MENTAL HEALTH AND MENTAL HEALTHCARE UTILIZATION IN CANADA'S IMMIGRANT AND ETHNOCULTURAL POPULATIONS

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Abstract

One in five Canadians will experience a mental illness or addiction during their lifetime, but only 50% of those with a current diagnosis of mental illness will actually seek care (Lesage et al., 2006). Canada is home to growing immigrant and ethnocultural populations. Factors of migration, ethnicity, and racialization are important social determinants of mental health. However, Canada's Mental Health Strategy identifies the lack of information available on these diverse populations and calls for further research in order to develop mental health programming (Mental Health Commission, 2012).

This three-part doctoral dissertation sought to address these research gaps at the national-level, provincial-level, and community-level. The first study, "South Asian Populations in Canada: Migration and Mental Health," was a national-level epidemiological analysis, which examined the prevalence and characteristics of mental health outcomes for South Asian immigrant populations in Canada compared to their South Asian Canadian-born counterparts. The second study, "The Epidemiology of Mental Healthcare Utilization by Service Provider Type for Ontario's Immigrant Populations," was a provincial-level epidemiological analysis examining the prevalence and characteristics of past-year mental health consultation by service provider type for Ontario's immigrant populations. Lastly the third study, "The Barriers and Promoters of Seeking Mental Healthcare: A Mixed Methods Study of Bangladeshi Populations in Toronto," was a community-level mixed methods project investigating the barriers and promoters of seeking mental healthcare identified by Toronto Bangladeshi newcomer and longer-term immigrant populations.

These three studies seek to address the knowledge and research gaps identified by Canada's Mental Health Strategy (Mental Health Commission, 2012). This research provides important information on the mental health outcomes, mental health service utilization, and

barriers and promoters of mental healthcare access for ethnocultural and immigrant populations in order to inform the development of a mental health system inclusive of Canada's diverse populations.

Dedication

First and foremost, praise belongs to God. I am grateful for being given the opportunity to pursue my education and for all the blessings I have enjoyed in my life. I pray it has humbled me.

Mom and Dad: Having two such brilliant parents forged my path to higher education. Thank you for your love, kindness, and always believing in me. I hope I have made you proud. Dearest Nuboo: We get to be doctors together! Thank you for your constant encouragement and being in my corner, Bhaiya. Zahra: Thank you for always putting a smile on my face and coining the term "Dr. Sis"! Amma and Abba: Thank you for your constant care and kindness. Without your support, I would not have been able to succeed.

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List of Abbreviations

CCHS	Canadian Community Health Survey
CI	Confidence Interval
CRICH	Centre for Research on Inner City Health
GP	General Practitioner
IASMHS	Inventory of Attitudes Towards Seeking Mental Health Services
IRER	Immigrant, Refugee, Ethnocultural and Racialized
OR	Odds Ratio
qual	qualitative
quan	quantitative
SDOH	Social Determinants of Health
SPSS	Statistical Package for the Social Sciences

DISSERTATION INTRODUCTION

Canada's Changing Population

Immigration drives population growth in Canada (Boyd & Vickers, 2000). In the face of low birth rates (1.68 children per female) and the need to fill labor markets, immigration is crucial to Canada's economy (Citizenship and Immigration Canada, 2011). Immigration is also the largest single contributor to the growth of the visible minority populations in Canada (those who are non-Aboriginal and non-Caucasian or white) (Boyd & Vickers, 2000). Historically, Europe was the major source of immigrants to Canada; however, in the 1960's Canadian immigration policy ended its preference for European migrants (Citizenship and Immigration Canada, 2011). By 1996, European immigrants constituted less than half of the immigrant population (Citizenship and Immigration Canada, 2011). In recent decades there has been a shift to Asia as the major source region for immigrants (Statistics Canada, 2010). Currently the majority of immigrants come from China, the Philippines, and India and about one fourth of Canadians speak languages other than English and French (Citizenship and Immigration Canada, 2011).

According to the 2011 Census, Canada's foreign-born population totaled to over 6.5 million, comprising of 20.6% of the population. This is the highest foreign-born proportion out of the G8 countries (France, United States, United Kingdom, Russia, Germany, Japan, Italy, and Canada) (Statistics Canada, 2011). Ontario is home to the largest immigrant population at 28.3% and has many regions where the proportion is much higher, nearing almost 50% (Toronto, Peel, and York Region) (Ontario Trillium Foundation, 2011). It is projected that by 2031, 1 in 3 Canadians will be a member of a visible minority group and 1 in 4 Canadians will be foreign-born (Statistics Canada, 2010). In 2006 South Asian populations surpassed Chinese populations

as the largest visible minority group; it is projected that Asian populations in Canada will continue to increase (Statistics Canada, 2010).

Mental Health

One in five Canadians will experience a mental illness or addiction during their lifetime (Health Canada, 2002). The economic cost of mental illnesses in Canada is staggering. It is estimated that the current direct and indirect costs of mental illness total to over $50 billion every year (Lim et al., 2008; Mental Health Commission, 2013). The largest proportion of these costs are related to healthcare, social services, and income supports, while the business sector loses about $6 billion in lost productivity in the workplace (Mental Health Commission, 2013). Whereas the proportion of Canadians affected by mental illness will remain unchanged, in the face of population growth, the absolute numbers are projected to increase (Mental Health Commission, 20103). In addition it is estimated that in 30 years the costs associated with mental health problems and illness will multiply six-fold to $306 billion (Mental Health Commission, 2013). Changes in public programming, public policy, investment, business, healthcare practice and the application of evidence-based research is needed to prevent this (Mental Health Commission, 2013).

Mental illness is attributed to a combination and interaction of genetic, biological, personality, and environmental factors (Health Canada, 2002). While mental illness refers to having a psychiatric disorder, mental health is more than the absence of mental illness, it encompasses emotional, psychological, and social well-being (Canadian Mental Health Association, 2014; Westerhof & Keyes, 2010). A focus on early detection, prevention, and the fostering of resilience can go a long way in effectively managing mental health issues. However,

the profound stigma surrounding mental illness makes the seeking of treatment and acceptance into society very difficult (Health Canada, 2002; Mental Health Commission, 2012). About 46% of Canadians believe that mental illness is used as an excuse for poor behavior (Mental Health Commission, 2012). Many people report that the stigma and censure experienced by the community and health system can be more traumatic than the mental health problem itself (Mental Health Commission, 2012).

The Social Determinants of Health (SDOH) perspective stresses the importance of considering social factors impacting upon health such as socioeconomic status, health access, and ethnicity (Mikkonen & Raphael, 2010). The Public Health Agency of Canada (2004) outlined 12 social determinants of health, which can also be applied to mental health: 1. income and social status, 2. social support networks, 3. education and literacy, 4. employment/working conditions, 5. social environments, 6. physical environments, 7. personal health practices and coping skills, 8. healthy child development, 9. health services, 10. gender, and 11. culture. The social determinants of migration, perceived racism/discrimination, and language barriers were additionally identified as being particularly salient for immigrant, refugee, ethnocultural, and racialized (IRER) populations (McKenzie, 2009; Public Health Agency of Canada, 2004). Loss of social support, economic difficulty and uncertainty, loss in social status, the mechanistic work-oriented lifestyle in Canada, barriers in accessing care, and changes in food and climate were all identified as factors influencing immigrant mental health (Ahmad et al., 2004). One of the most salient stressors of migration and resettlement is that of precarious employment for newcomers to Canada (Access Alliance, 2013; Wilson et al., 2011). The constant frustration, stress, and uncertainty associated with difficulties in finding meaningful employment take a toll on immigrant mental health (Access Alliance, 2013; Wilson et al., 2011).

The literature has reported that immigrants arrive in Canada with better levels of mental health compared to their Canadian-born counterparts, which is termed as the "healthy immigrant effect" for mental health (Ali, 2002; Bergeron, Auger & Hamel, 2009; Lou & Beaujot, 2005). Tiwari and Wang (2008) reported the prevalence rates of major depressive episodes at 5.2% for South Asian, 3.6% for Chinese, and 2.9% for Southeast Asian populations in Canada compared to prevalence rates of about 8% reported for the general population (Health Canada, 2002). Ali (2002) found the prevalence rates of past-year major depressive episode lower amongst immigrants (6.2%) compared to their Canadian-born counterparts (8.3%). Similarly past-year alcohol dependence prevalence rates were significantly lower for immigrant populations (0.5%) compared to Canadian-born populations (2.5%).

This "healthy immigrant effect" has been partly attributed to Canada's points system where those applying for immigration must undergo rigorous health and medical screening in order for approval. In addition, Canada's immigrant screening process also selects younger and highly educated individuals who are more likely to be healthier than their older and less educated counterparts. In addition, unhealthy lifestyle practices may also be less prevalent in the countries of origin prior to migration (Gushulak, 2007; Oxman-Martinez, Abdool & Loiselle-Leonard, 2000; Ali, 2002; Chen, Ng & Wilkins, 1996; Pérez, 2002; Hyman & Jackson, 2010). However, immigrant mental health quickly deteriorates and converges to Canadian-born levels after arrival (Ali, 2002; Bergeron, Auger & Hamel, 2009; Islam, 2013; Lou & Beaujot, 2005; Ng & Omariba, 2010). Ali (2002) found that immigrants converge to Canadian-born levels of major depressive episodes and alcohol dependence within 10 and 30 years of arriving in Canada, respectively. Rates of fair-poor self-perceived mental health status was also found to converge to Canadian-born levels within 10 years of residing in Canada (Bergeron, Auger & Hamel, 2009; Lou &

Beaujot, 2005). Immigrants come to Canada in hopes of a better future and are crucial to the nation's population growth and the economy. Efforts are needed to reverse this trend and keep Canada's immigrants healthy.

Mental Health Service Utilization

About 10% of Canadians utilize mental health services in Canada, and only 50% of those with a current diagnosis of mental illness actually seek care (Lesage et al., 2006). These numbers are much lower for immigrant, refugee, ethnocultural, and racialized (IRER) groups. Tiwari and Wang (2008) reported that 5.7% of South Asian, 4.8% of Southeast Asian, and 2.5% of Chinese populations in Canada seek mental health services. Amongst those diagnosed with major depressive episodes only 37.5% of South Asians, 26.9% of Southeast Asians, and 26.1% of Chinese populations utilize mental health services. Chen and Kazanjian (2005) found that 8% of non-Chinese immigrants in British Columbia utilized mental healthcare in the past year compared to 11% of their non-Chinese Canadian-born counterparts. Kirmayer et al. (2007) reported that Caribbean, Vietnamese, and Filipino immigrants living in Montreal utilized mental health care services at significantly lower rates (5.5%) than their Canadian-born counterparts (14.7%).

IRER populations face many barriers when seeking mental health care. Reitmanova and Gustafson (2007) outlined how visible minority immigrants in St. John's, Newfoundland are reluctant to seek care because of mental health stigma, their belief that they can deal with the problem on their own, lack of information about mental health and healthcare services, cultural mismatch of available care, lack of finances, and insensitivity on part of healthcare professionals towards immigrants' values and beliefs. Qualitative research with immigrant women and

healthcare providers in Calgary, Alberta revealed similar barriers such as fear and stigma, lack of information, lack of culturally competent mental healthcare, unfamiliarity with Western biomedicine, and negative perceptions of the healthcare provider-client relationship (Donnelly et al., 2011; O'Mahony & Donnelly, 2007). IRER populations often follow the following pathway to care: self, family, friends, community, family doctor, and mental health services as the last recourse (Mental Health Commission, 2009). Seeking mental health services only in times of crisis has been reported by some ethnocultural communities (Chew-Graham, 2002; Snowden, Catalano & Shumway, 2009). Considering the potential for prevention of mental health issues through consultation with mental health services, efforts need to be made to decrease barriers experienced by IRER populations in seeking mental healthcare.

Canada's Mental Health Strategy

All of these factors contribute to a rapidly changing Canada and the need for a mental health system that is able to meet the needs of this growing and diverse population. For many years Canada was the only G8 nation without a national mental health strategy. In 2012 after much advocacy and dedication, Canada finally launched *Changing directions, changing lives: The mental health strategy for Canada*. The strategy has six Strategic Directions with priorities named under each. Strategic Direction 4 centers on disparities and diversity and calls for the reduction in risk factors, improvement of mental health service access, and increased responsiveness to the needs of diverse communities and those living in remote regions in Northern Canada. The need for data and research in order to understand the mental health needs of diverse populations and the improvement of mental health services and supports by and for IRER populations are named as priorities under this Strategic Direction.

Dissertation Rationale

To address the stressors of mental health experienced by IRER populations, the deterioration of immigrant mental health after arrival in Canada, the mental health service access barriers experienced by diverse populations, the lower mental health service utilization rates, and the research and knowledge gaps identified by Canada's Mental Health Strategy, a three-part doctoral dissertation was developed to explore these issues at the national, provincial, and community-level using both quantitative epidemiology and mixed methods research.

STUDY 1

South Asian Populations in Canada: Migration and Mental Health

ABSTRACT

Background: Over 1.26 million people from South Asian populations live in Canada. The objective of this study was to determine the prevalence rates and characteristics of mental health outcomes for South Asian first-generation immigrant and second-generation Canadian-born populations. **Methods:** The Canadian Community Health Survey (CCHS) 2011 was used to calculate the estimated prevalence rates of the following mental health outcomes: mood disorders, anxiety disorders, fair-poor self-perceived mental health status, and extremely stressful life stress. The characteristics associated with these four mental health outcomes were determined through multivariate logistic regression analysis of merged CCHS 2007-2011 data. **Results:** South Asian Canadian-born (unweighted n = 97; weighted n = 265,056) and South Asian immigrant populations (unweighted n = 682; weighted n = 997,706) did not vary significantly in estimated prevalence rates of mood disorders (3.5%, 95% CI 3.4-3.6% compared to 3.5%, 95% CI 3.5-3.5%). However, South Asian immigrants experienced higher estimated prevalence rates of diagnosed anxiety disorders (3.4%, 95% CI 3.4-3.5 vs. 1.1%, 95% CI 1.1-1.1%) and self-reported extremely stressful life stress (2.6%, 95% CI 2.6-2.7% vs. 2.4%, 95% CI 2.3-2.4%) compared to their Canadian-born counterparts. Lastly, South Asian Canadian-born populations had a higher estimated prevalence rate of poor-fair self-perceived mental health status (4.4%, 95% CI 4.3-4.5%) compared to their immigrant counterparts (3.4%, 95% CI 3.3-3.4%). Different profiles of mental health determinants emerged for South Asian Canadian-born and immigrant populations. Female gender, having no children under the age of 12 in the household, food insecurity, poor-fair self-rated health status, being a current smoker, immigrating to Canada before the age of 18, and taking the CCHS survey in either English or French was associated with greater risk of negative mental health outcomes for South Asian immigrant populations, while not being currently employed, having a regular medical doctor,

and inactive physical activity level were associated with greater risk for South Asian Canadian-born populations. **Conclusions:** Migration is an important social determinant of mental health for South Asian populations in Canada. Mental health outreach programs need to be cognizant of the differences in prevalence rates and characteristics of mental health outcomes for South Asian immigrant and Canadian-born populations to better tailor mental health services to be responsive to the unique mental health needs of South Asian populations in Canada.

INTRODUCTION

South Asian populations in Canada

A multiplicity of definitions of "South Asian" exists in Canada. Definitions are based on ancestral origins, culture, language, religion, and geopolitical boundaries, to name a few. Statistics Canada's Canadian Community Health Survey (CCHS) defines South Asian as those who self-identify having ancestors who are "South Asian (e.g. East Indian, Pakistani, Sri Lankan)" (Statistics Canada, 2012). According to the 2006 Census, over 1.26 million people from South Asian populations called Canada home (4.0% of the total population), making up the largest visible minority group in Canada (Statistics Canada, 2008). The majority of those reporting South Asian origin in the 2001 Census were foreign-born (68%), while only about a third were Canadian-born (32%) (Statistics Canada, 2008). About three quarters of the foreign-born South Asian population were recent immigrants, arriving in Canada in the last 20 years (Statistics Canada, 2007). In 2011, over a quarter of a million people immigrated to Canada as permanent residents (Citizenship and Immigration Canada, 2011). About 15% emigrated from South Asia: 24,965 from India (10%), 6,073 from Pakistan (2%), 3,104 from Sri Lanka (1%), 2,449 from Bangladesh (1%), and 1,249 from Nepal (0.5%) (Citizenship and Immigration Canada, 2011). It is projected that by 2031, 55% of Canada's foreign-born population will report origins in Asia (Statistics Canada, 2011).

Mental health of South Asian populations in Canada

One in five Canadians will experience a mental illness or addiction during their lifetime (Health Canada, 2002). The economic cost of mental illnesses in Canada is staggering. It was estimated that the direct and indirect costs of mental illness was at least $51 billion in 2003 (Lim et al., 2008). Mental health is a particular area of concern for South Asian populations in Canada.

Health sector workers and members of South Asian communities in Toronto, Ontario identified mental health as a highly stigmatized and silenced health issue within South Asian populations (Islam, 2012). South Asian individuals with major depressive episode reported the highest prevalence rates (48%) of unmet mental healthcare need and highest prevalence rates (33%) of perception of barriers to the availability of mental healthcare compared to eight other ethnic groupings in Canada (Gadalla, 2010). Few studies have examined prevalence rates of depression in South Asian populations, and inconsistency exists within the literature. While analyses of the National Population Health Survey (NPHS) found lower rates of depressive symptoms and major depression (prevalence rates not reported) (Wu et al., 2003; Wu & Schimmele, 2005), a study of older adult South Asians in Calgary found more than double the prevalence rate of mild depression (21%) compared to the national average (10%) (Lai & Surood, 2008). Hierarchical regression analysis revealed that being female, poorer self-perceived health, lower physical health, and a higher level of agreement with South Asian cultural values increased the likelihood of depression for older adult South Asians in Calgary, Alberta (Lai & Surood, 2008).

Migration as a determinant of mental health

Health is determined by a broad set of factors beyond health care and lifestyle choices (Mikkonen & Raphael, 2010). "Social" factors such as income, social status, gender, and social support networks also impact upon health (Mikkonen & Raphael, 2010). Migration and culture are important social determinants of mental health (Canadian Mental Health Association; Centre of Addiction and Mental Health, 2013). In an open-ended survey, South Asian populations in Toronto spoke about factors associated with migration and the culture clash between the parental first generation of immigrants and second generation of South Asian youth as risk factors for mental health and sources of stress, anxiety, depression, and identity loss (Islam, 2012).

Moreover, migration stress, low income and loss of social status, poor social networks, low education and literacy, unemployment and difficult working conditions, language barriers, and older age were all outlined as risk factors of mental health for immigrants (and additionally for refugee, ethnocultural, and racialized groups) (McKenzie, 2009).

Furthermore, there is evidence for a short-lived "healthy immigrant effect" for mental health, where immigrants converge to national-born levels of lower mental health status within a decade of living in Canada (Ali, 2002; Bergeron, Auger & Hamel, 2009; Islam, 2013; Lou & Beaujot, 2005; Ng & Omariba, 2010). In addition, there is also evidence for an "age at immigration effect" for mental health, where those who immigrated when they were 17 years or younger have a higher risk of depression (Wu & Schimmele, 2005).

The majority of immigrants arrive in Canada during their working adult life between the ages of 25-64 years old (Citizenship and Immigration Canada, 2012). Age is also an important determinant of mental health in addition to migration, with the risk of mental health issues varying over the life course (Miech & Shanahan, 2000). While there are published reports on the prevalence rates and factors associated with mental health of South Asian older adults in Calgary (aged 55 and older) (Lai & Surood, 2008), there is no information on other age groupings.

To date, there are no prevalence statistics for mental health outcomes of South Asian populations across Canada. Moreover, most of the research conducted so far on South Asian and immigrant populations has focused solely on the mental health outcomes of depression or self-reported mental health status, neglecting anxiety disorders (the most common mental illness) and self-reported life stress (a particularly salient self-reported mental health measure for immigrants considering the stressors of migration and resettlement and potentially less stigmatized). It is

important to examine the risk factors and protective factors of mental health outcomes for South Asian populations through quantitative epidemiological analysis, to add onto research findings to date that have been mostly qualitative in nature. In addition, South Asian populations self-identified the generational culture clash between parents and youth and migration as significant mental health stressors (Islam, 2012); however, no research in Canada has compared the prevalence and determinants of mental health for first-generation immigrant and second-generation Canadian-born South Asian populations.

Thus, the objective of this study was to determine the estimated prevalence rates and characteristics of mental health outcomes (mood disorders, anxiety disorders, self-perceived mental health, and self-perceived life stress) among the adult South Asian first-generation immigrant and second-generation Canadian-born populations aged 25-64 years old in Canada and assess if the prevalence and determinants are different for these two migration generations. This study examined the following research questions:

1) What are the estimated prevalence rates of mental health outcomes (mood disorders, anxiety disorders, self-perceived mental health, and self-perceived life stress) for South Asian immigrant and South Asian Canadian-born populations?
2) What are the characteristics and factors associated with mental health outcomes (mood disorders, anxiety disorders, self-perceived mental health, and self-perceived life stress) for South Asian immigrant and South Asian Canadian-born populations?

METHODS

Data source - Canadian Community Health Survey (CCHS).

Statistics Canada conducts the annual Canadian Community Health Survey (CCHS) to collect health-related data from January to December of each year, surveying individuals over the age of 12 in all provinces and territories, excluding those residing on Indian Reserves, institutions, remote regions, and full-time members of the Canadian Forces. In order to administer surveys to a variety of households, the CCHS samples households by area framing, telephone list framing, and random digit dialing. Response to the survey is voluntary with a response rate of about 78% (Statistics Canada, 2008).

Sample Population

This study examined data on South Asian populations across five CCHS cycles from 2007-2011. Those between the ages of 25-64 years old (the working adult population) were selected for analysis as this age group comprises of the majority of the immigrant population in Canada. Individuals who responded yes to either of the two following questions were selected as South Asian: "To which ethnic or cultural groups did your ancestors belong? South Asian?" and "You may belong to one or more racial or cultural groups on the following list: South Asian?" The South Asian sample was stratified by immigrant status. South Asian immigrants were selected based on the derived variable Immigration Flag: yes, immigrant; not an immigrant, while the Canadian-born South Asian sample was selected using the survey question: In what country were you born? Canada. (yes, no).

Outcome variables

Four different mental health outcomes were analyzed (both self-reported clinically diagnosed and self-perceived variables). The presence of mood disorders (depression, bipolar disorder, mania or dysthymia) and anxiety disorders (phobia, obsessive- compulsive disorder or a

panic disorder) were assessed based on questions where participants were asked if they had such disorders diagnosed by a health professional (yes, no). Two self-perceived measures of mental health were also analyzed. Self-perceived mental health was examined using the question, "In general, would you say your mental health is excellent, very good, good, fair, or poor?" The outcome was recategorized into a dichotomous variable: self-perceived mental health fair-poor (yes, no) (Lou & Beaujot, 2005; Bergeron, Auger & Hamel, 2009). Lastly, self-perceived life stress was assessed using the survey question, "Thinking about the amount of stress in your life, would you say that most days are: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful?" This variable was also recategorized into a dichotomous outcome: self-perceived life stress extremely stressful (yes, no).

