that the findings of a qualitative study are sound and well-founded (Polit & Beck, 2008). Strategies that were employed to enhance the trustworthiness of the study included that of thorough record keeping and audit trails through the systematic recording and collection of materials and documentation. This would allow an independent party to come to similar conclusions about the data. This material included the audio-taped interview data and accompanying transcripts, the topic guide used for the interviews, field, process, reflexive, and decision making notes, and all the stages of coding the data as well as the different drafts of analysis. Methods that were implemented to enhance the internal validity and credibility of the qualitative data included extensive checking of the interview audio-recordings with the transcript.

Integrating results of the quantitative and qualitative research. Andrew and Halcomb contend that mixed method studies produce complementarity in an attempt to understand health phenomena (2009). By using both qualitative and quantitative approaches to assessing possible unmet health needs of Chinese young adults a more holistic picture is provided. Although the secondary analysis of the larger quantitative study "Chinese and South Asians' Preferences and Expectations of Primary Health Care" did not reveal a significant number of Chinese young people who felt they had an unmet health need at the time of their phone interview, the qualitative component using semi-structured in-depth interviews illuminated the various challenges and barriers in accessing primary health care that the interview participants faced.

This benefit speaks to the data triangulation that can more readily occur with mixed method studies (Polit & Beck, 2008), thereby improving the validity and the trustworthiness of the study.

3.3 Ethics

This research study was conducted in an ethically sound manner. This was a minimal risk study in most respects as the quantitative component used data that already had been gathered from another minimal risk cross-sectional survey. The qualitative component asked interview participants about their health beliefs and practices, which did carried minimal risk for emotional or physical harm to the participant. Participants received full-disclosure as to the purpose and objectives of the study and this was manifested by full and informed consent. Confidentiality and anonymity was maintained by de-identifying all interview transcripts and keeping transcripts and coding information on password protected computers or locked cabinets. The dignity of the participants was upheld through a culturally respectful way of communicating and carrying out the interview process by the researcher.

This was an important topic of study in the light of the knowledge that young adults underutilize health care and health care resources, but often participate in numerous health risk behaviours. In addition, Chinese (immigrant and native born) in English speaking countries have disparities in health care access and utilization when compared to the general population in those countries. Chinese young adults may have unmet health needs that are potentially compounded by challenges of varying levels of acculturation in addition to being young adults. This speaks to the importance of learning what their experiences of unmet health needs are in order to structure appropriate interventions for this group.

Chapter 4 – Quantitative Results

4. 1 Demographic data

A secondary analysis of the Chinese and South Asians' Preferences and Expectations of Primary Health Care cross-sectional survey of 1,492 adults was performed. Data were gathered from a total of 520 ethnic Chinese; however, only 58 Chinese young adults, aged 18-30, were contained in this larger dataset (Table 1). Descriptive statistics for demographics was completed for the group as a whole, and also split according to language preference (English- or Chinese-speaking) as the purpose of this study was to determine if there were differences in health characteristics according to language preference. The mean age of the entire sample was 23.2 years, with no significant differences between the Chinese or English speaking group $t(56) =$ 0.625, $p >$.05. Eighty-one percent of the sample were immigrants with approximately an equal number of those who preferred to speak English and those who preferred to speak Chinese. There were more males than females in both groups and both groups were comparable in terms of gender, $\chi^2(1, N = 58) = 0.337$, $p >0.05$. Within the entire sample, there was roughly an equal percentage of students and those who worked (either part-time or full-time); no difference was found between the English-speaking and Chinese-speaking groups, $\chi^2(3, N = 58) = 0.328$, $p >0.05$. All respondents had completed high school and the majority of them either had obtained their bachelor's degree or had some university education (likely in the process of obtaining a bachelor's degree). Because there were 36 missing responses for income, no descriptive statistics were carried out for this variable. The majority of all Chinese young adults reported excellent, very good, or good health and this was comparable between the two groups. No young adult reported poor health in this sample. Self-report of health was also found to have a distribution

that was skewed to the right after the categories of "Excellent" and "Very good" were collapsed. The majority of young adults self-rated their health as excellent and very good, while ten respondents reported their health as fair, and none reported poor health. There were a few participants who reported chronic conditions—these included depression and "other" for 5 participants. Sixty-four percent of all respondents visited a physician in the past year at least once.

Table 1 Sample Characteristics of English- & Chinese- Speaking Young Adults

Table 1

Sample Characteristics of English- & Chinese- Speaking Young Adults in BC

	Total (n=58)	English-speaking Young Adults (n=25)	Chinese-speaking Young Adults (n=33)	*P*
Age Mean (SD)	23.2 (3.3)	22.8 (3.1)	23.4 (3.5)	0.554
Age immigrated to Canada Mean (SD)	12.8 (5.1)	8.7 (3.0)	15.4 (4.3)	0.094
	n (%)	n (%)	n (%)	
Gender Male	37 (63.7)	17 (68.0)	20 (60.6)	0.562
Immigrant (yes)	47 (81.0)	18 (72.0)	29 (87.8)	0.179^
Marital Status Married/Common-law	6 (10.3)	3 (12.0)	3 (9.0)	1.0^
Employment				
Employed full-time	17 (29.3)	8 (32.0)	9 (27.2)	0.955
Employed part-time	30 (52.0)	3 (12.0)	5 (15.0)	
Student	8 (14.0)	13 (52.0)	17 (52.0)	
Other	3 (5.2)	1 (4.0)	2 (6.1)	

	Total (n=58)	English-speaking Young Adults (n=25)	Chinese-speaking Young Adults (n=33)	*P*
Education				
Completed high school	5 (8.6)	3 (12.0)	2 (6.1)	0.328
Some university education	28 (48.3)	11 (44.0)	17 (51.5)	
Completed bachelor`s Degree	22 (37.9)	11 (44.0)	11 (33.3)	
Completed graduate school	3 (5.2)	0 (0.0)	3 (9.1)	
Self-Reported Health Status				
Excellent/Very Good	30 (51.7)	15 (60.0)	15 (45.5)	0.250
Good	18 (31.0)	8 (32.0)	10 (30.3)	
Fair/Poor	10 (17.2)	2 (8.0)	8 (24.2)	
Chronic Condition				
Depression	2 (3.4)	2 (8.0)	0 (0.0)	0.643^
Other	3 (5.2)	1 (4.0)	2 (6.1)	
Unmet Health Needs in past year	6 (10.3)	2 (8.0)	4 (12.1)	0.678^
	n (%)	n (%)	n (%)	
Visited doctor in past year at least once	37 (63.8)	19 (76.0)	18 (54.5)	0.405^
Visited doctor ≤5 times	30 (81.1)	14 (73.6)	16 (88.9)	
Visited doctor >5 times	7 (18.9)	5 (26.3)	2 (11.1)	

Note. ^Fisher's exact test was used when provided by SPSS instead of Pearson chi-square because of <5 count in one or more cells
† 36 missing responses for income, no further descriptive statistics carried out

Sample characteristics were examined for central tendencies, variability and normality

with fairly normal distributions. The number of visits to a physician was skewed; the number of

visits to a physician averaged 2-3 times across the sample, with 21 young adults not having

visited the physician at all, while seven individuals visited the physician more than five times

(Figure 4). As many of the variables in this study were categorical, which required the use of

non-parametric tests, such as chi-square and simple logistic regression, it was permissible that

the variables have a non-normal distribution.

Figure 4 Distribution of Number of Visits to a Physician in Past Year
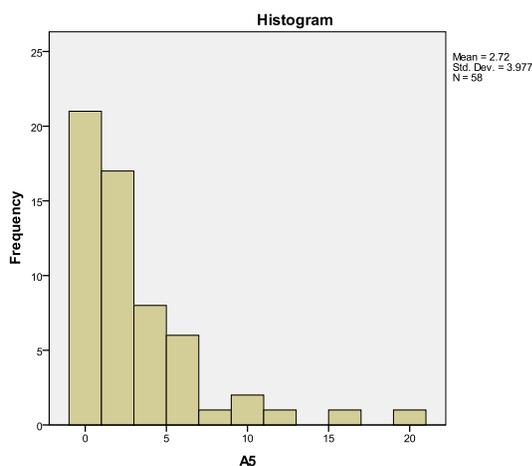
Figure 4. Distribution of number of visits to a physician in the past year.

4.1.1 Unmet health needs. There were six participants (11 percent) in total who declared

that in the past year, there was a time that they felt they needed health care but did not receive it.

Three respondents did not answer this question. Those who had unmet health needs were all

immigrants. Those who experienced unmet health needs descriptively were more likely to have

immigrated at a later age (average of 16 years at arrival in Canada), and preferred to speak

Chinese over English. All the young adults who had unmet health needs either had a bachelor's

degree or some university education. They were more likely to report only fair health and to be

single. Four of the six participants had visited a physician at least once in the past year, and one

of the four had visited a physician greater than five times in the same time frame.

Causes of unmet health needs were mostly related to availability, for example, not having the right physician or health provider to see them (Table 2). Young adults also cited the length of time waiting for care as a reason for their unmet health need. Additionally, the accessibility of care, transportation and costs were also cited as reasons for unmet health needs. Language difficulties and not knowing where to go were not reasons cited for unmet health needs in this secondary analysis.

Table 2 Frequencies of Reasons for Unmet Health Needs in Chinese Young Adults

Table 2

Frequencies of Reasons for Unmet Health Needs in Chinese Young Adults

Reason	n
Relating to Availability	
Regular doctor not available	3/6
Specialist doctor not available	1/6
Other care provider not available	1/6
Nobody was available at my clinic to see me	1/6
Do not have a regular doctor or clinic	1/6
Difficult to make an appointment	2/6
Wait for appointment was too long	4/6
The wait in waiting room was too long	3/6
Clinic was not open during the hours I could attend	1/6
Relating to Accessibility	
Transportation problems	2/6
Costs getting too high	3/6
Language problems	0/6*
Did not know where to go	0/6*
Was unable to leave the house because of health problem	0/6
Other reason	*

*Had one or more missing responses.

4.1.2 Logistic regressions of sample characteristics and unmet health needs. Simple logistic regressions were carried out to ascertain if there were any significant relationships between the main demographic indicators and the experience of an unmet health need for this sample (Table 3). No significant relationships were found, although preference for using Chinese language, single status, and fair self-report of health had higher odds ratios for experiencing an unmet health need. Simple logistic regression for education and immigrant status could not be calculated due to the presence of cells with no cases. Immigrant status lacked cases in the cell for those who experienced unmet health needs and were Canadian-born. Under education and unmet health needs, there were no cases under "some university education" and "unmet health needs".

Table 3 Relationships between Sample Characteristics and Experience of Unmet Health Needs

Table 3

Relationships between Sample Characteristics and Experience of Unmet Health Needs.

Sample Characteristics	OR	95% CI	p value
Age	1.208	[0.93, 1.57]	0.160
Age to Canada	1.140	[0.97, 1.35]	0.122
Gender (Male)	1.161	[0.19, 6.98]	0.870
Immigrant (Yes)	-	-	-
Language Preference (Chinese)	1.769	[0.30,10.57]	0.532
Marital Status (Single)	1.760	[0.17, 18.23]	0.636
Education	-	-	-
Employment (Student)	0.840	[0.15, 4.61]	0.999
Self-Report Health (Fair)	1.714	[0.15, 19.36]	0.663
Visits to Physician	0.909		0.260

Note. OR = odds ratio. CI= confidence interval. - = unable to calculate results due to presence of an empty cell.

