OFFICIAL LANGUAGE MINORITY COMMUNITIES IN CANADA: IS OFFICIAL LANGUAGE MINORITY-MAJORITY STATUS ASSOCIATED WITH MENTAL HEALTH PROBLEMS AND MENTAL HEALTH SERVICE USE?

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ABSTRACT

Introduction: Language is a key health determinant that may affect an individual's well-being and prevent access to health care services.[1] Within Canada, official language use and minority-majority status differs provincially (French-majority/English-minority in Quebec and French-minority/English-majority outside of Quebec). Although the little research that is available indicates that health disparities may exist between French- and English- speaking Canadians,[2-6] the role of both language and minority-majority status has been neglected.

Purpose*:* The first objectives of the current study was to determine whether disparities exist in mental health and mental health service use between minority and majority Canadian Francophone and Anglophone communities both within and outside of Quebec. The second objectives was to examine if official language minority-majority status was associated with the presence of common mental health problems and mental health service utilization.

Methodology: The current study used data from the Canadian Community Health Survey: Mental Health and Well-being, Cycle 1.2.[7] Two main comparisons were made: Quebec Francophones to Quebec Anglophones, and outside Quebec Francophones to outside Quebec Anglophones. Twelve-month and lifetime prevalences of mental disorders and mental health service use were examined through bivariate analyses. Logistic regression analyses determined whether official language minority-majority status significantly predicts mental health problems and mental health service use using the Determinants of Health Model[8-10] and Andersen's behavioural model.[11-13]

Results: Very few significant differences were found between official language groups both outside and within Quebec, though some notable differences were found between Quebec and outside Quebec: Anglophones and Francophones outside Quebec had a higher prevalence of

poor mental health and low life satisfaction compared their respective language counterparts in Quebec. Respondents from outside Quebec had a higher prevalence of consulting with a psychiatrist than respondents from Quebec. There was no significant association between membership in an Official Language Minority Community and mental health problems, and mental health service use.

Implications: Although our results indicate that very few differences exist between official language minority and majority groups, these findings remain important and can help aid key stakeholders redirect resources and develop policies and programs towards areas and geographic locations wherein health disparities exist.

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LIST OF ABBREVIATIONS

Term	Abbreviation
Alcohol/Substance dependence	ASD
Canadian Community Health Survey: Mental Health and Well-being (Cycle 1.2)	CCHS 1.2
Family Practitioner	FP
Major Depressive Episode	MDE
Mental health professional (psychologist, social worker, counsellor, nurse)	MHP
Official Language Minority Communities	OLMC
Socioeconomic status	SES

CHAPTER ONE
INTRODUCTION

Language is a key health determinant that may be associated with an individual's well-being.[1] Language barriers can significantly impact an individual's ability to access and receive effective mental health care.[1] Specifically, incongruence between patient and health care providers' languages may influence the ability to diagnose and properly treat mental illnesses.[12] Consequently, if an individual cannot access mental health care services in their own language, then there is an increased risk of this individual receiving either ineffective health care or, potentially, no health care at all.[1] This may translate into health disparities between individuals from the linguistic minority versus those from the linguistic majority. A health disparity exists when a difference in the "incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist between specific population groups".[15] Previous research demonstrates that health disparities often exist between individuals who do not speak the dominant language and the general population. For instance, some linguistic minority groups are at an increased risk for poor mental health and many are more likely to underutilize mental health services.[16-20]

1.1 Current issue

While linguistic minority groups may experience more mental health problems and have lower prevalences of mental health service use, research occurring in Canada and the United States has almost exclusively focused on visible minority groups or immigrants. Consequently, much less is known about those individuals who do not speak the dominant language yet may not

necessarily be within a visible minority group or part of the immigrant population. Within Canada, there are two official languages, English and French, which are recognized in the laws of a country.[21] Though two official languages exist in Canada, the dominance of French or English language use differs from province to province with French-majority/English-minority in Quebec and French-minority/English-majority outside of Quebec. Therefore, although an individual may speak one of Canada's Official languages, they may still belong within the linguistic minority. Such individuals belong to "Official Language Minority Communities" (OLMC), a term often used to classify Anglophone or Francophone minorities in Canada.[21]

Very few data have been presented on differences in mental health and mental health service use between Francophones and Anglophones: higher prevalences of mood disorders, psychological distress, and suicidality in addition to a lower prevalence of mental health care utilization have been observed among French-speaking Canadians compared to English-speaking Canadians.[2-4,6] However, such studies have not examined differences between Anglo- and Franco- Canadians living in minority situations.

1.2 Purpose of the study

Although the little research that is available indicates that health disparities may, in fact, exist between French- and English-speaking Canadians,[2-6] the role of *both* language and minority-majority status on mental health and mental health service use has been overlooked. Language, as a key health determinant, has been found to be associated with both mental health and mental health service use, particularly among minority groups. Therefore, it may be the case that members of official language minority groups are at an increased risk of poor mental health and experience inequities in terms of access to mental health services compared to their official language majority counterparts. Therefore, the goal of the current study was to address this gap

in the literature by comparing common mental health problems and mental health service utilization between official language minority and majority groups in Canada. This study examined the following questions: Do disparities exist in the prevalence of mental disorders and mental health service use among minority and majority Francophones and Anglophones within and outside of Quebec? Is official language minority-majority status associated with the presence of common mental health problems and use of mental health services?

1.3 Objectives

The study used CCHS 1.2 data to meet the following objectives:

1. To determine whether disparities exist in mental health problems between minority and majority Canadian Francophone and Anglophone communities both within and outside of Quebec. Specifically, the prevalences of common mental health problems will be compared.

2. To determine whether or not disparities exist in mental health service use between minority and majority Canadian Francophone and Anglophone communities both within and outside of Quebec.

3. To examine if membership within an official language minority is associated with the presence or absence of mental health problems within the past 12-months. Specifically, the determinants of mental health will be examined using the Determinants of Health Model.[8-10]

4. To examine if membership within an official language minority is associated with the use of mental health services within the past 12-months. The determinants of mental health service use will be examined using Andersen's behavioural model of care seeking and health service utilization.[11,13]

1.4 Definition of terms

The following section provides a list of common terms and their definitions, which are referred to frequently throughout the thesis document. This list is provided in order to aid the reader in understanding the literature review and methods found in Chapter Two and Chapter Three. The terms are presented in alphabetical order:

Agoraphobia: Agoraphobia may be diagnosed with or without a history of panic attacks. For individuals without a history of panic attacks, agoraphobia may be characterized through the fear and subsequent avoidance of situations in which they may be alone or outside their own safety zone. For individuals with a history of panic attacks, agoraphobia is largely characterized by the avoidance of situation in which a panic attack may occur and escape from the situation may be embarrassing or physically impossible.[22,23]

Alcohol/Substance Dependence: Individuals who meet the criteria for alcohol/substance dependence experience significant problems related to their alcohol/substance consumption habits which lead to tolerance, withdrawal, and compulsive alcohol/substance use. The individual has little control or ability to stop using alcohol or drugs.[24]

Anglophone: Belonging to a population using English as its first language.[25]

Comorbidity: "Refers to the co-occurrence of any two disorders".[26]

Ethnic group: "A group of individuals that identify, in a variable manner, with certain common characteristics (e.g. language, culture, race, religion, origins)".[21]

Francophone: Belonging to a population using French as its first language.[27]

Health disparity: A health disparity exists when a difference in the "incidence, prevalence, mortality, and burden of diseases and other adverse health conditions exists between specific population groups".[15]

Prevalence: “Calculated by dividing the number of individuals who have an attribute or disease at a particular point in time by the total population at the same point in time”.[28]

Major Depressive Episode (MDE): Individuals diagnosed with MDE experience a depressed mood or the loss of interest or pleasure for at least a two week period. Some symptoms may include: feeling sad or anxious, feelings of guilt, worthlessness and helplessness, difficulty eating or sleeping, irritability, and thoughts of suicide.[29]

Minority group: defined as "a group of people who, because of their physical or cultural characteristics, are singled out from the others in the society in which they live for differential and unequal treatment, and who therefore regard themselves as objects of collective discrimination”.[30]