Covariate variables

The following sociodemographic variables were analyzed as potential determinants of mental health outcomes: gender (male, female) and age (25-44, 45-64 years old). The following social support variables were analyzed: marital status (married/common-law, not married), sense of belonging to community (very strong-somewhat strong, somewhat weak-very weak), and the number of children under the age of 12 within the household (none, 1 or more). Indicators of socioeconomic status (SES) were also included: highest level of education (highschool graduate or less, some post-secondary or more), income adequacy (low income household, not low income household) (Cheung et al., 2009; Statistics Canada HSD, 2002), food security (food secure, food insecure status), and working status last week (employed, not employed/unable to find job/permanent unable). Lastly, health and behavioral factors were also examined: self-rated health (good-excellent, poor-fair), chronic conditions (having cardiac disease, hypertension, diabetes, chronic obstructive pulmonary disorder, or arthritis) (none, 1 or more), having a regular

medical doctor (yes, no), physical activity (active, inactive), and current smoking status (yes, no). For the South Asian immigrant sample, three additional variables of acculturation were examined: years since immigration (0-9 years, 10+ years), age at time of immigration (≤ 17 years, 18+ years), and language of CCHS interview (English or French, non-official language).

Data analysis

The estimated prevalence rates (percentages) of the four mental health outcomes were calculated for South Asian immigrant and South Asian Canadian-born populations using the CCHS 2011. Merged data files create an artificial population, which is not the best for calculating descriptive statistics (Thomas & Wannell, 2009) and therefore the unmerged and most recent CCHS data was used (CCHS 2011). CCHS sample weights were applied, estimated prevalence rates were bootstrapped, and 95% confidence intervals (95% CI's) were reported. Sample weights are applied to survey data in order to make inferences to the Canadian population (Statistics Canada, 2013). Since the CCHS follows a complicated multi-stage survey design, the re-sampling method involved in bootstrapping ensures that the best calculation of the variance between estimates is made (Statistics Canada, 2013).

To determine the factors associated with the mental health outcome measures, data was merged across five separate CCHS cycles 2007-2011 (merged data can be used for modeling). Four multivariate logistic regression models were run separately for the South Asian immigrant population and South Asian Canadian-born population examining the four dichotomous mental health outcomes. Significance was set at $p < 0.05$. Odds ratios (OR's) and 95% confidence intervals (CI's) were reported. CCHS sample weights were applied and the results of the regression modeling were bootstrapped. Preliminary data analysis was carried out using IBM SPSS version 21, while the application of sample weights and bootstrapping of results from the

descriptive and multivariate regression analysis were conducted using STATA version 12. Data analysis was conducted at the Statistics Canada York University Research Data Centre and approved for release.

RESULTS

Sample Characteristics

The sample characteristics of South Asian Canadian-born (unweighted n = 97; weighted n = 265,056) and immigrant populations (unweighted n = 682; weighted n = 997,706) in the CCHS 2011 are displayed in Table 1. In the CCHS 2011, 2.18% of the Canadian population surveyed between the ages of 25-64 years old belonged to South Asian populations. Analysis of sample demographics revealed that in 2011, the South Asian Canadian-born population was significantly younger, less likely to be married/common-law, more likely to have no children, less educated, less likely to experience food insecurity, less likely to have chronic conditions, and more physically active compared to their South Asian immigrant counterparts. Many of these differences may be due to the age difference between the South Asian Canadian-born and immigrant populations.

Table 1

Sample characteristics of South Asian Canadian-born and South Asian immigrant populations in Canada aged 25-64 years old, CCHS 2011

	South Asian Canadian-born weighted n (%) 265,056 (21.0%)	South Asian Immigrant weighted n (%) 997,706 (79.0%)	p-value
SOCIODEMOGRAPHIC			
Gender			
Male	147,173 (55.5)	530,978 (53.2)	0.480
Female	117,884 (44.5)	466,728 (46.8)	

Age			
25-40 years old	96,597 (89.7)	530,978 (53.2)	0.0001
41-64 years old	11,090 (10.3)	466,728 (46.8)	
SOCIAL SUPPORT			
Marital status			
Married/common-law	75,850 (28.9)	774,264 (77.7)	0.0001
Not married	186,888 (71.1)	222,858 (22.4)	
Sense of belonging to community			
Strong	197,034 (76.0)	720,613 (74.8)	0.693
Weak	62,332 (24.0)	242,235 (25.2)	
Number of children in household under age of 12			
None	190,258 (71.8)	610,579 (61.2)	0.0001
1 or more	74,799 (28.2)	387,127 (38.8)	
SES			
Highest level of education			
HS grad or less	96,109 (37.2)	267,390 (27.3)	0.002
Some post-sec or more	162,056 (62.8)	711,560 (72.7)	
Income adequacy			
Low income household	119,744 (45.2)	332,091 (33.3)	0.0001
Income adequate	145,313 (54.8)	665,615 (66.7)	
Food security			
Food secure	247,441 (96.3)	896,756 (92.6)	0.008
Food insecure	9,569 (3.7)	72,021 (7.4)	
Working status last week			
Employed	160,215 (69.0)	580,261 (61.6)	0.027
Not employed	72,117 (31.0)	362,495 (38.5)	
HEALTH & BEHAVIOR			
Self-rated health status			
Poor-fair	235,978 (89.2)	905,151 (91.0)	0.354
Good-excellent	28,680 (10.8)	89,311 (9.0)	
Chronic conditions			
No conditions	248,349 (93.7)	733,716 (73.5)	0.0001
1 or more conditions	10,708 (6.3)	263,990 (26.5)	
Regular medical doctor			
Yes	228,199 (86.1)	835,919 (83.9)	0.351
No	36,858 (13.9)	159,975 (16.1)	
Physical activity level			
active	167,736 (64.4)	431,643 (44.5)	0.0001
inactive	92,793 (35.6)	539,461 (55.6)	
Current smoking status			
Yes	20,791 (7.9)	75,326 (10.2)	0.495
No	242,929 (92.1)	663,559 (89.8)	
ACCULTURATION			

Years since immigration	---		---
0-9 years		378,199 (37.9)	
10+ years		619,507 (62.1)	
Age at time of immigration			
≤ 17 years	---	205,764 (20.8)	---
18+ years		783,294 (79.2)	
Language of CCHS interview	---		---
English or French		972,073 (97.4)	
Not English or French		25,633 (2.6)	

Estimated Prevalence Rates of Mental Health Outcomes

In 2011, 3.48% (95% CI 3.41-3.55%) of South Asian Canadian-born and 3.49% (95% CI 3.46-3.53%) of South Asian immigrant populations reported a diagnosed mood disorder (there was no significant difference). However, South Asian Canadian-born and South Asian immigrant samples varied significantly on all other mental health outcome measures. South Asian immigrant populations had a higher estimated prevalence rate of anxiety disorders (3.44%; 95% CI 3.41-3.48%) compared to South Asian Canadian-born samples (1.09%; 85% CI 1.05-1.13%). South Asian immigrant populations also reported significantly higher estimated prevalence rates of extremely stressful life stress (2.63%; 95% CI 2.60-2.66%) than their South Asian immigrant counterparts (2.35%; 95% CI 2.30-2.41%). In contrast, South Asian Canadian-born populations had a higher estimated prevalence rate of fair-poor self-reported mental health status (4.39%; 95% CI 4.31-4.47%) compared to South Asian immigrant populations (3.44%; 95% CI 3.41-3.48%). Estimated prevalence rates of the four mental health outcomes for South Asian Canadian-born and immigrant populations are displayed in Table 2.

Table 2

Estimated prevalence of mental health outcomes for South Asian Canadian-born and South Asian immigrant populations in Canada aged 25-64 years old, CCHS 2011

	Mood Disorder % (95% CI)	Anxiety Disorder % (95% CI)	Poor-Fair Self-Perceived Mental Health % (95% CI)	Extremely Stressful Self-Reported Life Stress % (95% CI)
South Asian Canadian-born	3.5 (3.4-3.6)	1.1 (1.1-1.1)	4.4 (4.3-4.5)	2.4 (2.3-2.4)
South Asian Immigrant	3.5 (3.5-3.5)	3.4 (3.4-3.5)	3.4 (3.3-3.4)	2.6 (2.6-2.7)
p-value	0.771	0.0001*	0.0001*	0.0001*

Note. Asterisk (*) indicates significant difference in estimated prevalence rates between South Asian Canadian-born and South Asian immigrant sample

Characteristics of Mental Health Outcomes

Multivariate Logistic Regression Modeling

In order to increase power, data from CCHS cycles 2007-2011 were merged for multivariate logistic regression analysis. In the CCHS 2007-2011, 2.12% of the Canadian population surveyed between the ages of 25-64 years old belonged to South Asian populations. Multivariate logistic regression modeling revealed different factors associated with mental outcomes for South Asian Canadian-born (unweighted n = 523; weighted n = 1,223,141) and South Asian immigrant populations (unweighted n = 3395; weighted n = 4,739,762) (Table 3). Due to small sample size, food security status and self-rated health status were omitted from the South Asian Canadian-born models.

Mood disorders

For Canadian-born South Asians, those who were not employed (OR 2.8; 95% CI 1.0-7.6) and those who were physical inactive (OR 3.6; 95% CI 1.5-8.7) were at a significantly increased odds of reporting a diagnosed mood disorder. In contrast, for immigrant South Asians, females (OR 2.8; 95% CI 1.5-5.1), those experiencing food insecurity (OR 2.7; 95% CI 1.5-5.0), those with self-rated fair-poor health status (OR 4.5, 95% CI 2.4-8.4), current smokers (OR 2.6; 95% CI 1.2-5.6), and those who immigrated at the age of 17 or younger (OR 2.6; 95% CI 1.2-5.3) were at a significantly higher risk of mood disorders.

Anxiety disorders

Not having a regular medical doctor (OR 0.2; 95% CI 0.04-0.7) was the only significant factor associated with decreased odds of anxiety disorders for Canadian-born South Asian populations. While fair-poor self-rated health status (OR 5.3; 95% CI 2.7-10.4) and immigrating at the age of 17 or younger (OR 3.0; 95% CI 1.4-6.5) were the significant factors associated with increased odds of anxiety disorders for South Asian immigrant populations.

Poor-fair self-perceived mental health status

For South Asian Canadian-born populations, not being employed (OR 3.2; 95% CI 1.1-9.3) and being physically inactive (OR 3.2; 95% CI 1.3-8.1) were significantly associated with a greater risk of reporting fair-poor mental health status. On the other hand, for South Asian immigrant populations, having one or more children in the household under the age of 12 (OR 0.8, 95% CI 0.2-2.9) was significantly associated with a decreased odds of reporting fair-poor mental health status, while experiencing food insecurity (OR 4.3; 95% CI 2.4-7.9), poor-fair self-rated health status (OR 8.7; 95% CI 5.0-15.4), and being a current smoker (OR 3.0; 95% CI 1.6-5.9) were significant factors associated with a higher odds of self-reporting poor-fair mental health status.

Extremely stressful self-reported life stress

Similar to anxiety disorders, not having a regular medical doctor was the only significant factor associated with a decreased odds reporting extremely stressful life stress for Canadian-born South Asian populations. In contrast, experiencing food insecurity (OR 5.8; 95% CI 2.7-12.7), self-rating health status as poor-fair (OR 2.9; 95% CI 1.5-5.7), reporting one or more chronic conditions (OR 2.2; 95% CI 1.3-3.7) and immigrating at the age of 17 or younger (OR 3.6; 95% CI 1.9-6.6) were significantly associated with higher odds of self-reporting extremely

stressful life stress levels for South Asian immigrant populations. Moreover, carrying out the CCHS survey in a non-official language was significantly associated with a decreased odds (OR 0.2; 95% CI 0.03-1.7) of reporting extremely stressful life stress for South Asian immigrant populations. The results of the multivariate logistic regression analysis are presented in Table 3.

Table 3

Characteristics of mental health outcomes of mental health outcomes for the adult (25-64 years old) South Asian Canadian-born and South Asian immigrant populations, CCHS 2007-2011

	Presence of a mood disorder		**Presence of an anxiety disorder**	
	Canadian-born OR (95% CI)	Immigrant OR (95% CI)	Canadian-born OR (95% CI)	Immigrant OR (95% CI)
SOCIODEMOGRAPHIC				
Gender male (ref) female	0.7(0.2-2.1)	**2.8(1.5-5.1)**	1.9 (0.6-5.8)	1.4(0.7-2.9)
Age 25-40 41-64 (ref)	1.1(0.3-4.6)	1.7(0.9-3.1)	1.1(0.2-7.3)	1.4(0.7-2.9)
SOCIAL SUPPORT				
Marital status Married/common-law (ref) Not married	1.0(0.2-4.4)	0.5(0.2-1.2)	1.9(0.4-10.2)	0.8(0.3-2.3)
Sense of belonging to community Strong (ref) Weak	0.9(0.3-2.5)	1.1(0.6-2.0)	1.2(0.4-4.0)	1.0(0.5-2.1)
Number of children in household under age of 12 none (ref) 1 or more	1.5(0.5-5.0)	0.6(0.3-1.1)	1.4(0.3-6.0)	1.0(0.4-2.6)
SOCIOECONOMIC STATUS				
Highest level of education ≤ HS grad ≥ some post-sec (ref)	0.4(0.09-2.1)	0.8(0.5-1.5)	1.8(0.5-5.9)	0.6(0.3-1.5)
Income adequacy low income household income adequate (ref)	3.6(0.8-15.5)	1.4(0.8-2.3)	2.6(0.7-10.0)	1.3(0.6-2.6)
Food security	#	**2.7(1.5-5.0)**	#	1.8(0.7-4.5)

food insecure				
food secure (ref)				
Working status last week				
employed (ref)	**2.8(1.0-7.6)**	1.3(0.7-2.3)	1.5(0.6-4.3)	1.9(0.9-3.9)
not employed				
HEALTH & BEHAVIOR	#		#	
Self-rated health status				
good-excellent (ref)		**4.5(2.4-8.4)**		**5.3(2.7-10.4)**
Poor-Fair				
Presence of chronic conditions				
no conditions (ref)	1.9(0.6-6.3)	1.7(0.9-3.1)	1.8(0.4-8.9)	1.4(0.7-2.9)
1 or more conditions				
Having a regular medical doctor				
yes (ref)	2.1(0.4-9.7)	0.4(0.09-1.5)	**0.2(0.04-0.7)**	0.5(0.1-1.5)
no				
Physical activity level				
active (ref)	**3.6(1.5-8.7)**	1.0(0.6-1.8)	2.7(0.9-7.9)	1.4(0.7-2.8)
inactive				
Current smoking status				
yes	1.2(0.4-3.6)	**2.6(1.2-5.6)**	3.4(0.9-12.4)	2.2(1.0-5.2)
no (ref)				
ACCULTURATION	---		---	
Length of stay in Canada				
0-9 years (ref)		0.8(0.4-1.4)		1.0(0.4-2.4)
10+ years				
Age at time of immigration	---		---	
≤ 17 years old		**2.6(1.2-5.3)**		**3.0(1.4-6.5)**
18+ years old (ref)				
Language of CCHS interview	---		---	
English or French (ref)		0.6(0.1-2.2)		0.6(0.1-3.5)
not English or French				

	Poor-fair self- perceived mental health status		**Extremely stressful self-reported life stress**	
	Canadian-born OR (95% CI)	Immigrant OR (95% CI)	Canadian-born OR (95% CI)	Immigrant OR (95% CI)
SOCIODEMOGRAPHIC				
Gender				
male (ref)	0.6(0.2-1.7)	1.1(0.6-1.9)	1.3(0.31-5.9)	0.6(0.4-1.1)
female				
Age				
25-40	1.3(0.3-5.2)	1.4(0.7-2.8)	1.5(0.4-6.8)	0.7(0.3-1.2)
41-64 (ref)				
SOCIAL SUPPORT				
Marital status	0.8(0.2-3.4)	0.5(0.2-1.3)	0.3(0.04-1.7)	0.6(0.2-1.5)

Married/common-law (ref) Not married				
Sense of belonging to community Strong (ref) Weak	1.1(0.4-3.0)	1.6(0.9-2.6)	1.7(0.3-8.6)	1.0(0.6-1.8)
Number of children in household under age of 12 none (ref) 1 or more	2.1(0.6-7.1)	**0.5(0.3-0.9)**	0.8(0.2-2.8)	1.1(0.6-2.0)
SOCIOECONOMIC STATUS				
Highest level of education ≤ HS grad ≥ some post-sec (ref)	0.3(0.07-1.6)	1.0(0.6-1.7)	2.3(0.6-8.6)	1.4(0.8-2.5)
Income adequacy low income household income adequate (ref)	2.6(0.5-12.7)	1.2(0.7-2.1)	1.5(0.5-3.9)	0.7(0.4-1.6)
Food security food insecure food secure (ref)	#	**4.3(2.4-7.9)**	#	**5.8(2.7-12.7)**
Working status last week employed (ref) not employed	**3.2(1.1-9.3)**	1.1(0.7-1.9)	1.5(0.5-5.0)	0.9(0.5-1.8)
HEALTH & BEHAVIOR	#		#	
Self-rated health status good-excellent (ref) Poor-Fair		**8.7(5.0-15.4)**		**2.9(1.5-5.7)**
Presence of chronic conditions no conditions (ref) 1 or more conditions	1.8(0.6-5.5)	2.0(1.0-3.8)	0.6(0.2-2.2)	**2.2(1.3-3.7)**
Having a regular medical doctor yes (ref) no	2.3(0.6-9.5)	0.5(0.2-1.5)	**0.2(0.03-0.9)**	1.2(0.6-2.3)
Physical activity level active (ref) inactive	**3.2(1.3-8.1)**	1.3(0.7-2.3)	1.6(0.5-5.2)	1.3(0.7-2.4)
Current smoking status yes no (ref)	0.6(0.2-1.7)	**3.0(1.6-5.9)**	0.9(0.2-3.6)	1.8(0.8-4.1)
ACCULTURATION	---		---	
Length of stay in Canada 0-9 years (ref) 10+ years		1.0(0.6-1.8)		1.2(0.7-2.1)
Age at time of immigration ≤ 17 years old	---	1.9(0.9-3.8)	---	**3.6(1.9-6.6)**

18+ years old (ref)			
Language of CCHS interview	---	---	
English or French (ref)			
not English or French	1.8(0.5-6.0)		**0.2(0.03-1.7)**

Omitted from model due to low sample size

DISCUSSION

This study found a varying pattern of mental health for South Asian immigrant population compared to Canadian-born populations. South Asian immigrants experience higher estimated prevalence rates of diagnosed anxiety disorders and self-reported extremely stressful life stress. Moreover, South Asian Canadian-born and South Asian immigrant populations do not vary significantly in estimated prevalence rates of mood disorders. Lastly, South Asian Canadian-born populations have a higher estimated prevalence rate of poor-fair self-perceived mental health status compared to their immigrant counterparts.

Socioeconomic status, acculturative, and health and behavioral factors emerged as important social determinants of mental health outcomes in South Asian populations. Working status, physical activity level, and having a regular medical doctor were the three recurring factors associated with mental health outcomes for South Asian Canadian-born populations. In contrast, South Asian immigrant populations had much greater variety in the risk factors and protective factors for mental health outcomes. Food security status, self-rated health status, and age at time of immigration were the recurring factors associated with mental health outcomes for South Asian immigrant populations.

This study examined the mental health of South Asian populations in Canada at the intersection of immigrant status and found important differences in the estimated prevalence rates and determinants of mental health outcomes. The findings stress the importance of not

painting the mental health of all South Asian populations with the same brush. Caution needs to be exercised in treating South Asian populations in Canada as a monolithic entity; rather we need to view them as multiple populations with unique mental health needs. The heterogeneity of South Asian populations cannot be underemphasized. While this study focused on South Asian ethnicity at the intersection of immigrant status, South Asian populations differ along many other axes such as religion, country of origin, and language. Future studies need to examine South Asian mental health in specific sub-populations (e.g. Tamil-speaking Sri Lankan Hindu populations). An intersectional approach to research (Hankivsky et al., 2011; Khanlou, 2003) can help ensure that these important contextual factors are taken into consideration.

The differences in prevalence rates of mental health outcomes for South Asian populations also highlights the importance of tailoring mental health outreach to specific South Asian sub-populations in Canada. Our findings suggest that anxiety disorders and life stress may be particular areas of concern for South Asian immigrant populations. The prevalence rates of anxiety disorders and extremely stressful life stress may be related to the stressors of migration and acculturating to a new land (Islam, 2012; McKenzie, 2009). Mental health outreach programs need to take this into consideration and tailor programs to meet the unique needs of South Asian immigrant populations. Self-perceived fair-poor mental health status was the only mental health outcome in which Canadian-born South Asians fared worse than their immigrant counterparts. Despite having similar rates of mood disorders and lower rates of anxiety disorders and extremely stressful life stress, Canadian-born South Asians still perceived their mental health more negatively than South Asian immigrant populations. Further investigation into additional mental health outcomes and reasons for this negative self-perception need to be carried out.

Different characteristics associated with mental health outcomes also emerged in this study for South Asian immigrant and Canadian-born populations. To ensure the delivery of focused and tailored mental health services, the different protective factors and risk factors for South Asian sub-populations need to be considered. For example, female immigrant South Asians were at almost a three-fold greater risk of mood disorders in comparison to their male counterparts. Mental health outreach programs for mood disorders can use this information to target female South Asian immigrant populations knowing that this is a particularly at-risk population. Socioeconomic status factors such as food security and working status emerged as important characteristics associated with mental health outcomes for South Asian populations. Poverty, low income, unemployment, and precarious employment are important social determinants of mental health (Access Alliance, 2013; Aycan & Berry, 1996; McKenzie, 2009; Seifert et al., 2007; Wilson et al., 2011). These factors seem to not only be a problem for South Asian immigrant populations new to Canada, but Canadian-born populations as well. Poverty alleviation, job placement, job skills-matching, professional mentorship and educational programs need to be bolstered in Canada to promote a more equitable job market (Access Alliance, 2013). Self-rated health status also emerged as a recurring characteristic associated with mental health outcomes. The literature corroborates the association of this factor with mental health (Badawi et al., 2013; Wu & Schimmele, 2005). Taking the highly stigmatized nature of mental health into consideration and since health encompasses both physical and mental health, self-rated health may be a question mental health professionals can use with South Asian populations as a starting point as it is a potentially less stigmatized question that may be able to point to deeper mental health issues. Those who did not have a regular medical doctor were more likely not to self-report anxiety disorder and high life stress risk amongst Canadian-

born South Asian populations. It is estimated that about 15.3% of Canadians do not have access to a regular medical doctor (Statistics Canada, 2014). Not having a family doctor who can diagnose and identify mental health issues may lead to underreporting of these mental health outcomes. Finally, the acculturation measure of age at time of immigration was found to be an important factor associated with mental health outcomes for South Asian immigrant populations. Corroborating Wu and Schimmele's (2005) findings, immigrating during adulthood (18+ years old) seems to be protective for mental health. It may be that those who immigrate as adults do not have as difficult of a time acculturating to a new land as they already arrive with a fully developed sense of their culture and identity. On the other hand, those who immigrate during childhood and as youth experience the pangs of being "caught between two cultures" and must struggle to negotiate a new identity in a new land (Lee et al., 2009). Interestingly, length of stay in Canada was not associated with any of the four mental health outcomes for South Asian immigrant populations in Canada. Kirmayer et al. (2007) analysis of immigrants in Montreal found that length of stay in Canada was not significantly related to mental health service use. Further investigation in the form of longitudinal studies that can follow South Asian newcomers upon arrival in Canada over time would help elucidate the effect of length of stay in Canada on mental health for South Asian immigrant populations.