4.1.3 Power analysis. A post-hoc power analysis was performed using an on-line calculator from Dartmouth University. Using an effect size of about 14% based on recent

Canadian studies report of unmet health needs in the population (J. Chen & F. Hou, 2002;

Levesque, 2008), a sample size of 55 (as three respondents did not answer this question), and a

significance level of 0.05 revealed the power to be 0.004. In order to achieve the recommended

power of 0.8 (Field, 2009) with the same effect size, a sample of 833 young adults would be

required. Complex statistical modelling (i.e. multiple logistic regression) could not be carried out

because of the lack of statistical power for the above analyses. Logistic regression requires large

sample sizes to provide sufficient numbers in both categories of the response variable (Bewick,

Cheek, & Ball, 2005). Additionally, when more than one independent variable (in this case,

language preference, age of immigration to Canada, socio-economic status, education etc.,) is

being used to explain an outcome (occurrence of an unmet health need), the risk of Type I error

is increased (Field, 2009). In order to correct for the cumulative risk of Type I error, an

adjustment such as Bonferroni's correction needs to be utilized. The alpha level (0.05) is divided

by the number of variables being used with the Bonferroni's adjustment,. For example if three

independent variables were used our new significance level would become 0.017

$(0.05 \div 3)$, making it increasingly difficult to detect a difference without a very large sample size.

In the light of the above non-significant findings, different variables collected in the large

PHC Survey were investigated (Appendix A). Delay in obtaining health care was examined to

better explore a continuum of unmet health needs. Thirty percent (n=17 with 2 missing

responses) of all Chinese young adults experienced a delay in receiving health care. Forty-seven

percent of the 17 individuals had to wait weeks and months to obtain health care. Half of the

individuals who reported having unmet health needs also reported delays in receiving health

care. Interestingly, when examining the health care utilization behaviours of Chinese young

adults, it was found that 24 percent (n=14) of the sample received health care in a country

outside of Canada. These included visits to obtain complete physical examinations, specialist and dental care. Young adults who prefer to speak Chinese were more likely to obtain health care outside of Canada (11 of 14) than those who prefer to speak English. A chi-square test revealed that this difference between the two groups approached significance $\chi^2(1, N = 58) = 3.535$, $p =0.060$.

4.2 Summary

A secondary analysis of a group of Chinese young adults (n=58) revealed that unmet health needs were experienced by ten percent of young adults. This was elicited by the question, "during the past 12 months was there ever a time when you felt you needed health care but you didn't receive it?" The two groups examined (those who preferred to speak Chinese and those who preferred to speak English) were comparable in terms of demographic variables such as level of education, immigrant status, gender, and age of immigration to Canada. Although it initially appeared that young adults who had Chinese language preference, were single, or gave a fair self-report of health were more likely to report an unmet health need, logistic regressions of these individual demographic variables did not show statistical significance. Predominant reasons cited by the six young adults who stated that they had unmet health needs included not having a regular doctor available, not wanting to wait to see a health care provider, and difficulty in accessing care (lack of transportation, and financial reasons).

Chapter 5 – Qualitative Results

5.1 Sample

Semi-structured in-depth interviews were conducted with eight Chinese young adults, aged 19-30 years, to explore if there were potential or actual areas of unmet health needs in the Chinese young adult population. There were an equal number of males and females. Four interviews were conducted face-to-face, while four were conducted over the phone. All the women selected the phone interview option over a face-to-face interview. According to the language preference expressed during the telephone survey from the larger survey, there were equal numbers of young adults who preferred to speak Chinese and those who preferred to speak English. One individual of the six young adults who answered "yes", to the question of whether there was a time in the past 12 months where they felt that they needed health care but did not receive it (thus having an unmet health need) on the telephone survey, was recruited for the interview. Table 4 displays a descriptive summary of the interview participants as initially elicited from telephone survey results.

Table 4 Characteristics of Interview Participants

Table 4

Characteristics of Interview Participants

Participant	Gender	Language Preference	Age	Unmet Health Need	Immigrant	Age to Canada (years)
1	Male	English	25	No	Yes	6
2	Male	English	20	No	No	NA
3	Female	English	22	No	Yes	8
4	Female	English	26	No	Yes	7
5	Male	Cantonese	24	Yes	Yes	16
6	Male	Mandarin	30	No	Yes	14
7	Female	Cantonese	20	No	Yes	13
8	Female	Mandarin*	20	No	Yes	15

Note. ***** Only participant who was not fluently bilingual

5.2 Predisposing Characteristics

Predisposing characteristics within the framework of the Behavioural Model entails characteristics such as demographics, social structure and health beliefs. Themes that arose under predisposing characteristics included uncertainty about language preference, health beliefs specific to diet and lifestyle, and the evolution of health beliefs over the course of adolescence, higher education, emerging careers, given the participant's Chinese cultural context. An exploration of how the participants felt they compared to other typical Canadian young adults revealed differing viewpoints in the perception of personal health.

During the interview process, it became apparent that most of the interview participants were fluent in both English and Chinese. Four of the young adults were multi-lingual with the

ability to speak Mandarin, and/or Cantonese, and even Shanghainese. When discussing language preference with the interview participants, half of them had a clear preference for either English or Chinese. Interestingly, their stated language preference did not necessarily correlate with the language that they were interviewed in from the original larger study's telephone survey. Being younger at the age of immigration to Canada and being born in Canada appeared to be related to having an English language preference. Some participants (n=3 of 4) who had immigrated as teenagers indicated that they were equally comfortable with Chinese as English. During the discussions of language preference, a distinct theme of uncertainty arose. Uncertainty manifested in the language preference discussion when a few of the interviewees hesitated, and were initially unable to differentiate which language they preferred to speak in. One participant poignantly stated "At this point, I don't know anymore," [Male (M), 20 years, Chinese Speaking (CS)/ English Speaking (ES)].

5.2.1 Social structure. When looking at education and employment, there were a variety of situations. One participant attended a college program part-time, while five attended university full-time, with one being in a graduate program. Three worked varying hours at a part-time position, ranging from about one to three days a week. The remaining two participants worked full-time and had previously graduated from a university program. The interview participants still resided in their family homes, with the exception of two of the participants.

5.2.2 Health beliefs about diet and lifestyle. When the participants were questioned about what they believed was part of a healthy lifestyle, mentally and physically, participants mentioned a healthy diet, physical activity, and balance as pre-requisites for healthy living, "to me, a healthy lifestyle would consist of a well-balanced diet, of course exercising, and sleeping well. Unfortunately, I don't really do that." [F (female), 26 years, ES]. One predominantly

English speaking participant mentioned that balance was essential to maintaining a healthy lifestyle in reference to adequate nutrition, exercise, and juggling a school work load. Interestingly he compared his own health behaviors with that of his peers and felt that he was better-rounded in terms of having a healthy lifestyle because he was not as single-minded about academic performance and finishing his program in a stringent timeline as were his peers in the graduate program. Of course, sometimes there was a cost to this balance:

> I think balance is one of the biggest things and I think that leads to my definition of a healthy lifestyle... So yes, I think despite the demands of graduate studies, I have been able to maintain a healthy lifestyle. That may be at a cost, that is taking much longer in my program but at the end of the day, that's what's important to me. (M, 26 years, ES).

Stress reduction and adequate sleep were also cited as necessary to maintain healthy living, "I need to have a healthy diet and I need to be able to relax to get rid of my stresses of daily life for sure... I know I should exercise more, but I just don't have the time [laughs]" (M , 30 years, CS/ES). One participant felt that the mental or psychosocial component of a healthy lifestyle included, "being positive, generous, helping out people when they need it, and [being] loving" (M, 25 years, CS/ES). Another participant, while earlier stating that diet and exercise were important for health, also shared that "you don't have to active to be what I consider truly healthy, but you should have at least a positive view towards things.... every day is sunshine in your eyes" (M, 20 years, CS/ES).One young woman also added that spirituality was an important part of mental health in addition to the beliefs voiced by participants that mental and psychosocial health required a balance between work and time to relax, and being social as well as having time alone.

Interestingly, not smoking or drinking alcohol in excess was only mentioned by one person as being part of a healthy lifestyle, and participants generally did not mention alcohol or smoking until prompted during the interview. All the interview participants were non-smokers and non-drinkers or light, occasional drinkers, although at least two had tried cigarette smoking once. Interview participants did not mention visits to a physician or health care provider as part of maintaining health until asked about their recent health care access which will be discussed later on after describing the characteristics of the group.

5.2.3 Evolving health beliefs. When the interview participants were asked how their health beliefs had evolved or changed since adolescence, young adults frequently stated that they had a better idea about healthy lifestyles as adults. Reflecting what many of the young adults said, one participant stated, "you know more, you learn more, and you know what's good and what's not." (F, 22 years, ES). Another participant shared in relation to how her health behavior practices and beliefs had changed since adolescence:

Oh, there's a huge difference. I've been changing towards [being] healthier than when I was in high school. Back in high school, you have PE [physical education], you have health teaching about eating well and nutrition and stuff like that. You don't really listen. You listen [from] one side of your ear, and it comes out the other side of your ear... I think the point where I start to change was taking a health science course from university and I just changed a lot. I learned all the benefits and consequences of exercise. Getting all the saturated fats, high salts, and all those consequences scare me. I just want to be healthy, for now, and for future as well because it builds up. (F, 20 years, CS).

Specifically in relation to eating and nutrition, one of the athletically inclined young men shared:

What changed would be is in high school you are still growing, your body is still

growing, so you can eat whatever you want at that point. Not too much, but still you need

high protein, high sodium, actually not high sodium. Right now, slowly stopping

growing, slowly I'm changing and maybe I shouldn't eat that much anymore. Even

though I really want to eat a lot, I should probably wind down my diet. And that's

probably the main thing that's changed. (M, 20 years, CS/ES).

Other young adults echoed this sense of awareness regarding food choices, and made an

effort to stay away from sweets and foods perceived to be high in fat. For the two young adult

participants who were out of the family home, this was especially true as they were responsible

for choosing what they were eating or cooking.

A few of the participants spoke of needing a schedule or meaningful routine as part of

health and that lacking one could cause stress. One male participant described how maintaining a

healthy lifestyle required commitment in the form of a schedule or routine, something he did not

think about as an adolescent:

Hmmm.... I think when I was a teenager, playing basketball a couple of times a week

would be considered healthy... stuff like that. Now I think being able to maintain a

healthy lifestyle takes a lot more than that. Now I think playing basketball is just for fun...

like I said, you almost have to make yourself a schedule, maybe going to the gym

everyday at a certain time and maintaining throughout the years... and having a healthy

diet. (M, 25 years, CS/ES).

5.2.4 Intersecting cultures. When asked about whether the participants and/or their

families believed in or practiced Traditional Chinese Medicine (TCM), there were a range of

responses. There were a few who did actively practice TCM, and a few who said that they did

not but were open to it:

> In terms of being Chinese, I think I am more accepting of the herbal remedies and
>
> Traditional Chinese Medicine way of treating, because I know there are some people who
>
> are against that and sceptical about it. Personally, I am skeptical about medicating
>
> everything myself (F, 26 years, ES).