Official language: Within Canada, there are two official languages, English and French, which are recognized in the laws of a country.[21]

Official language minority community: “Term in common use in the federal public administration to designate the Anglophone minority or the Francophone minorities in accordance with the Canadian Charter of Rights and Freedoms of 1982 and the Official Languages Act of 1988”.[21]

Panic disorder: Panic disorder is an anxiety disorder characterized by recurrent panic attacks and anticipatory anxiety. A panic attack may be defined as a sudden burst of severe anxiety that manifests itself through physical symptoms, such as increased heart beat, shortness of breath and dizziness. Anticipatory anxiety occurs when an individual experiences fear of having another panic attack.[22,23]

Risk factor: A factor that increases risk for an outcome.[31]

Social phobia: Social phobia is an anxiety disorder characterized by extreme and excessive fear of situations wherein the individual may be negatively judged or evaluated by others based on their appearance or behaviours, which is feared to lead to embarrassment and humiliation. The main characteristic of this disorder is having a consistent fear of social situations coupled with avoiding such situations.[22,23]

Socioeconomic status (SES): "a broad concept that refers to the placement of persons, families, households, and census tracts or other aggregates with respect to the capacity to consume goods that are valued in society".[33]

CHAPTER TWO: LITERATURE REVIEW

2.1 Official Language Minority Communities in Canada

Francophone populations outside of Quebec and Anglophone populations within Quebec are a part of OLMC because although they speak one of Canada's Official languages, the majority of the population within their geographical regions speaks the alternate official language. Overall, fewer than one in five Canadians converse in both English and French.[14] A report submitted to the Federal Minister of Health by the Consultative Committee for English-Speaking Minority Communities used Statistics Canada census data from 2001 to describe and compare the socioeconomic characteristics of OLMC in Canada.[14] The presence of OLMC in Canada varies from province to province. As seen in Table 2.1, there are relatively large proportions of OLMC in New Brunswick and Quebec, and a notable concentration in Ontario.[14] In contrast, there are smaller groups of OLMC in the territories and in Newfoundland. From the years 1996 to 2001, the size of OLMC's in Ontario, Alberta and British Columbia increased (3.1%, 12.0%, and 5.4%, respectively) while all other provinces and territories either experienced size reduction with Newfoundland (-7.5%), Manitoba (-6.8%), Saskatchewan (-.6%), and the Yukon (-20.4%) experiencing the greatest loss.[14]

Table 2.1. OLMC size and proportion in Canada by province*[14]

Province/Territory	OLMC Size (#)	Proportion of the population from an OLMC (%)
Newfoundland and Labrador	2,098	0.4
Prince Edward Island	5,275	4.0
Nova Scotia	33,768	3.8
New Brunswick	238,453	33.1
Quebec	918,955	12.9
Ontario	527,708	4.7
Manitoba	43,383	3.9
Saskatchewan	16,553	1.7
Alberta	58,823	2.0
British Columbia	59,373	1.5
Yukon	883	3.1
Northwest Territories	915	2.5
Nunavut	415	1.6

*Source: Consultative Committee for English-speaking minority communities. Building on the Foundations – Working Toward Better Health Outcomes and Improved Vitality of Quebec's English-speaking Communities: Compendium of demographic and health determinant information on Quebec's English Speaking communities. Quebec, 2007. Available at: http://www.chssn.org/Document/Government/Final-Compendium-v23.pdf.

2.1.1 Demographic and Socioeconomic Characteristics of OLMC in Canada

Overall, OLMC have more seniors (aged 65 and older) than their majority language counterparts with the highest percentage of seniors found in Saskatchewan (106% higher than

the majority), Prince Edward Island (76% higher), and Nunavut (790% higher) (see Table 2.2).[14] With respect to individuals who are both from an official language minority group and from a visible minority group, the highest proportions are observed in Quebec (20.9%), British Columbia (12.0%), and Ontario (7.9%) while the lowest rates are found in Prince Edward Island (0.3%), New Brunswick (0.5%), and Nova Scotia (1.8%) (see Table 3).[14] Varying prevalences of immigrants are found among OLMC with rates ranging from 1.1% in New Brunswick to 30.9% in Quebec (see Table 2.3). These findings indicate that Quebec is home to a quite diverse OLMC population with both the highest levels of visible minority and immigrant groups.

Several socioeconomic indicators were also compared: high school completion, unemployment, and low income rates.[14] Minority Francophones in New Brunswick, Prince Edward Island, Ontario, and Nova Scotia had higher prevalences of not completing high school compared to the majority population, while Quebec Anglophones, Francophones in Newfoundland/Labrador, and Francophones in the three territories have lower proportions of not completing high school. The unemployment rate within OLMC, overall, is 21% greater than the linguistic majority, though by province lower rates are found in the Saskatchewan, Alberta, Manitoba, and the three territories. It appears as though OLMC have similar rates of low income (annual salary less than $20,000) compared to language majority groups although low income is more common among linguistic minority groups in New Brunswick, Prince Edward Island, and Quebec. In terms of proportions of high income (annual salary more then $50,000), official language minority groups in all province and territories (with the exception of New Brunswick) are equal to or show higher rates of high income than their linguistic majority counterparts. Please refer to Table 2.4 for detailed information regarding comparative rates of socioeconomic indicators.

Table 2.2. Proportion of seniors among OLMC's compared to the majority linguistic population by province*[14]

Province/Territory	Proportion of seniors from OLMC†
Newfoundland and Labrador	31% higher
Prince Edward Island	76% higher
Nova Scotia	46% higher
New Brunswick	1% higher
Quebec	10% higher
Ontario	19% higher
Manitoba	56% higher
Saskatchewan	106% higher
Alberta	44% higher
British Columbia	34% higher
Yukon	31% lower
Northwest Territories	98% higher
Nunavut	790% higher

*Source: Consultative Committee for English-speaking minority communities. Building on the Foundations – Working Toward Better Health Outcomes and Improved Vitality of Quebec's English-speaking Communities: Compendium of demographic and health determinant information on Quebec's English Speaking communities. Quebec, 2007. Available at: http://www.chssn.org/Document/Government/Final-Compendium-v23.pdf.

† Compared to the Official Language Majority.

Table 2.3. Proportion of OLMC from a visible minority group or with immigrant status*[14]

Province/Territory	Visible Minority (%)	Immigrant Status (%)
Newfoundland and Labrador	3.0	10.2
Prince Edward Island	0.3	1.7
Nova Scotia	1.8	3.8
New Brunswick	0.5	1.1
Quebec	20.8	30.9
Ontario	7.9	11.6
Manitoba	2.1	4.2
Saskatchewan	2.1	4.0
Alberta	5.6	10.1
British Columbia	12.0	23.0
Yukon	3.4	13.0
Northwest Territories	3.0	5.7
Nunavut	2.4	4.9

*Source: Consultative Committee for English-speaking minority communities. Building on the Foundations – Working Toward Better Health Outcomes and Improved Vitality of Quebec's English-speaking Communities: Compendium of demographic and health determinant information on Quebec's English Speaking communities. Quebec, 2007. Available at: http://www.chssn.org/Document/Government/Final-Compendium-v23.pdf.