Limitations and Strengths

This study relied upon cross-sectional survey data, which is not ideal to study the time-dependent variable of migration and the healthy immigrant effect. Longitudinal studies that follow cohorts of immigrants and Canadian-born individuals over time may help to better elucidate the impact of migration on South Asian mental health. In addition, the CCHS relies on self-reported data which is subject to recall bias and social desirability bias. The prevalence rates

of mental health are reported estimates and not true prevalence estimates, since not all households chose to participate in the CCHS survey (78% response rate) and certain populations were excluded from the CCHS (those residing on Indian Reserves, institutions, remote regions, and full-time members of the Canadian Forces). Members of South Asian populations with the four mental health outcomes analyzed in this study may have been more or less likely to choose to participate in the survey. In addition, there are challenges in corresponding concepts of mental health cross-culturally in relation to barriers in translation, differences in conceptions of mental illness (Dein, Alexander & Napier, 2008; Fenton & Sadiq-Sangster, 1996), and issues such as somatization of mental issues as is seen for certain ethnocultural populations (Bhui et al., 2001). These barriers to diagnosing mental illness may result in detection bias being a limitation of the data. As a result, as with all epidemiological surveys, the prevalence rates calculated are only estimates. Caution needs to be exercised in interpreting them. Moreover, the social support scales available in the CCHS were only administered as optional content for select provinces. As a result, the social support variables available across Canada were limited. We used marital status, number of children in the household under the age of 12, and sense of belonging to the community as social support variables. Perceived discrimination and racism are important post-migratory variables especially for racialized populations (Pumariega, Roth & Pumariega, 2005). However, these variables were not available in the CCHS and could not be included in the models. Sense of belonging to the community was used as a proxy measure. In addition, the sample size for South Asian Canadian-born populations was quite small in comparison to the South Asian immigrant sample in this study as Canadian-born South Asians are still a new population in Canada. As a result, sample sizes for the variables of food security and self-rated health status were too small to allow for inclusion in the multivariate regression models. In the

absence of a variable of migration generation in the CCHS, the South Asian Canadian-born population served as a proxy measure of "second-generation." Technically, second-generation South Asians would only be those whose parents were first-generation immigrants to Canada.

The CCHS offers a nationally representative database with a large sample size, allowing modeling such as multivariate logistic regression analysis. The large sample size is also well suited for capturing the heterogeneity of South Asian populations in Canada. To our knowledge this is the only study to conduct a within ethnic group comparison between South Asian immigrant and Canadian-born populations in order to understand mental health differences between migration generations. This study also utilizes multiple measures of mental health outcomes, both clinically diagnosed and self-perceived, to paint a better picture of the mental health of South Asian populations in Canada.

Implications

Migration is an important social determinant of mental health for South Asian populations in Canada. Significant differences in prevalence rates and characteristics of mental health outcomes were found for first-generation immigrants and second-generation/Canadian-born South Asian populations. South Asian Canadian-born and immigrant populations have a differing pattern of mental health. Life stress and anxiety disorders emerged as important mental health issues for South Asian immigrant populations, while poor self-perceived mental health emerged for South Asian Canadian-born populations. Socioeconomic and health and behavioral factors were most commonly associated with negative mental health outcomes for South Asian Canadian-born populations, whereas, acculturative, socioeconomic, and health and behavioral factors were important characteristics associated with mental health of South Asian immigrant

populations. Mental health outreach programs need to be cognizant of these differences to better tailor mental health services to be responsive to the unique mental health needs of South Asian populations in Canada.

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STUDY 2

The Epidemiology of Mental Healthcare Utilization by Service Provider Type for Ontario's Immigrant Populations

ABSTRACT

Background: Over half of immigrants (54.9%) who arrive in Canada settle in Ontario (King, 2009). Recognizing the profound stressors associated with migration and resettlement and the barriers immigrants face when accessing mental healthcare (McKenzie, 2009), this study sought to determine the prevalence rates and characteristics of mental health service use by service provider type for Ontario's immigrant populations. **Methods:** The Canadian Community Health Survey (CCHS) 2012 was used to calculate the estimated prevalence rates of mental healthcare utilization by service provider type. To determine the characteristics associated with seeking mental healthcare and the difference between those who seek specialized mental health services (psychiatrist or psychologist) and those who seek primary care (family doctor), multivariate logistic regression analysis was carried out on merged CCHS 2008-2012 data. **Results:** It was found that immigrants in Ontario (unweighted n = 4,163; weighted n = 3,425,273) had lower estimated prevalence rates of mental health service utilization across all service provider types compared to Canadian-born populations (unweighted n = 16,278; weighted n = 7,615,613). Moreover, amongst those who sought mental healthcare, the majority of Ontario immigrants consulted with their primary care physician (63.3%). Immigrants had significantly lower estimated prevalence rates of seeking integrated care from both specialized and primary care professionals compared to their Canadian-born counterparts (5.7% compared to 16.7%). Gender, age, racial/cultural background, education, working status, self-rated health, self-perceived mental health status, mood disorders, alcohol drinking, age at time of immigration, and years since immigration were found to be significantly associated with mental health service use for Ontario's immigrant populations. Amongst Ontario immigrants who sought mental healthcare, those who sought specialized mental health services differed from those who sought primary

care services on the factors of age, year of CCHS interview, marital status, alcohol drinking, and age at time of immigration. **Conclusions:** The Ontario immigrant population's lower rates of seeking integrated care from both primary and specialized mental health services and the preference for consulting with primary has implications for mental health service planning. The potential exists for expanding the mental healthcare role of the primary care physician, who can act as a potential gateway to further specialized mental healthcare. Other than those unique to migration, the characteristics of consulting mental healthcare uncovered were similar to those established in the literature for the general population. Mental health outreach targeted towards immigrant population in Ontario need to take these factors of migration and resettlement into consideration in the planning and delivery of mental health programming.

INTRODUCTION

Canada's newly launched national mental health strategy calls on the importance of providing access to a wide range of mental health services from primary healthcare and community-based support to specialized mental health services (Mental Health Commission of Canada, 2012). Currently, 10% of Canadians utilize mental health services in Canada (Lesage et al., 2006). While about 1 in 5 Canadians suffer from a mental illness, only 50% of those with a current diagnosis of mental illness actually seek care (Lesage et al., 2006). Canada's Mental Health Strategy proposes the expansion of the role of primary health care and integration of primary healthcare with specialized mental healthcare services to address this service gap.

Family physicians play a key part in the care and management of mental health (Bland, Newman & Orn, 1997; Mental Health Commission of Canada, 2012; Vasiliadis et al., 2005; Lesage et al., 2006). Across all provinces in Canada, the most commonly consulted professional for mental health reasons was the family physician. (Vasiliadis et al., 2009; Lesage et al., 2006). While 5.4% of the general population in Canada consulted their family doctor for mental health reasons, only 3.5% consulted specialized mental health services (Lesage et al., 2006). Sareen et al. (2005) reported that 3.8% of the general population in Canada sought their family doctor for mental healthcare, 2.0% sought a psychologist, and 1.5% consulted with a psychiatrist. About 37% of those who had past-year mental health consultations visited their family physician and 33% consulted another professional (Vasiliadis et al., 2009). Moreover, the characteristics of seeking mental health care differ between those who visit only their family doctor and those who consult specialized mental health services (e.g. psychiatrists and psychologists) (Parikh, Lin & Lesage, 1997; Wang & Patten, 2007; Vasiliadis et al., 2009).

Prevalence and Characteristics of Mental Healthcare Utilization in Immigrant Populations

Canada's Mental Health Strategy (2012) also outlines the importance of focusing on the nation's immigrant population. However, the strategy identifies the lack of detailed research data on the mental health service needs of Canada's diverse populations and the importance of such data to plan service delivery to underserved sub-groups. There are no published prevalence rates of seeking mental healthcare of immigrant populations as a whole, but there is information on specific ethnic immigrant groups. National-level and provincial-level analyses have found that ethnocultural immigrant communities underutilize mental healthcare services in comparison to national and provincial averages (Centre for Research on Inner City Health, 2012; Chen & Kazanjian, 2005; Fenta, Hyman & Noh, 2006; Gadalla, 2010; Kirmayer et al., 2007; Lesage et al., 2006; Tiwari & Wang, 2008). Chen, Kazanjian, and Wong's (2009) analysis of the CCHS 2000-2001 found that 8% of non-Chinese immigrants in BC utilized mental healthcare in the past year compared to 11% of their non-Chinese Canadian-born counterparts. Kirmayer et al. (2007) reported that Caribbean, Vietnamese, and Filipino immigrants living in Montreal utilized mental health care services at significantly lower rates (5.5%) than their Canadian-born counterparts (14.7%). Immigrants also had a lower rate of mental health service use when seeking primary care (2.8%) and specialized mental health care (2.5%) compared to the Canadian-born population (4.5% and 11.7%, respectively). Despite having comparable levels of depressive symptoms as Canadian-born populations, immigrant populations in Toronto utilized mental health services significantly less (6% for recent immigrants residing less than 5 years in Canada and 7% for longer term immigrants compared to 10% for Canadian-born participants) (CRICH, 2012).

Similarly, no studies could be found looking at the characteristics of seeking mental healthcare amongst immigrant populations as a whole; however, there is research on specific ethnic immigrant communities. Quantitative analysis revealed the following significant determinants of seeking mental healthcare for Chinese immigrants in BC: length of stay in Canada, rate of non-mental health visits to the general practitioner, age, place of origin, education level, marital status, and English skill (Chen, Kazanjian & Wong, 2008; Chen & Wong, 2009). Positive perceptions of healthcare access, prescribing more to a Western stress model of illness and less towards supernatural beliefs were predictive of positive attitudes towards seeking professional psychological help amongst five East and Southeast Asian refugee and immigrant women groups in Toronto (Fung & Wong, 2007). Moreover, there is very little research on mental health service use by service provider type for immigrant populations in Canada. Immigrant populations in Toronto were found to have significantly lower prevalence rates of seeking specialized mental health services (consulting a psychologist or psychiatrist) compared to their Canadian-born counterparts with 6% of recent immigrants (< 5 years) and 10% of longer-term immigrants (5+ years in Canada) seeking care compared to 12% of Canadian-born participants (CRICH, 2012). In contrast, Vasiliadis et al. (2009) found that the foreign-born population in Canada was more than two times as likely to only seek care from a psychiatrist compared to their Canadian-born counterparts (OR 2.14, 95% CI 1.03-4.47).

The majority of research studies identifying characteristics of mental healthcare utilization amongst immigrant populations in Canada have been qualitative in nature. Reitmanova and Gustafson (2007) outlined how visible minority immigrants in St. John's, Newfoundland are reluctant to seek care because of mental health stigma, their belief that they can deal with the problem on their own, lack of information about mental health and healthcare

services, cultural mismatch of available care, lack of finances, and insensitivity on part of healthcare professionals towards immigrants' values and beliefs. Qualitative research with immigrant women and healthcare providers in Calgary, Alberta revealed similar barriers such as fear and stigma, lack of information, lack of culturally competent mental healthcare, unfamiliarity with Western biomedicine, and negative perceptions of the healthcare provider-client relationship (Donnelly et al., 2011; O'Mahony & Donnelly, 2007).

Rationale

Ontario has the largest immigrant population in Canada (28.3% of the population; over 3 million people) (Statistics Canada, 2007). In Ontario, general practitioners (5.3%), psychiatrists (2.3%), social workers/counsellors/psychotherapists (2.2%), and psychologists (1.1%) were the most commonly sought healthcare professionals for past-year mental health consultations in 2001 (Lesage et al., 2006). However, there are no statistics available on the mental health service utilization rates and patterns of Ontario's immigrant population. In line with addressing the research gap identified by the Mental Health Strategy (2012), a better understanding of immigrant mental health service use patterns can be used to tailor mental healthcare services towards Ontario's booming immigrant population. In order to better understand the potential for integrating primary and specialized care for immigrant populations, the characteristics of those who seek primary care versus specialized care for mental health needs to be elucidated. In the general population, the characteristics of seeking mental healthcare differ between those who consult only their family physician and those who consult only specialized mental health services. It is important to identify if these differences still hold for immigrant populations to help inform mental health service planning and delivery. Thus, this study will address the following research questions:

1. What is the prevalence of past year mental health consultation across service provider types for Ontario immigrants compared to the Canadian-born Ontario population amongst the general populations and amongst those who sought mental healthcare?

2. What are the characteristics of past year mental health consultation for Ontario immigrants compared to those who did not seek mental health services?

3. What are the characteristics of Ontario immigrants who sought mental health care from specialized services (psychologist/psychiatrist) compared to those who sought primary services (GP)?

METHODS

Data source

Canadian Community Health Survey (CCHS).

The Canadian Community Health Survey (CCHS) cycles 2008 through 2012 were used in this study. The CCHS collects health-related data every year (January – December), surveying individuals over the age of 12 in all provinces and territories, excluding those residing on Indian Reserves, institutions, remote regions, and full-time members of the Canadian Forces. In order to administer surveys to a variety of households, the CCHS samples households by area framing, telephone list framing, and random digit dialing. Response to the survey is voluntary with a response rate of about 78% (Statistics Canada, 2008).

Study population

This study analyzed estimated prevalence rates of mental healthcare utilization amongst the Ontario immigrant and Canadian-born populations. The CCHS variables of geographic

province of residence and immigration status were used to select these populations. The immigrant and Canadian-born populations were selected based on how they responded to the derived variable (based on a number of CCHS interview questions) "immigration flag" question, which groups respondents into yes, immigrant and no, not an immigrant.

Outcome variable

Mental healthcare utilization (dichotomous outcome variable) was assessed with the responses to the following survey question, "In the past 12 months, that is, from [date one year ago] to yesterday, have you seen or talked to a health professional about your emotional or mental health?" (yes, no). Whom did you see or talk to? (Family doctor or general practitioner, Psychiatrist, Psychologist, Nurse, Social worker or counsellor, or Other – Specify). The characteristics of seeking mental health care were compared between those who sought primary care (family doctor/GP) and specialized mental health services (psychiatrist and/or psychologist) (Lesage et al., 2006). Those who sought care from both primary and specialized services were grouped into the specialized services category.

Covariate variables

The following sociodemographic variables were modeled in the regression analysis as potential covariates of seeking mental healthcare: gender (male, female), age (< 25 years old, 25-44 years old, 45-64 years old, 65+ years old), cultural or racial background (question: People living in Canada come from many different cultural and racial backgrounds are you....? 12 different options) (White, South Asian, Chinese, and Other). Marital status (recategorized into living with a spouse/partner, not living with a spouse/partner) and sense of belonging to the community (recategorized into strong (very strong, somewhat strong), weak (very weak, somewhat weak)) were the two social support variables. Socioeconomic status (SES) variables

included highest level of education attained by the respondent (≤ high school graduation, some postsecondary education or more), working status last week (recategorized into working, not working, and missing), and household food security status (food secure, food insecure). The following health and health behavior factors were included in the models: self-rated health status (poor-fair, good-excellent), self-perceived mental health status (poor-fair, good-excellent), presence of mood disorders (yes, no), current smoking status (yes (daily/occasional), no (former/never)), and current alcohol drinking status (yes, no). Lastly, years since immigration (< 5 years, 5-9 years, 10+ years), and age at time of immigration (< 6 years old, 6-12 years old, 13-17 years old, 18+ years old) served as variables of migration.

Data analysis plan

To address the first research question, the estimated prevalence rates (percentages) of those who answered "yes" to a mental health consultation in the past 12 months were calculated for the Ontario immigrant and Canadian-born populations by service provider type: all service providers, family doctor/GP (primary care services), psychiatrist or psychologist (specialized care services), both primary and specialized care, psychiatrist, psychologist, nurse, social workers/counselor, and other.

Bivarate and multivariate logistic regression modeling was carried out to address the second research question. The dichotomous outcome "In the past 12 months, that is, from [date one year ago] to yesterday, have you seen or talked to a health professional about your emotional or mental health (across all service provider types: family doctor, psychiatrist, psychologist, nurse, social workers/counselor, and other? (yes, no)" was modeled for Ontario's immigrant population. The covariates outlines above were assessed as potential characteristics of past-year mental health consultation.

To address the third research question, those who consulted either primary or specialized services were selected from the Ontario immigrant population and multivariate logistic regression modeling was carried out on the following dichotomous outcome: "Whom did you consult for mental health care? (primary care, specialized services)." The same covariates above were included in the model and the characteristics of mental health consultation by the two service provider types were compared and contrasted.

Thomas and Wannell (2009) reported that pooled data across multiple cycles of a survey creates an artificial population that can be used for higher order modeling but is not best for calculating descriptive statistics. Therefore the descriptive analysis (prevalence rates and sample demographic frequency calculations) was carried out using the unmerged and most recent CCHS data (CCHS 2012). Logistic regression analysis was carried out using CCHS data merged across five cycles (2008-2012). Significance was be set at $p < 0.05$. Adjusted and unadjusted odds ratios (OR's) and 95% confidence intervals (CI's) were reported. Adjusted CCHS population sample weights were applied to the estimates. Sample weights are applied to survey data in order to make inferences to the Canadian population (Statistics Canada, 2013). Preliminary data analysis was carried out using IBM SPSS version 21, while the application of sample weights for the descriptive and multivariate regression analysis were conducted using STATA version 13. Data analysis was conducted at the Statistics Canada York University Research Data Centre.

RESULTS

Sample Profile

The sample demographics for the Ontario immigrant population by past-year mental health consultation status is displayed in Table 1. Those who sought mental healthcare differed

significantly from those who did not on the factors of gender, cultural/racial background, working status, household food security status, self-rated health status, self-perceived mental health status, presence of mood disorders, and current smoking status.

Table 1

Sample Demographics for the Ontario Immigrant Population by Past-Year Mental Health Consultation Status (12+ years old) (CCHS 2012)

	Sought mental healthcare n (%) 250,014 (7.54) Unweighted: 353 (8.81)	Did not seek mental healthcare n (%) 3,067,936 (92.46) Unweighted: 3,652 (91.19)	p-value
SOCIODEMOGRAPHIC			
Gender			
male	91,908 (36.76)	1,513,164 (48.38)	0.0001*
female	158,106 (63.24)	1,554,772 (50.68)	
Age			
<24 years old	18,306 (7.32)	377,919 (12.32)	0.198
25-44 years old	88,801 (35.52)	1,006,070 (32.79)	
45-64 years old	97,873 (39.15)	1,097,704 (35.78)	
65+ years old	45,034 (18.01)	586,243 (19.11)	
Cultural/racial background			
White	128,304 (51.56)	1,133,216 (37.26)	0.0001*
South Asian	39,298 (15.79)	614,738 (20.21)	
Chinese	14,424 (5.80)	350,979 (11.54)	
Other	66,800 (26.85)	942,409 (30.99)	
SOCIAL SUPPORT			
Marital status			
married/common-law	159,045 (63.61)	2,093,470 (68.28)	0.082
not married	90,969 (36.39)	972,666 (31.72)	
Sense of belonging to community			
strong	165,870 (66.54)	2,073,994 (68.50)	0.459
weak	83,419 (33.46)	953,841 (31.50)	
SES			
Highest level of education			
HS grad or less	92,311 (37.06)	994,750 (32.81)	0.115
Some post-sec or more	156,773 (62,94)	2,037,342 (67.19)	
Working status last week			

Employed	113,779 (48.14)	1,837,914 (65.55)	0.0001*
Not employed	122,588 (51.86)	965,874 (34.45)	
Missing	13,647 (5.46)	264,148 (8.61)	
Household food security status			
Food secure	197,142 (80.02)	2,843,929 (93.62)	0.0001*
Food insecure	49,219 (19.98)	193,815 (6.38)	
HEALTH & BEHAVIOR			
Self-rated health status			
Poor-fair	54,189 (23.58)	256,823 (8.38)	0.0001*
Good-excellent	175,617 (76.42)	2,807,525 (91.62)	
Self-perceived mental health status			
Poor-fair	77,526 (31.24)	94,225 (3.08)	0.0001*
Good-excellent	170,629 (68.76)	2,969,641 (96.92)	
Mood disorder			
Yes	91,263 (36.56)	70,173 (2.29)	0.0001*
No	158,367 (63.44)	2,994,815 (97.71)	
Current smoking status			
Yes	59,585 (23.83)	403,040 (13.14)	0.0001*
No	190,429 (76.17)	2,664,609 (86.86)	
Current alcohol drinking			
Yes	163,782 (65.59)	1,904,256 (62.12)	0.191
No	85,916 (34.41)	1,161,435 (37.88)	
ACCULTURATION			
Years since immigration			
< 5 years	28,485 (11.39)	334,102 (10.89)	0.766
5-9 years	27,213 (10.88)	399,037 (13.01)	
10+ years	194,316 (77.72)	2,334,797 (76.10)	
Age at time of immigration			
< 6 years old	22,780 (9.11)	314,122 (10.24)	0.454
6-12 years old	33,806 (13.52)	376,156 (12.26)	
13-17 years old	34,813 (13.92)	270,149 (8.81)	
18+ years old	158,615 (63.44)	2,107,509 (68.69)	

Note. Asterisk (*) indicates significant difference between those who sought mental healthcare compared to those who did not amongst immigrant populations in Ontario ($p < 0.05$).

Estimated Prevalence Rates of Mental Health Service Use by Service Provider Type

The estimated prevalence rates of mental health service use by service provider type are displayed in Table 2. Immigrants had significantly lower estimated prevalence rates of mental healthcare utilization across all service provider types. Prevalence rates of seeking both primary and specialized services for mental healthcare could not be released due to the small cell sizes.

Table 2

Estimated prevalence rates of past-year mental health service utilization by service provider type for Canadian-born and Immigrant Populations in Ontario (12+ years old), CCHS 2012

	Canadian-born % (95% CI) Unweighted n = 16,278 (79.63) Weighted n = 7,615,613 (68.98)	Immigrant % (95% CI) Unweighted n = 4,163 (20.37) Weighted n = 3,425,273 (31.02)	p-value
Consulted mental health care (all service providers)	14.95 (13.90 – 16.01)	7.30 (5.69 – 8.90)	0.0001*
Primary health services (family doctor)	8.75 (7.88 – 9.62)	4.62 (3.20 – 6.04)	0.0001*
Specialized mental health services (psychiatrist or psychologist)	4.64 (3.98 – 5.31)	1.67 (1.13 – 2.22)	0.0001*
Psychiatrist	3.14 (2.54 – 3.73)	1.11 (0.64 – 1.59)	0.0001*
Psychologist	1.86 (1.50 – 2.22)	0.62 (0.34 – 0.89)	0.0001*
Nurse	0.54 (0.37 – 0.72)	0.18 (0.036 – 0.33)	0.002*
Social worker/counselor	3.39 (2.89 – 3.89)	1.02 (0.43 – 1.60)	0.0001*
Other	1.02 (0.70 – 1.33)	0.36 (0.11 – 0.60)	0.001*

Note. Asterisk (*) indicates significant difference between Canadian-born and immigrant populations in Ontario ($p < 0.05$).

In addition, the prevalence rates of mental health service use by service provider type were also examined amongst who sought mental healthcare in the past year. It was found that while a comparable proportion of Canadian-born and immigrant populations in Canada utilized primary health services and specialized health services, immigrants had significantly lower rates of seeking integrated care and utilizing both primary and specialized services (5.68% compared to 16.65%).