> Another young adult who shared the same moderate type of view towards Chinese

medicine stated:

> [I am] skeptical in some sense, but at the same time, I doubt this mentality—if it's not
>
> going to kill you, it kind of tastes bad, and it costs a lot of money sometimes, but, yeah,
>
> I'd give it a try. It's not as though I participate in it as some people might because it
>
> provides some sort of cultural connection which is a more emotional kind of benefit. I'll
>
> do it because it doesn't kill me. (M, 26 years, ES).

At the other end of the spectrum were a couple of participants who felt that Western medicine

(i.e. prescription medication) had more side effects and perceived TCM as a natural way of

healing.

Interestingly, two of the female young adults stated that they did not believe in or practice

TCM, yet later went on to describe how they avoid cold things and foods associated with "cold"

energies during their menstrual periods while making an effort to eat "warm" foods such as

ginger and red beans. All four young women followed the principles of avoiding cold foods and

drinks, and made an effort to eat "warm" foods or drink special teas during their menstrual

period.

When the writer inquired about how participants viewed their health or their family's health and health practices in relation to other "regular" young adults and/or families (Chinese and Caucasian), most felt that they were similar to, somewhat above average in terms of healthy practices. A few of the participants mentioned that Chinese young people were much less likely than Caucasian young people to drink in excess or to drink at all. Some felt that the Chinese diet was potentially unhealthier and "greasier" than a Western diet, while others felt that native born Canadians were more likely to eat unhealthy, high fat and high sodium foods such as cheese. In relation to physical activity, some felt that native born Canadians were more likely to exercise while others felt Chinese families in Canada were pretty much on par with other Canadian families in terms of activity level. However, one participant compared the health behaviors of acculturated Chinese and Caucasians to that of the lifestyle of Vancouver, while the health behaviors of non-acculturated Chinese to that of Richmond (a city in the Vancouver Lower Mainland that is predominantly Asian). He described people who lived in Vancouver as being very proactive in their health, taking up a lot of physical activity, buying locally grown and organic foods, while Richmond residents drive everywhere, even for short distances, instead of walking, and the roads are always congested with cars.

In a similar light, another participant described how he felt that his family had traditional Chinese or Asian cultural influences and that there exists a distinct difference between native Canadian born families and his own family. For example, he viewed native-born Canadians as being more active, and having things like gym memberships while he himself had not incorporated regular exercise into his lifestyle but went on to say that "because we've been living in Canada for a while, we tend to keep an open mind....we experience, a little bit Canadian style, we also learn from some Canadian healthy living stuff" (M, 30 years, CS/ES).

The interviewee that was newest to Canada (immigrated at 15 years of age) and was interviewed in Chinese, saw Canadians as distinctly different from new Chinese immigrants:

I think Canadians are more concerned about... more concerned about being natural and living a more active lifestyle. And Chinese people feel, especially the older ones, they are more traditional. It's like there are some things they will not venture to try. It is hard for them to change their original lifestyle, for example, diet, and outdoor activities. They know that [outdoor activities] are good for health but for themselves they won't spend the time to get involved in outdoor activities. (F, 20 years, CS).

These health beliefs about the differences and similarities between the participants and other Canadian young adults highlight the health related predisposing characteristics of the sample.

5.2.5 Enabling characteristics. Gelberg, Andersen, and Leake (2000) describe enabling characteristics within the Behavioural Model as including social and family supports as well as personal resources. Enabling characteristics cover influences that positively affect health usage as well as potential barriers to health that individuals may face (Andersen, 1995).

Close family ties. The interview participants all described fairly close relationships with their families. One participant explained that his entire family (his mother, father, himself and a brother) made a decision to become vegetarian during his teen years as a result of his father being diagnosed with hypertension and diabetes. Another participant along with his parents, whose brother was diagnosed with hyperlipidemia, made changes in their diet as a family in order to support the brother to control his cholesterol and weight loss. They started eating at home more, reduced the amount of red meat and rice they ate, and used healthier cooking oils. In

support of, and alongside his brother, this participant also started exercising on a regular basis and has now been jogging almost every day for the past half a year.

Parents also served as a source of motivation or a means to access health care. One young woman remembered that the last time that she went to a doctor, specifically a walk-in clinic, was when her parents took her. She has not visited a doctor since moving out of her family home three years prior. One adult participant's mother also urged him to get a full-body physical examination in China when they were visiting. Some of the participants' mothers also encouraged or facilitated visits to a Traditional Chinese Medicine practitioner for ailments such as shoulder pain and general health maintenance. Another participant also sought health advice from her grandmother who used to be a TCM practitioner. Most parents of the participants had family physicians that the participants were able to access at one point even if they no longer continued to do so. All interview participants stated that they would confide in their parents regarding any personal health matters right away even if it was a distressing diagnosis such as HIV, hepatitis, or cancer.

Filial piety. Turning to familial factors that are not necessarily enabling in relation to health for the interview participants, it was evident that there were family stressors for the young adults. In particular, one young adult relates stress in trying to make his parents happy:

> I was a premed student, self-identified and self-imposed, for the longest amount of time. It was just during my undergrad, I had experiences that derailed me from that track. At that time, although I was never conscious of how much I needed my parents' approval and things, I went through this period in my life, in which I didn't feel compelled to go into medicine anymore and my parents felt quite uneasy about that and although I had a lot of conflict with them, I was just puzzled, confused why they wouldn't understand that,

or why they weren't sympathetic to that, angry towards them for that, but at the same

time, I very much wanted their approval and wanted their sense of support. (M, 26 years,

ES).

This sense of obligation towards fulfilling parental and/or family expectations recurred as

an important theme in these participants' lives that sometimes served to hinder enablement

towards attaining optimal health.

Echoing similar feelings of obligation towards parents, a participant shares her current

situation, planning to move back to Hong Kong after she graduates from university in Canada in

order to help her father with the family business:

Well it's not like I don't want to stay in Canada, but the reason why I want to go back to

Hong Kong after I graduate is because of my father. I promised him I will go back and

help him with his business. But otherwise I would love to stay in Canada, Vancouver

especially… You know like back in Hong Kong and China, everything is so crowded.

Everyone is so stressed and busy all the time. You have to rush for everything. It's like so

polluted. It just makes health worse. But if I am working for my father, then I guess that's

exceptional. (F, 20 years, CS).

This participant reflected throughout her interview that living in Canada was much more

conducive towards a healthy lifestyle, yet she would willingly forgo a potentially healthier way

of living in order to help her father.

Two of the participants who had moved out of their family homes, felt that they have

been able to live an even healthier lifestyle since moving out of the home. When asked how her

health habits and practices had changed since she moved out of her parent's house, the

participant replied "Actually, right now I am probably living healthier and eating healthier. I am actually doing more exercise." When prompted to elaborate further, she explained:

> I think there's a couple of reasons. I think the driving reason is more awareness of health. Yeah, for dieting yes, I am cooking for myself, and I can choose what I want to cook. But in terms of exercise, I am actually more driven because my fiancé demands it [laughs]... I am definitely more health conscious now in terms of what I eat. I would more try to stay away from sweet and fatty foods more so than before that's for sure... (F, 26 years, ES).

Moving out of the family home appears to enable participants to be more responsible about setting healthy living patterns for themselves. Andersen (1995) explains that social and family relationships can serve to facilitate *or* impede practices relating to health.

Two of the interview participants, who were still residing in a family home, expressed great desire to move out on their own. One participant even felt that moving out of the house would be better for her mental health by increasing her independence. The other participant wanted to move out of the home and elaborated reasons relating to stress. She currently lives with her aunt's family and paternal grandparents as her parents are still in Hong Kong. She shared:

> Actually this is [my aunt's] house, and you know how Chinese people, like, uh, I don't know how to say in English, but if you live under other people's house, your responsibility is to help them. As I mentioned she has her own business. She doesn't even have time to take care of her own children. Sometimes she asks my grandparents to take care of them. They are getting old already, they have back pain and joint pain and stuff like that. So it becomes my responsibility to take care of them as well. (F, 20 years, CS).

When asked if she would continue to live at her aunt's house despite these stresses, she replied "I guess I have to. I don't want to but I have to... there is a lot of pressure. If you are Asian, I think you can understand living at someone's house. Everything she asks you to help her do, you have to do it even if you don't want to." Sometimes the strong sense of obligation towards family and parental wishes interfered with the pursuit of what the participants deemed a healthy and balanced lifestyle because of the responsibilities entailed with living inside a Chinese family home. In this context, because the participant is a 'guest' in the family home, she feels the need to be extra courteous and display helpful behaviour to her host.

  Personal stress. A recurrent theme was personal stress that arose as a result of learning during this life stage. Life during this developmental stage is punctuated by periodic stress as young adults try to make their way in the world. Similar to the stresses experienced by the participants relating to family obligations, much of the stress appeared to be self-imposed pressure. Sometimes stressors took precedence over health as a priority. Interpersonal stresses included relationship stress with significant others. For example, one participant stated,

> To be honest with you, getting used to my fiancé can be quite stressful... I guess things that come into play, [like] finances... I can't really put one [name one], well, if it's really one big thing to it, it's finances. Because our view on money is kind of different. (F, 26 years, ES).

Although differing views towards money may not have immediate implications for health, personal stressors such as this may foster delaying necessary attention to one's health practices.

  Many young adults spoke of personal stress that resulted from education, extra-curricular activities, employment or a combination thereof. For Chinese young adults who were already employed after graduation, their work sometimes became a source of stress:

My job can be stressful at times especially when projects are nearing their deadlines. So, my work and relaxing balance gets out of control. I am a person who if I am stressed, like work stress, if I am not able to relax and get rid of that stress, I don't want to sleep even though I am like dead tired. So that kind of thing carries over. (F, 26, ES).

Along the same lines, another working participant shared:

My workload is the most stressful thing right now... sometimes I work from 6am to 6pm and then, and even [when] I get home, I still work, I still have a lot of things I haven't finished so I just...{pauses}. Part of my mind, even though I want to keep doing it, knows I should relax but part of my mind still thinks about work stuff that I should keep working through. Mentally, even if I stay at home trying to relax, but mentally I am not that relaxed myself because I am still thinking about work, so that's a lot of stress. (M, 30, CS/ES).

These experiences illustrated the reality of the developmental tasks this age group encompasses in relation to learning how to balance work, life, school, social and relationship responsibilities. The personal stressors experienced by participants are a normal part of 'growing up' and coming into one's own as an adult, yet serve to act as temporary obstacles towards attaining a healthy lifestyle by relegating health maintenance to a lower priority.

One university attending participant, although he did not express feeling any stress over school or career planning per se, felt that having a job that led to a career was actually an important component of health and living a healthy lifestyle. Supporting the concept of enabling characteristics within the Behavioural Model, when asked how having a job would help him health wise, he responded that it would help him gain more life experience in order to secure a better career for the future and presumably, be able to lead a lifestyle conducive to healthy living.

Despite the existence of different stressors, the participants also displayed health enabling characteristics. They were usually cognisant of when they were experiencing stress and took actions to decrease their stress by a variety of methods such as meditation, yoga, talking with friends and family, and even trying to change their responses to the stressors cognitively. The participants also demonstrated interest in their health and made personal inquiries into matters that affected their health. One young adult did her research on the HPV vaccine before deciding against getting the vaccine, while a few of the others took health sciences or nutrition courses at university out of interest and learned more about living a healthy lifestyle. Internet and books were frequently used as sources of health knowledge.