Table 2.4. Socioeconomic indicators of OLMC's compared to the majority linguistic population by province*[14]

Province/Territory	No High school diploma	Unemployment rate	Low income (< $20,000 annually)	High Income (+$50,000 annually)
Newfoundland/ Labrador	19% lower	24% lower	3% lower	86% higher
PEI	20% higher	Equal	6% higher	11% higher
Nova Scotia	7% higher	7% lower	1% lower	23% higher
New Brunswick	33% higher	25% higher	8% higher	34% lower
Quebec	18% lower	17% higher	2% higher	16% higher
Ontario	12% higher	4% higher	Equal	3% higher
Manitoba	1% higher	26% lower	6% lower	13% higher
Saskatchewan	3% higher	33% lower	6% lower	17% higher
Alberta	3% lower	16% lower	5% lower	7% higher
British Columbia	4% lower	9% higher	Equal	6% higher
Yukon	40% lower	11% lower	7% lower	Equal
Northwest Territories	38% lower	77% lower	36% lower	47% higher
Nunavut	68% lower	65% lower	68% lower	103% higher

*Source: Consultative Committee for English-speaking minority communities. Building on the Foundations – Working Toward Better Health Outcomes and Improved Vitality of Quebec's English-speaking Communities: Compendium of demographic and health determinant information on Quebec's English Speaking communities. Quebec, 2007. Available at: http://www.chssn.org/Document/Government/Final-Compendium-v23.pdf.
† Compared to Official Language Majority

2.1.2. Mental health problems within OLMC

Very few studies have addressed differences in mental health between minority and majority Francophones and Anglophones in Canada and those that have been conducted focus largely on descriptive information. In general, a lower proportion of Francophones outside Quebec reported having good, very good, or excellent health (86.7%) compared to Anglophones outside Quebec (88.7%), Anglophones within Quebec (89.9%), and Francophones within Quebec (90%).[14] Similarly, more Francophones outside Quebec reported having a chronic condition (72.4%) compared to all other minority/majority linguistic groups (68.1% to 69.4%).

Even less is known about differences in mental health between official language minority and majority groups. The little research that is available has mainly compared French- and English- speaking Canadians without examining minority or majority status. For example, Tempier and colleagues examined the 12-month prevalences for common mental disorders (MDE, Anxiety disorder, Alcohol/substance dependence) among Quebec Francophones, outside Quebec Francophones, and Canadian Anglophones (overall) using the CCHS 1.2.[24] Some significant variations were observed. With respect to presence of any mental health problem within the past 12-months, Canadian Anglophones had a significantly higher prevalence (10%) than outside Quebec Francophones (7.2%), but did not differ significantly from Quebec Francophones (8.7%). No differences were found in prevalences of MDE between groups. However, Anglophones reported a higher 12-month prevalence of anxiety disorders than Francophones outside Quebec (4.9% versus 2.8%) and higher prevalence of alcohol dependence (2.8%) when compared to both Francophones outside Quebec (1.1%) and Francophones within Quebec (1.7%). Prevalences of mental disorders did not significantly vary between

Francophones groups for any mental health problem. Although this study included both minority and majority Francophones groups, Anglophones were not stratified by minority/majority status.

Another study by Streiner et al. compared senior (55 and older) Francophones, Anglophones, and Allophones using the CCHS 1.2 and found that the prevalences for mental disorders decreased after age 55 for all language groups.[2] More male and female Francophones reported having a mood disorder within their lifetime compared to Anglophones. Among females, the lifetime prevalence of having an anxiety disorder was consistent between language groups. , though Francophone men had a lower lifetime prevalence than Anglophone men.

Based on the available research, it appears as some differences may exist in the prevalences of mental health problems between Francophones and Anglophones in Canada. However, no studies have compared rates of mental disorders between Francophones and Anglophones outside of Quebec, or Francophones and Anglophones within Quebec. Consequently, no firm conclusions can be made regarding the influence of minority-majority linguistic status on mental health problems in Canada.

2.1.3 Mental health service use within OLMC

Access to services in one's own language has been significantly associated with health care utilization.[8-10,32] It has been reported that Canadian Anglophones utilize health services more frequently than Francophones.[6] Indeed, gaining higher levels of access to health and social services in English and French is a key priority of OLMC across Canada.[14,35] Without access to care in one's own language, individuals from linguistic minorities are likely to face many difficulties within the health care system.[36] Despite such efforts to increase access to language congruent care, some research suggests lack of access to health care services in one's own

language may be translating into unmet health care needs among Canadians in linguistic minority situations.[14]

French- and English- speaking Canadians may use services differently dependent on whether or not they are a part of the minority or majority group. While very few studies have examined mental health service use among OLMC in Canada, more information is available with respect to health care service use, in general (see Table 2.5), based on Statistics Canada's Health Services Access Survey (2005).[14]

Table 2.5. Proportion of Canadian OLMC using health care services and experiencing difficulties receiving care*[14]

	Francophones outside Quebec	Anglophones outside Quebec	Anglophones within Quebec	Francophones within Quebec
Health care service utilized				
Any health care service	92.8%	96.1%	91.2%	93.4%
Hospital	31%	28.2%	26.4%	32.4%
Physician	61.3%	67.1%	59.5%	61.6%
Difficulties receiving care				
Specialist	24.3%	22.5%	28.7%	19.4%
Non-emergency surgery	28.4%	16.4%	19.6%	21.1%
Tests	14.6%	21.0%	31.3%	18.5%
Health Information	19.7%	14.9%	21.7%	16.6%
On-going care	15.5%	14.1%	20.8%	20.7%
Immediate care	16.3%	21.6%	26.7%	21.0%

*Source: Consultative Committee for English-speaking minority communities. Building on the Foundations – Working Toward Better Health Outcomes and Improved Vitality of Quebec's English-speaking Communities: Compendium of demographic and health determinant information on Quebec's English Speaking communities. Quebec, 2007. Available at: http://www.chssn.org/Document/Government/Final-Compendium-v23.pdf.

Fewer Anglophones in Quebec reported receiving any health care within the past 12-months compared to outside Quebec Anglophones (91.2% versus 96.1%). A small variation was found between Quebec Francophones (93.4%) and outside Quebec Francophones (92.8%) with respect to past year use of any health care services. Quebec Anglophones and outside Quebec Francophones had lower prevalences than Quebec Francophones and outside Quebec Anglophones of having a regular doctor, accessing health care services from a hospital, receiving care from a physician, and getting a medical test. Both minority Anglophones and Francophones experienced more difficulties in receiving health information than majority Francophones and Anglophones. No difference was found between minority to majority Francophones and Anglophones within Quebec or outside of Quebec for having experienced difficulties in receiving on-going health care. With respect to experiencing difficulties receiving immediate care, Quebec Anglophones were most likely to experience difficulties, whereas Francophones outside Quebec were least likely to experience difficulties.

In terms of service use for mental health reasons, a recent study examined lifetime and 12-month utilization rates among Francophones within and outside of Quebec with mental disorders using the CCHS 1.2.[37] The results indicated that no statistically significant differences exist in service use between majority and minority Francophones. Among respondents with an anxiety disorder or a MDE, 62.0% of Francophones outside of Quebec versus 56.1% of Francophones within Quebec did not use any mental health services (family practitioner, psychiatrist, psychologist, social worker, nurse, psychotherapist, counsellor) within the past 12-months, whereas 38.9% and 36.8% of outside of Quebec and within Quebec Francophones, respectively, did not access any mental health services within their lifetime. Rates of service use appeared to be quite similar between minority and majority Francophones in Canada within

mutually exclusive categories: lifetime rates of 'family practitioner only' were 11.6% and 12.9%, consultation with a 'mental health professional and a psychiatrist only' were 18.1% and 20.8%, and use of a 'family practitioner and a mental health professional only' were 30.2% and 28.8% for outside Quebec and within Quebec Francophones, respectively. While only small variations in mental health service use exist between minority and majority Francophones in Canada, Tempier et al. did not compare Francophone minorities to their respective Anglophone majorities outside of Quebec or Francophone majorities to their respective Anglophone minorities within Quebec.[37] Therefore, it is unclear whether differences in mental health service use exist between Francophones and Anglophones in minority and majority settings.

Very few research studies have examined service utilization for mental health problems among these linguistic groups. A recent study by Kirmayer et al. compared mental health service utilization among different ethnocultural groups in Montreal, Quebec: Anglo-Caribbean, Vietnamese and Filipino immigrants, Francophone Canadian born residents, and Anglophone Canadian born residents.[6] Anglophones in Montreal had a higher past year prevalence of mental health service use (psychiatrist, social worker, mental health professional, other professional) (12.5%, n = 44) compared to Francophones (11.1%, n = 60). The results from this study suggest that minority Anglophones may use mental health services more than majority Francophones, though it is important to note this finding is limited to Montreal wherein mental health services in English may be more available than in other Quebec areas (i.e., rural, smaller cities).