Table 3

Estimated prevalence rates of mental health service utilization by service provider type of Canadian-born and Immigrant Populations in Ontario amongst those who sought mental health services in the past year (12+ years old), CCHS 2012

	Canadian-born % (95% CI) Unweighted n(%) = 2,326 (86.82) Weighted n = 1,138,869 (82.00)	Immigrant % (95% CI) Unweighted n(%) = 353 (13.18) Weighted n = 250,014 (18.00)	p-value
Primary health services (family doctor)	58.50 (54.79-62.20)	63.30 (53.07-73.53)	0.387
Specialized mental health services (psychiatrist or psychologist)	31.04 (27.36-34.73)	22.93 (15.30-30.57)	0.060
Consulted both primary and specialized care	16.65 (11.82-21.47)	5.68 (1.38-9.97)	0.001*

Note. Asterisk (*) indicates significant difference between Canadian-born and immigrant populations in Ontario ($p < 0.05$).

Characteristics of Past-Year Mental Health Consultation for Ontario's Immigrant Populations

The results of the multivariate logistic regression analysis are displayed in Table 4.

Females were almost two times as likely (OR 1.98, 95% CI 1.60-2.45) to seek mental healthcare compared to their male counterparts. Compared to those who were 65+ years old, Ontario immigrants in the 25-44 years old (OR 2.11, 95% CI 1.51-2.94) and 45-64 year old age bracket (OR 1.54, 95% CI 1.13-2.10) were more likely to utilize mental health services. Chinese populations were set as the reference category for cultural/racial background as studies have reported that this population has the lowest mental health service use prevalence rates (Chen, Kazanjian & Wong, 2009; Tiwari & Wang, 2008). Compared to Chinese populations, all other racial/cultural groups had a higher odds of seeking mental healthcare (White OR 3.86, 95% CI 2.15-6.93; South Asian OR 2.80, 95% CI 1.53-5.12; Other OR 2.51, 95% CI 1.45-4.67). Those with higher education levels (some postsecondary schooling or more) were more likely to seek mental health care (OR 1.46, 95% CI 1.14-1.86) than those who had lower education levels. Those who were not working were at a 1.54 times higher odds (95% CI 1.22-1.96) of seeking mental healthcare than those who were working. Those who perceived their health as poor-fair were 1.57 times more likely (95% CI 1.15-2.16) to consult mental health services than those who rated their health more positively. Similarly, those who perceived their mental health status as poor-fair were at a 5.54 greater odds (95% CI 3.80-8.08) of seeking mental healthcare than those who has a more positive perception. The presence of a mood disorder was the most important factor related to mental health service use. Those who had a current diagnosed mood disorder were 13.94 times more likely (95% CI 10.37-18.73) to consult mental health services than those who did not. Current alcohol drinkers were more likely to seek mental healthcare (OR 1.47, 95% CI 1.16-1.86 than those who did not drink. Those who had lived in Canada for 5-9 years were less likely (OR 0.53, 95% CI 0.34 – 0.84) to seek care than newcomers (0-5 years in Canada). Ontario immigrants that immigrated before adolescence (< 6 years old OR 1.75, 95% CI 1.25-

2.46; 6-12 years old OR 1.61, 95% CI 1.14-2.26) were significantly more likely to seek mental healthcare than those who immigrated as adults.

Table 4

Characteristics of past-year mental health consultation compared to those who did not seek mental healthcare for immigrant populations in Ontario (12+ years old), CCHS 2008-2012

	Sought mental healthcare in the past year	
Unweighted n (included in model): 16,844 Unweighted n (excluded): 1,299 (6.13%) pseudo R^2 = 0.2658		
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
SOCIODEMOGRAPHIC		
Gender		
Male (ref)	---	---
female	2.03 (1.65-2.50)*	1.98 (1.60-2.45)*
Age		
<24 years old	0.74 (0.53-1.04)	1.14 (0.69-1.90)
25-44 years old	1.34 (1.09-1.65)*	2.11 (1.51-2.94)*
45-64 years old	1.57 (1.26-1.94)*	1.54 (1.13-2.10)*
65+ years old (ref)	---	---
Year of CCHS interview		
2008 (ref)	---	---
2009	1.04 (0.80-1.35)	1.15 (0.82-1.62)
2010	0.82 (0.63-1.07)	0.90 (0.66-1.24)
2011	1.18 (0.90-1.55)	1.25 (0.91-1.70)
2012	1.10 (0.82-1.48)	1.26 (0.91-1.75)
Cultural/racial background		
White	4.09 (2.69-6.21)	3.86 (2.15-6.93)*
South Asian	2.04 (1.28-3.26)	2.80 (1.53-5.12)*
Chinese (ref)	---	---
Other	2.51 (1.61-3.91)	2.61 (1.45-4.67)*
SOCIAL SUPPORT		
Marital status		
married/common-law (ref)	---	---
not married	1.38 (1.15-1.65)*	1.20 (0.94-1.53)
Sense of belonging to community		
Strong (ref)	---	---
weak	1.28 (1.06-1.54)*	0.95 (0.76-1.17)

SES		
Highest level of education		
HS grad or less (ref)	---	---
Some post-sec or more	1.12 (0.91-1.39)*	1.46 (1.14-1.86)*
Working status last week		
Employed (ref)	---	---
Not employed	1.98 (1.64-2.40)*	1.54 (1.22-1.96)*
Missing	0.74 (0.58-0.96)*	1.00 (0.67 – 1.50)
Food security		
Insecure	2.45 (1.83-3.28)*	1.31 (0.90 – 1.91)
Secure (ref)	---	---
HEALTH & BEHAVIOR		
Self-rated health status		
Poor-fair	3.73 (3.07-4.54)*	1.57 (1.15-2.16)*
Good-excellent (ref)	---	---
Self-perceived mental health status		
Poor-fair	12.22 (9.48-15.75)*	5.54 (3.80-8.08)*
Good-excellent (ref)	---	---
Presence of mood disorder		
Yes	27.38 (21.40-35.03)*	13.94 (10.37 – 18.73)*
No (ref)	---	---
Current smoking status		
Yes	1.73 (1.32-2.27)*	1.12 (0.84-1.49)
No (ref)	---	---
Current alcohol drinking		
Yes	1.41 (1.16-1.70)*	1.47 (1.16-1.86)*
No (ref)	---	---
ACCULTURATION		
Years since immigration		
< 5 years (ref)	---	---
5-9 years	0.56 (0.37-0.85)*	0.53 (0.34 – 0.84)*
10+ years	1.27 (0.92-1.77)	0.86 (0.58 – 1.28)
Age at time of immigration		
< 6 years old	1.88 (1.48-2.38)*, 1.43	1.75 (1.25-2.46)*
6-12 years old	(1.09-1.88)*, 1.12 (0.72-	1.61 (1.14-2.26)*
13-17 years old	1.74)	0.94 (0.67-1.34)
18+ years old (ref)	---	---

Note. Asterisk (*) indicates significant difference $p < 0.05$. Adjusted population weights have been applied to estimates.

Comparing Characteristics between those who Sought Primary Care versus Specialized Services for Mental Healthcare

Compared to those who sought primary care services for mental health consultation, Ontario immigrants who sought specialized mental healthcare (psychiatrist or psychologist) were more likely to be in the 45-64 years old age bracket (OR 1.85, 95% CI 1.05-3.23) (reference group: 65+ years old), to have participated in the CCHS survey during 2009 (OR 2.10, 95% CI 1.19-3.70) , 2010 (OR 3.72, 95% CI 2.04-6.79), and 2011 (OR 2.03, 95% CI 1.10-3.75) (reference group: 2008), more likely to not be currently living with the spouse/partner (OR 1.53, 95% CI 1.03-2.27) (reference group: married), more likely to not be working (OR 1.61, 95% CI 1.06-2.47) (reference group: currently working), more likely to have a mood disorder (OR 2.91, 95% CI 1.98-4.29) (reference group: no mood disorder), less likely to be a current alcohol drinker (OR 0.61, 95% CI 0.91) (reference group: not current drinker), and more likely to have immigrated to Canada as a child (OR 1.92, 95% CI 1.08-3.41) (reference group: immigrating in adulthood 18+ years old). The results of the multivariate logistic regression model are displayed in Table 5.

Table 5

Characteristics of past-year mental health consultation from specialized services (psychologist and/or psychiatrist) compared to those who consulted primary services (family doctor) for immigrant populations in Ontario (12+ years old), CCHS 2008-2012

	Sought mental healthcare from specialized services	
Unweighted n (included in model): 1357 Unweighted n (excluded): 94 (6.48%) pseudo R2 = 0.1218		
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
SOCIODEMOGRAPHIC		
Gender		
Male (ref)	---	---

female	0.99 (0.65-1.50)	0.73 (0.50-1.07)
Age		
<24 years old	1.68 (0.80-3.56)	1.36 (0.47-3.94)
25-44 years old	1.48 (0.94-2.32)	1.66 (0.87-3.18)
45-64 years old	1.61 (1.02-2.54)*	1.54 (1.13-2.10)*
65+ years old (ref)	---	---
Year of CCHS interview		
2008 (ref)	---	---
2009	1.87 (1.11-3.15)*	2.10 (1.19-3.70)*
2010	3.66 (2.14-6.28)*	3.72 (2.04-6.79)*
2011	1.75 (0.99-3.12)	2.03 (1.10-3.75)*
2012	1.04 (0.57-1.89)	1.46 (0.817-2.62)
Cultural/racial background		
White	0.97 (0.40-2.37)	0.72 (0.23-2.24)
South Asian	0.83 (0.31-2.22)	0.59 (0.18-1.93)
Chinese (ref)	---	---
Other	0.92 (0.36-2.35)	0.57 (0.18-1.83)
SOCIAL SUPPORT		
Marital status		
married/common-law (ref)	---	---
not married	1.71 (1.17-2.48)*	1.53 (1.03-2.27)*
Sense of belonging to community		
Strong (ref)	---	---
weak	1.07 (0.74-1.57)	0.93 (0.64-1.34)
SES		
Highest level of education		
HS grad or less (ref)	---	---
Some post-sec or more	1.06 (0.69-1.63)	1.37 (0.91-2.07)
Working status last week		
Employed (ref)	---	---
Not employed	1.51 (1.03-2.23)*	1.61 (1.06-2.47)*
Missing	0.88 (0.48-1.62)	1.50 (0.66-3.41)
Food security		
Insecure	1.22 (0.70-2.13)	0.91 (0.52-1.56)
Secure (ref)	---	---
HEALTH & BEHAVIOR		
Self-rated health status		
Poor-fair	1.33 (0.92-1.94)	0.80 (0.51-1.26)
Good-excellent (ref)	---	---
Self-perceived mental health status		
Poor-fair	1.41 (0.90-2.20)	1.44 (0.92-2.26)
Good-excellent (ref)	---	---
Presence of mood disorder		
Yes	3.01 (2.02-4.49)*	2.91 (1.98-4.29)*
No (ref)	---	---

Current smoking status		
Yes	1.10 (0.65-1.86)	0.91 (0.54-1.52)
No (ref)	---	---
Current alcohol drinking		
Yes	0.67 (0.45-0.99)	0.61 (0.41-0.91)*
No (ref)	---	---
ACCULTURATION		
Years since immigration		
< 5 years (ref)	---	---
5-9 years	0.90 (0.39-2.09)	1.05 (0.38-2.88)
10+ years	0.95 (0.34-1.20)	0.78 (0.34-1.80)
Age at time of immigration		
< 6 years old	1.66 (1.02-2.71)*	1.92 (1.08-3.41)*
6-12 years old	0.65 (0.38-1.12)	0.64 (0.35-1.17)
13-17 years old	0.82 (0.35-1.93)	1.23 (0.62-2.43)
18+ years old (ref)	---	---

Note. Asterisk (*) indicates significant difference $p < 0.05$. Adjusted population weights have been applied to estimates.

DISCUSSION

This study found that immigrant populations in Ontario have significantly lower estimated prevalence rates of mental health service utilization compared to their Canadian-born counterparts across all service provider types. Amongst those who sought mental healthcare in the past year, immigrants had significantly lower estimated prevalence rates of seeking both primary and specialized care for mental health compared to Canadian-born populations. When Ontario immigrants who sought mental healthcare were examined, it was found that being female, being 25-64 years old, being White, South Asian, or any racial/cultural background other than Chinese, having higher education levels, not currently working, poorer self-rated health and self-perceived mental health status, having a current mood disorder, being a current alcohol drinker, immigrating to Canada before adolescence, and being a newcomer were associated with higher odds of seeking mental healthcare. To add to this further, those who were 45-64 years old, not currently living with their spouse/partner, not a current alcohol drinker, not currently

working, those with a diagnosed mood disorder, and those who immigrated in childhood had a greater likelihood of seeking specialized mental health services compared to primary care services for mental health consultation.

Prevalence Rates of Mental Health Service Utilization

Immigrants in Ontario had significantly lower prevalence rates of mental health service utilization compared to their Canadian-born counterparts. This has been corroborated in the literature for specific ethnocultural immigrant populations in both provincial and national-level analyses (Chen & Kazanjian, 2005; Fenta, Hyman & Noh, 2006; Kirmayer et al., 2007; Lesage et al., 2006; Tiwari & Wang, 2008). Moreover, while a similar proportion of immigrant and Canadian-born populations utilized primary and specialized services amongst those who sought mental healthcare in the past year, this study found that the prevalence rates of utilizing both primary and specialized care were almost three times higher for Canadian-born populations (16.65%) compared to immigrant populations in Ontario (5.68%). Wang and Patten (2007) analyzed the CCHS 2002 and reported that about 57% of those who only consulted their family doctor for mental health reasons reported perceived effectiveness of the mental health care they received. Similarly, 51% of those who consulted only with a mental health specialist perceived effectiveness of mental health services provided. In contrast, a much higher proportion (72%) perceived effectiveness of provided services when they consulted both their family doctor and specialized mental health services. Utilizing both primary and specialized services is associated with the highest perceived effectiveness of care and may promote greater continuity of care. It may be that immigrant populations in Ontario are less able to navigate the mental health system to receive this integrated care between primary and specialized services. Utilizing both systems indicates a high level of knowledge and skill in navigating health systems in Canada. Immigrants

may not perceive this ease of use and choose to navigate the mental health system at the level of primary care. This has implications for the integration of primary care and specialized mental health services called for by Canada's Mental Health Strategy (Mental Health Commission, 2012). Further research needs to be undertaken to understand why fewer immigrants are taking this integrated approach to seeking mental healthcare. Studies need to address the current state of the mental health role taken on by the family doctor and use current data to determine perceived effectiveness of mental healthcare consultation from different service providers.

Characteristics Associated with Mental Health Service Utilization

According to Vasiliadas et al.'s (2005) analysis of the CCHS 2002 cycle the following factors were related to mental health service use for the Ontario population: age, sex, marital status, education, country of birth, self-rated health status, mood disorder, anxiety disorder, and disability. Sareen et al. (2005) found that gender, marital status, age, education, income, visible minority status, immigrant status, major depression, alcohol dependence, chronic conditions, self-perceived health status, self-perceived life stress, and long-term disability were associated with past-year mental health consultation across Canada using the CCHS 2000-2001 cycle. In addition, being in the 30 – 59 years old age bracket, single/separated/widowed, having higher education, and being in a low income household was found to increase likelihood of going to a psychiatrist (Diaz-Granados, 2010). The significant factors found in the present study overlapped with many of the determinants found in the literature. This study found the additional significant variables of racial/cultural background, working status, length of stay in Canada, and age at time of immigration. Other than those unique to migration, the factors related to mental health service use for the general Ontario population are similar to those found in this study for the Ontario immigrant population. This was also corroborated by McKenzie's (2009) literature review of

mental health service use in immigrant, refugee, ethnocultural, and racialized populations in Canada which found similar determinants of mental health service use for immigrant and Canadian-born populations other than variables of migration. Similar to mental health outreach programs for the general populations, Ontario immigrant populations also need targeted outreach towards males, older adults, and those who have lower education levels. Attention to variables associated with migration would be unique to mental health programming for immigrant populations.

The migration factors identified in this study are specific to the immigrant population and have implications for mental health outreach. McKenzie (2009) reported that newcomers are less likely to seek health and mental health services likely due to language barriers. However, this study found that those who had lived in Canada for 5-9 years were 47% less likely to seek mental healthcare compared to newcomers who had lived in Canada less than 5 years. This may suggest that newcomers have recognized the profound impact migration and resettlement have on mental health and may be seeking help. On the other hand it may mean that negative experiences with the mental health system lead immigrants who have lived in Canada 5-9 years to not seek care anymore. Further research is needed to understand this finding.

This study also found that those who migrate during childhood are more likely to seek mental healthcare. Patterson et al. (2012) found the highest prevalence rates and risk of mood disorders, anxiety disorders and substance abuse amongst those who had immigrated to Canada before the age of 6 even after adjusting for age, sex, region of origin, marital status, urbanicity, household income, and household size. Mental health programming needs to concentrate on those who migrate to Canada in early childhood as they are at a greater risk for mental health issues, in addition to those who immigrated during adulthood, who may experience greater

cultural difference, language barriers and difficulties in accessing care. The stressors of migration and resettlement have profound mental health implications but many immigrants face barriers when it comes to seeking mental healthcare, ranging from stigma, lack of awareness of available services, language barriers, mistrust of services, lack of culturally-competent mental healthcare, and lack of targeted mental health promotion (McKenzie, 2009). In Guzder, Yohannes, and Zelkowitz's (2013) study comparing Canadian-born and immigrant parents of children with mental health issues in Montreal, immigrant parents were more likely to report barriers in accessing mental healthcare, including the dearth of family doctors and presence of language barriers. Kirmayer et al.'s (2007) concluded that cultural or language barriers may be related to the lower prevalence rates of mental health service utilization for immigrants compared to Canadian-born populations in Montreal. Targeted mental health promotion is needed to address these gaps.

Mental Healthcare Role Expansion of the Family Doctor

This study found that the majority of Ontario immigrants who sought mental healthcare consulted their family doctor (63.3%). Ontario immigrant populations may feel more adept in navigating the primary care system rather than seek specialized mental health services. The family doctor has a long-term and sustained relationship with the patient and may be in the unique position to recognize a developing mental health issue and offer advice. Additionally, visiting the family doctor is socially acceptable, while visiting the psychiatrist's office or other specialized mental healthcare provider is far more stigmatized. Canada's Mental Health Strategy proposes the expansion of role of the family doctor of primary healthcare provider as one tactic to meet this gap (Mental Health Commission, 2012). Expansion of the mental healthcare role of the family doctor has the potential to de-stigmatize the seeking of mental healthcare. Family

doctors will require further training in order to take on this greater role and provide effective mental health support for their patients (Mental Health Commission, 2009). Integrating mental healthcare into primary care comes with certain challenges such as issues over prescribing privileges for psychotropic medication, how to coordinate team-based collaborative mental healthcare, and how to provide further training for primary care physicians in the area of mental healthcare (Durbin et al., 2013). Mental health policy needs to be developed further to address these challenges.

Strengths and Limitations

This study is one of the first to provide statistics on the mental health service use of Ontario's immigrant population. Ontario is home to the largest population of immigrants in Canada and a mental health system inclusive of diverse needs has the opportunity to be developed here. This study uses nationally-representative data to provide provincial-level estimates for Ontario. Pooling across CCHS cycles also allowed for sufficient sample size and power to perform higher order multivariate logistic regression modeling that adjusted for a large number of important sociodemographic, social support, health and health behavior, and migration variables. In addition to prevalence rates, this study provided the characteristics of mental health service use as well as, a comparison between those who sought specialized versus primary care for mental health consultation in order to paint a detailed landscape of mental health service use patterns for Ontario's immigrant populations.

This study also has a number of limitations. Those living on reserves and Aboriginal settlements, full-time members of the Canadian Forces, living in institutions, and persons living in the two Quebec health regions of of Région du Nunavik and Région des Terres-Cries-de-la-

Baie-James were excluded from participating in the CCHS. However, these exclusions total to less than 3% of the survey's target population. Due to the high percentage of missing cases, many SES factors could not be included in the multivariate logistic regression analysis. To address this problem, working status was included by making a category for missing cases so it could be included in the model. Moreover, important variables such as satisfaction with mental health services, scales for determining mental health issues (distress scale, depression scale), social support scales, mental health literacy, knowledge of mental health resources, appropriate dissemination of mental health information, and mental health stigma are not available in the CCHS or not variables included in the core content of the survey (and Ontario did not opt to include them). As with all cross-sectional data, there is the issue of reverse causality and causation cannot be inferred from the results. Self-reported CCHS variables are vulnerable to recall bias and social desirability bias. Ideally, rather than using self-reported mood disorder, a validated mental health scale would be better to include in the models. However, Ontario did not choose any of the mental health scales in the province's version of the CCHS. It is hoped that future CCHS cycles will include this content.

Implications

Canada's Mental Health Strategy acknowledges the barriers to accessing mental healthcare experienced by immigrant populations in Canada and recommends the integration of primary and specialized mental health services to increase continuity of care and the expansion of the role of the family doctor as a potential means of addressing these service gaps (Mental Health Commission, 2012). This study found that the majority of immigrants who seek mental healthcare consult their primary care physician. This implies that mental healthcare role expansion of family doctors may be a possible avenue to pursue to improve mental health service

access for Ontario's immigrant populations. The significantly lower prevalence rates of seeking integrated care from both primary and specialized mental health services by Ontario's immigrant populations indicates that educational outreach programs centered on informing immigrants on how to navigate the primary health and mental health systems may be beneficial. The characteristics of seeking mental healthcare for Ontario's immigrant populations uncovered in this study identified the following immigrant sub-populations that are not utilizing mental health services: men, older adults, those with lower education levels, and those who have resided in Canada for 5 – 9 years. Targeted outreach programs need to be developed to increase mental health service access for these sub-populations. In addition, the multivariate logistic regression analysis also revealed groups that may potentially be at greater vulnerability for mental health issues and are utilizing mental health services at greater rates. Women, those not currently working, and those who immigrated to Canada in childhood may be at-risk immigrant sub-populations in terms of mental health. Existing mental health programming needs to be further developed to be responsive to their mental health needs. Taken together, the findings from this study can be used to develop mental health policy, outreach, and programming that are tailored to the needs of immigrant sub-populations in Ontario.

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STUDY 3

The Barriers and Promoters of Seeking Mental Healthcare: A Mixed Methods Study of Bangladeshi Populations in Toronto

ABSTRACT

Background: South Asian populations make up the largest visible minority group in Canada (Statistics Canada, 2008) and underutilize mental health services (Tiwari & Wang, 2008). However, there is very little research available on the factors associated with mental health service use for specific South Asian sub-populations. The objective of this mixed methods study was to explain and explore the barriers and promoters of seeking mental healthcare for newcomer and longer term immigrant Bangladeshi populations in Toronto through quantitative analysis and assess factors self-identified by these populations through qualitative analysis of interview discussions. **Methods:** Through purposive homogenous sampling in the East Danforth/Crescent Town in East Toronto, 47 participants were recruited for the quantitative phase and asked to fill out a sociodemographic questionnaire and the Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS) (Mackenzie et al., 2004). A subset of 20 participants were then recruited to take part in the qualitative phase of the study and were interviewed. **Results:** The quantitative phase found that male gender, attending school in Canada, and being employed in one's field of study/work were associated with more positive attitudes toward seeking mental. Lack of mental health awareness and education, lack of mental health literacy, and community mental health stigma were identified as the major barriers toward seeking care in the qualitative phase. **Conclusions:** The overarching factor related to all the barriers and promoters identified in both legs of the study was that of the relative cultural and social isolation of the Bangladeshi community. Participants recommended a multi-pronged, culturally-appropriate, targeted mental health outreach campaign to address mental health stigma and promote mental health resources available in Canada.