5.2.6 Need. Health needs are another major component of population characteristics. Andersen recommends that health needs be examined in relation to health beliefs (1995). In order to ascertain health needs, the perceived health of the participants' is examined.

Perceived health. When asked how well they lived their idea of a healthy lifestyle, answers ranged from fairly well, to one or two participants saying not so well. Healthy eating was an area that a few of the participants said that they could improve on. Many of them concurred that that they could be much more active in terms of physical exercise. They often cited a lack of motivation or lack of time due to school or work demands as reasons for not getting enough exercise. One young adult shared that there were psychosocial repercussions to not being physically active such as feeling slow and lazy and becoming non-productive.

On the other hand, participants felt that their lifestyle was mostly healthy and that if they were not completely healthy, they were on the right path. One young adult said it well:

I jog pretty much every day, and I have been able to maintain it. It keeps me energized every day. Yeah, and mentally... for the mental part, I go hang out with friends, being

able to be with family, spend time with them, spend time with friends. That makes me

really happy and fulfilled. (M, 25 years, ES/CS).

When asked if they had experienced any recent health issues (within the past 2 to 3 years), a few

things came up. Musculoskeletal injuries were common amongst male participants, attributed to

a combination of injuries and improper body mechanics. One had developed a more serious

infection with fever and headache as a result of a cut from a football injury. Dermatological

problems were mentioned by three people, with two of the participants experiencing more

serious and bothersome cases requiring medical attention.

5.3 Environment

5.3.1 External environment and community-level enabling variables. Within the

context of the Behavioural Model, environmental characteristics include that of the external

environment, community, and health care delivery system (Phillips, Morrison, Andersen &

Aday, 1998). Themes that arose relating to the environment include comparisons of the local

Vancouver lifestyle compared to other Canadian and Asian cities as well as experiences with and

comparisons of health care delivery and providers within health care systems that the participants

were familiar with.

Living in Vancouver. A few of the young adults mentioned that living in Vancouver, a

city known to be more proactive towards health, had a positive influence on their current lifestyle

and health-related behaviors. A participant shared that moving to Vancouver had ignited his

motivation to live a healthy lifestyle:

In coming to Vancouver, a part of a healthy lifestyle involves the context we are in, I am

finding that just being here in Vancouver, in a community that is so outdoors focused,

that it's been encouraging. It makes a healthy lifestyle very easy to follow through with. Just you know, the running communities, cycling, active sports. (M, 26 years, ES).

Other participants voiced similar views regarding how living in the Vancouver Lower-Mainland inclined them to be more active and healthy as they saw others being active and participating in outdoor activities like jogging and biking.

This positive take on the community environment also translated into the wider context that living in Canada was more conducive to healthy living. When asked how health and health behaviors of the participants and their families were compared, for example, with new immigrant Chinese, they pointed out that there was a marked difference. One participant shared, "I just think that life in Taiwan is a busier working life, they don't really have the time to pay attention to it [health]. I think we're more laid back here, so we have time to pay attention" (F, 20 years, ES). Another participant elaborated on how acculturated Chinese in Canada tend to be healthier than Chinese in Asia because of the different pace of life:

> New immigrants from Hong Kong especially, they would still rely on convenience foods
> because they don't think they have enough time to complete their tasks for the day. They
> would be working non-stop for the whole day and they wouldn't bother thinking of things
> like cooking at home. They'd be like, oh, where's the convenience food, oh okay, a
> vending machine. A dollar for a cookie, food court everyday. (F, 20 years, CS).

On the whole, the participants generally felt that living in Canada allowed them to have the potential for, or to live a healthy lifestyle.

5.3.2 Health care system.

Providers. When asked about whether or not the interview participants had a family physician, although two did not currently have a family physician, all of the participants had at

some point shared a family physician with their parents during their childhood and/or adolescence in Canada. In relation to language preference this was definitely vital to the previous generation; the parents of the participants. All the family physicians mentioned were Chinese and spoke Chinese, which the participants mentioned as being very important to their parents and to one of the participants because communication in English would have been a major barrier to receiving the care that she needed. When asked if they themselves would consider having a physician who only spoke English, most of them said that communication in English was not an issue. However, one of the participants, even though he said that he was equally comfortable speaking English or Chinese, stated "since English is my second language, having a Chinese doctor does help in explaining more medical terms to me" (M, 30 years, CS/ES).

Participants generally spoke positively about the Canadian health care system, valuing the medical health care system that is available free to everyone without needing an insurance plan. However, there were also issues raised with the health care system here—the primary concerns cited related to waiting times and convenience factors. Having easy access to a physician was of primary importance to one interviewee, which led him to have two family doctors, one being the "back up" family doctor:

> I have more than one family doctor, if he is too busy, I might go to the other one. I don't want to wait and sometimes they have to set up an appointment for next week, so you have to wait another six, seven days just for the flu, so I don't think that's worth the wait, so I just go to the other family doctor. (M, 25 years, CS/ES).

This practice was influenced by his parents who do the same thing.

Having to make appointments discouraged some young adults from seeing their family doctor if they had one, and made them more likely to go to a walk-in clinic; many of the young

adults interviewed had been to one in the past year. Location convenience was also important to the interview participants. One participant who lived on the university campus accessed the nearby walk-in clinic, while another participant decided on a walk-in clinic based on her whereabouts. When one interviewee, who visited her family physician instead of a walk-in clinic, was referred to a specialist by her family physician, she appreciated the fact that the specialist was in a location close to her home. Still another participant chose to go to a walk-in clinic instead of his family doctor because he cited that it was an emergency (he was suffering from fever and shoulder pain). When the walk-in clinic doctor could not adequately treat him, and his symptoms worsened, he chose to see another doctor other than his family doctor again. When asked why he did not go see his family doctor, he stated that it was likely that he couldn't get a quick enough appointment and that it was just too urgent.

Comparisons of Canadian and Asian health care systems also came up, one participant stated, "The good thing about Hong Kong I think, is that you can walk in and see the doctor right away. Instead of like here, you have to make an appointment and slowly wait until the day of the appointment to see a doctor" (M, 20 years, CS/ES). Similarly, another participant shared that going to the doctor always entailed waiting while seeking care in China was comparatively more convenient with shorter wait times.

5.4 Health Behavior

According to the Behavioural Model, health behaviour encompasses personal health practices and use of health services. These components of health behaviour are examined in relation to potential and actual unmet health needs experienced by the participants.

5.4.1 Use of health services and unmet health needs. The discussion of recent health issues experienced by the participants led to questioning whether or not they sought attention

from a health care professional for their problems and if not, why they chose not to. It became evident that the experience of unmet needs could not be simply defined as foregoing the access of health care in the past year, as used in the secondary analysis of the PHC survey. The following experiences shared by the participants suggested unmet needs in subtler ways.

A pattern of delaying care emerged, pointing to future potential for having unmet needs. Two young adults with musculoskeletal symptoms had not to date sought any attention for their pain. For one young adult, it did not reach a threshold of bothering him enough to seek care and the problem eventually went away with time and due care. Another young adult, in discussions of whether or not he had ever had a time when he should have or could have received health care but did not (therefore having an unmet health need), he described the situation and the reasons why he had not sought care:

> Maybe this isn't a valid example, but I am thinking about [it] and I attribute it to my workstation I have set up. I have pains in my shoulders, even though I am a pretty athletic person, I can do a lot of things, something that is a nagging, straining pain for me. I've been meaning to go to a physio. This is something I've never really gotten around to. Part of it is because it hasn't been nagging so much, although sometimes it is. I guess it's the hurdle of finding the right person and going to them and developing and establishing a rapport and relationship with them. Somehow seems too much, although I would certainly pay a lot to have that pain go away" (M, 26 years, ES).

He went on to elaborate how his shoulder pain did impede his athletic performance. When questioned whether or not it was a matter of other pressing priorities being more important than looking for a physiotherapist, he replied that it was indeed an important priority but was unsure why he did not bother to look for a physiotherapist although he was able to rule out cost as an

issue as he spoke of having an extended health insurance plan at his university. This same young adult did not have a family physician or dentist in Vancouver after having lived in Vancouver for the past three years. He was asked if time was an issue regarding finding health care professionals, and to that he replied that it was not time but more a matter of will and stated, "rather than going to the doctor, we sit in front of the TV for another hour, we sit in front of the computer for another hour, or something like that." Although health appears to be a priority for young adults, this did not always translate into action with regard to accessing health care, which potentiates the risk for unmet needs.

For one young adult experiencing more severe skin allergies, hives, and itching, which were precipitated by stress, she visited her family physician which resulted in a referral to a skin specialist. Although she was able to get a referral easily and the specialist was in a convenient location for her to visit, she talked of how long the wait times for an appointment were:

> Back when I was having my hives, I have to wait for so long to get a spot to see her. For now, for the second time, actually now I am still waiting for my specialist to see my allergies again because they are coming back. It has been two months and my appointment is in August. I think it's a really long time. Because it's really bothering me. (F, 20 years, CS).

This was reiterated by a few other participants. One specifically stated, that "going to the doctor here, you always have to wait." (F, 20 years, CS). Even though these participants were in the process of seeing a health provider to address their concern, treatment was often delayed, resulting in short-term unmet needs.

Although the majority of the young adults at least had a current family physician and dentist, a few did not. One young adult, when asked if he had a time when he could have or

should have received medical care but did not for whatever reason which resulted in an unmet health need, he stated that in the larger telephone survey he had responded "no" to that question, but upon being asked the same question again during the interview, he recognized that he may indeed have an unmet health need and shared,

I have a family doctor, I know I can just go there and see her. But right now, say, dentist, I don't have a dentist. Well, I used to have one, I don't really like the dentist, I have to find a new one. But the thing is, I don't know where to look for a new dentist, how the procedure is, and etcetera, do my insurance cover them, etcetera. So that is a bit confusing right now. I won't say it's preventing me, but it's not easy, it's not out there. (M, 20 years, CS/ES).

When prompted to elaborate further, he explained:

It's not like, I want a Big Mac, there's a McDonald's, boom done. It's more, okay, where I do start looking, do I go to a dentist and ask them and see from there, or do I phone them or etcetera, do I have time to actually make an appointment to do the x-rays and things again, what's going to happen, what do I have to pay.

The writer asked if he had a dental insurance plan, he confirmed that he had one with his parents and a student plan from the university. This led to asking, if he had a toothache today, would he go find a dentist or would he not bother unless it was really bad. He replied "I think I would not bother, and start looking, and if I can find one I'll go, but if I can't find one, I would just ignore it for now. Because the information is not clear what will happen...." This reiterates the pattern of delaying the access to care, ultimately leading to unmet needs.

The other young adult who was no longer living in the family home, when asked the unmet health needs question, did not feel she had an unmet health need. When the writer

inquired why she did not have a family doctor, she shared that she did not continue to see her parents' family doctors (they had two), because she felt that one was not very thorough based on her experience of seeing her when she had an injury; she believed she had not received adequate treatment, while the other physician, she felt had a tendency to over-medicate and prescribe unnecessary medication for ordinary illnesses such as the flu. Interestingly, this participant felt that her health needs could not be met by the standard walk-in clinic approach used by many of the other participants for health concerns, and planned to seek a family physician that offered a greater continuity of care. However, not having a primary health provider such as having a family physician, and/or dentist was not necessarily equated by the participants as an unmet health need.