Based on the results from the aforementioned studies,[6,37] it remains unclear whether or not differences exist in mental health service use; therefore, certainly more research is required to ascertain any variations in mental health service use among minority and majority Francophones and Anglophones in Canada.

2.2 Mental health problems

The following section describes the mental health problems examined by the current study: Major Depressive Episode (MDE), anxiety disorders (social phobia, panic disorder, agoraphobia), and alcohol/substance dependence (ASD). Each section will provide a description of the mental disorder, the prevalence of the disorder worldwide and within Canada, as well as an examination of prevalences among minority groups and linguistic groups, where possible. No research to date has examined mental illness among Francophone and Anglophone minority groups in Canada. Therefore, for the purposes of this study, the prevalence of mental illnesses will be examined mainly among minority groups in addition to any available studies examining mental illness among linguistic minorities. However, though in many cases minority status certainly may serve as a proxy for linguistic status, it is important to note that not all individuals within a minority group are within the linguistic minority. Nevertheless, the experience of minority groups may provide the foundation for better understanding mental health problems within official language minorities.

2.2.1 Major Depressive Episode

Individuals diagnosed with MDE experience a depressed mood or the loss of interest or pleasure for at least a two week period.[38] Some core symptoms include: having a depressed mood, weight loss/gain, insomnia or hypersomnia, fatigue, feelings of guilt, worthlessness and helplessness, irritability, and preoccupation with death or dying (please see Appendix A for the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (Text Revision) (DSM-IV-TR) criteria for MDE). Individuals with MDE experience difficulties in many areas of life contributing to high levels of impairment and disability.

2.2.1.1 Prevalences

Patten and colleagues recently used the CCHS 1.2 to assess the prevalence of MDE within Canada.[41] The 12-month prevalence of MDE was 4.8%, the lifetime prevalence was 12.2%, and the 30-day prevalence was 1.8%. These rates are consistent with other studies which have investigated MDE in Canada.[42,43] Many demographic variables are associated with diagnosis of MDE.[2,42,43] Consistent sex differences are observed with females having higher annual rates of MDE (5.0%) than males (2.9%). In general, younger age groups (15 to 45) have higher annual rates of MDE (4.5% to 5.0%) than older age groups (45 and older) (1.9% to 3.7%). Individuals who are divorced or separated, from a low socioeconomic background, and who have recently immigrated are also at an increased risk. The high prevalence of MDE in Canada has significant implications with regards to health care costs. Stephens and Joubert addressed this issue by examining both the direct and indirect costs associated with mood disorders in Canada.[45] Direct costs associated with the treatment of diagnosed depression (including medications, physicians, hospitals and other institutions) totalled approximately 6.2 billion dollars annually. Indirect costs, which included loss of paid and unpaid work, totalled 96.7 million dollars.

2.2.1.2 Depression among minority groups

Very few studies have examined mental health among linguistic minorities. One such study investigated differences in MDE between Latinos and Asian Americans in the United States within a clinical setting who were either proficient in English or had limited proficiency.[46] The rates of MDE were significantly lower among both Latinos and Asian Americans who were proficient in English compared to those who had limited proficiency. These results reflect the findings of another similar investigation in which rates of MDE were lower for Caucasians when

compared to both English and Spanish speaking Latino's; moreover, Spanish-speaking Latino's had higher rates of MDE when compared to their English-speaking counterparts.[47] However, not all studies confirm that English-proficiency is associated with lower rates of depression. For example, Alegria and colleagues examined the prevalence of common mental disorders among Latinos (Puerto Rican, Cuban, and Mexican) in the United States using the National Latino and Asian American Study.[48] The results indicate that Latinos with excellent to good English-language proficiency were 2.28 times more likely to suffer from depression for males and 1.08 times more likely for females than Latinos with poor to fair English skills.

While it remains inconclusive whether or not individuals within linguistic minorities are at an increased risk of MDE, a significant body of literature has examined MDE among minority groups, in general. For example, a recent report using findings from the National Comorbity Survey indicates that the 12-month prevalence of MDE was 8.2% and 9.9% for Black and White groups, respectively.[29] Lifetime MDE prevalences also reflected this pattern: 11.6% for the Black population compared to 17.7% for the White population. The report also compared rates of MDE among Chinese Americans and a national sample of American adults. Both 12-month and lifetime prevalences of MDE were lower for Chinese Americans (3.4% for 12-month and 6.9% for lifetime) when compared to the national sample (10% for 12-month and 16.9% for lifetime).

Findings from the Epidemiological Catchment Area Study have also been used to compare the prevalence of MDE among ethnic groups. This study was conducted in collaboration with the National Institute for Mental Health from 1980 to 1985 in the United States.[49] The purpose of the study was to collect data on the prevalence and incidence of mental disorders based on the DSM-III in addition to gathering information on the use of mental health

services. Results indicated that the one year prevalence of MDE was quite similar between ethnic groups: 2.8% for white groups, 2.2% for black groups, and 3.3% for Hispanic groups.

2.2.2 Anxiety Disorders

Social phobia. Social phobia is characterized by extreme and excessive fear of situations wherein the individual may be negatively judged or evaluated by others based on their appearance or behaviours, which is feared to lead to embarrassment and humiliation.[22,38] The main feature of this disorder is having constant fear and apprehension of social situations in combination with avoiding such situations. Some examples of social situations that are often avoided include speaking in public, engaging in tasks that people observe, and social interactions with other people.[22] The extent to which an individual suffers from social phobia varies greatly with some individuals: some individuals fear only a few specific situations, while others fear a majority to all social situations. Those who fear a majority of social situations experience great impairment in many areas of life, including developing and keeping relationships, completing everyday task (i.e., grocery shopping, maintaining household, walking the dog), employment, and attending school.[38] See Appendix A for the DSM-IV-TR criteria for social phobia.

Panic disorder. Panic disorder is characterized by recurrent panic attacks and anticipatory anxiety.[22,38] A panic attack may be defined as a sudden burst of severe anxiety that manifests itself through physical symptoms, such as increased heart beat, shortness of breath, and dizziness.[22] At first such panic attacks are largely unexpected, although they may be triggered by certain situations as the illness progresses.[38] Anticipatory anxiety occurs when an individual experiences fear of having another panic attack and, as a result, individuals with panic disorder may also develop agoraphobia in that they try to avoid situations that are thought to cause panic attacks.[22] Therefore, individuals are diagnosed with panic disorder with or without agoraphobia.

However, the CCHS 1.2 does not differentiate between panic disorder diagnosed with or without agoraphobia. See Appendix A for the DSM-IV-TR criteria for panic disorder.

Agoraphobia. Agoraphobia may be diagnosed with or without a history of panic attacks.[22] For individuals without a history of panic attacks, agoraphobia is characterized by the fear and subsequent avoidance of situations in which they may be alone or outside their own "safety zone" (i.e., travelling, driving, leaving one's own home). For individuals with a history of panic attacks, agoraphobia manifests itself through the avoidance of situations in which a panic attack may occur and where escape from the situation may be embarrassing or physically impossible (i.e., restaurant, school, grocery store, social party, elevator). The longer an individual has agoraphobia, the more situations they try to avoid leading to greater severity and impairment. Refer to Appendix A for the DSM-IV-TR criteria for agoraphobia.

2.2.2.1 Prevalences

The worldwide lifetime prevalence of anxiety disorders has been estimated at 16.6%.[52] Within Canada, Rush et al. used the CCHS 1.2 data to assess 12-month prevalences of anxiety disorders.[53] Results indicate that 0.7%, 1.5% and 3.0% of the Canadian population aged 15 and over have agoraphobia, panic disorder, and social phobia, respectively. Taken collectively, the 12-month prevalence of having at least one of the three aforementioned disorders has been estimated at 4.6% using the CCHS 1.2.[42] Age and sex differences are observed in prevalences.[2] Generally, women and younger age groups have higher rates of anxiety disorders.