INTRODUCTION

One in five Canadians will experience a mental illness or addiction during their lifetime (Smetanin et al., 2011). The economic cost of mental illness in Canada is staggering with the estimated direct and indirect costs of mental illness at $51 billion in 2003 (Lim et al., 2008). There is evidence to suggest that immigrant mental health deteriorates after arrival in Canada (Ali, 2002; Bergeron, Auger & Hamel, 2009; Islam, 2013; Lou & Beaujot, 2005; Ng & Omariba, 2010). Moreover, mental health is a highly stigmatized and silenced health issue within South Asian populations (Islam, 2012). South Asians make up the largest visible minority group in Canada (Statistics Canada, 2008), and this population is projected to increase (Statistics Canada, 2011). About 2/3 of those reporting South Asian origin in the 2001 Census were foreign-born (68%), with the majority of immigrants in 2010 arriving from India (11%), Pakistan (2%), Bangladesh (1.5%), and Sri Lanka (1.5%) (Statistics Canada, 2008; Citizenship and Immigration Canada, 2010). Although sharing certain characteristics, South Asians come from vast and varying countries of origin, speak hundreds of different languages and dialects, are affiliated with different religions, and have diverse migration histories in Canada (Statistics Canada, 2007; Tran et al., 2005). While studies on the Bangladeshi diaspora in London, UK have been used to inform culturally-competent mental healthcare practice (Dein, Alexander & Napier, 2008; Dein, Littlewood & Alexander, 2010), very little research focused on specific countries of origin within South Asian populations has been carried out in Canada.

The population of Bangladeshis in Canada is estimated at over 100,000 (Government of Canada, 2009). It is difficult to determine the migration patterns of Bangladeshis to Canada prior to the 1970's as the Census categorized Bangladeshis as "East Indian" prior to 1956 and as "Pakistani" until East Pakistan gained its independence in 1972 and formed present-day

Bangladesh. However, it is likely that the number of immigrants at this time was quite small and did not exceed much over 100 people. Bangladeshi professionals and students began arriving in Canada in greater numbers following the opening up of immigration policy in 1967 with many also seeking asylum during the war for independence with Pakistan in 1971. This initial wave of immigration started a chain reaction with many immigrants sponsoring their relatives from Bangladesh. Since 1986, Bangladeshi immigrants to Canada have been steadily increasing with the majority settling in Ontario and Quebec (Encyclopedia of Canada's People).

There are no published prevalence statistics available for Bangladeshi communities; however, South Asian populations underutilize mental healthcare services in Canada. Gadalla's (2010) analysis of eight ethnic groupings in Canada found that South Asian populations had the lowest odds of seeking mental health services. Moreover, South Asian individuals with major depressive episode reported the highest proportion (48%) of unmet mental healthcare need and highest proportion (33%) of perception of barriers to the availability of mental healthcare compared to eight other ethnic groupings in Canada (Gadalla, 2010). Only 5.7% of South Asian immigrants sought mental healthcare services (Tiwari & Wang, 2008) compared to the 10% national average (Lesage et al., 2006). Moreover, amongst those with a mental health disorder, only 37.5% of South Asians sought professional help (Tiwari & Wang, 2008). When determinants of help-seeking were quantitatively analyzed for older adult South Asians in Calgary, Alberta, older age, circumstantial challenges, poor physical health, being Hindu, being longer term immigrants, experiencing fewer health access barriers due to cultural incompatibility, having a lower level of agreement with traditional South Asian health beliefs, and a stronger identification with South Asian ethnic identity were identified as promoters of seeking mental healthcare services (Surood & Lai, 2010; Lai & Surood, 2010). Qualitative

research revealed poor English language ability, cultural determinations of mental illness, fear of repercussions on the family, lack of knowledge of mental healthcare services, and racial discrimination as barriers to seeking care for Indian populations in northern British Columbia (Li & Browne, 2000).

Mixed Methods Research

The failure of prior attempts at culturally competent models of care has been attributed to taking the one-size-fit-all approach (Williams, 2011). Furthermore, mental health professionals felt that South Asian women in Vancouver did not seek mental health services or did not return for a second appointment after initial contact because current Western models of mental healthcare are incompatible with South Asian beliefs (Basi, 2013). For example, mental health professionals fail to create a relationship with their clients and questions about suicidal ideation or sexual development either are not appropriate to ask or cannot be asked without developing sufficient rapport with the client (Basi, 2013). In order to move beyond this one-size-fit-all approach, new models of mental healthcare need to be developed that are inclusive of diverse populations. One of the first steps in this process is to identify the promoters and barriers of mental health service access. Mixed methods research (MMR) studies are especially suited for this task. According to Creswell and Plano Clark (2011), there are certain research problems that lend themselves to mixed methods inquiry: 1) one data source may be insufficient to understand the problem, 2) initial findings require further explanation, 3) exploratory findings need to be generalized, 4) a primary method can be enhanced with the addition of a secondary, supplementary method of inquiry, 5) the theoretical framework necessitates the use of both quantitative and qualitative data, and lastly, 6) the research objectives are best met through multiple phases or projects. MMR study is not designated simply by the presence of both

quantitative and qualitative data collection in a study. Rather, the whole must be greater than the sum of the parts (Creswell & Plano Clark, 2011). A clear rationale for using MMR and a mixed methods research question is required (in addition to a quantitative and qualitative research question), as well as, the explicit combining or merging of findings from the quantitative and qualitative phases of research. The mixed research question can only be answered when the two phases are merged and analyzed together. An example of a methods-focused mixed methods research question is: "To what extent do the qualitative results confirm the quantitative results?" (Creswell & Plano Clark, 2011, p. 164). Answering this question requires the researcher to compare and contrast the findings from both phases to determine if there was agreement or disagreement between the quantitative and qualitative legs. It is this explicit combining of results that lends power to the MMR methodology.

Rationale

A mixed methods research (MMR) approach was chosen for this project as there has been very little work in this field to date, and a single data source would have likely not been sufficient to answer the research problem. Canadian research on South Asian mental health has been quite polarized with studies published as either quantitative epidemiology or qualitative interviews or focus groups. However, the use of mixed methods research to explore cross-cultural issues in mental health is beginning to emerge in Canada (eg. Etowa et al., 2007; Khanlou et al., 2002). To date, no mixed methods research has been carried out to assess attitudes towards seeking mental health services in Bangladeshi populations in Canada.

Mental health is mired in taboo and stigma. The reasons for seeking or not seeking mental healthcare are complicated constructs that cannot be easily captured. Inconsistency exists

in the literature regarding South Asian and immigrant mental health, where different barriers and promoters emerge through quantitative (eg. Lai & Surood, 2010) and qualitative studies (eg. Li & Browne, 2000). A mixed methods approach allows the researcher to view the issue and gather information via multiple channels with the hopes that a more complete picture will emerge to help inform culturally-competent mental healthcare practice. In addition, building upon the finding of the stressors of migration impacting upon mental health for South Asian populations (Islam, 2012), this study will explore the variable of migration by comparing and contrasting viewpoints of newcomer (0-3 years in Canada) and longer term immigrant Bangladeshis (3+ years in Canada). This type of a comparison has not been conducted before and employing multiple methodologies to explore a new area of research can be illuminating.

Canada's Mental Health Strategy recognizes the diverse mental health needs of Canada's immigrant populations and has placed the improvement of mental health services and supports by and for immigrants, refugees, ethno-cultural and racialized groups as a top priority (Mental Health Commission of Canada, 2012). Thus, the purpose of this convergent parallel mixed methods study is to both explain and explore the barriers and promoters of seeking mental healthcare for newcomer and longer term immigrant Bangladeshi populations through quantitative analysis and assess factors self-identified by these populations through qualitative analysis of interview discussions. The identification of such factors can help inform the development of models of mental healthcare, health policy, and Bangladeshi community health promotion. The study will address the following research questions:

1. What are the characteristics of positive and negative attitudes toward seeking mental health care for Bangladeshi newcomer and longer term immigrant populations?

(measured with the Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS)) (quantitative research question)

2. What are the barriers and promoters of seeking mental healthcare self-identified by Bangladeshi newcomer and longer term immigrant populations during interview discussions? (qualitative research question)
3. Do the quantitative results and the qualitative findings converge? (mixed methods research question)

METHODS

Mixed Methods Research Design

A concurrent/convergent parallel mixed methods research design (Creswell & Plano Clark, 2011) with a quantitative (quan) survey phase and qualitative (qual) interview phase was employed in this study. The quan and qual data collection took place in parallel. The qual phase was given greater priority (quan + QUAL), as resource constraints did not permit the recruitment of a sample size large enough for high level quan analysis. The quan and qual point of interface occurred at the results stage. A flowchart schematic of the mixed methods procedure is displayed in Figure 1.

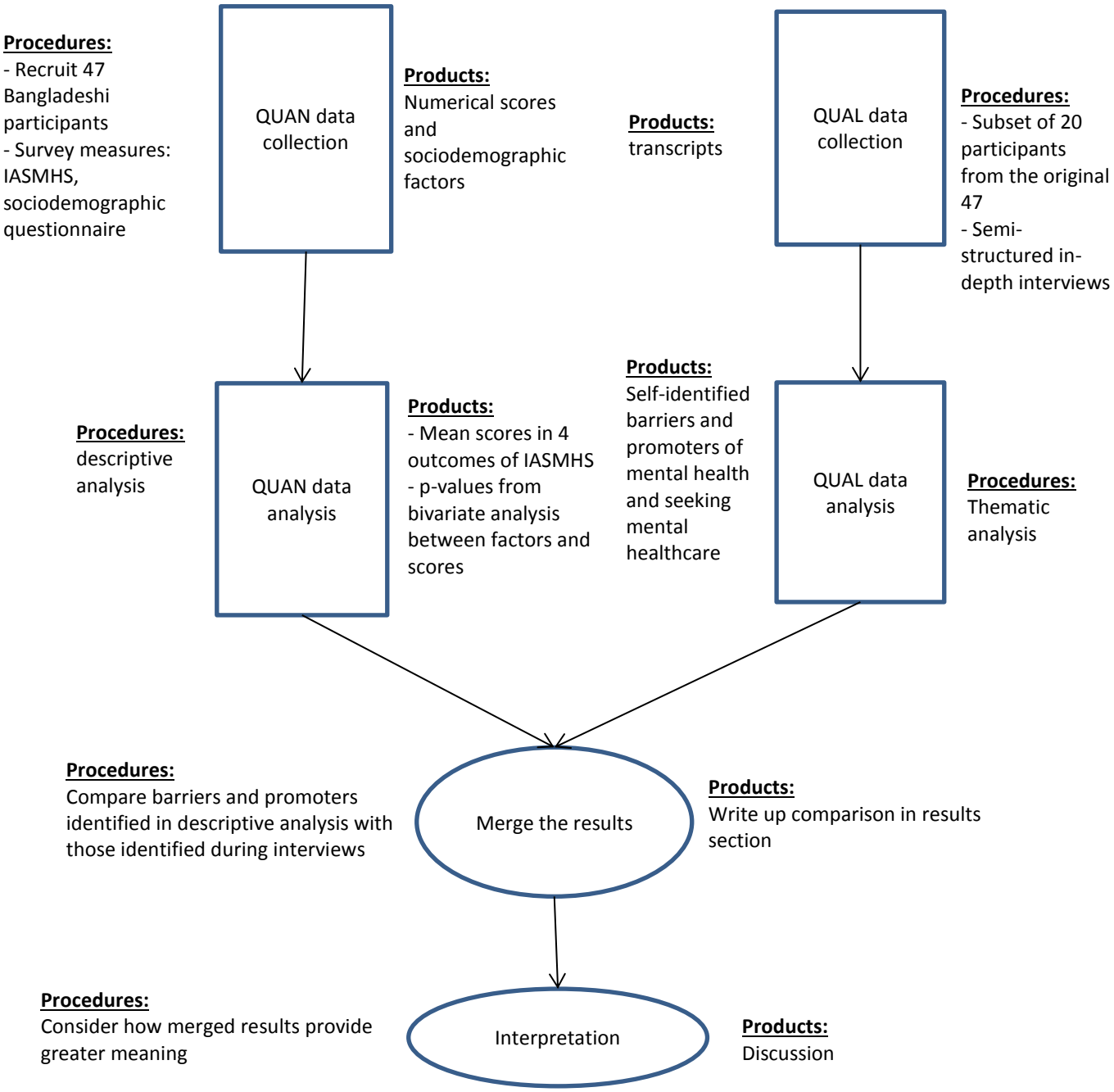

Figure 1. Flowchart schematic of the concurrent mixed methods research design.

Theoretical Frameworks

A Social Determinants of Health (SDOH) and intersectionality lens was applied to this research project. Mikkonen & Raphael (2010) stress the importance of considering social factors impacting upon health such as socioeconomic status, health access, and ethnicity. The sociodemographic questionnaire included social determinants of health. Khanlou (2003) asserts the importance of contextualizing the individual within "intersectionalities of influence." Mental health and attitudes towards seeking care are complex phenomena, and this study cuts across many intersections such as migration, mental health, and gender. Care was taken to develop a complete picture of each individual's context to understand the impact of these contextual factors upon attitudes towards seeking mental healthcare rather than oversimplify and further marginalize.

Sampling

Purposive homogenous sampling (purposeful/non-random sampling from a single segment of the population (Creswell & Plano Clark, 2011)) was carried out by posting promotional flyers in public areas of congregation (community centres, Bengali supermarkets, places of worship etc.) in the Crescent Town/East Danforth community (major intersection: Danforth Ave. and Victoria Park Ave.), which hosts a significant concentration of Bangladeshis in Toronto and has been dubbed "Little Bangladesh." Snowball recruitment was then employed by asking initial participants to refer their friends and relatives. The community has been prioritized as a low income neighborhood, experiencing health access barriers and mental health stressors (Access Alliance, 2008). It is estimated that over four thousand residents in this area are Bangladeshi (Keung, 2008). Forty-seven Bangladeshis were recruited to participate in the quan

survey phase of the study, and a subset of twenty from this initial sample was invited to take part in one-on-one interviews.

Translation of IASMHS and Face Validity Examination

The Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS) was translated into Bengali. In the absence of a Bengali keyboard, the Bengali Google Transliterate tool was used to convert the phonetically spelled Bengali words in English into Bengali script. The Bengali Google Translate tool was used for dictionary reference. Two colleagues in Bangladesh were consulted to edit the translated survey. A face validity examination of the translated Bengali survey instrument was carried out with four members of the Toronto Bangladeshi community with varying levels of Bengali expertise and education (age range: 28-72 years old). They were asked to edit the survey with the English sentences followed by the Bengali translation and determine if the Bengali was a good translation of the English. Suggestions and edits were incorporated into the translation of the IASMHS. Lastly, a face validity examination of the back-translation was carried out with two members of the Toronto Bangladeshi community. The Bengali script of the translated IASMHS was presented to the participants and they were asked to translate the sentences into English. The two back-translations were compared with the original English with 100% concordance between the back-translation and original survey in content and meaning.

Quantitative Phase

Forty-seven Bangladeshis were recruited to participate in the survey and questionnaire phase (one Indian-Bengali also completed the survey, but was excluded from analysis for not being born in Bangladesh). Forty-eight eligible people were approached with one person refusing

to participate (98% response rate). Data collection took place between June – September 2013. A local community centre was booked on a series of convenient times and days to accommodate participants. A local school's "parents' room," where parents convene after dropping off their older children at school for activities they can play with their younger, non-school bound children, was also visited to recruit participants. The vast majority of participants found it most convenient for the Principle Investigator (PI) to visit homes individually to carry out the survey and/or interview. Participants were asked to fill out the IASMHS (Mackenzie et al., 2004) (Appendix A) and a sociodemographic questionnaire (Appendix B). The participants were offered a choice of three versions of the IASMHS for their convenience 1) English only, 2) Bengali only, and 3) English and Bengali.

The IAMSHS addresses limitations of earlier scales (e.g. Attitudes Toward Seeking Professional Psychological Help Scale (Fischer & Turner, 1970)) and has a better ability to predict behavior and behavioral intention of help-seeking. The inventory consists of 24 items using a 5-point Likert scale and has three internally consistent factor subscales (psychological openness, help-seeking propensity, and indifference to stigma) with 8 items per subscale. The IAMSHS has been used before in Asian diasporic samples (e.g. David, 2010; Pilkington, Msetfi & Watson, 2011). The overall and three subscale scores were used as the attitudes toward seeking care outcome measures. The questionnaire was used to assess potential sociodemographic, health behavioral, and health access-related covariates (e.g. length of stay in Canada, self-perceived health etc.). The entire survey phase took 25 minutes to complete on average. Participants who agreed to partake in the survey phase were given a $20 gift card.

Qualitative Phase

A subset of twenty participants was chosen from the forty-seven quan phase participants based on gender, length of stay in Canada, and availability to take part in the interviews. As the PI was female and the men were usually away at work or too tired after work to participate, mainly females were recruited for the interview portion (5 males; 15 females). Eleven newcomers (3 males; 8 females) and 9 longer-term immigrants (1 male; 8 females) were interviewed. Nineteen of the interviews were conducted in Bengali, while one was conducted in English, depending upon the participants' preferences. A semi-structured interview protocol (Appendix C) was followed, posing questions centered on risk and protective factors of mental health, knowledge of Canada's mental health system, and barriers and promoters of seeking mental healthcare. Interview participants were given a $20 gift card upon agreeing to partake in the study. The 30-minute interviews were audio-recorded using the "Free Audio Recorder" app downloaded on a Windows Surface tablet. The mp3 files were transcribed and translated into English from Bengali.

Rigor

Guba and Lincoln (1981) established that trustworthiness is the qualitative parallel to the quantitative concepts of validity and reliability. Trustworthiness has four aspects: credibility, transferability, dependability, and confirmability. The concept of rigor involves using the appropriate tools to investigate the research objective. Within the four aspects of trustworthiness, there are strategies to ensure qualitative rigor, for example, keeping an audit trail, approving results with participants, etc. (Guba & Lincoln, 1981; Guba & Lincoln, 1982; Lincoln & Guba, 1985). Following these guidelines for establishing qualitative rigor, several strategies were employed to ensure rigor in this study. A sample size of 20 participants was collected for the qual phase to allow for rich data collection. Data saturation was achieved with these 20

participants. A self-reflexive journal and field notes were kept for reference and to contextualize the analysis of the data. Researcher positionality was noted and reflected upon as the researcher could be viewed as both an insider (Bangladeshi immigrant to Canada) and outsider (born and raised in the West, academic). Researcher triangulation was carried out with the preliminary coding of five interview transcripts and intercoder agreement (Miles & Huberman, 1994) was reached after individual coding of transcripts.

Data Analysis

Quantitative phase analysis

The frequencies of the sample demographics of the quantitative phase participants (n = 47) were calculated from the sociodemographic questionnaire and chi-square tests were run to determine if there was a significant difference between newcomers and longer-term immigrants. IASMHS scores were calculated following IASMHS scoring guides (Mackenzie et al., 2004). The mean scores on the four IASMHS outcomes (overall score, psychological openness subscale, help-seeking propensity subscale, and indifference to stigma subscale) were calculated. Scores for the IASMHS were not assumed to be normally distributed (because of the small sample sizes) and bivariate-level non-parametric tests (independent samples Mann-Whitney U test and independent samples Kruskal-Wallis test) were run to determine if IASMHS scores were distributed significantly differently between the categories of the factors (e.g. was the distribution of total IASMHS scores different for males versus females?). This analysis was done to determine which characteristics/factors were significantly related to IASMHS scores and subscale scores. The main characteristic of interest, as stated in the objectives, was the factor of length of stay in Canada (newcomer versus longer term immigrant). All analyses were run using

Microsoft Office Excel 2010 and IBM Statistical Package for the Social Sciences (SPSS) Statistics version 21.

Qualitative phase analysis

Following Braun and Clarke's (2006) guide on thematic analysis, the basic elements of interest in the transcribed focus group and interviews were preliminarily coded. This coding was largely conceptually/theory-driven (as opposed to data-driven), since it was stated at the outset that the main focus on this study was to identify barriers and promoters of seeking mental healthcare. Qual analysis was done manually, and codes were organized into sub-themes and overarching themes. Thesis committee member (NK) with qualitative and mixed methods expertise reviewed a proportion of the transcripts separately. Afterwards, FI and NK discussed emerging codes/sub-codes, and FI applied this coding scheme to the remaining transcripts and refined as needed. A thematic map was finalized, and detailed analyses were written for each theme. A constant comparative technique and iterative refinement process was utilized throughout.

Data integration phase

The results of the quan descriptive analysis were compared to the qual thematic analysis results to determine if there was convergence of results. Barriers and promoters of seeking mental healthcare identified from each phase of the study were discussed.

Ethics

Research ethics were submitted to the Office of Research Ethics at York University. The study was approved by York University's Research Ethics Human Participants Review Sub-Committee Board. A sample of the informed consent form can be found in Appendix D.

RESULTS

Sample Profile

Table 1

Sample demographics of quantitative phase participants (n = 47) by length of stay in Canada

	Newcomers n(%) 23(48.9%)	Longer-term immigrants n(%) 24(51.1%)	Pearson chi-square test p-value
Age range			
20-40	19(82.6%)	16(66.7%)	0.210
41-60	4(17.4%)	8(33.3%)	
Gender			
Male	6(26.1%)	5(20.8%)	0.671
Female	17(73.9%)	19(79.2%)	
Marital status			
Married	omitted 22(95.7%)	omitted 23(95.8%)	0.975
Religion			
Islam	17(73.9%)	21(87.5%)	0.237
Hinduism	6(26.1%)	3(12.5%)	
English proficiency			
Not at all-a little bit	2(8.7%)	3(12.5%)	0.596
Moderate	12(52.2%)	9(37.5%)	
Quite a bit- extremely well	9(39.1%)	12(50.0%)	
Education level in Bangladesh			
< university degree	2(8.7%)	3(13.0%)	0.636
University degree or higher	21(91.3%)	20(87.0%)	
Education in Canada			
Attend school	6(26.1%)	5(22.7%)	0.534
Not attend	17(73.9%)	17(77.3%)	
# of household members			
2-3	11(47.8%)	7(29.2%)	0.188
4-5	12(52.2%)	17(70.8%)	
# relatives in city			

None	10(43.5%)	13(54.2%)	0.040*
1-4	10(43.5%)	3(12.5%)	
5 or more	3(13.0%)	8(33.3%)	
Annual household income			
< $29,999	17(77.3%)	8(36.4%)	0.022*
$30, 000-49,999	3(13.6%)	10(45.5%)	
$50,000+	2(9.1%)	4(18.2%)	
Working status			
Yes	5(21.7%)	9(37.5%)	0.238
No	18(78.3%)	15(62.5%)	
Employed in field of study/work			
Yes	omitted	2(8.3%)	0.398
No	20(87.0%)	17(70.8%)	
n/a	2(8.7%)	5(20.8%)	

Note. # Low Income Measure for four-person household (average household size in this sample) is $39,860 (income after taxes) (Statistics Canada, 2013).
Note. Some cells were omitted due to low sample size.