Concerning more emergent issues, such as the systemic infection that resulted from an open cut experienced by one of the young adults who played football, this was immediately addressed because it was causing him to suffer. Some participants displayed confidence in knowing when and who to seek care from. One young adult who was experiencing chronic shoulder pain and strain, chose to seek the attention of an acupuncturist and physiotherapist. When asked how he determined who to go to he replied, "I didn't go to the doctor first. I went straight to the acupuncturist because I didn't think Western medicine would help me a lot to be honest. The other thing I thought of was going to physiotherapy" (M, 25 years, CS/ES). Upon further inquiry about how he determined whether to go to a TCM practitioner or to pursue conventional Western medicine, he elaborated, "I would say about 20% of the time [that he would see a TCM practitioner] if I want to see a doctor because I perceive it as a natural way of healing."

The strongest reaction to the unmet health needs exploration was received from one young adult who felt quite certain that he had an unmet health need, although the unmet health need appeared to be more related to dissatisfaction with the care received. He explained that he had broken his arm while in high school which required surgery and hospitalization. He had had a metal plate inserted in his arm as a result. Subsequently, it caused him to repeatedly see the follow up physician as he was worried about the plate in his arm and the return of full function of his arm. He felt that he did not receive adequate guidance, treatment or rehabilitation for his arm.

Unmet needs could also be reframed to location—in this case, within Canada. Interview participants were asked if they had been to Asia (China, Hong Kong, Taiwan) in the past few years, and if so, whether they had seen a physician or other health care professional there. Some participants had sought health care in China and Hong Kong while visiting within the past seven years. One sought the attention of a doctor because of an emergent problem, while the others participated in routine physicals with either a Western medicine physician and/or a TCM practitioner. This begs the question whether Chinese young adults are truly having their health needs met in Canada if they are accessing care outside of the country.

Those who had chosen to seek health care for non-emergent reasons while in China or Hong Kong were asked why they chose to do so. It was a one-time event for one participant. For the other two participants, it was a combination of encouragement from their parents and more specifically, their mothers. When one participant was asked if it was routine for his parents to seek health care in China, he replied:

> Yea, they always go back to China, or maybe Hong Kong. Because my parents don't
> really trust the health care here... if you really want to do a body-check up or check this
> or check that, if the doctor don't think you need that, they might not do that for you. So,

my parents find that really frustrating. Back home, if you have the money, you can do it

anytime. It's instant, or immediate. You don't have to wait for a long time. It's pretty

accurate too" (M, 25years, CS/ES).

When asked if he shared his parents' beliefs, he agreed that he did. This perspective was more

extreme, compared to other Chinese young adult participants who stated that they would wait to

receive health care in Canada if they were visiting their native country, unless it was urgent.

Even so, the fact that this viewpoint was brought up by a Chinese young adult, points to

something perceived to be lacking in primary health care leading to unmet needs.

5.5 Summary

Having examined the interview data through Andersen's Behavioural Model, the data can

be summated well using the three domains of personal factors, health behaviours, and

environment of the SCT. Within the domain of personal factors, when young adults were asked

about what they believed was part of a healthy lifestyle, they often defaulted to talking about

nutrition, exercise, and psychosocial balance. Participants did not generally bring up preventive

behaviours such as health screening, immunizations, dental check-ups etc., unless prompted.

They believed that they grew more knowledgeable about their own health and health in general

as they entered university, and working life, and for a few, moving out of the family home, or

wanting to move out of the family home. There were no distinctive patterns that emerged

between male and female participants in terms of health beliefs or health care access or

utilization. Although they experienced stress related to developmental milestones: attending

postsecondary education, building careers, and relationships, they did not smoke or drink alcohol

in excess if they drank at all and tended to be quite savvy in finding information concerning

health as needed.

In the areas of health behaviour and environment, generally, all the interview participants were quite aware of their health actions or access to care. In keeping with their often busy lifestyles, they tended to prefer to seek health care on a per need basis and usually went to walk-in clinics. The participants were cognisant of the cultural aspect of health with a difference in health behaviours and attitudes between native born Canadians and Chinese who had immigrated to Canada and this was frequently related to the practice of TCM, diet, exercise and patterns of seeking health care. Half of the participants interviewed sought and/or received health care in Asia. Female participants tended to adhere to TCM beliefs regarding menstruation regardless of whether they practiced TCM or not. Participants who immigrated to Canada at a later age (i.e. in their teens) tended to place greater importance on having health care available for access at all times.

For most participants, when they were asked if they had ever had an unmet health need for any reason, although they did not initially think that they had an overt unmet health need, over the interview, many of the participants identified areas in which their health needs were potentially not being met. Moreover, when 'unmet need' is reframed beyond forgoing care within a certain time period, participants experiences pointed to the discrepancy between health behaviour and health care access. For example, half of the young adults did not have a primary care provider (family physician, dentist, or nurse practitioner), and many did not engage in active preventive behaviours such as blood pressure screening. Additionally, the fact that some of the participants accessed health care outside of Canada, points to potential areas of unmet needs in primary health care. It appeared that language preference (i.e. Chinese speaking) did not necessarily indicate a predisposition for unmet needs in this qualitative study as the participants were reasonably fluent in both languages, with many being uncertain as to their preferred

language. The bilingual ability of many of the participants allowed them to navigate health care

access without experiencing unmet needs relating to communication.

Chapter 6 – Discussion

This was the first descriptive study that employed mixed methods to examine whether or not Chinese young people living in Canada have unmet health needs. Secondary analysis was performed on a comprehensive primary health care telephone survey as part of the quantitative way of answering this question. The secondary analysis aimed to discover 1) if language preference was associated with unmet health needs, and 2) what the reasons were behind having unmet health needs within primary health care. When Chinese young adults were posed the question whether or not they had forgone health care in the past year during the phone survey, ten percent of young adults answered yes. Reasons cited for forgoing health care related to provider availability, accessibility of care, and not wanting to wait for care. Young adults who preferred to speak Chinese were more likely to report having an unmet need than young adults who preferred to speak English, although this was not found to be statistically significant.

The qualitative component of this study sought to determine what the experiences of unmet health needs were, if there were any, and to uncover any barriers to care. When this question was examined qualitatively, in-depth interviews with young adults revealed that although many of the young adults did not initially report having unmet needs, over the course of the interviews, areas of unmet health needs emerged or were identified by the young adults themselves. For instance, when asked what they believed was part of a healthy lifestyle, the young adults rarely described any preventive behaviours, other than exercise and healthy diet, such as having and visiting a regular primary care provider. Some young adults also recognized that although they had originally said that they had no unmet health needs during the telephone survey and/or during the interview, they identified that there were areas in their life where there were unmet needs. For instance, a number of the participants interviewed did not have primary

care providers and relied on walk-in clinics for episodic care. Young adults admitted to delaying or forgoing seeing a health care provider for issues that they felt were not urgent, demonstrating a divergence between their health needs and actions.

It was evident that unmet needs may be interpreted differently depending on whether the question is asked quantitatively or qualitatively. When asked as a terminal question, on the telephone survey, there is little opportunity to explore contextual issues that go beyond whether a person received health care when they felt that they should have during a certain time period. Health and health care issues are present across a person's lifespan and health behaviour and access patterns are likely set during this time of emerging adulthood. Young adults are generally in the healthiest age group (as manifest by their high self-report of health); however, there are areas for improvement in terms of health behaviour and health care access. Although this is likely true for all young adults, there are some distinct considerations when it comes to Chinese young adults. The qualitative interviews demonstrated the significant role of culture in relation to family influences, health beliefs, perception of needs and subsequent health care access. Participants related experiences of reconciling learned behaviours from their families, culture, and their own evolving health beliefs and practices, which makes Chinese young adults unique from other young adults.

6.1 Chinese young adults and health needs

6.1.1 Unmet needs and young adulthood. It becomes apparent that the definition of unmet needs should be reframed beyond forgoing care for a specific health concern. It is known that health care access is the lowest for young adults than for any other age group (Callahan & Cooper, 2010; Ford et al., 1999; Irwin, 2010). In Canada, the Canadian Community Health Survey shows greater numbers of unmet health needs for young people between 15 and 24 years

of age than any other age groups (Nelson & Park, 2006). Irwin argues that young adulthood represents a critical time in the lifespan in which young people begin to assume responsibility for their own health (2010). Today there is often a prolonged transition to adult roles and responsibilities. For example, young adults in Canada, much like many of the Chinese young adult participants in this study, continue living within the family home, and may be attending postsecondary education or working. This unique stage of life involves gradual steps towards independence and exploration with differing levels of adult supervision. There are many ways in which young adults have, or have the potential to have, unmet health needs. In keeping with reaching the developmental milestones at this stage of the lifespan, young people often experience stress related to development of personal identity, family, schooling, adapting to work life, and relationships. Arnett (2000) asserts that these factors have implications for risky behaviours as young adults have greater freedom without the same parental constraints. Young adults represent a by and large healthy population yet their mortality rate is double that of adolescents with the highest rates of preventable diseases (Callahan & Cooper, 2010; Park et al., 2006). This makes the further examination of young adults' health behaviours and health care use crucial.

In young adults, the largest unmet need may be the divergence between health behaviour and health access. During the in-depth interviews, participants were able to elaborate easily on elements that they felt were part of a healthy lifestyle (namely good nutrition, physical activity, and psychosocial balance) in relation to their health behaviours. The participants subscribed to maintain these behaviours. Young adults shared that they pursued physician care due to dermatologic, musculoskeletal, and other somatic health problems rather than for preventive or health promotion purposes. This reflects the practices of young adults in Canada and the United

States who access care for health problems on an 'as needed' basis (Callahan & Cooper, 2010; Dawson, Schneider, Fletcher & Bryden, 2007; Fortuna, Robbins, Mani & Halterman, 2010). Yet, young adulthood provides the prime opportunity for the reduction of preventable morbidity and mortality (such as heart disease, and diabetes), opportunities to identify and treat adult health problems at an early age, and to promote optimal health and health seeking behaviours. It may also be worrisome that interview participants failed to mention preventive activities such as blood pressure screening, sun protection, osteoporosis prevention, and reproductive health. It may be that the possibility of developing these related diseases lay too far in the distant future to provoke concern in young adults. Preventive care and health counselling are accessible through primary care providers. Problems arise when young adults access care only on an as needed basis. Consequently, they do not receive preventive counselling or screening, resulting in an area of unmet health need.

Another area of unmet health need for young adults lay in how they access health care. Salisbury and Munro (2002) also found in their review of walk-in centres in the Western world, young adults, made up a large proportion of walk-in clinic users. Fortuna et al., (2010) found that, in the United States, one fifth of ambulatory care provided to young adults (between the ages of 20-29) was given at emergency departments, in which at least a portion of those visits could likely be resolved within a primary health care setting. The authors conjecture that young adults rely on emergency departments due to limited preventive care, inadequate transition between care providers and a lack of a usual source of primary care. This is reminiscent of the preference for walk-in clinic use for the interviewed young adults in this study. They did not continue to see their parents' family doctor for various reasons (i.e., dissatisfaction with the provider) and did not have a usual place of primary care. This begs the question whether or not

young adults will engage and establish a relationship with a regular primary care provider later on in life, if they do not do so now.