The costs associated with anxiety have been shown to be higher than all other mental disorders within the United States.[45,54] Far less is known about the costs of anxiety within Canada.[55] Therefore, using the United States as a reference, Koerner and colleagues determined the costs associated with anxiety disorders totalled approximately $1,542 USD per individual

sufferer. In total, anxiety disorders cost the United States $47 billion USD per year. With respect to indirect costs, an average of two days of reduced activity during a two week period was experienced by those with anxiety symptoms.

2.2.2.2 Anxiety among minority groups

Very few studies have examined anxiety among linguistic minority groups. Alegria and colleagues demonstrated that Latinos who had excellent to good English-language proficiency were 1.65 times more likely to suffer from anxiety for males and 1.20 times more likely for females than male and female Latinos who spoke poor to fair English.[48] More studies have examined the prevalence and risk for anxiety disorders among minority groups, in general. Data from the NCS indicated the 12-month and lifetime prevalences of any anxiety disorder (including agoraphobia, generalized anxiety disorder, panic disorder, social phobia, simple phobia, and post-traumatic stress disorder) was 21.4% and 28.4% among Hispanic Americans compared to 18.9% and 29.1% among non-Hispanic white Americans.[56] Lifetime rates of panic disorder were higher among Hispanics (5.4%) versus non-Hispanic whites (4.9%), though the difference was not statistically significant.[57] Rates of agoraphobia without panic disorder are similar among Hispanics (2.7%) compared to non-Hispanic whites (2.4%). In contrast, non-Hispanic whites report significantly higher lifetime rates of social phobia (12.6%) compared to their Hispanic counterparts (8.8%). Finding from the ECA study indicate that the lifetime prevalence of panic disorder was higher among white groups (2.17%) compared to black (1.93%) and Hispanic groups (1.31%).[49] However, lifetime rates of agoraphobia and social phobia were highest among black groups (12% and 4.66%) versus white (7.38% and 2.65%) and Hispanic groups (7.74% and 3.21%). In sum, it appears that each minority groups is at a varying level of risk for each anxiety disorder and rates appear to be quite variable across studies.

2.2.3 Alcohol/Substance Dependence

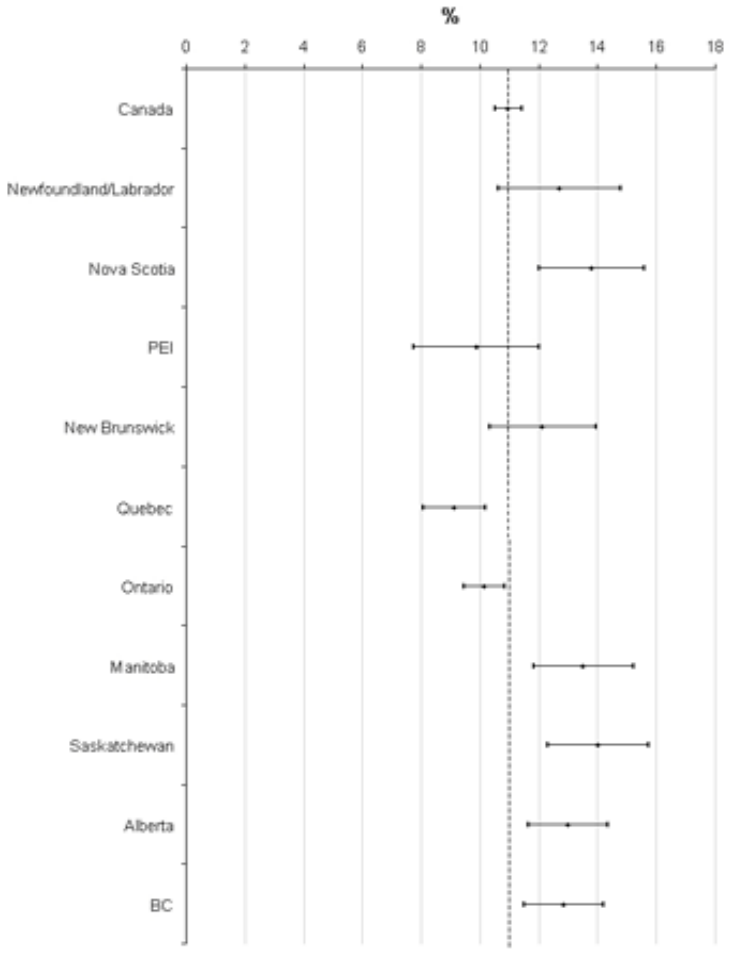
Individuals who are diagnosed with alcohol/substance dependence (ASD) experience significant problems related to their alcohol/substance consumption habits which lead to tolerance, withdrawal, and compulsive alcohol/substance use.[24] The individual has many issues within interpersonal, legal, and psychosocial domains, and has little control or ability to stop using alcohol or drugs. See Appendix A for the DSM-IV-TR criteria for ASD.

2.2.3.1 Prevalences

Lifetime prevalences of ASD vary dramatically from country to country from 1.3% in Italy to 15% in Ukraine.[58] Veldhuizen and colleagues estimated the 12-month prevalence of ASD within Canada of 11.0% using the CCHS 1.2.[59] Variations have been observed in 12-month rates of ASD between the various Canadian provinces with the lowest prevalence found in Ontario and Quebec and the highest found in Nova Scotia, Manitoba, Saskatchewan, Alberta, and British Columbia (59) (see Figure 2.1). Age and sex differences are observed in prevalences.[59,60] Generally, males and younger age groups have higher rates of ASD disorders.

The relatively high prevalence of ASD within Canada translates into high health and economic costs. In 2002, there were 4,258 net deaths caused by alcohol use and 1,695 caused by use of illegal drugs.[61] During this year, the economic costs associated with substance dependence morbidity and mortality totalled nearly $40 billion dollars translating into $1,267 per capita.

Figure 2.1. 12-month prevalence of ASD by province with 95%CI*[59]



*Source: Veldhuizen S, Urbanoski K, Cairney J. Geographical variation in the prevalence of problematic substance abuse in Canada. Canadian Journal of Psychiatry. 2007;52(7):426 – 433.

2.2.3.2 Alcohol/Substance dependence among minority groups

A comparison of Caucasians, English-speaking Latinos, and Spanish-speaking Latinos who received mental health care revealed lower rates of substance use for Spanish-speaking Latinos (13.0%) than both Caucasians (42.4%) and English-speaking Latinos (43.3%).[47] However, no significant difference was observed between Caucasians and English-speaking Latinos. This finding is supported by a study which demonstrated that Latinos who had good to

excellent English-proficiency were 2.17 times more likely to have a substance use disorder than Latinos who spoke poor to fair English.[48]

The fact that individuals who had limited English-proficiency fared better with respect to substance use may point to the influence of cultural differences in determining mental health.[62] Varying cultures may have different norms regarding the consumption of alcohol and drugs. Therefore, it may be the case that individuals within the linguistic minority also differ substantially from the majority due to cultural differences. This is supported by research comparing minority and majority groups, in general, which consistently demonstrates that while white populations in the United States have higher rates of alcohol consumption, African and Indian American's have more alcohol abuse and dependence problems.[23,50] The prevalence of alcohol abuse are reportedly higher for US-born Mexican Americans when compared to Mexican-born immigrants. In terms of substance abuse and dependence, the highest rates are observed among American Indians followed by Whites then Hispanics with the lowest drug problems found within African and Asian Americans.[23] Lifetime prevalences are quite similar between Hispanic Americans and non-Hispanic White Americans. Data from the NCS indicates no statistically significant differences, though prevalences are slightly higher among Hispanic Americans.[57] Rates of alcohol abuse or dependence are 15.0% for Hispanics and 13.4% for non-Hispanic whites, while lower rates are observed for drug abuse or dependence (9.1% for Hispanics versus 7.9% for non-Hispanics). The ECA study indicated the lifetime rates of alcohol dependence at 4.52% for white groups, 3.85% for Hispanics, and 5.47% for black groups.[49] With respect to drug dependence, the ECA study found that the white population had the highest lifetime rates (6.35%) compared to black groups (5.46%) and Hispanics (4.36%).