Table 2

Health factors for East Danforth/Crescent Town Bangladeshi participants by length of stay in Canada

	Newcomers n(%) 23(48.9%)	Longer-term immigrants n(%) 24(51.1%)	Pearson chi-square test p-value
Lifetime mental health issues			
Depression	6(28.6%)	10(41.7%)	0.360
Stress	14(66.7%)	17(70.8%)	0.763
Anxiety	5(23.8%)	12(50.0%)	0.071
Headaches	10(47.6%)	9(37.5%)	0.493
Worry/miss family	12(57.1%)	8(33.3%)	0.109
Lifetime mental health consultations			
Mental health services in Canada	10(43.5%)	11(45.8%)	0.871
Traditional or spiritual mental health resources	omitted	omitted	0.975
Family/friends	15(71.4%)	17(70.8%)	0.965
Medical insurance			
none	11(47.8%)	5(21.7%)	0.053
OHIP* only	11(47.8%)	12(52.2%)	
Employer paid private insurance	omitted	6(26.1%)	
Self-rated health			
Poor-fair	4(17.4%)	3(12.5%)	0.561
Good	16(69.6%)	15(62.5%)	
Very good-excellent	3(13.0%)	6(25.0%)	

Note. Asterisk (*) Ontario Health Insurance Plan (OHIP) government funded health insurance

Note. Some cells were omitted due to low sample size.

Sample profile characteristics (Table 1) and health and mental health factors (Table 2) are displayed above. In this study sample, longer-term immigrants were significantly more likely to have a greater number of relatives in the city and higher income compared to newcomers. On all other variables however, there was no significant difference between newcomers and longer-term immigrants in this sample.

Quantitative Phase – IASMHS scores

Overall IASMHS scale

Overall IASMHS scores were calculated for 45 participants (two participants did not fill out the survey entirely and could not be scored). IASMHS scores range from 0-96 (higher scores indicating more positive attitudes towards seeking mental health services). The Cronbach alpha (a measure of internal consistency) for the overall IASMHS scale in this study was 0.60, while the original validation study (Mackenzie et al., 2004) had an alpha of 0.87. The mean IASMHS score for the East Danforth/Crescent Town Bangladeshi study sample was 61.29 (SD 10.34).

Psychological openness subscale

Psychological openness subscale scores were calculated for 46 participants (one participant did not fill out the survey items necessary to be scored). The three subscale scores range from 0-32. The Cronbach alpha for the psychological openness subscale in this study was 0.65 (the original validation study (Mackenzie et al., 2004) had an alpha of 0.82). The mean score on the psychological openness subscale for the study sample was 16.02 (SD 6.05).

Help-seeking propensity subscale

Help-seeking propensity subscale scores were calculated for 45 participants (two participants did not fill out the survey items necessary to be scored). The Cronbach alpha for the help-seeking propensity subscale in this study was 0.59 (the original validation study (Mackenzie et al., 2004) had an alpha of 0.76). The mean score on the help-seeking propensity subscale was 23.22 (SD 4.11).

Indifference to stigma subscale

Indifference to stigma subscale scores were calculated for 46 participants (one participant did not fill out the survey items necessary to be scored). The Cronbach alpha for the indifference to stigma subscale in this study was 0.53 (the original validation study (Mackenzie et al., 2004) had an alpha of 0.79). The mean score on the help-seeking propensity subscale was 22.15 (SD 6.23). The overall IASMHS and subscale scores are displayed in Figure 2 for the whole sample, newcomers, and longer-term immigrants. There was no significant difference between newcomers and longer-term immigrants for the overall IASMHS score and subscale scores.

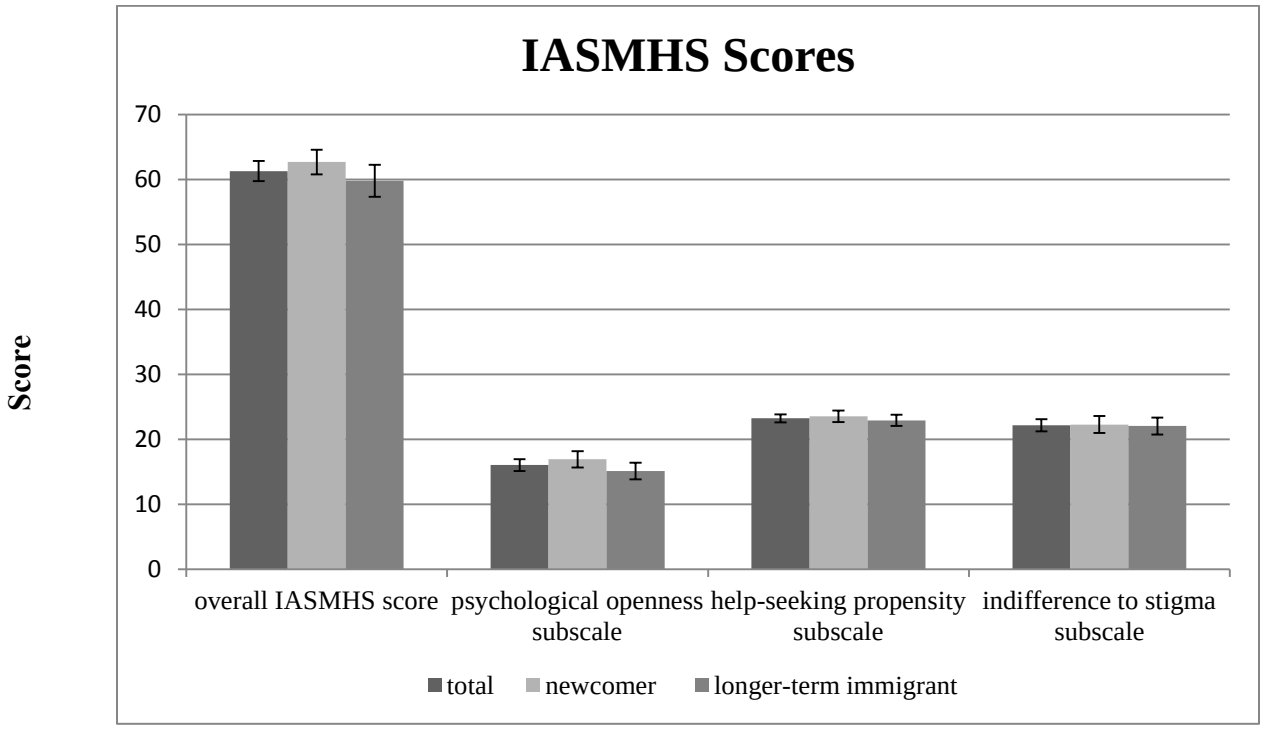

Figure 2. IASMHS Scores. IASMHS overall and subscale scores for the total sample, newcomers, and longer-term immigrants.

Note. Error bars denote standard error of the mean (SEM).

Characteristic Profiles of IASMHS Score and Subscale Scores

Table 3

Characteristic profiles for IASMHS score and subscale scores for East Danforth/Crescent Town Bangladeshi participants

	Overall IASMHS score Mean, SD p-value	**Psychological openness subscale** Mean, SD p-value	**Help-seeking propensity subscale** Mean, SD p-value	**Indifference to stigma subscale** Mean, SD p-value
Length of stay				
Newcomer	62.70, 9.12	16.91, 5.95	23.52, 4.25	22.26, 6.28
Longer term	59.2, 11.57	14.91, 6.19	22.91, 4.03	22.00, 6.47
immigrant	0.35	0.26	0.623	0.965
Gender				
Male	66.09, 9.61	19.36, 5.73	24.36, 2.80	22.36, 5.55
Female	59.74, 10.26	14.82, 5.85	22.85, 4.43	22.06, 6.60
	0.094	0.049*	0.34	0.94
Age range				
20-40	61.48, 9.17	15.39, 5.88	22.90, 4.31	23.18, 4.90
41-60	60.75, 13.61	17.42, 6.67	24.08, 3.53	19.25, 8.75
	0.79	0.37	0.47	0.27
Marital status				
Single	56.50, 0.71	14.50, 0.71	25.00, 1.41	17.00, 1.41
Married	61.51, 10.56	16.00, 6.22	23.14, 4.18	22.37, 6.34
	0.37	0.63	0.55	0.16
Religion				
Islam	60.89, 11.10	15.92, 6.18	23.36, 4.38	21.61, 6.51
Hinduism	62.89, 6.99	16.00, 6.04	22.67, 2.96	24.22, 5.17
	0.65	0.79	0.35	0.43
English proficiency				
Not at all-a little bit	61.80, 11.56	16.20, 8.20	25.00, 2.35	20.60, 8.08
Moderate	63.65, 8.17	17.35, 5.23	24.15, 3.98	22.15, 6.06
Quite a bit-extremely well	58.80, 11.91	14.45, 6.31	21.85, 4.30	22.50, 6.38
	0.28	0.25	0.14	0.84
Education level in Bangladesh				
< university degree	62.75, 11.76	17.00, 9.13	23.00, 5.48	22.75, 5.74
University degree or higher	61.28, 10.48	15.88, 5.93	23.23, 4.09	22.18, 6.46
	1.00	0.83	0.86	0.89
Education level in Canada				
Attended school	65.09, 12.38	19.00, 6.34	24.00, 2.86	22.09, 5.91
Not attend in Can.	60.44, 9.68	15.06, 5.91	22.91, 4.58	22.47, 6.57
	0.17	0.038*	0.77	0.83
# of household members				
2-3	61.22, 9.86	16.17, 6.17	23.56, 3.71	21.50, 7.02
4-5	61.33, 10.89	15.78, 6.15	23.00, 4.41	22.56, 5.87

	0.94	0.69	0.91	0.51
# relatives in city				
None	61.18, 11.6	15.95, 6.34	22.23, 4.47	23.00, 5.36
1-4	61.92, 9.73	15.54, 6.90	24.92, 3.97	21.46, 7.43
5 or more	60.70, 10.40	16.40, 4.84	23.20, 2.89	21.10, 7.05
	0.97	0.99	0.10	0.87
Annual household income				
< $29,999	63.16, 9.37	16.36, 6.70	23.84, 4.07	22.96, 6.34
$30, 000-49,999	61.67, 12.96	16.67, 6.54	22.58, 4.70	22.42, 6.93
$50,000+	54.83, 8.40	13.33, 2.16	22.00, 3.52	19.50, 5.50
	0.18	0.31	0.46	0.34
Medical insurance				
none	62.31, 11.21	16.32, 6.58	23.00, 5.44	23.00, 7.31
OHIP only	59.73, 10.19	15.59, 6.14	23.05, 3.66	21.09, 5.90
Employer paid	65.00, 9.94	16.83, 5.74	24.33, 1.37	23.83, 5.67
private insurance	0.59	0.94	0.71	0.36
Working status				
Yes	61.84, 13.24	17.69, 7.26	24.31, 1.97	21.85, 5.61
No	60.25, 9.00	15.22, 5.51	22.78, 4.67	22.25, 6.64
	0.30	0.20	0.46	0.71
Employed in field of study/work				
Yes	70.00, 15.59	20.67, 7.50	25.67, 1.53	23.67, 6.66
No	61.29, 9.45	16.37, 5.84	22.94, 4.31	22.97, 5.73
n/a	52.57, 8.38	11.71, 5.19	23.57, 3.78	17.29, 7.59
	0.037*	0.074	0.51	0.13
Self-rated health				
Poor-fair	60.14, 14.74	16.71, 7.20	22.71, 1.38	20.71, 9.18
Good	62.28, 9.18	16.59, 5.91	23.55, 4.10	22.14, 5.90
Very good-excellent	59.00, 11.11	13.22, 5.67	22.56, 5.61	23.22, 5.52
	0.21	0.27	0.32	0.42

Note. Asterisk (*) indicates significant difference ($p < 0.05$).
Note. p-values reported are from bivariate-level non-parametric tests (independent samples Mann-Whitney U test and independent samples Kruskal-Wallis test)

Bivariate analysis revealed that males ($p = 0.049$) and those who attended school in Canada ($p = 0.038$) had significantly higher scores on the Psychological Openness scale compared to females and those who did not attend school in Canada, respectively. In addition, those who were employed in Canada in their field of study or work scored significantly higher on the overall IASMHS scale ($p = 0.037$). These results are displayed in Table 3.

Qualitative Phase

A summary of sample demographics for the qualitative phase participants (n = 20) is displayed in Table 4.

Table 4

Sample demographics of qualitative phase participants (n = 20) by length of stay in Canada

	Newcomers n(%) 23(48.9%)	Longer-term immigrants n(%) 24(51.1%)	Pearson chi-square test p-value
Age range			
20-40	11(91.7%)	5(62.5%)	0.110
41-60	1(8.3%)	3(37.5%)	
Gender			
Male	3(25.0%)	1(12.5%)	0.494
Female	9(75.0%)	7(87.5%)	
Marital status			
Single	omitted	1(12.5%)	0.209
Married	12(100.0%)	7(87.5%)	
Religion			
Islam	8(66.7%)	5(62.5%)	0.848
Hinduism	4(33.3%)	3(37.5%)	
English proficiency			
Not at all-a little bit	omitted	omitted	0.852
Moderate	7(58.3%)	5(62.5%)	
Quite a bit- extremely well	5(41.7%)	3(37.5%)	
Annual household income			
< $29,999	8(66.7%)	4(50.0%)	0.574
$30, 000-49,999	2(16.7%)	3(60.0%)	
$50,000+	2(16.7%)	1(12.5%)	
Employed in field of study/work			
Yes	omitted	omitted	0.110
No	11(91.7%)	5(62.5%)	
n/a	1(8.3%)	3(37.5%)	

Note. # Low Income Measure for four-person household (average household size in this sample) is $39,860 (income after taxes) (Statistics Canada, 2013).
Note. Some cells were omitted due to low sample size.

The following thematic map (Figure 3) of the barriers and promoters of mental health service access identified by participants was developed by organizing factors by mental health

system level, community level, and individual level. There factors identified by newcomers compared to longer-term immigrants were similar, so all factors were collapsed across the community sample.

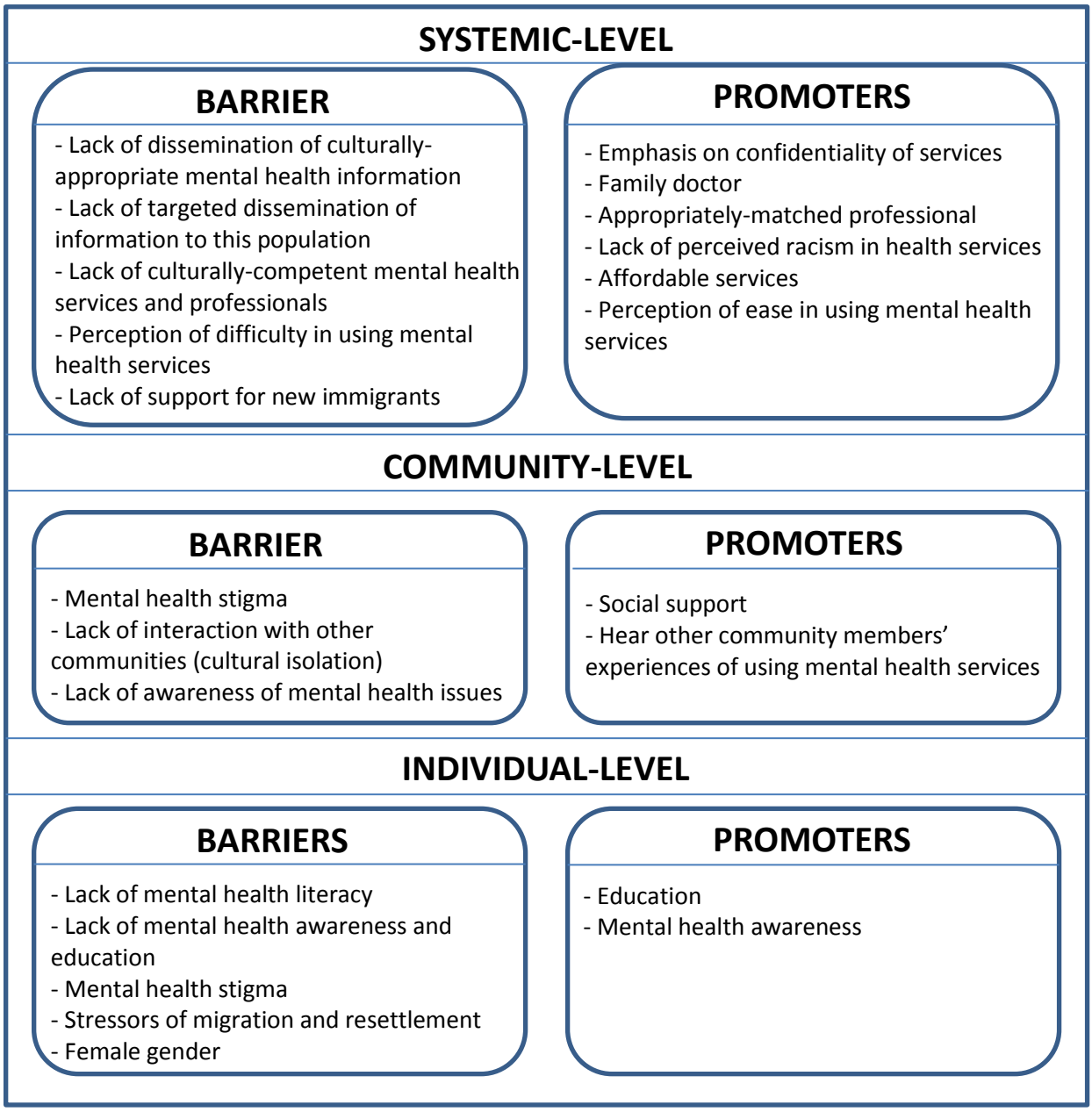

Figure 3. Barriers and promoters of mental health service access identified by Bangladeshi populations living in the East/Danforth/Crescent Town neighborhood in Toronto.

Mental Health System and Government-Level Barriers and Promoters

> "For immigrants we have lot of mental difficulties – stress. I have seen this in my circle. We need the information. Where can we go? What can we do?" – Participant 1, female, longer-term immigrant

As outlined in Figure 3, at the mental health system or community outreach level, participants identified the lack of dissemination of culturally-appropriate mental health information. Participants pointed out the importance of resources in Bengali and of stressing the confidentiality of services in order to appeal to the Bangladeshi community. Participants also felt that information on mental health services had not been made available to them. They recommended this information be included with health information upon arrival in Canada, ads be put up in well-traversed areas like the subway, community centre, cultural events (*melas*), near public schools and parks, and ads in areas where people may be more receptive to the information (family doctor's clinic). Participants identified their family doctor as a gateway to mental health service information and referral to specialists.

> "I am probably not be able to explain my problem to them, maybe 50-60%, I will not be able to give full explanation of my feelings. To have a full 100% explanation, to share my feelings need a helper (translator), good to be able to tell them. But better if I can tell the doctor. Best if the doctor is Bengali." – Participant 11, male, newcomer

Participants felt that mental health professionals matched on culture, language, gender, and immigrant status would most suit their needs and empathize with their situation. Rather than thinking that the mental health professional would not understand their needs, most participants felt that they would be unable to explain or express their feelings and experiences to the

professional due to cultural and linguistic barriers. Participants had mixed feelings about translators, while some felt that it would be a useful service, others expressed apprehension that it may compromise the confidentiality of services.

Free or low cost services were stressed especially since those who are in low income situations, unemployed or without health insurance would likely be most in need of mental health services. About half of participants felt the mental health system would be easy to navigate, assuming that it would be similar to the regular health system in Canada. While the other half expressed there may be confusion and difficulty, especially since they felt that they had received almost no information about mental health services up until this point.

> "Racist? Sometimes. Not all the time. But sometimes. Especially maybe not now, but earlier. When many people did not wear hijab as much. When I would go out, people would stare at me, look at me differently. Back then I did not understand much, English was a barrier. Now I can fight. But even now, I feel there is lack of respect and barrier. With hijab we are marked as Muslims." -- Participant 1, female, longer-term immigrant

> "I feel that white people, they look at Third World or immigrant people and don't want them to come here. From Bangladesh, Sri Lanka, from this part of the world. They talk to us, and say, oh you're Bangladeshi. If they do not openly say, we can feel this. We are Asian so they look at us like this. [when asked about health services] For my color? Health service, no deny, they have not denied based on my color." – Participant 11, male, newcomer

Most participants did not perceive any racism in the health system; however, some participants felt that they had experienced racism from the greater society (although this was not

a direct question in the interview). Participants especially faced this racism when trying to seek employment.

> "…we should be given economical support. When we come here, when we search for jobs, some economic support should be given at this time so that we don't feel mentally stressed while searching for a job. I can still feed my family. When I don't have this tension on my mind, I can focus completely on searching for a job." – Participant 17, female, longer-term immigrant

> "We need to deal with the whole circle. Starting from children, mothers' recreation, side by side, job, and financial crisis it depends on all these factors. If we can deal with these factors properly, we will have a healthy system and healthy society. And in this, government needs to take care of this issue better." – Participant 12, male, newcomer

Participants expressed that the government needs to make the mental health of immigrants a priority and that not enough concern had been shown for immigrants. They felt that information on mental health services should be included in the package they receive upon arrival in Canada. This information is of crucial importance especially for new immigrants and participants expressed their disquiet that the government had neglected to offer these resources. Participants felt that focusing on the mental health of immigrants would be beneficial for the Canadian government as employees in good mental health would be more productive in the workplace.

Community-Level Barriers and Promoters

> "Because Bengalis, we are a little conservative, we don't all trust each other. We don't willingly tell each other everything. We hide things. Then how are you supposed to know

if someone is mentally affected? How can we solve it?" – Participant 20, female, newcomer

"If I feel in such a situation, and I feel that I need mental health support, without a doubt will go there. But inside, this sense of embarrassment will work inside, if someone in my community sees that I am going to a therapist, this will be humiliating for me. And this issue is so sensitive, that if I see my friend or someone that I feel needs to seek help, and even if I try to explain or recommend to them in a very neat and good way, just because this is about "mental" – with this word there is a negative connotation. That person may not take it the right way." – Participant 6, female, newcomer

Community-level barriers and promoters of mental health service access are displayed in Figure 2. The issue of the community's mental health stigma was most often cited by participants. Bangladeshi immigrants expressed the social pressure to hide problems and present the appearance of everything being all right. They also identified the fear of labels, for example, having the community perceived them as *pagol* (crazy). Participants feared the profound social ramifications of such a label (social isolation, fear their children would not be able to marry etc.). Participants described Bengali culture as "conservative."

"No, I don't feel the community has improved to that point. We have not been a part of Canada long enough, we're still in Bangladesh. In Bangladesh this is not supported. Slowly support will grow. Right now the community does not support this." – Participant 18, male, newcomer

"Regarding Canada. I don't know. I can talk about Bangladesh. In Pabna there is a mental hospital. You can talk to a doctor and they can refer you to a Pabna Mental Hospital.

They can keep you for 2-3 months and stay there. Many can get better, I have heard. It is important. But I don't know of services here. I have no idea." – Participant 11, male, newcomer

"…mental health services, we need to raise awareness of this service in our Bengali community. We don't know enough about it. And our community lifestyle, it is still, still Bengali community-based. This new [Canadian] lifestyle is not taking root." – Participant 12, male, newcomer

Participants highlighted the difference in perceptions of seeking mental healthcare in Bangladesh and the attitude in Canada. In the absence of information about the mental health system in Canada, they shared what they knew of services in Bangladesh. It seems that in Bangladesh, mental health services are seen as a place of last resort for mentally ill patients that require institutionalization. The idea that mental health services could be accessed preventatively for less serious and common mental health issues, such as stress, was not prevalent in Bangladesh. Moreover, Bangladeshi immigrants in this community highlighted the relative lack of interaction with other communities. They cited this social and cultural isolation from the rest of Canadian society as a possible reason for reluctance to seek mental health care since all of their information and views were often only shaped by the Bangladeshi community.