Additionally, even when young adults have a primary care provider such as a family physician, they still used walk-in clinics as demonstrated by the young participants of the PHC survey and in-depth interviews. In a primary care setting, Haller, Sanci, Patton and Sawyer (2007) found that young people did not attend their usual health care facility half of the time. This has important implications for continuity of care, as well as for developing a relationship with a primary care provider. Continuity of care with the same provider or facility may better facilitate holistic care that includes health promotion as well as medical treatment.

Gender differences in health care utilization are significant in the literature. Young adult women are much more likely to access health care for health concerns as well as for preventive activities such as blood pressure screening, general physical examinations, reproductive planning and counselling. Young men are much more likely to participate in risky health behaviours such as excessive alcohol use, eating unhealthily, and not obtaining preventive care or even having no contact with a health provider (Callahan & Cooper, 2010; Courtenay, McCreary & Merighi, 2002; Davies et al., 2000; Dawson et al., 2006; Fortuna et al., 2009; Park et al., 2006). Davies et al., found that male college students often did not obtain health care because they lacked knowledge of the different services available, felt that they lacked the time to seek health care, or felt immune to health concerns. These gender differences in health care utilization were not readily apparent in this study likely due to the small sample size in both the secondary analysis and the in-depth interviews. Moreover, although the writer aimed to allow gender differences to emerge, the lack of specificity of the interview questions did not readily facilitate this.

6.1.2 Intersecting cultures. It is apparent that young adults are susceptible to unmet health needs. When the focus is shifted to Chinese young adults, an ethnic and immigrant population, there are both overlapping and distinct reasons for this susceptibility. Chinese young adults, as evidenced by the secondary analysis and in-depth interviews, experience the same types of unmet health needs as other young adults. This is related to a lack of priority being given to accessing preventive care and not always having a primary care provider or a usual place where they receive care. As explored in the literature review, Chinese ethnicity affects issues that are unique to Chinese young adults such as the strong familial ties that affect health behaviour and health care access, the practice of TCM, and seeking care outside of Canada. These issues arise as Chinese young adults integrate their beliefs and practices with that of their Canadian peers. This is conceptualized by acculturation, which is the extent to which an individual takes on the values, beliefs, behaviours and attitudes of the dominant culture (Despues & Friedman, 2007). Equally important is the concept of 'enculturation', which is an individual's adherence to his or her culture of origin. Like ethnicity, acculturation may have positive and negative effects on health behaviour and health care access. Interestingly, the Chinese participants interviewed demonstrated more than just adopting Canadian culture and practices— they appeared to have a sense of belonging in both cultures and were able to combine the two belief systems without having one replace the other. For example, although some young adults expressed some scepticism regarding the efficacy of TCM, it was still a part of their health practices. This attests to the bilinear nature of acculturation. Miller (2007) explains the bilinear model of acculturation as the ability to simultaneously adhere to one's culture of origin while still being oriented to the mainstream culture. The health beliefs of foreign born Chinese young

adults in Canada are uniquely shaped by both cultures. Subsequently, acculturation affects their health behaviours and accessing health care.

Combining two systems of beliefs likely has positive and protective effects. It precipitates an extra awareness of health as young adults have two perspectives on healthy living as well as offering additional supports and resources for these young adults. The question is to what extent do Chinese young adults experience deficiencies in health behaviour and patterns of health access related to acculturation and enculturation. The Chinese young adults interviewed demonstrated awareness of their health in relation to healthy eating and physical activity. They did not smoke and drank very occasionally if at all. This is consistent with Chinese cultural values whereby parents instruct their children against these harmful habits. In the United States, Chinese or Asian young adults are sometimes characterized as the "model minority" as they value education, perform well academically, and are less likely to engage in health harming behaviours such as binge-drinking, smoking, drug use, and violence (Hahm, Lahiff, & Barreto, 2006; M. Tang, 2007; F. Wong, & Halgin, 2006). While this often holds true, there still exists areas of vulnerability within the context of acculturation for Chinese young adults in Canada.

A resonant theme throughout the qualitative interviews was that of strong familial ties. This often presented as a double-edged sword: parents and family of the Chinese young adults provided a strong support network, as well as encouragement to engage in certain behaviours, but the flip side was the pressure to meet parental/familial expectations. In a positive light, two young adults shared how their immediate families cohesively changed their health behaviours. The families supported members experiencing major health problems which resulted in improvements to the overall health of these families. The young adults also frequently spoke of parents as being a part of the decision-making process when it came to accessing health care.

One young adult shared that it was her parents that brought her to a walk-in clinic during her last trip to see the doctor, while a few other young adults were encouraged by their parents to see TCM practitioners. The young adults who were still living within the family home were more likely to have a regular family doctor (who was often their parents' family doctor). This family connectivity acts as a protective factor against unmet needs in relation to accessing health care.

However, these strong family values also resulted in a heightened sense of obligation, which often caused stress for the Chinese young adults. This conflict between a Chinese young adult's own needs and what their families expect of them often had the ability to predominate their lives. These expectations may lead to depressive symptoms if individuals are unable to balance their own values and that of their parents. The literature points out that mental health issues in Asian young adults are often masked by cultural and familial practices and that Asian young adults are less likely to see a health provider for mental health reasons than Caucasians and other ethnic groups (Ting & Hwang, 2009; Young, Fang & Zisook; 2010; Zhou, Siu & Xin, 2009). This is a possible area where Chinese young adults may experience need. Additionally, the resultant stress they experience may have negative effects on health behaviours as stress has been associated with risky behaviours such as smoking, high fat diet, and inactivity (Allison, Adlaf, Ialomiteanu & Rehm, 1999; Ng & Jeffery, 2003).

The secondary analysis revealed that twenty four percent of Chinese young adults had received health care outside of Canada. When the participants were asked why they had sought health care in Asia during the in-depth interviews, it was evident that strong familial influences were present. One young adult did so because he was encouraged by his mother to do so. Another shared that he and his family believed that the care one received in Asia was faster, more convenient, and thorough. Although this family had health care providers in Canada, there

seemed to be a sense of mistrust in the Canadian health care system, as they frequently consulted

doctors when visiting Hong Kong and China. This participant had two family physicians, like his

parents, because he did not want to have to wait to see a doctor when he felt he needed care. This

begs the question whether their health needs are truly being met by the Canadian system why

they are pursuing care outside of the country. Most other young adults did not reflect the same

mistrust of the system, but they also strongly valued convenience and short wait times. These

attitudes may be remnants of their or their parents' familiarity with Asian health care systems

and values relating to having health care on demand instead of having to make an appointment to

see the physician.

The Chinese young adults in this study are generally in good health. However, it is still

necessary to be cognisant of the risk factors related to acculturation and enculturation. Many

Chinese Americans perceived Chinese individuals to be less at risk for obesity when compared

with other ethnic groups due to protective genetic factors and healthier traditional diets.

However, major causes of obesity for Chinese Americans include the trend towards eating

mainstream American foods, alcohol consumption and a decline in physical activity attributed to

sedentary lifestyles and computer usage. Increased length of time in the United States was

associated with increased rate of obesity (Liou & Bauer, 2007; Salant & Lauderdale, 2003).

These risk factors are not dissimilar to the ones Chinese young adults would face in Canada.

Appreciably, the Chinese young adults interviewed did not participate in high health risk

behaviours. However, they were also less likely to access preventive primary health care as

demonstrated by their episodic care for health complaints. Despues and Friedman (2007) found

that Asian Americans were less likely to report getting physical exams, exercising, going to the

dentist, and eating healthily when compared with European American college students after

controlling for social economic status. Some of the young adults interviewed shared that they had not bothered to look for a family physician because of competing priorities at hand. Other young adults mentioned that finding a physician or dentist was time consuming since compatible beliefs and relationship development was a priority. This may have implications for health behaviours and health care access later in life as these young adults may get accustomed to seeing care providers only when a health concerns exist because of their busy lives. Although the young adults displayed information savvy, and were confident in their ability to find out health information, this did not always translate into acting on that information by seeking preventive care.

The most common reasons cited for young adult unmet health needs in the secondary analysis related to their regular doctor not being available, not wanting to wait, and difficulty accessing care. This was corroborated by the perspectives given by Chinese young adults during the in-depth interviews. Inconvenience, waiting times, and access issues are often deterrents for accessing care for young adults. Additionally, young adults are predisposed to not accessing preventive health care and have the lowest health care utilization rates. Chinese young adults also valued provider competence and compatibility with their beliefs. These issues are not unique to Chinese young adults. However, in addition to the issues that young adults generally face in relation to health behaviour and health care access, Chinese young adults confront factors in relation to acculturation and adhering to Chinese values they have been raised with when it comes to health behaviours and health care access. On the one hand, increased acculturation is associated with increased smoking, obesity, inactivity, and drinking, but also increased utilization of health care. On the other hand, low level of acculturation may present barriers such as mistrust of the system, and access issues relating to language and accessibility of care.

Moreover, familial and parental influences are arguably stronger for Chinese young adults than other young adults, which needs to be taken into account when examining unmet needs for this population.

At the outset of this study, language was selected as a proxy measure of acculturation in order to see if language preference was associated with unmet health needs related to health behaviours and patterns of health access. In the secondary analysis, younger age at immigration to Canada was associated with English language preference. Young adults who preferred to speak Chinese had a somewhat higher odds ratio when it came to experiencing an unmet health need. However, the qualitative interviews revealed that it was often difficult for the young adults to distinguish which language they preferred to use, which may have something to do with their high levels of acculturation. In a critical review of health in Asian immigrant populations, Salant and Lauderdale (2003) found that language proficiency was not necessarily predictive of the use of health services. It may be that health behaviour, as shaped by different levels of acculturation, better determines the propensity to having unmet health needs. Health behaviour, therefore, requires closer scrutiny as a predictor of health access and unmet needs.

6.2 Behavioural Model and Social Cognitive Theory

This mixed methods study was guided by Bandura's Social Cognitive Theory and Andersen's Behavioural Model. Deductive content analysis was performed on the in-depth interviews using the Behavioural Model. The SCT covers the elements of environment, personal factors, and health behaviours. Looking at Andersen's Behavioural Model, predisposing characteristics contain demographic details like age, gender, ethnicity, occupation and education. Personal enabling factors consist of things like income, family, and support factors, while need factors comprise of both perceived (how an individual views his or her own health) and

evaluated need (professional assessment of a person's health status and subsequent need for health care).The SCT and Behavioural Model overlap and are complementary; Andersen's population characteristics such as predisposing characteristics, enabling factors, and need factors can be seen as fitting under SCT's personal factors. The SCT's elements of health behaviours and environment are parallel to the Behavioural Model's personal health practices and environment, as embodied by the health care system and external environment. Notably though, the SCT identifies self-efficacy as paramount to influencing a person's health behaviours and outcome expectations. Although this study was not designed to examine self-efficacy in Chinese young adults, the concept of self-efficacy may certainly warrant further attention in future studies relating to health behaviours and health care access.