While it may appear that ethnicity may strongly influence the occurrence of such ASD, many underlying factors may actually account for these differences.[23] For instance, SES may play an important role in determining ASD in that those who have low income are less able to purchase drugs and alcohol. In addition, there are many culturally determined norms regarding the use of alcohol and drugs. Therefore, one must proceed with caution when interpreting such findings.

2.2.4 Comorbid mental health problems

Comorbidity refers to the "co-occurrence of any two psychiatric disorders".[26] It is quite common for disorders to co-occur, which is particularly alarming as the disability experienced by the individual is significantly heightened when having more than one disorder.[22] The 12-month prevalence of MDE with an anxiety disorder (panic disorder, agoraphobia, and social phobia) within Canada is 2.1%.[42] Moffitt and colleagues examined the close association between anxiety disorders and major depressive disorder in order to determine the sequence of diagnosis. That is, whether anxiety or depression develops first in comorbid cases.[67] A prospective longitudinal cohort study took place in New Zealand beginning in 1972 to 1973 and followed participants up to age 32 with a 96% retention rate. The results indicate that anxiety began before or concurrently in 37% of depression cases, but depression began before or concurrently in 32% of anxiety cases. Approximately 72% of lifetime anxiety cases had depression in their history, while 48% of lifetime depression cases had a history of anxiety. Within their adulthood, 12% of the participants had comorbid anxiety and depression. Of those within the comorbid group, one third had a depression diagnosis first, one third had anxiety first, and depression and anxiety onset began concurrently for those remaining.

Some scholars have cited alcohol dependence and drug dependence as the most common comorbid disorders with the risk of having each of the disorders increasing by 6 to 13 times when the other is present.[26] MDE and ASD disorders also commonly co-exist.[26,60] The 12-month prevalence of Major Depressive Disorder among those with diagnosed with ASD is estimated to be 8.8% for alcohol use, and 16.1% for drug dependence,[60] while the prevalence among individuals with a 12-month diagnosis of Major Depressive disorder who had received a diagnosis of alcohol use/dependence or substance dependence was 5.8% for alcohol dependence, and 3.2% for drug dependence. Similarly, anxiety disorders may also be co-morbid with ASD disorders.[26] A recent study using CCHS 1.2 data indicates that among those who were diagnosed with agoraphobia, social phobia, or panic disorder, 21.2% have a co-existing substance use problem.[53] Conversely, among those who have been diagnosed with a substance abuse or dependence disorder, 9.0% will also receive an anxiety disorder diagnosis. Overall, the 12-month prevalence of substance use problems among those with any mood or anxiety disorder in Canada is 20.7%, while the 12-month prevalence of any mood or anxiety disorder among those with an ASD is 15.9%.[53]

2.3 Social Determinants of Mental health

Health and illness have traditionally been largely understood through the biomedical model which explains disease as pathology within the body.[68] However, within the past several decades this has changed to a more holistic conception of health which considers a broad array of factors, such as psychological, social and environmental factors.[32] A 1974 report by Marc Lalonde prompted health care professionals and researchers to take into account such factors thought to determine health, coined the "determinants of health".[69] These factors included both

the traditional medical determinants in addition to new factors: human biology, environment, lifestyle, and health care organization.

Within Canada, the development of the determinants of health framework emerged following the Lalonde report between the years 1974 and 1996.[70] As a result, in the year 1996, the Public Health Agency of Canada (PHAC) expanded the four original determinants proposed by Lalonde into twelve determinants: 1) Income and social status, 2) Social support networks, 3) Education and literacy, 4) Employment and working conditions, 5) Social environments, 6) Physical environments, 7) Personal health practices and coping skills, 8) Healthy child development, 9) Biology and genetic endowment, 10) Health services, 11) Gender, and 12) Culture.[8-10] Health outcomes are now understood as a result of complex interactions between health determinants and it is the compounded impact of multiple factors that determine an individual's health status.

The determinants of health model proposed by PHAC guided the current investigation regarding the factors that determine an individual's mental health. The following sections provide further details with respect to how the specific determinants of health addressed by the proposed study contribute to an individual's mental health.

2.1.3 Income

Income has been identified as one of the most important determinants of health.[32] An individual's health is found to improve with each level upward in income and social status level.[71] Among Canadians, 47% of individuals within the lowest income bracket self-report their health as very good or excellent versus 73% of individuals within in the highest income bracket. Mental health disparities are consistently found between low-income and high-income groups with low-income populations having a higher risk of mental illness.[41,44,51,71-73] In fact, some

research suggests that income inequality is more closely related to mental illness than general health problems.[71] A dose-response relationship has been observed for 12-month rates of MDE with the prevalences for lowest, lower middle, middle, upper middle, and highest income brackets at 8.3%, 5.3%, 4.2%, 3.7& and 3.2%, respectively, demonstrating a decrease in prevalence as income increases.[41] The odds of a low-income individual (annual income less than $20,000) being diagnosed within their lifetime is 1.7 times higher than that of a high-income individual (income greater than $70,000).[72] The association between low income and mental health problems is argued to be stronger among minority groups than the majority, possibly due to discrimination, segregation, racism, and lower access to health care services.[74]

2.3.2 Social Support Networks

Social support from family and friends is related to positive health outcomes.[8-10,32,75] Increased levels of social support have been negatively related to rates of anxiety and depression.[75] Moreover, a high sense of community belonging has been associated with low rates of suicidality among Canadians.[4] Therefore, having social support structures in one's life appears to act a protective factor for many negative health outcomes.

2.3.3 Education and Literacy

Health status increases as education levels increase perhaps due to the fact that education is closely linked to SES.[8-10,32] Individuals with high levels of education have increased opportunities for jobs leading to greater income security in addition to more chances for community involvement.[32] As well, it has been suggested that individuals with higher levels of education are more able to access information designed to promote health. Approximately 19% of individuals with less than a high school education rated their health as "excellent" compared to 30% of individuals with a university education.[8]

2.3.4 Employment and Working Conditions

Individuals who are unemployed, underemployed, or experience high levels of work stress or job strain are at an increased risk for poor health.[8-10,32] Unemployment and underemployment are directly related to income, perhaps one of the most important determinants of health[32]; therefore, it is not surprising that such factors play a large role in influencing health statuses. A recent meta-analysis examined the influence of unemployment on mental health.[76] Unemployed individuals reported significantly higher levels of distress, depression, anxiety, and psychosomatic symptoms, while employed individuals reported higher levels of subjective well-being and self-esteem. Moreover, 34% of unemployed individuals reported psychological problems compared to 16% of their employed counterparts.

2.3.5 Personal Health Practices and Coping Skills

Personal behaviours, lifestyle choices, and coping patterns greatly influence an individual's health, either positively or negatively.[8-10,32] Health practices which have been shown to reduce an individual's health status include: substance abuse and addiction, diet and nutrition practices, lack of physical activity, and poor sexual health.[8,32]

2.3.6 Health Services

Access to health care services is particularly important in preventing and treating illness in addition to promoting positive health. While universal health care exists in Canada, there are many low income Canadian residents that may not be able to afford specialized mental health care and prescription drugs.[9] Steele et al. recently examined whether or not socioeconomic disparities in mental health care use exist despite universal health coverage in Canada.[77] The authors examined outpatient billing claims and neighbourhood socioeconomic status within Toronto, Ontario with 1,221 neighbourhood areas surveyed totalling 746,141 residents. Though

no differences were found between neighbourhoods with low and high socioeconomic statuses in terms of family practitioner usage, individuals from neighbourhoods with the highest socioeconomic status were 1.6 times more likely then those from neighbourhoods with the lowest socioeconomic status to use psychiatric care. Therefore, despite unlimited coverage of physician-provided mental health care, inequities remain in terms of access to other forms of mental health services.