"I think, I wouldn't understand my own problem, but the people around me will recognize my mental depression or abnormal attitude… No, within our community there is a problem, people think that psychological counselling or the psychiatrist, that if you go there, you are crazy/pagol. Those who are totally mad would access these services. But, talking to them about counselling in common places where people congregate or if

> others have received these services, and they found the support to be helpful." -- Participant 9, female, newcomer

Community members felt that if there was community-level awareness and knowledge of mental health issues, this would go a long way in encouraging mental health service use. Many expressed that they would unlikely be able to identify a mental health problem on their own. They highlighted the importance of community social support and awareness. If their friends or family members had mental health awareness, then perhaps they could recognize the problem and encourage them to seek care. Many participants identified that hearing other Bangladeshi community members' experience of using mental health services would be a promoter of seeking care.

Individual-Level Barriers and Promoters

> "Never. Would never tell anyone. Would never tell, never in a million years. It's a big deal. Would be a problem when I go to try to marry off my children. Truly, not something to share. People will think it will happen to my children. This is not something to share. It is different going to seek treatment, treatment is good, but it is not something to share openly in public." – Participant 1, female, longer-term immigrant

Participants also identified individual-level barriers and promoters of mental health service access (Figure 2). Beyond the community level, participants also felt their own knowledge and awareness of mental health issues were lacking. They expressed their lack of mental health literacy and not knowing how to navigate mental health system. They also felt that if certain perceptions of mental illness could change (e.g. the perception that it is not a problem or a disease that warrants help and that it is not a common issue), this would encourage people to

be open to the idea of seeking help. Participants felt that those who were highly educated were more likely to be open to the idea of seeking help.

> "We need to talk to people. People need to be free. In the Bangladeshi community, especially women, are not free. Don't talk to people. We need to talk to them and show them that this is a good service, not something to be ashamed of." – Participant 4, female, newcomer

The discussion around women (both by male and female participants) was very interesting. Some participants felt that women had a greater tendency to hide personal problems, which may be due to their greater cultural isolation and limited interaction outside the family and community. One participant felt that women were especially slow to adopt change and adapt to the new culture in Canada. Recreation programs geared towards women were recommended to bring them out of their isolation.

> "Those who come from Bangladesh are in a job crisis, financial crisis…new culture, new lifestyle, because we are not used to this. Every family, husband-wife, children, we all suffer. New society, culture, to get used to this takes at minimum 2-3 years and during this time most people go through mental stress. So during this time, support is extremely crucial." – Participant 12, male, newcomer

> "No, we need this [mental health services] of course. For as long as we are immigrants, we will need this. As long as I am not Canadian, I will need it. (laughs)" – Participant 15, female, newcomer

> "Maybe once I find a good job, I will be better." – Participant 9, female, longer-term immigrant

Community members communicated the extreme stress associated with migration and resettlement. New immigrants found it difficult to adjust to the new culture and environment. Their primary concern was settling their families and securing a job. All participants expressed the importance and perceived need for mental health services by this community, but at the same time, newcomers naturally prioritize establishing their families and securing employment before thinking about seeking help for their own mental health issues. As a result, the stressors of migration and resettlement become a barrier to seeking care. Many participants stated that the lack of job security, precarious employment, and lack of meaningful employment upon arrival were the greatest source of stress and frustration in a new immigrant's life.

Mixed Methods: Merging Results from the Quantitative and Qualitative Phases

Both the quan and qual phases of this study confirmed that the main variable of interest, length of stay in Canada, was not related to attitudes toward seeking mental healthcare or barriers and promoters identified by community members. The following three factors emerged as being associated with seeking mental healthcare from the quan phase: gender, attending school in Canada, and being employed in one's field of study/work. These findings were corroborated in the qual phase. Men scored significantly higher on the Psychological Openness subscale in the quan phase, and participants remarked in interviews that women were more likely to have reluctance in sharing personal problems with others. In the quan phase, those who attended school in Canada had higher scores on the Psychological Openness subscale. Although interview participants did not identify attending school in Canada as a promoter of seeking care, they did mention that higher education was associated with greater openness to seeking mental healthcare. In addition, participants cited the lack of contact with people outside the Bangladeshi community in the East Danforth/Crescent Town area as a barrier. Lastly, those who were

employed in their field of study/employment scored higher on the overall IASMHS. In interviews, participants discussed how the lack of meaningful employment opportunities in Canada was the major stressor they encountered upon arrival and how preoccupation with securing employment prevented them from seeking care. Many felt that if meaningful employment could be secured, they could then be free to focus on themselves and seek care if needed.

The overarching factor that seemed to be associated with all the barriers and promoters identified in the quan and qual phases was that of the social and cultural isolation of the Bangladeshi immigrant community in the East Danforth/Crescent Town neighborhood. In regards to the quan findings, men were more likely to work outside the home and interact with the rest of Canadian society. Securing employment in one's professional field and attending in school in Canada were also related to having greater exposure to communities outside their Bangladeshi neighborhood. In terms of the qual findings, participants felt that their lack of interaction with the multicultural society around them was related to their lack of mental health awareness and knowledge, lack of mental health literacy, and community mental health stigma.

This relative isolation is related to newcomers perceiving racism from the greater society and seeking to maintain cultural ties to Bangladesh by settling in a Bangladeshi immigrant-dense neighborhood. Living in a neighborhood where they can speak their own language, eat their own food, and feel accepted in their immediate community mitigated some of the initial culture shock and anxiety over resettlement.

Participants were realistic about the capacity for changing community attitudes toward seeking mental healthcare. All interview participants felt mental health services were a useful

and necessary service, especially for immigrants. Despite the overwhelming support for mental health services voiced in the interview discussions, most felt that the reluctance towards seeking care would still persist in the current adult generation. They cited the lack of precedence set in the community and the cultural unfamiliarity of seeking mental health care as possible reasons. Some participants spoke of seeking mental healthcare for personal issues as an individualistic and Western act, which was culturally foreign to them. They mentioned that the culturally acceptable mode of action in times of trouble was to turn to family and friends for help. There was hope that in the newer generation, greater openness could be fostered through greater communication, education, cultural exchange, and openness with the outside community.

DISCUSSION

This mixed methods research study surveyed and interviewed members of the Bangladeshi newcomer and immigrant community living in the East Danforth/Crescent Town are of Toronto. Male gender, attending school in Canada, and being employed in one's field of study/work was associated with more positive attitudes toward seeking mental healthcare (quan phase). Lack of mental health awareness and education, lack of mental health literacy, and community mental health stigma were identified as the major barriers toward seeking care in the qual phase. The overarching factor related to all the barriers and promoters identified in both legs of the study was that of the relative cultural and social isolation of the Bangladeshi community. There was convergence of findings between the two phases of the study.

IASMHS scores

Compared to the adult community sample from a small city in eastern Ontario reported in the original validation study for the IASMHS (Mackenzie et al., 2004), the Bangladeshi

community sample had significantly lower scores (indicating more negative attitudes) on the overall IASMHS scale (mean 61.29, SD 10.34, n = 45 versus mean 69.19, SD 14.36, n = 208; t(44) = -5.2, p = 0.001) and the Psychological Openness subscale (mean 16.02, SD 6.05, n = 45 versus mean 21.79, SD 6.76, n = 208; t(45) = -6.5, p = 0.001). However, the Bangladeshi community sample scored comparably on the Help-Seeking Propensity (mean 23.22, SD 4.11 n = 46 compared to mean 23.98, SD 5.35, n = 208; t(44) = -1.2, p = 0.22) and Indifference to Stigma subscales (mean 22.15, SD 6.23, n = 46 compared to mean 23.42, SD 6.22; t(45) = -1.4, p = 0.17). Although the participants continually identified mental health stigma as a barrier toward seeking care in interview discussions, this population did not have significantly lower scores on the Indifference to Stigma subscale. These results differ from studies carried out on South Asian populations in the UK. Members of the Indian-Subcontinental community in Britain did not differ in attitudes toward seeking psychological help (Fischer and Turner, 1970) compared to Western British participants (Sheikh and Furnham, 2000). Pilkington, Msetfi and Watson (2012) used a modified 16-question version of the IASMHS on British South Asian Muslims and reported moderately positive attitudes toward seeking mental healthcare in this population (comparison to the present study is difficult because of the use of the modified scale).

Years since Immigration

Years since immigration or length of stay in Canada did not emerge as a significant factor associated with attitudes toward seeking mental healthcare nor barriers or promoters identified. Kirmayer et al. (2007) analysis of immigrants in Montreal also found that length of stay in Canada was not significantly related to mental health service use. The finding that there was no difference between newcomers and longer-term immigrants in this study suggests that no matter how long an immigrant lives in Canada, there is little to no change in attitudes toward seeking

mental healthcare. Immigrants that had lived in Canada for 20+ years expressed that they had never received information about mental health services. Targeted mental health outreach programs need to address this issue.

Social and Cultural Isolation

The overarching factor related to the barriers, promoters, and factors identified in this study was that of the relative social and cultural isolation of the Bangladeshi immigrant community in the East Danforth/Crescent Town neighborhood. This relative isolation may be related to newcomers perceiving racism from the greater society and seeking to maintain cultural ties to Bangladesh by settling in a Bangladeshi immigrant-dense neighborhood. Stafford, Newbold, and Ross (2011) found that visible minority immigrants who lived in neighborhoods with a higher percent concentration of fellow immigrants were less likely to suffer from depression. This social and cultural isolation also perpetuated and re-circulated cultural beliefs around seeking mental healthcare. Participants expressed that greater communication with the outside community would lead to exchange of ideas that may in turn change attitudes toward seeking mental healthcare.

Gender

The finding that immigrant Bangladeshi men in this community were more open to the idea that psychological therapy could be useful was very interesting and contrary to the established literature that finds women are generally more likely to seek psychotherapy (Vessey & Howard, 1993). However, South Asian women in the UK expressed that mental health services were only to be accessed at the point of crisis, (Chew-Graham, 2002) and South Asian women diagnosed with serious mental illness in Vancouver, British Columbia expressed their

preference for seeking alternative treatments outside the mental health system that were more aligned with their spiritual and cultural beliefs (Chiu et al., 2005). In addition, female immigrants may lead a more insular life after migration that can make acculturation and family conflicts more difficult (Richmond, 1974). South Asian women may also be socialized to position their interpersonal relationships around the needs of the family (Singh & Hays, 2008). Both female and male participants in this study mentioned that women had a greater tendency to want to hide personal issues. Many also mentioned that women are often more socially and culturally isolated and confined to the home. Often it is the husband who acts as the family's gateway to the outside world by dealing with all of the interactions outside the home. While in Bangladesh the wife still has a full social circle by interacting with her large extended family and friends network, in Canada, women often find themselves extremely isolated. The female participants spoke of the profound loneliness and frustration from staying at home alone with the children. Understandably, many women are not fully comfortable with dealing with the outside world and the idea of seeking mental health services falls in this domain.

Migration, Resettlement, and Meaningful Employment

The stressors of migration and resettlement repeatedly emerged as a major stressor on the mental health of newcomers and immigrants. Similarly, Ahmad et al. (2004) found that mental health only became a concern for South Asian women following migration to Canada. While all the participants in this study recognized the massive toll on their mental health, they were too preoccupied with adjusting to their new life in Canada, and seeking mental healthcare was simply not on the list of priorities for a new immigrant. Related to this was the crucial importance of securing meaningful employment in one's own field of study or work to a new immigrant's mental health and attitude toward seeking mental healthcare. Chen, Smith and

Mustard (2010) reported that immigrants in Canada that were overqualified for their current jobs were more likely experience deterioration in mental health. In Sethi's (2013) study, a female immigrant participant linked her mental health to her husband's inability to find employment in his field of experience and at his former level of status. Underemployment and unemployment after migration were found to be important factors related to the mental health of Sri Lankan Tamil communities in Toronto (Pandalangat, 2011). Many participants in this study felt that once meaningful employment could be secured, the option of seeking mental healthcare could be explored. Simply finding employment is not enough since employment status was not a significant factor in the quan analysis, rather it is finding *meaningful* employment where one feels they can contribute their background and skills was conducive toward positive attitudes toward seeking mental healthcare. This corroborates findings from community studies carried out in Toronto on newcomer priorities upon arrival, precarious employment, and the toll on mental health (Access Alliance, 2013; Wilson et al., 2011). Raphael (2009) identifies the social determinant of living conditions as the main determinant of mental health for Canadians. This requires systemic-level change and government action and support, however, Canada has a very frugal mental health promotion expenditure budget. Canada is one of the lowest spenders on incapacity and disability-related issues and family benefits. Furthermore, Canada spends only 2.8% of its GDP (Gross Domestic Product) on income supports and social services for the working-age population. The majority of immigrants arrive in Canada during their working adult life between the ages of 25-64 years old (Citizenship and Immigration Canada, 2012). Bolstering government financial aid and support would greatly benefit newcomers and immigrants to Canada and help to mitigate some of the stressors of migration and resettlement in a new land.

Family Doctor

The family doctor was viewed as a gateway to mental health services. Primary care physicians play a key role in the care and management of mental health (Bland, Newman & Orn, 1997; Mental Health Commission of Canada, 2012; Vasiliadis et al., 2005; Lesage et al., 2006). It has been found that across all provinces in Canada, amongst those who seek mental healthcare the majority consult their family physician (Vasiliadis et al., 2009; Lesage et al., 2006). Canada's Mental Health Strategy proposes the expansion of the role of primary health care and integration of primary healthcare with specialized mental healthcare services to address gaps in the mental health system (Mental Health Commission, 2012). The family doctor in the Bangladeshi newcomer and immigrant community seems poised for this role expansion as members of the community already identify their family doctor as their point of contact if they needed to seek mental healthcare.

Pathway to Seeking Mental Healthcare

Most participants outlined the following trajectory if one is experiencing mental health issues: first they must try to manage the issue on their own, then seek family counsel, then friends, then the Bangladeshi community, then the family doctor, and then they may go for mental health services. This pathway to mental healthcare was outlined in a report on immigrant, refugee, ethnocultural, and racialized groups in Canada (Mental Health Commission, 2009). This is corroborated by Chew-Graham's (2002) study of South Asian women in the UK who only sought mental health services as a last resort in emergency situations rather than as a preventative service. The cultural foreignness of seeking a stranger's help for personal issues is a difficult attitude to change. It takes great strides to gain the trust of a newcomer and immigrant community, especially one that suffers from the frustrations of precarious employment,

unrealized dreams, and perceives the outside society as racist and unwilling to offer equal opportunities.

Targeted Mental Health Outreach and Stigma

Participants continually mentioned that they had received little to no information on available mental health resources. This lack of targeted mental health outreach has also been noted by South Asian and other immigrant and racialized communities in Canada (Ahmad et al., 2004; Li & Browne, 2000; Mental Health Commission, 2009). One solution offered by participants is to educate the Bangladeshi community with knowledge about mental illness and mental health that way the recommendation to seek mental healthcare can slowly begin to emerge from the community itself. This can help to mitigate the stigma surrounding seeking mental healthcare. Participants recommended a multi-pronged mental health awareness and mental health resource education program to address to help overturn the stigma. There needs to be recognition that it is a common to have mental health issues, especially for newcomers and immigrants. Also, awareness that mental illness has biological roots and professional help is needed to prevent calamity needs to be raised. Moreover, seeking help before it becomes severe is preventative and can safeguard a person's mental health and well-being. Participants noted that in Bangladesh the idea of seeking mental healthcare is reserved for those who are mentally ill and need to be institutionalized. In the absence of information about the preventative nature of mental health services, they naturally retained this view of mental healthcare after arriving in Canada. Muslim immigrants in the US were also found to have this belief (Amri & Bemak, 2013). Mental health awareness and education campaigns need to clearly explain the nature of mental health services in Canada.

Knowledge also needs to be disseminated on warning signs, so they can recognize mental health issues when they arise amongst their family and friends and encourage them to seek help. Adding to that, the importance of not hiding problems and stressing the confidentiality of services is also crucial. The appropriate dissemination of such information (Bengali-translated ads on mental health services, awareness campaigns within cultural/religious programs etc.) is very important. Since most community members are reluctant to seek care outside the advice given by family and friends, education of the Bangladeshi community on mental health issues and the availability of culturally-appropriate mental health resources would arm this community to better face these challenges. Participants expressed that if community members could share their experiences with the mental health system, they could potentially inspire others to seek care. This type of contact based education has been identified as one of the most effective means to diminish stigma (Mental Health Commission, 2012).

Strengths and Limitations

In addition to the advantages outlined in the rationale section, concurrent mixed methods designs save time and resources and decrease loss to follow up/attrition bias seen in sequential designs (especially important when working with community samples). The qual sample in this study was a subset of the quan sample, which made it easier to compare and converge findings between study legs. This study applied an intersectional lens by examining mental health service access at the intersection of length of stay in Canada, Bangladeshi ethnicity, and low-income neighborhood residence. Rather than paint all participants with the same brush as "immigrants," care was taken to move beyond this monolithic approach and refine this factor further by years since immigration. Future studies could examine barriers and promoters of seeking mental healthcare taking other important factors into consideration such as gender, age, and

circumstances of migration. Participants had the option of choosing a Bengali, English, or Bengali and English survey in addition to the option of speaking in Bengali for the interview portion to allow inclusion of both English and Bengali speakers. Members of the Bangladeshi community helped to translate, back-translate and face-validate the survey and community members also helped to translate and transcribe the interviews. Members of the East Danforth/Crescent Town community were also consulted on the appropriateness of the survey items and participant honorarium, and changes were made accordingly. Further, homogenous purposive sampling allowed for rich data collection on a single community, which was the focus of this study. Data collection was carried out in a convenient community setting to make involvement easier and more acceptable for participants. Pockets of the community that do not normally get captured in research (female homemakers) were able to participate in this research study because the researcher was able to visit them in their homes. A self-reflexivity journal and field notes were kept by the researcher to provide context. Islam and Oremus (2014) carried out a systematic review of mixed methods immigrant mental health research in Canada and found that most studies failed to fully integrate the quantitative and qualitative legs of their studies in addition to other oversights. This study took care to address these concerns.

This study also has a number of limitations. Since this is a concurrent mixed methods design, one phase cannot inform the next. Volunteer bias (volunteer community recruitment) and self-response bias (participants may respond in a socially desirable manner) may exist. Speaking on positionality, the researcher (being Bangladeshi) needed to walk the fine line between being seen as an outsider disinterested in the community's welfare with institutional affiliations and an insider that may potentially leak confidential information through the community. The Bangladeshi community in the East Danforth/Crescent Town area may be inherently different

from those across Canada and even the Greater Toronto Area (low transferability/generalizability). As a result of homogenous purposive sampling, the findings will hopefully be applicable to the East Danforth/Crescent Town Bangladeshi population (internal validity), however, it will be difficult to generalize to other populations (e.g. Bangladeshi populations across Canada) (external validity). The high concentration of Bangladeshis in this area may mean health services are more developed and offer linguistically- and culturally-appropriate options. Posting of flyers in public places and snowball sampling may also lead to sampling error, where only certain parts of the population will be captured. Because the researcher was female and often visited the neighborhood during weekday work hours this study was more likely to capture female, home-bound participants. The small number of participants recruited for the quan phase (n = 47) did not allow for high-level statistical analysis (e.g. multivariate regression analysis). All analysis conducted was descriptive and at the bivariate level. There could be no adjustment for confounding variables. In the absence of a fully validated Bengali-translated version of the IASMHS, a short face validation of the translated instrument was carried out. The Cronbach alphas for this study were also lower than those in the original validation study. This may be related to difficulties in translating concepts of mental illness and seeking mental healthcare cross-culturally (Bhui et al., 2001; Dein, Alexander & Napier, 2008; Fenton & Sadiq-Sangster, 1996), which may have caused the Bengali-translated scale items to not be measuring the construct of attitudes toward seeking mental health services comparable to the original English scale. The sample in the original validation study did not have much ethnic diversity (Mackenzie et al., 2004), which may also be a reason for the different Cronbach alphas observed. Furthermore, there are cultural differences in the way individuals provide responses on Likert scales (Lee et al., 2002). Further validation of the Bengali-translated IASMHS is needed.

There were also issues related to convergence of findings. Although the qual sample was a subset of the quan sample, there may be difficulties with convergence since the qual and quan phase are looking at two slightly different constructs. While the quan phase is looking at positive *attitudes* toward seeking mental health services, the qual phase is examining the barriers and promoters of the *action* of help-seeking. There are unfortunately no validated scales/surveys on the action of seeking mental health services. A more recent and updated attitude toward help-seeking scale (IASMHS, Mackenzie et al., 2004) that improves upon past scales (Attitudes Toward Seeking Professional Psychological Help Scale, Fischer & Turner, 1970) by being more predictive of the actual action of help-seeking was used to address this concern.

Implications

This study addresses some of the knowledge and research gaps identified by Canada's Mental Health Strategy (Mental Health Commission, 2012). The barriers and promoters of seeking mental healthcare identified in this study can be used to develop a multi-pronged, culturally-appropriate, targeted mental health outreach campaign centered on appropriate mental health resource information dissemination and community awareness and education in the immigrant Bangladeshi community of East Danforth/Crescent Town. The participants in this study voiced their opinion on changes that need to be made at the government-level, mental health system-level, community-level, and individual-level to encourage the seeking of mental healthcare. A four-pronged comprehensive strategy calls for greater government action through offering financial support, job and skills matching programs for newcomers, and by prioritizing immigrant mental health. Secondly, at the mental health service planning and delivery level, models of mental healthcare grounded in cultural safety need to be developed. Translators can be offered but may impinge upon confidentiality. Matching programs need to be made available to

match professionals and clients on language, gender, and other important factors. In addition, the mental healthcare role of the family doctor can potentially be expanded to meet service gaps. Thirdly, at the community-level, community awareness campaigns that focus on the culturally appropriate dissemination of Bengali-translated information on mental health resources and educational programs that promote open discussion of mental health and seeking mental healthcare is needed. Lastly, at the individual level, mental health stigma can be mitigated through educational and awareness programs where community members who have utilized mental health services can share their experiences. These findings can be used to help to inform the development and delivery of government policy and mental health programming for other diverse immigrant populations in Canada in order to create inclusive models of mental healthcare and a mental health system that is able to address the needs of an increasingly diverse population in Canada.

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DISSERTATION DISCUSSION

Summary

To summarize, this three-part doctoral dissertation sought to address some of the research gaps identified by Canada's Mental Health Strategy (Mental Health Commission, 2012). Secondary quantitative analysis on nationally-representative Statistics Canada data was carried out at the national level to determine the estimated prevalence rates and characteristics of mental health outcomes for South Asian populations across Canada. Provincial-level analysis was carried out to examine the estimated prevalence rates and characteristics of mental health service use by service provider type for Ontario's immigrant populations. Lastly, mixed methods research involving primary data collection was carried out with Bangladeshi population in Toronto to determine barriers and promoters of mental health service access.

The Mental Health of Canada's Ethnocultural and Immigrant Populations

There is also a tendency to paint all immigrant and ethnocultural populations with the same brush. The first study, "South Asian Populations in Canada: Migration and Mental Health," demonstrated that within an ethnocultural group (South Asian), there can be differences based on immigrant status. The study highlighted the heterogeneity of South Asian populations in terms of mental health. This corroborates findings on the importance of highly specialized mental health services and supports that take into consideration the diverse needs of unique populations (Wayland, 2010). A mental health system that is grounded in the principles of healthy equity, cultural competency, and cultural safety is crucial to safeguard the mental health of diverse populations (Mental Health Commission, 2009). Cultural safety training is needed for mental healthcare providers working with immigrant and ethnocultural populations (Mental Health Commission, 2009).