6.3 Limitations

Although this study reveals a few interesting findings about Chinese young adults in relation to health behaviors and health care access, some limitations should be addressed. The sample size (n=58) in the secondary analysis was much smaller than what the post-hoc power analysis showed was necessary to detect a moderate effect size (n=833). Additionally, the question used to determine if participants had unmet health needs has not been tested for validity. Therefore, it is uncertain if this question was able to accurately capture the experience of unmet needs in participants. The qualitative interviews captured a relatively homogenous group of healthy Chinese young adults, most of whom initially responded that they did not have an overt unmet health need. Additionally, many of the young adults interviewed mentioned that they felt that they were more aware of healthy lifestyle habits because they live in Vancouver, a city known to be very health conscious. A wider range of experiences and barriers to care may have been uncovered if more young adults with overt unmet health needs had been recruited.

6.4 Implications

  6.4.1 Research. This study examined acculturation, health behaviors, and unmet health needs in Chinese young adults. Language preference was selected as a proxy measure of acculturation in determining factors that contribute to unmet health needs in this population. However, it would appear that health behaviors and beliefs affect proclivity towards having unmet needs for Chinese young adults more so than language preference or proficiency. Additionally, self-efficacy in relation to health care access was not examined in this study. Future research could further investigate acculturation, health behaviors, and self-efficacy towards health care access in Chinese young adults.

  6.4.2 Primary health care. The findings of this study shed some light on the barriers Chinese young adults face in accessing primary health care. Immigrant and ethnic Chinese adults have demonstrated the underutilization of primary care. The findings generated from this study can contribute toward a better understanding of the needs of ethnic Chinese Canadians with respect to health behaviors and primary care access. Cultural and familial ties play an important role in health decision making and action for Chinese adults, therefore it may be prudent to target young adults and their parents in health promotion and disease prevention campaigns. Additionally, adolescents and older adults are frequently targeted for health promotion and disease prevention purposes by the health care system and policy makers. In comparison, programs, interventions, and policies targeting young adults are sparse, yet this stage of the lifespan is an opportune time to set healthy lifestyle patterns in connection with healthy behaviors and accessing preventive care.

6.5 Conclusion

Immigrants and young adult populations are groups that are known to experience unmet health needs in relation to health care utilization in North America. The purpose of this study was to examine the experience of unmet needs in Chinese young adults, and whether differing levels of acculturation are associated with unmet needs. This was achieved through triangulating data from a secondary analysis of a primary care experiences survey, and a series of in-depth interviews with Chinese young adults. Language (English- or Chinese-language preference) was used as a measure of acculturation. The findings revealed that although language preference was not associated with unmet needs, Chinese young adults in Canada experience unmet needs in connection with their health behaviors. They are generally knowledgeable about nutrition and physical activity in connection with a healthy lifestyle; however they often fail to identify and practice other important health promoting behaviors such as establishing a relationship with a primary care provider and obtaining age appropriate health screening. This may put them at a disadvantage for long-term health maintenance as they value convenience and have competing priorities. Chinese young adults are also unique in relation to other young adults because they often hold Chinese values such as filial piety, which affect their health behaviors. Additionally, some Chinese young adults choose to pursue health care in Asia. Unmet needs in Chinese young adults appear related to their health behaviors. Further inquiry is important to examine the beliefs that influence health behavior, decision-making and health care access for Chinese young people in Canada.

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Appendix A: PHC Questionnaire Codebook Excerpts

A. INTRODUCTION & SCREENING/ELIGIBILITY

Variable	Name	Question	Source	Response Options
CASEID	CID	Case ID		
REFCODE				
T980				
gend				
IN_A				
timer_A				
count_A				
A1	ALANG	What language are you most comfortable speaking?		1 English 2 Cantonese 3 Mandarin 4 Punjabi 5 Other
start_lang				
A2	AGENDER	I am supposed to ask your gender. Are you male, female, or transgendered?		1 Male 2 Female 3 Transgender r Refuse
GENDER_PROMPT				

Variable	Name	Question	Source	Response Options
U7	ETHNIC	Please tell me when I read the ethnic background that describes you best	Stats Canada	1 White or European 2 Chinese 3 South Asian, such as Indian or Pakistani (IF NEEDED: this includes Sri Lankan) 4 OTHER Asian (IF NEEDED: Japanese, Korean, Thai) 5 Aboriginal, including First Nations, Metis, or Inuit 6 Black or African 7 Canadian or American from the US 8 Other or more than one (Specify) d Don't know r Refuse
U8	CANORIG	In addition to being "Canadian" what were the other ethnic or cultural origins of your ancestors on first coming to North America? Please tell me when I read the one that describes you best: (INTERVIEWER read options)	Stats Canada	1 White or European 2 Chinese 3 South Asian, such as Indian or Pakistani (IF NEEDED: this includes Sri Lankan) 4 OTHER Asian (IF NEEDED: Japanese, Korean, Thai) 5 Aboriginal, including First Nations, Metis, or Inuit 6 Black or African 7 Other or more than one (Specify) d Don't know r Refuse
ENDCALL				
ENDCALL_ethref				
A3	AYRBORN	What year were you born in?		Enter year of birth d Don't know r refused

Variable	Name	Question	Source	Response Options
A4	AMONBORN	What month were you born in?		1 January 2 February 3 March 4 April 5 May 6 June 7 July 8 August 9 September 10 October 11 November 12 December d Don't know r refused
A4_1		Age in years		Calculated by the programming codes
A4_2	ADAYBORN	And what day of the month is your birthday?		1-31 Enter DAY of month d Don't Know r Refused
A4_3		Age in years		Calculated by the programming codes A4_3=A4_1+1
A5	ASEEN	In the past 12 months, how many times have you seen a doctor? (If you are not sure, an estimate is fine)		0-996 Enter number of times 997 times or more d Don't know r Refused
A7	ALTCLIVE	Do you live in a health care facility?		1 yes 2 No d don't know r refused
END_CALL				
END_CALL2				
A8	AEMHCP	Are you currently employed as health care provider?		1 yes 2 No d Don't know r Refused

Variable	Name	Question	Source	Response Options
A9	ACOGTEST	What is today's date?		1 Date given is correct (Month and year adequate) 2 Date given is incorrect d don't know r Refused
INTRO				
A10	GENHLTH	Would you say that your health is excellent, very good, good, fair, or poor?		1 Excellent 2 Very good 3 Good 4 Fair 5 Poor d Don't know r Refused
OUT_A				

E. UNMET HEALTH CARE NEEDS

Variable	Name	Question	Source	Response Options
IN_E				
timer_E				
count_E				
E1		In the past 12 months have you requested health information over the phone from your regular place of care?	Wong et al.	1 Yes 2 No d Don't know r Refused
E2		Did you ever experience any difficulties getting health information over the phone from your regular place of care?	Wong et al.	1 Yes 2 No d Don't know r Refused n Not applicable
E4	DELAY	During the past 12 months was there ever a time when you got healthcare that you needed but you had to wait?		1 Yes (INTERVIEWER: CONFIRM THEY DID GET CARE) 2 No d Don't know r Refused

Variable	Name	Question	Source	Response Options
E7	LENGTHDEL	How long was the health care you needed delayed? Was it a matter of hours, days, weeks or months, or did you never receive it?		0 Less than one day (e.g. hours, minutes) 1 Days 2 Weeks 3 Months (record 3 months if respondent says more than months, i.e., years) 4 Never received it d Don't know r Refuse
LENGTH				
E7a		How many [fill LENGTH] were you delayed?		0-96 Enter Number of [fill LENGTH] delayed 97 Ninety seven or more d Don't know r Refused
E8	DELSER	Did the health problem become more serious because you were delayed getting the health care you needed? (referring to E7)		1 Yes 2 No d Don't know r Refused
E9	UNMET	During the past 12 months was there ever a time when you felt you needed health care but you didn't receive it?	HCC 2008; AC_Q22	1 Yes 2 No d Don't know r Refused
E10	UNMETPROB	In the past 12 months, what was the most significant health problem for which you needed care and didn't receive it? (IF NECESSARY: PROBE FOR A SYMPTOM OR ILLNESS.)		1 Enter text. end with // d Don't know r Refused
E11	UNWHY	What are the reasons you did not get the healthcare you needed? I will read a list of possible reasons, and for each one please tell me if it was a reason or not a reason your health care was unmet.		1 To continue

Variable	Name	Question	Source	Response Options
E11A		What are the reasons you did not get the healthcare you needed? Your regular doctor was not available?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11B		What are the reasons you did not get the healthcare you needed? A specialist doctor was not available?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11C		What are the reasons you did not get the healthcare you needed? Some other type of care provider was not available?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11D		What are the reasons you did not get the healthcare you needed? Nobody was available to see you at your regular clinic?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11E		What are the reasons you did not get the healthcare you needed? You do not have a regular doctor nor a regular clinic?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11F		What are the reasons you did not get the healthcare you needed? It was difficult to make an appointment?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11G		What are the reasons you did not get the healthcare you needed? The wait for an appointment was too long?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11H		What are the reasons you did not get the healthcare you needed? The wait in the waiting room was too long?		1 Yes, a reason 2 No, not a reason d Don't know r Refused

Variable	Name	Question	Source	Response Options
E11I		What are the reasons you did not get the healthcare you needed? The clinic was not open during hours you could attend?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11J		What are the reasons you did not get the healthcare you needed? You experienced transportation problems?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11K		What are the reasons you did not get the healthcare you needed? The costs of getting care were too high?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11K1		What costs caused the unmet need? Referring to E11K		1 Enter text, end with // d Don't know r Refused
E11L		What are the reasons you did not get the healthcare you needed? Was the unmet need due to language problems?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11M		What are the reasons you did not get the healthcare you needed? Was the unmet need because you did not know where to go?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11N		What are the reasons you did not get the healthcare you needed? Were you were unable to leave the house because of a health problem?		1 Yes, a reason 2 No, not a reason d Don't know r Refused
E11O		What are the reasons you did not get the healthcare you needed? Was your unmet need caused by another reason?		1 Yes, a reason 2 No, not a reason d Don't know r Refused

Variable	Name	Question	Source	Response Options
E11O1		What other reason caused your unmet need?		1 Enter text, end with // d Don't know r Refused
E12	UNSERIOUS	Did the health problem become more serious because you didn't get the health care you needed?		1 Yes 2 No d Don't know r Refused
E13_1		Thinking of the most significant health problem in the past 12 months for which you were not able to get the needed health care, did you experience any of the following? Did you experience worry?		1 Yes 2 No d Don't know r Refused
E13_2		Thinking of the most significant health problem in the past 12 months for which you were not able to get the needed health care, did you experience any of the following? Were you bothered by pain?		1 Yes 2 No d Don't know r Refused
E13_3		Thinking of the most significant health problem in the past 12 months for which you were not able to get the needed health care, did you experience any of the following? Was your problem still not controlled?		1 Yes (you still had the problem) 2 No (the problem went away) d Don't know r Refused
E13_4		Thinking of the most significant health problem in the past 12 months for which you were not able to get the needed health care, did you experience any of the following? Did you have difficulty with daily activities?		1 Yes 2 No d Don't know r Refused