Many individuals may not seek mental health care due to barriers in availability.[78] Of individuals with a perceived need for mental health care, 40% experienced barriers in accessing services. For instance, individuals who live in rural areas may be less able to access mental health services. Barriers in acceptability may also impede individuals from seeking care, particularly for mental health services, due to the negative stigma attached to mental illness.[79,80]

2.3.7 Gender

Gender refers to "the array of socially determined roles, personality traits, attitudes, behaviours, values, relative power and influence that society ascribes to the two sexes on a differential basis".[8] Both biological and social differences between males are females create disparities in health statuses between genders.[32] Women generally live longer than their male counterparts; however, they are much more likely to suffer from many mental health problems.[9] Past year prevalence of psychiatric disorders, overall, (MDE, anxiety disorders and alcohol/substance dependence) are significantly higher for women (17.4%) compared to men (13.5%).[78] More specifically, women are significantly more likely to suffer from anxiety disorders with the one year prevalence resting at 16.4% for females compared to 8.9% for males. Females are also more likely to suffer from MDE within the past year (6.9%) than males (3.6%).

However, the prevalence of alcohol dependence is higher among males (5.42%) than females (2.32%).[81]

2.3.8 Culture

Culture is understood to influence engagement in health behaviours, perceptions of health and illness, use of health services and treatment practices.[82] Individuals from certain cultural backgrounds may be at an increased risk for poor health outcomes possibly due to differences in SES in addition to marginalization, stigmatization, loss of language and culture, and lack of access to culturally appropriate health care and services.[8-10] Research examining mental health among ethnic minority groups shows varying levels of risk dependent on the ethnic group being examined. For instance, the highest rates of substance abuse and dependence are observed among American Indians followed by Whites, then Hispanics.[23] Twelve month and lifetime prevalences of any anxiety disorder (including agoraphobia, generalized anxiety disorder, panic disorder, social phobia, simple phobia, and post-traumatic stress disorder) was 21.4% and 28.4% among Hispanic Americans versus to 18.9% and 29.1% among non-Hispanic white Americans.[56] In terms of MDE, 12-months prevalence of MDE was 8.2% and 9.9% for Black and White groups, respectively.

2.4 Mental health service utilization for mental disorders

Research indicates that a majority of individuals with mental disorders do not access mental health services. [42,83,86] A recent study by Wang and colleagues examined the utilization of mental health services by individuals with mental illnesses in 17 countries using the WHO World Mental Health Survey.[83] The prevalences were quite low ranging from 11.0% to 60.9%, 10.3% to 39.9%, and 1.7% to 26.2% for those with severe, moderate, and mild mental disorders, respectively. Using the CCHS 1.2 in Canada, the 12-month prevalence of "any type of service

use" (general practitioner, a speciality mental health professional, other professional, or a voluntary network) was 9.5%.[86] However, rates varied provincially from 7.5% in Prince Edward Island to 11.3% in British Columbia and Nova Scotia (see Table 2.6). Across all provinces, the general medical system was the most often utilized mental health service at 5.4%.

Table 2.6. 12-month prevalence of any type of service use for mental health reasons*[86]

Province	Any type of service use (%)
Newfoundland	6.7
Prince Edward Island	7.5
Nova Scotia	11.3
New Brunswick	9.5
Quebec	9.6
Ontario	8.7
Manitoba	10.5
Saskatchewan	9.8
Alberta	9.7
British Columbia	11.3

*Source: Vasiliadis H-M, Lesage A, Adair C, Boyer R. Service use for mental health reasons: cross-provincial differences in rates, determinants, and equity of access. Canadian Journal of Psychiatry. 2005;50(10): 614 – 619.

Another recent study, which used CCHS 1.2 data, indicated that of Canadians with a diagnosis of MDE or an anxiety disorder, 12.4% consulted a family physician only, 14.6% consulted a family physician in combination with another health professional, and 8.4% consulted another health professional excluding a family physician.[42] Overall, among Canadians with a mental illness, 64.6% of such individuals did not seek any mental health care.[42] Based on this evidence, it is clear that a majority of individuals with mental disorders do not access mental health services.

2.4.1 Mental Health Service use among Minority Groups

Varying patterns of service use are observed between individuals who are proficient in English versus those who have limited proficiency. For example, the point of first contact with public mental health services by mentally ill Latinos and Asians with either English proficiency or limited proficiency within the United States was compared using data from the Management Information System of San Diego County Adult and Older Mental Health Services.[46] No significant differences were observed in inpatient service use at the first point of contact between Latino language groups (13% versus 11%) and Asian language groups (9% versus 7%). However, differences were found for emergency and outpatient service use as the first point of contact. Specifically, Latino's with limited English proficiency were less likely to contact emergency (28% versus 39%) and more likely to contact outpatient care (61% versus 48%). Similarly, Asian American's with limited English proficiency were less likely to contact emergency (33% versus 46%) and more likely to contact outpatient care (60% versus 45%). These findings have been replicated in other studies.[47,90]

These findings indicate that the types of point of first contact services accessed for mental health reasons may vary substantially based on the degree to which an individual can converse in the areas dominant language. Similar findings have been demonstrated among visible minority groups, in general. Ojeda & McGuire found that most minority groups with major depression had significantly lower odds of using mental health and substance use services when compared to the majority, white group with odds ratios ranging from 0.38 and 0.26 for African American women and men, respectively, to 0.41 and 0.53 for Latino women and men compared to white groups, respectively.[90] Indeed, it has been suggested that differences in health care service use between minority and majority groups are greatest for mental health care.[23]

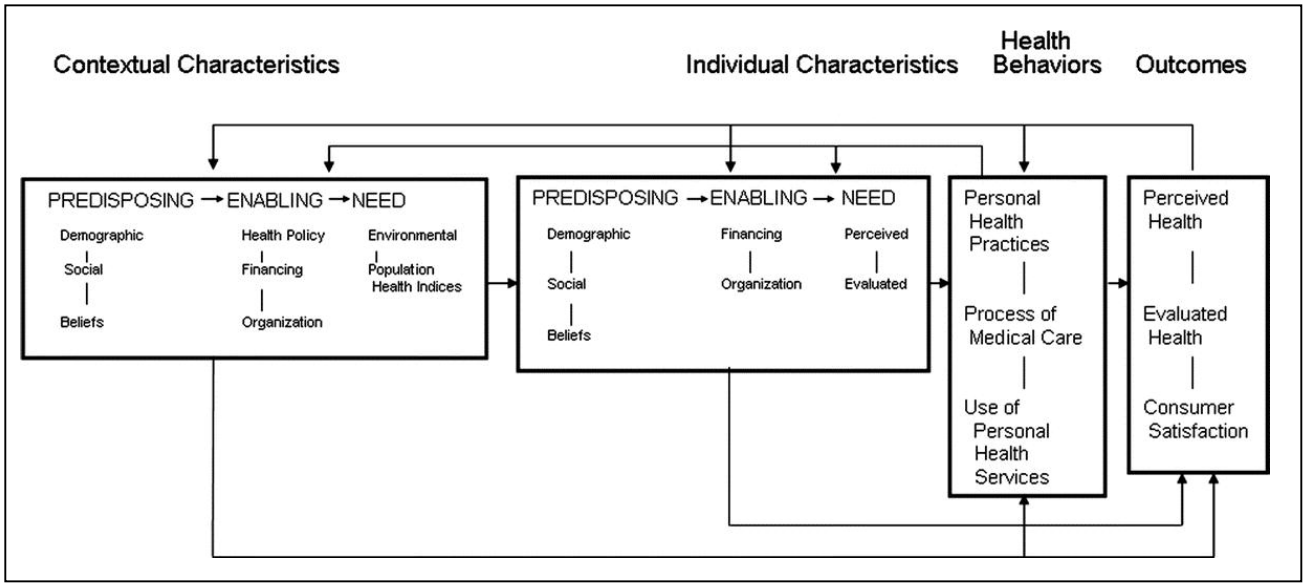
Not only do minority groups appear to utilize mental health service at lower rates, but the types of services accessed also differ from the majority. For instance, African Americans and Latinos in America are more likely to receive mental health care from a general practitioner, while white populations are significantly more likely to seek care from a psychiatrist or psychologist.[23] In another recent study conducted in Canada, ethnic differences in mental health service use among White, Chinese, South Asian and South East Asian populations were examined.[91] The authors examined the 12-month prevalence of mental health service use using data from the CCHS 1.2. Ethnicity was a strong predictor of mental health service use; specifically, white individuals used services more than Chinese, South Asian, and South East Asian respondents. In addition, Chinese respondents used fewer services than both South Asian and South East Asian sub groups. Therefore, it appears as though members of minority groups may be at risk for underutilizing mental health care services and, moreover, service use rates are quite variable between minority groups.