In the third study, "The Barriers and Promoters of Seeking Mental Healthcare: A Mixed Methods Study of Bangladeshi Populations in Toronto," participants voiced their opinion on the importance of mental health issues after arrival in Canada and the need for better access to mental health services. This finding was echoed by Ahmad et al. (2004) who found that South Asian immigrant women identified mental health as a major health concern only after arriving in Canada. Mental health is of crucial importance to ethnocultural and immigrant populations; however, barriers of access to care make it difficult to seek help.

Mental Health Service Access and Utilization in Canada's Ethnocultural and Immigrant Populations

In the second study, "The Epidemiology of Mental Healthcare Utilization by Service Provider Type for Ontario's Immigrant Populations," estimated prevalence rates for Ontario immigrant populations were found to be significantly lower compared to Canadian-born populations across all service provider types, which corroborates the lower mental health service utilization rates reported in the literature (Chen & Kazanjian, 2005; Fenta, Hyman & Noh, 2006; Kirmayer et al., 2007; Lesage et al., 2006; Tiwari & Wang, 2008).

In order to address these lower rates of mental health service use, Canada's Mental Health Strategy (2012) calls on the integration of primary and specialized mental health services and expansion of the mental healthcare role of the primary healthcare provider. Integrating primary care health services with secondary and tertiary levels of mental health care was identified as one of the World Health Organization's most fundamental health care recommendations (WHO, 2007). Study 2 attempted to further investigate the feasibility of these mental health policy recommendations for Ontario's immigrant populations. Amongst those who consulted mental health services, immigrants were found to have significantly lower rates of

seeking mental health care from both primary and specialized mental health services. In addition, the majority of Ontario immigrants sought mental health care from their family doctor. Factors associated with migration also emerged as important determinants of mental health service use for Ontario's immigrant populations. These findings point to the difficulty experienced by immigrant populations in navigating both the primary and specialized mental health care systems at the same time, as well as, the relative preference for using the primary care system for mental health consultation. Study 3, "The Barriers and Promoters of Seeking Mental Healthcare: A Mixed Methods Study of Bangladeshi Populations in Toronto," also further investigated issues related to mental health service access. Bangladeshi immigrant populations in the East Danforth/Crescent Town area expressed how their experience thus far had only been with the primary care system and that they viewed their family doctor as a potential gateway for more specialized mental healthcare.

The expansion of the mental healthcare role for primary care providers has real potential to help mitigate the service gaps experienced by immigrant populations. Integrating mental healthcare into primary care would help to eradicate the "silo" approach to mental health. This can help to reduce stigma, improve access to mental healthcare, improve prognosis, improve social integration, and prevent human rights violations and discrimination (WHO, 2007). Mental health literacy and education programs designed to meet the needs of Canada's growing ethnocultural and immigrant populations may focus on promoting the use of integrated care by educating people on how to navigate both primary and specialized mental health services. Navigating the health system effectively requires confidence and knowledge of the system, which members of immigrant and ethnocultural populations often feel they do not have. Moreover, the expansion of the mental healthcare role of the family doctor may help to meet

some of the service gaps experienced by diverse populations. Consulting the family doctor for mental health issues can be a less stigmatized and more socially acceptable mode of seeking help (WHO, 2007). It eliminates the fear of being caught in the act of visiting a psychiatrist and lessens the fear of community repercussions. Immigrants and members of ethnocultural communities feel comfortable navigating the primary care system as it is what they have the most experience with. Family doctors will require further training in order to take on this greater role and provide effective mental health support for their patients (Mental Health Commission, 2009). Mental health policy needs to be developed on how this continued training can take place.

In addition to changes in mental health system programming and delivery, Study 3 also identified the work that needs to be undertaken at the community level. The participants provided insight into a community-developed multi-pronged awareness and education campaign that can be utilized by community mental health outreach programs in the neighborhood to reduce stigma and educate about the mental health services available. In terms of health and immigration policy, the participants recommended that mental health service information be included upon arrival in the health information packet when immigrants first land in Canada. Considering the profound stressors of migration and resettlement, immigrants voiced concerns for the need for government involvement in developing better skills-matching and bridging programs and the need for better economic support for newcomers so they can focus on establishing their families and careers. This would help to mitigate the despair, frustration, and other mental health issues after arriving in Canada. An awareness of the impact of structural forces on mental health and mental health service access is especially needed when dealing with immigrant and racialized communities.

Strengths and Limitations

This three-part doctoral dissertation was developed by taking Canada's Mental Health Strategy into consideration (Mental Health Commission, 2012). The research questions and studies were developed with respect to the research gaps identified by health policymakers in the national mental health strategy. Often considerable gaps are seen between research that is carried out in academic institutions and the public health policies that are enacted by government bodies. Health research carried out in conjunction with health policy has a better chance of impacting health services and policy (Brownson, Chriqui & Stamatakis, 2009). In addition, this comprehensive three-part dissertation examined mental health and mental health service use at the national, provincial, and community levels. Nationally representative data was used, and importantly, provided statistics using the most up-to-date data available. This builds on previous work in this field that has largely relied on data from the year 2001 and before. These studies are an important addition to the literature. The first study provides statistics on mental health outcomes for the most populous and growing visible minority population in Canada. While the second study provides statistics on mental health service use by service provider type for Ontario's immigrant populations, which is home to the largest immigrant population in the country. Lastly, the primary data collected on the Bangladeshi population provides stakeholder perspectives on how mental health service access can be improved for newcomer and immigrant populations. The factors identified have parallels to those voiced by other diverse population groups.

The studies also had a number of limitations. All of the outcomes and variables of interest in the studies were based on self-reported data, which is subject to recall bias and social desirability bias. The studies also relied upon cross-sectional survey data, which carries the issue

of reverse causality. No statements can be made about the cause-and-effect relationship between variables. Because of the less than 100% response rates and exclusions in sampling, all statistics reported are estimates and caution needs to be taken in their application and interpretation. Moreover, the transferability and application of findings to other settings/cultural groups is especially an issue for the mixed methods study. Further studies are needed to determine if the common ground in the barriers and promoters identified, as well as, the appropriateness of the multi-pronged community awareness and education program developed by the participants for other ethnocultural and immigrant populations.

Implications and Recommendations for Action

The findings from all three studies have mental health policy and mental health system delivery implications. Firstly, immigrant and ethnocultural populations have unique needs that differ not only from the general population (as established by the literature), but also differ within immigrant and ethnocultural populations (as seen in Study 1). The importance of mental health system planning and delivery grounded in health equity, cultural competency, and cultural safety is paramount in order to develop a mental health system inclusive of diverse needs. Secondly, mental health is identified as a major concern and of crucial importance to immigrant and ethnocultural populations. However, a number of barriers exist that act as obstacles in the pathway of seeking of mental healthcare. Thirdly, system-level barriers make it difficult to navigate the mental health system. Immigrant and ethnocultural populations do not feel adept in navigating specialized mental health services and require targeted outreach, awareness, and education programs to be better informed. Immigrant and ethnocultural populations also prefer to consult primary care providers for mental health concerns. Expanding the mental healthcare role of the family doctor, so they can act as the first line of defense for mental health is one possible

course of action. In addition, ethnocultural and immigrant populations identify the need for culturally-appropriate and competent services where the value of confidentiality is stressed. Mental health system delivery catered towards diverse populations needs to highlight these important aspects. Fourthly, community-level barriers also exist that prevent immigrant and ethnocultural populations from seeking care. The issue of mental health stigma makes the seeking of care especially difficult. Awareness campaigns and honest, frank discussion on the topic is needed to reduce this stigma. Socioeconomic factors are also important in determining likelihood to seek care. Employment emerged as an important factor related to seeking mental health services. Participants in Study 3 felt that if the factors of precarious employment and the other immediate economic stressors associated with migration and resettlement could be ameliorated, they could consider the option of seeking mental healthcare. Many newcomers to Canada struggle with precarious employment, juggling multiple jobs to try to make ends meet. Considering their liminal position in the workplace, newcomers do not feel it is feasible to take time off to seek health services. Mental health services (in addition to general health services) need to be available outside regular work hours in order to be accessible. In addition, workplace culture needs to change to be more accommodating towards their workers taking time off for health visits.

Future Directions

The studies in this doctoral dissertation have addressed some of the research gaps identified by Canada's Mental Health Strategy (Mental Health Commission, 2012). Further and continued research is needed into Canada's diverse populations. The findings from this doctoral dissertation can be used to develop and implement mental health programming that reflects the diversity of Canada's population. Future research can look into program evaluations of these

community-focused mental health interventions. Comparisons of mental health programs implemented in other countries with large immigrant populations (e.g. Australia) may also be illuminating. Moreover, research that compared mental health outcomes and mental health services between the country of origin and host country would also add to the literature. An understanding of the differences in mental health system delivery between origin and host countries is needed to better understand the past experience and point of view of immigrants and the mental healthcare system barriers they face in Canada. The consumer/survivor/client perspectives of the mental health system and ways forward are also crucial. More research is needed that takes the opinions of consumers and the families of consumers of the mental health system into consideration from IRER population groups. Further research is needed on how integrated care can be effectively promoted and what types of training family doctors will require in order to expand their mental healthcare role. As Canada's landscape changes, it is essential for mental health policy and service delivery to continue to adapt to meet the needs of the nation's growing and diverse populations.

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Appendix A

Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS)
Mackenzie et al., 2004

The term *professional* refers to individuals who have been trained to deal with mental health problems (e.g., psychologists, psychiatrists, social workers, and family physicians). The term *psychological problems* refers to reasons one might visit a professional. Similar terms include *mental health concerns, emotional problems, mental troubles,* and *personal difficulties:*

For each item, indicate whether you *disagree* (0), *somewhat disagree* (l), *are undecided* ***(2),*** *somewhat agree* ***(3),*** or *agree* (4):

1. There are certain problems which should not be discussed outside of one's immediate family.
2. I would have a very good idea of what to do and who to talk to if I decided to seek professional help for psychological problems.
3. I would not want my significant other (spouse, partner, etc.) to know if I were suffering from psychological problems.
4. Keeping one's mind on a job is a good solution for avoiding personal worries and concerns.
5. If good friends asked my advice about a psychological problem, I might recommend that they see a professional.
6. Having been mentally ill carries with it a burden of shame.
7. It is probably best not to know *everything* about oneself.
8. If I were experiencing a serious psychological problem at this point in my life, I would be confident that I could find relief in psychotherapy.
9. People should work out their own problems; getting professional help should be a last resort.
10. If I were to experience psychological problems, I could get professional help if I wanted to.
11. Important people in my life would think less of me if they were to find out that I was experiencing psychological problems.
12. Psychological problems, like many things, tend to work out by themselves.
13. it would be relatively easy for me to find the time to see a professional for psychological problems.
14. There are experiences in my life I would not discuss with anyone.
15. I would want to get professional help if I were worried or upset for a long period of time.
16. I would be uncomfortable seeking professional help for psychological problems because people in my social or business circles might find out about it.
17. Having been diagnosed with a mental disorder is a blot on a person's life.
18. There is something admirable in the attitude of people who are willing to cope with their conflicts and fears
without resorting to professional help.
19. If I believed I were having a mental breakdown, my first inclination would be to get professional attention.
20. I would feel uneasy going to a professional because of what some people would think.
21. People with strong characters can get over psychological problems by themselves and would have little need for professional help.
22. I would willingly confide intimate matters to an appropriate person if I thought it might help me or a member of my family.
23. Had I received treatment for psychological problems, I would not feel that it ought to be "covered up."
24. I would be embarrassed if my neighbor saw me going into the office of a professional who deals with psychological problems.

Appendix B

DEMOGRAPHIC QUESTIONNAIRE

Instructions: Please answer the following questions about your personal background by placing an X on the line next to the category that best describes you or by writing in your answer.

1. What is your **age**? _____
or **age range**: ___ 20-30 years old ___ 31-40 years old ___41-50 years old
___51-60 years old

2. What is your **gender**?
_____ (1) Male _____ (2) Female

3. What is your **marital status** (Please check one):
_____ (1) Single _____ (3) Common-law partnered
_____ (2) Married _____ (4) Divorced _____ (5) Widowed

4. What **country** were you born in? _____

5. What is your **religion**? _____

6. What is your **immigrant-status**?
_____ (1) Canadian-born _____ (3) Refugee
_____ (2) Immigrant _____ (4) Student Visa

7. How long have you **lived in Canada**? _____ years _____ months

8. What is the **main intersection** you live at (e.g. Victoria Park and Danforth)?
_____

9. How **confident** are you in your **English language ability**? (Please check one):
_____ (1) Not at all _____ (4) Quite a bit
_____ (2) A little bit _____ (5) Extremely well
_____ (3) Moderately

10. What is the **highest education level** you have obtained in **Bangladesh**? (e.g. grade 8; MA from Dhaka University; BEng from BUET) _____

11. What is the **highest education level** you have obtained in **Canada**? (e.g. diploma from Seneca College) _____

12. Total **number of family members living in household**? _____

13. Total **number of other relatives living in the same city** as you? _____

14. What is your <u>best estimate</u> of your total **yearly household income** in Canada:

_____ (1) Under $10,000
_____ (2) $10,000-$19,999
_____ (3) $20,000-$29,999
_____ (4) $30,000-$39,999
_____ (5) $40,000-$49,999
_____ (6) $50,000-$59,999
_____ (7) $60,000-$69,999
_____ (8) $70,000 or more

15. What problems have you experienced with your **physical or mental health**? (Please check all apply):

_____ (1) depression
_____ (2) stress
_____ (3) anxiety
_____ (4) headaches
_____ (5) social isolation
_____ (6) worry about/missing family members
_____ (7) stomach problems
_____ (8) cultural conflicts in acceptable disciplining of children
_____ (9) pressure/cultural conflicts in acceptable choice of mate
_____ (10) war trauma
_____ (11) voyage trauma
_____ (12) gender and intergenerational conflict within families
_____ (13) nightmares
_____ (14) other physical problems (please write in)
_____ (15) other mental health problems (please write in)

16. **Who do/did you contact** for this/these problem(s)/concern(s)?
_____ (1) psychiatrist
_____ (2) psychologist
_____ (3) social worker
_____ (4) counselor
_____ (5) minister/imam/clergy
_____ (6) spiritual healer
_____ (7) traditional healer/medium
_____ (8) friends
_____ (9) family member
_____ (10) medical doctor
_____ (11) nurse
_____ (12) other (please write in) _____

17. How would you **rate your health**?
_____ (1) poor
_____ (2) fair
_____ (3) good
_____ (4) very good
_____ (5) excellent

18. Do you have **health insurance coverage**?
_____ (1) OHIP/government only
_____ (2) private health insurance from employer
_____ (3) private health insurance that I pay out of pocket
_____ (4) no insurance

19. Are you currently **working**?
_____ (1) yes, full-time employment
_____ (2) yes, full-time employment, but also searching for work
_____ (3) yes, part-time employment
_____ (4) yes, part-time employment, but also searching for work

_____ (5) no, I am searching for employment
_____ (6) no, I am not working and not searching for work

20. What was your **occupation in Bangladesh**?
_____

21. What is your **occupation in Canada**? _____

Appendix C

Semi-structured interview protocol

modified from Harrell and Bradley (2009)

1. Welcome and Ground Rules *[5 min]*	Welcome. I want to thank you for coming today. My name is Farah Islam and I will be conducting today's interview. I am a researcher and a PhD student at York University. We invited you to take part in this interview today because you are a member of the Vic Park/Danforth Bangladeshi community. I would like to talk with you today about seeking mental healthcare services in Canada and what you feel are barriers and promoters of seeking care. The study is approved by York University. What I learn from today's discussion will be a part of my PhD dissertation and hopefully be used to make mental healthcare services in Canada more inclusive of Bangladeshi populations. Before I begin, I would like to review a few ground rules for the discussion. a. I am going to ask you several questions; you do not have to go in any particular order. b. Feel free to treat this as a discussion. There is no right or wrong answer. I am just asking for your opinions based on your own personal experience. I am here to learn from you. d. If there is a particular question you don't want to answer, you don't have to. e. I will treat your answers as confidential. I am not going to ask for anything that could identify you and we are only going to use first names during the discussion. f. I will be tape recording the discussion today and also taking notes because I don't want to miss any of your comments. However, once I start the tape recorder I will not use anyone's full name and ask that you do the same. I will not include your names or any other information that could identify you in any reports I write. I will destroy the notes and audiotapes after we complete our study and publish the results. h. Finally, this discussion is going to take about one hour and ask that you stay for the entire meeting. At the end of the discussion I will give you a gift card to thank you for participating. Do you have any questions before we start? Are you OK with this session being tape recorded? [GET VERBAL CONSENT TO TAPE RECORD DISCUSSION. IF PARTICIPANT DECIDES THAT S/HE DOES NOT WANT TO BE TAPED AND WANTS TO LEAVE, S/HE SHOULD STILL BE PAID THE FULL AMOUNT]
2. Introductions *[1 min]*	[START TAPE RECORDER NOW.] Please tell us your first name only and tell us when you moved to the Vic Park/Danforth area.
3. Group discussions Topic 1 *[10 min]*	**Topic 1: Attitudinal barriers and promoters** 1. To start off, tell us your opinion of mental health services in Canada a. PROBE: Would you ever consider seeking mental healthcare? Or recommend it to friends/loved ones? b. PROBE: Do you feel mental health services are useful? c. PROBE: What would make someone have a positive attitude toward seeking help? What would make someone have a negative attitude?

4. Group discussions Topic 2 *[10 min]*	**Topic 2: Healthcare system barriers and promoters** 2. Tell us your opinion of mental health care services in Canada a. PROBE: If you needed to seek mental health care, do you know resources you could seek? Do you feel the mental health professional would understand your needs? b. PROBE: I am going to show you a series of mental health services and resources available in Toronto. Let me know if you have seen any of these ads or if any are familiar to you. *[go through each resource one by one and ask their opinion]* c. It seems that the Bangladeshi community is not too familiar with mental health services in Canada. What can be done to increase awareness of available services? d. PROBE: How is the Canadian mental health care system easy to navigate? e. PROBE: How is it difficult? f. PROBE: How can it be improved? g. PROBE: Would having or not having health insurance coverage impact whether or not your sought mental health care? Why or why not?
6. Group discussions Topic 3 *[10 min]*	**Topic 3: Cultural barriers and promoters** 3. Tell us how you feel about the influence of culture on seeking mental health care: a. PROBE: Do you feel the Bangladeshi community is open to the idea of seeking help for mental health needs? In what ways? b. PROBE: Do you feel you would be supported by the community if you did need to seek mental health care? In what ways? c. PROBE: If you needed to seek mental health care, would you tell anyone about it? Why or why not?
7. Group discussions Topic 4 *[10 min]*	**Topic 4: Structural barriers and promoters** 4. Tell us what you feel about structural influences on seeking mental health care: a. PROBE: Do you think income and employment influence someone's ability to seek mental health care? b. PROBE: Do you feel the health care system in Canada is racist or prejudiced toward Bangladeshis? Would racism impact upon someone's decision to seek mental health care?
8. Final thoughts *[1 min]*	Those were all of the questions that I wanted to ask. 5. Does anyone have any final thoughts that they haven't gotten to share yet?
9. Review & Wrap-up *[1 min]*	Thank you for coming today and for sharing your opinions with us. We hope you enjoyed the discussion today. I'm going to be handing out the payments. [HAND OUT PAYMENTS.]

Appendix D

Informed Consent Form - Interview

Date: _____

Study name: Barriers and Promoters of Seeking Mental Healthcare: A Mixed Methods Study of Bangladeshi Populations in Toronto

Researchers: This study is led by Farah Islam (PhD Candidate, York University, Faculty of Health, School of Kinesiology and Health Science) and her co-supervisor Dr. Nazilla Khanlou (Associate Professor, York University, Faculty of Health, School of Nursing).

Purpose of Research: The purpose of this study is to both explain and explore the barriers and promoters of seeking mental healthcare for immigrant and Canadian-born Bangladeshi populations surveys and through focus group and interview discussions.

What You Will Be Asked to Do in the Research Study:
You will be asked a set of questions taken from a pre-prepared guide. The interview discussion will be audio recorded and notes will be taken by the Principal Investigator.
We are interested in building on your discussion from the focus group session and hearing your thoughts on the barriers and promoters to seeking mental healthcare in Canada. You will be asked to discuss your own attitudes toward seeking mental health services, your opinions on the mental healthcare system in Canada, the influence of culture and the Bangladeshi community on seeking mental healthcare, and lastly, the impact of structural barriers like racism or unemployment on seeking mental healthcare.
Your participation involves an audio-recorded face-to-face interview. The PI will conduct the interview.

Risks and Discomfort: We do not foresee any risks and discomforts associated with your participation. However, some participants may feel uneasy or uncomfortable sharing their attitudes on seeking mental healthcare and offering their opinions on the mental healthcare system in Canada.

Benefits of the Research and Benefits to You: Participating in this research will provide you with the opportunity as a Bangladeshi community member to provide input that may influence health policy, services, and support for the community. Informational pamphlets on mental health and mental healthcare in Canada will also be made available. A $20 gift certificate will be offered to you for agreeing to participate in the interview (in addition to the first $20 grocery gift certificate given to you for agreeing to partake in the survey session).

Voluntary Participation: Your participation in this study is completely voluntary, and you may choose to stop participating at any time. Any decision by you not to volunteer will not influence

the nature of the ongoing relationship you may have with the researcher or anyone else involved in the research at York University.

Withdrawal from the Study: You can stop participating in the study at any time, for any reason, if you decide to. If you decide to stop participating, you will still be eligible to receive the promised honorarium for agreeing to be in this project. Your decision to stop participating or to refuse to answer particular questions, will not affect your relationship to the researchers or anyone else involved in the research at York University.

Confidentiality: All information you supply during the research will be held in confidence and unless you specifically indicate your consent, your name will not appear in any report or publication of the research. Data will be collected by our PI. Your data will be safely stored in a locked filing cabinet in the PI's office in York University. Only the research team members affiliated with this project will have access to this information. Data will be stored in this manner for a period of two years and then destroyed. Confidentiality will be provided to the fullest extent possible by law. In the event the participant decides to withdraw from the study, all associated data collected will be immediately destroyed wherever possible.

Questions About the Research? If you have questions about the research in general or about your role in the study, please feel free to contact Farah Islam, either by telephone: 416-736-2100 ext. 44527 or by email: fislam@yorku.ca.

This research has been reviewed and approved by the Human Participation Review Sub-Committee, York University Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines.

If you have any questions about this process, or about your rights as a participant in this study, please contact: Alison Mrakas-Collins, Manager, Research Ethics at the Office of Research Ethics, 5th floor York Research Tower, York University (tel: 416-736-5914) or email (acollins@yorku.ca).

Legal Rights and Signatures:
I _____ consent to participate in the study "Barriers and Promoters of Seeking Mental Healthcare: A Mixed Methods Study of Bangladeshi Populations in Toronto" which is a project being conducted by Farah Islam. I have understood the nature of this project and wish to participate. I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

Signature _____ **Date** _____
Participant

Signature _____ **Date** _____
Principal Investigator (PI), Farah Islam