Variable	Name	Question	Source	Response Options
E13_6		Thinking of the most significant health problem in the past 12 months for which you were not able to get the needed health care, did you experience any of the following? Did you have a loss of income?		1 Yes 2 No d Don't know r Refused
E14A	CLOSEDCL	The next two questions are about what you did, in the past 12 months, the last time you needed care for an urgent but minor health problem and your regular place was closed. Did you call your regular doctor's office and follow the instructions on their answering machine about where to go for care? IF NEEDED: Your regular office should have a message on their answering machine about where you can get care after hours. Did you call for that message and go to the place it suggested?		1 Yes 2 No d Don't know r Refused n Not applicable (e.g., did not need such care)
E14B	CLOSEDWHT	And what did you do about getting care? Did you go to the emergency room, go to a walk-in clinic, wait until your regular doctor's office was open, find help somewhere else, or do nothing about getting care? (IF NEEDED: This is about when you needed care for an urgent but minor health problem and your regular place was closed.)	Burge et al.	1 go to the emergency room 2 go to a walk-in clinic 3 wait until your regular doctor's office was open 4 find help somewhere else 5 do nothing about getting care d Don't know r Refuse n Not applicable (e.g., did not need such care)
OUT_E				

F. ACCESSIBILITY

Variable	Name	Question	Source	Response Options
IN_F				
timer_F				
count_F				
F3	OUTCANADA	Now I'm going to ask you some questions about your experiences getting primary care. In the past 12 months, have you received health care outside of Canada?	developed from fg data	1 Yes 2 No d Don't know r Refused
F4	COUNTRY	What was the country where you received this care?	Focus Group	1 China 2 India 3 Other d Don't Know r refused
F5a	WHATOUT1	Which of the following kinds of health care did you go there for? Did you go for a complete or whole body check-up?		1 Yes 2 No d Don't know r Refused
F5b	WHATOUT2	Which of the following kinds of health care did you go there for? A specialist visit?		1 Yes 2 No d Don't know r Refused
F5c	WHATOUT3	Which of the following kinds of health care did you go there for? Surgery?		1 Yes 2 No d Don't know r Refused
F5d	WHATOUT4	Which of the following kinds of health care did you go there for? Dental care?		1 Yes 2 No d Don't know r Refused
F5e	WHATOUT5	Which of the following kinds of health care did you go there for? Any other care?		1 Yes 2 No d Don't know r Refused

Variable	Name	Question	Source	Response Options
F5f	WHATOUT6	Which of the following kinds of health care did you go there for? What other type of health care did your receive out of country?		1 Enter text, end with // d Don't know r Refused
OUT_F				

U. DEMOGRAPHICS

Variable	Name	Question	Source	Response Options
IN_U				
timer_U				
count_U				
U1	MARITAL	Marital Status Are you currently Married or living with a partner, Separated, Divorced, Widowed, or Never Married?	SW used this questions based on her work at UCSF	1 Married or living with a partner 2 Separated 3 Divorced 4 Widowed 5 Never Married d Don't know r Refuse
U2	EDU	Education Which of the following best describes the highest level of education you have completed? : (INTERVIEWER read options)	HCC2008	1 did not complete secondary school or high school 2 completed secondary school 3 had some university education or completed a community college, technical college, or postsecondary program 4 completed a bachelors degree l 5 completed a graduate or professional degree d Don't know r Refused

Variable	Name	Question	Source	Response Options
U3	EMLOY	Employment Which of the following describes you best: (INTERVIEWER read options)	HCC2007	1 employed full time (including self-employed or on a work training program) 2 employed part time (including self-employed or on a work training program) 3 unemployed and looking for work 4 at school or in a full-time education 5 unable to work due to a long-term sickness or disability 6 looking after your home/family 7 retired from paid work 8 other d Don't know r Refuse
U4	INCOME	Income What is your best estimate of the total income, before taxes, of your entire household in 2008, including all sources, such as investments, pensions, and rent, as well as wages. Was the total household income (INTERVIEWER: READ RESPONSES EXCEPT DK AND REFUSE UNTIL RESPONDENT ANSWERS)	HCC2007	1 ...less than $10,000 2 ...between $10,000 and $30,000 3 ...between $30,000 and $50,000 4 ...between $50,000 and $80,000 5 ...between $80,000 and $100,000 6 ...more than $100,000 d Don't know r Refuse

Variable	Name	Question	Source	Response Options
U5	NUMPEO	# of People Living in the Household Including yourself, how many persons usually live in the same residence with you?	HCC2007	1-97 record number d Don't know r Refused
lang_daily		>Language Speaking with Friends What language(s) do you usually speak with your friends?		1 Only Punjabi/Chinese 2 More Punjabi/Chinese than English 3 Both Equally 4 More English than Punjabi/Chinese 5 Only English d DK r REFUSED
U9	IMMIG	Were you born in Canada?		1 Yes 2 No
U10	YRIMMIG	In what year did you first come to Canada to live?		1900-2009 Enter year
lang_ability_c		Please rate the respondent's ability to understand the language that was used in the interview. NOTE to interviewers 1: Choose "Not applicable" if this question is irrelevant. If you already answered this question, please repeat the previous answer. NOTE to interviewers 2: This question does NOT ask about respondent's eloquence of speech or their level of sophisticaiton.		1 Excellent 2 Very Good 3 Good 4 Fair 5 Poor d DK r REFUSED n Not Applicable

Variable	Name	Question	Source	Response Options
lang_ability_nq	LANG_ABILITY	Please rate the respondent's ability to understand the language that was used in the interview. NOTE to interviewers 1: Choose "Not applicable" if this question is irrelevant. If you already answered this question, please repeat the previous answer. NOTE to interviewers 2: This question does NOT ask about respondent's eloquence of speech or their level of sophisticaiton.		1 Excellent 2 Very Good 3 Good 4 Fair 5 Poor d DK r REFUSED n Not Applicable
OUT_U				<1> Yes <2> No
exitcase		Do you want to quit for now?		

Appendix B: Consent Form

PARTICIPANT INFORMED CONSENT FORM

Chinese Young Adults & Unmet Health Needs Study

Introduction

You are being invited to participate in an in-depth interview about your experiences around health care use (i.e. getting treatment and seeing a doctor when you need to), and your beliefs about health and health practices.

Background:

According to recent research studies, one in eight Canadians reported having an unmet health need in 2001. Canada is becoming increasingly multicutural, with people of Chinese backgrounds making up a large proportion of the visible minority. We know from other studies that people of immigrant or ethnic backgrounds may have different health beliefs and practices, and may not always get the health care that they need as a result. Additionally, there is very little information about young adults and unmet health needs.

What is the Purpose of the Study?

The purpose of this research study is to see if Chinese young adults (between 18 to 30 years of age), who are born in Canada or immigrated to Canada have experienced not getting health care when they needed it, and to explore the reasons why.

Who May Participate?

You can participate in this study if you are of Chinese ethnicity and are between the ages of 18 to 30. Participants need to be able to speak either English, Cantonese or Mandarin fluently.

Your Participation is Voluntary:

Your participation is entirely voluntary. If you wish to participate, you will be asked to sign this form. If you do decide to take part in this study, you are still free to withdraw at any time and without giving any reasons for your decision. If you do not wish to participate, you do not have to provide any reason for your decision not to.

What Does the Study Involve?

Participants will undergo a face-to-face or phone interview lasting around an hour to an hour and a half at a location of his/her choosing. The interview will be digitally audio-recorded. If the interview is carried out in Mandarin or Cantonese, a translator will also be present.

What are the Benefits and Risks of Participating in this Study?

There are no direct benefits to participating in this study.

Possible benefits to society may include offering a better understanding to society of whether or not Chinese young adults experience unmet health needs and why.

There are no known physical risks to your health.

What will the Study Cost me?

Participation in this study will **not** result in any expenses to you. As a token of appreciation for your time, you will receive a twenty-five dollar honorarium at the completion of the interview.

Will My Taking Part in this Study be kept Confidential?

We will respect your privacy. No information that identifies you will be given to anyone or be published without your permission.

We will keep a copy of this research consent form and also give you a copy for your records.

The data produced from this study will be stored in a secure, locked location. Only members of the research team (the researcher and her supervisors) will have access to the data. Following completion of the research study, the data will be kept as long as required and then destroyed as required by the University of British Columbia. Any published study results will not reveal your identity.

Who Do I Contact If I Have Question About the Study During my Participation?

If you have any questions about this study, please contact myself (Christine Ou) at (xxx) xxx-xxxx.

You may also contact my supervisor Dr. Sabrina Wong at the School of Nursing at the University of British Columbia at (xxx) xxx-xxxx.
If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, contact the Research Subject Information Line in the UBC Office of Research Services at (604) 822-8598.

Sponsor:
This study is funded and supported by the Canadian Institutes of Health Research (CIHR) as part of the completion of my Master's thesis. I, and supervisor Dr. Sabrina Wong, have no conflict of interest to declare.

<u>Subject Consent to Participate</u>

By signing this form, I agree that:

1)   You have explained this study to me. You have answered all my questions.
2)   You have explained the possible harms and benefits (if any) of this study.
3)   I am free now, and in the future, to ask questions about the study.
4)   I understand that no information about who I am will be given to anyone or be published without first asking my permission.
5)   I have read and understood pages 1 to 3 of this consent form. I agree, or consent, to take part in this study.

_____   _____
Printed Name of Participant   Participant's signature & date

_____   _____
Printed Name of person who explained consent   Signature & date

_____   _____
Printed Witness' name   Witness' signature & date
(if the participant does not read English)

Appendix C: Interview Guide

Semi-Structured Interview Topic Guide & Script

Thank you very much for agreeing to this interview today. The purpose of this interview is to hear about your experiences with obtaining health or medical care and to learn your beliefs about health and health care. It will likely take about an hour. I would like to point out that anything you tell me will be kept confidential and anonymous. At any point if you are not comfortable with any of the questions, you do not have to answer them. As well, if you would like to stop the interview, we can, and you do not have to give me a reason. If you are comfortable with this, I would like to start off with some introductory/background questions.

1. Tell me about your background. Where were you born?

    a. If not born in Canada: When did you move to Canada?

    b. What language do you speak at home? Do you speak Chinese? How comfortable or fluent do you feel speaking in Chinese/English?

    c. How old are you?

2. Are you going to school or working or both? Can you tell me briefly about work/school?

3. What do you believe is part of a healthy life style, mentally and physically?

4. How well are you able to live this healthy lifestyle you describe?

5. What could you or would you change about your current health or health practices?

6. What type of stressors would you say that you have in your life right now, if you have any?

7. Was there ever a time that you could have or should have received medical care (i.e. for screening, immunizations, injury etc.,), but you were not able to for whatever reason? If yes, can you elaborate on why you could not go to the doctor/clinic? [If experienced an

unmet health need]: What were the consequences of your unmet health need? For instance, did it cause you to worry, or experience pain? Did it affect your daily activities (i.e. school, or work), or worry for family? Has that particular health issue resolved?

8. Relating to things that you do to maintain good health, how do you believe that you and your family may be different or the same as other Canadian families or recent Chinese immigrant families/or Chinese families that have been here for a long time?

9. As a young adult now, how has your view on health and healthy behaviours and practices changed since you were a teenager?

10. Were there any gender-specific beliefs about health that you grew up (either from family, or the outside world) with that has some effect on you today?

Thank you so much again for sharing your time with me. If you have any additional comments and thoughts or concerns that you would like to share with me, please do not hesitate to contact me. Before we finish, I have one last question for you. Would you be interested in reviewing some of the written results of this study before it is finalized to see if it accurately reflects what you shared with me? It is also a way for you to see what other Chinese young adult's health care experiences, keeping in mind, that no one's identity will be revealed.