2.5 Andersen's behavioural model of service use

Andersen developed the behavioural model in order to explain patterns of health service utilization in 1968.[11,13] The behavioural model is the most commonly used framework for investigating the determinants of health service use in population health and epidemiology.[23] The Behavioural Model has changed over time with five phases of revisions to the model taking place from the 1960s to the present.[11,13] Changes to the model occurred in order to reflect changing issues in health care policy and delivery and were mainly additions to the previous models. Therefore, the most recent model includes the fundamental aspects of the models from phases 1 to 4 (see Figure 2.2). The current study will use the most recent behavioural model to

help identify the factors that determine mental health service use among Francophone and Anglophones in minority and majority settings.

Figure 2.2. Andersen's Behavioural Model: Phase 5*[11]



*Source: Andersen RM. National health surveys and the behavioural model of health services use. Med Care. 2008;46(7): 647- 653.

The current model posits that individual's use of health services is determined by predisposing, enabling, and need factors.[11] Predisposing factors are those characteristics of the individual which increase or decrease the odds of an individual seeking health care (i.e., age, sex, ethnicity).[23] Enabling factors are those related to resources which can act inhibit or facilitate access to health care services (i.e., income, health insurance, accessibility and availability of services). Need factors are those which increase the perceived need for care (i.e., onset of illness/disorder, symptoms, stress, distress). This model emphasises the importance of both contextual and individual factors in determining the use of health services.[11] Therefore, predisposing, enabling, and need factors are broken into contextual and individual

characteristics. In addition, the process of Med Care is included as a type of health behaviour. Perceived health, evaluated health, and consumer satisfaction are outcomes that are a result of the predisposing, enabling, and factors in addition to health behaviours. These outcomes also influence the other factors within the model. The next sections highlight the predisposing, enabling/impeding, and need factors that are examined in the current study and how such factors have been shown to influence mental health service utilization.

2.5.1 Predisposing Factors

Age. Older age groups tend to utilize mental health services at significantly lower rates than younger age groups.[78,92-94] Levels of service use tend to increase from the age groups 12 -19 to 20 - 49 then decrease from 49 - 65 and older.[78] More specifically, 8.8%, 16.3%, 24.2%, 26.9%, 17.8% and 6.0% of 12 to 19, 20 to 29, 30 to 39, 40 to 49, 50 to 64, and 65+ years olds utilized mental health services within the past year, respectively.

Sex. Females have been shown to utilize mental health care services at higher rates than males across many studies.[92,95,96] Females are 1.65 to 2.56 times more likely to access services for mental health reasons than males.[78,86,97]

Marital status. Research regarding the use of services by varying marital statuses is somewhat inconsistent. While individuals who are married have been shown to be more likely to seek mental health care (42%) compared to individuals who are widowed, divorced or separated (18.8%) and those who were never married (29.7%),[78] other studies have shown an increased odds of seeking professional help or perceiving a need for help among divorced, separated, or widowed individuals.[92,97]

Education. Individuals with lower levels of education are less likely to access mental health care services.[78,94,98] Steele and colleagues found that with each higher level of education,

Canadians were 15% more likely to consult a psychiatrist, 12% more likely to consult a family doctor, 16% more likely to consult a psychologist, and 16% more likely to consult a social worker.[99]

Ethnicity and immigrant status. Individuals from an ethnic minority and immigrants are both less likely to access mental health services. [78,96,98] Specifically, white populations are 3 times more likely to use any type of mental health service, 3 times more likely to see a family physician, and 1.7 times more likely to see a psychiatrist when compared to all other ethnicities.[98]

Rural versus urban residence. Individuals who live in rural areas may experience difficulties accessing mental health care as fewer services are available in such regions. Consequently, rural populations experience disparities in health service utilization compared to their urban counterparts.[32,98,100] The odds of experiencing accessibility and availability barriers are 1.14 and 1.75 times higher among rural populations, respectively, when compared to an urban sample.[100]

Employment. Research indicates that individuals who are unemployed access mental health services at higher rates than employed individuals.[96] Among recurrent users of psychiatric emergency, 25.6% were employed in contrast to 74.4% unemployed. Indeed, the risk of utilizing services at high rates is 1.2 times higher among unemployed populations.[96]

2.5.2 Enabling/Impeding Factors

Income High income populations seek mental health care more frequently than lower income populations.[92,98,100] While differences do not exist in rates of seeking care from family physicians between high and low income groups, individuals with higher incomes are 2.1 and 2.6 times more likely to see a psychiatrist or psychologist, respectively, than their low income

counterparts.[98] In addition, individuals with high income levels are significantly less likely to report acceptability and availability barriers.[100]

Barriers in accessibility, acceptability, and availability. Barriers in receiving mental health care have been defined in terms of attitudinal barriers (acceptability) and structural variables (accessibility, availability).[78] If a barrier exists when seeking health care, then the individual is much less likely to access care. A recent study by Sareen et al. examined barriers in receiving care mental health care within Canada using the Ontario Health Survey.[79] Among individuals with a perceived need for mental health care, many reported experiencing various structural (ranging from 30% to 40%) and attitudinal barriers (ranging from 10% to 66%) in seeking care. Overall, attitudinal barriers were more common than structural barriers.

2.5.3 Need Factors

Mental Illness. Individuals with mental disorders are more likely to use mental health care services than those without a mental disorder. Individuals with depression are 7.57 times more likely to access mental health care compared to those with no depression.[42,78,97] Comorbidity of mental disorders and a history of mental illness are associated with greater chances of accessing care.[97] Compared to individuals with no history of psychiatric illness, those with a past and current diagnosis of a psychiatric disorder were 16.5 times more likely to seek mental health care in the past 12-months, those with only one current diagnosis were 6.12 times more likely, and those with only one past diagnosis were 2.68 times more likely.

Chronic conditions. The presence of a chronic condition has been associated with increased rates of service utilization.[78] Compared to individuals with no chronic conditions, individuals with one, or more than one chronic condition are 1.43 and 1.84 times more likely to seek care, respectively.

Level of stress in life. The higher the level of stress, the more likely an individual will be to access mental health care. Individuals with higher levels of perceived stress are 1.68 times more likely to use mental health services.[78]

CHAPTER THREE
METHODS

3.1 Design of the Current Study

The current study used cross-sectional data from the CCHS 1.2 conducted in 2002 by Statistics Canada.[7] The data was accessed from the SKY-Research Data Centre at the University of Saskatchewan in Saskatoon, Saskatchewan, Canada.

3.2 Models Guiding the Analyses

Two models guided the analyses. The health determinants' model will guide the factors which determine the presence or absence of mental health problems (MDE, social phobia, agoraphobia, panic disorder, alcohol/substance dependence) within the past 12-months.[8-10] Andersen's behavioural model was used to model the factors that determine mental health service utilization within the past 12-months (mental health consultation includes: Family Practitioner, Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor), and other physician non psychiatrist').[11,13] Both frameworks were adapted for use in this study. The determinants of health model includes the following factors which influence an individual's health: 1) Income and social status, 2) Social support networks, 3) Education and literacy, 4) Employment and working conditions, 5) Social environments, 6) Physical environments, 7) Personal health practices and coping skills, 8) Healthy child development, 9) Biology and genetic endowment, 10) Health services, 11) Gender, and 12) Culture (8-10). The CCHS 1.2 data source does not provide the information required to examine all of the determinants of health. Specifically, information regarding the respondent's contextual environment or genetic endowment is not provided. Therefore, for purposes of this study, the framework was adapted to include the following individual-level determinants:

a. *Income and Social Status*: total household income.

b. *Social Support Networks*: tangible social support, positive social support, emotional or informational support, affection, marital status.

c. *Education and Literacy*: highest level of education obtained.

d. *Employment/Working Conditions*: employment status, work stress.

e. *Personal Health Practices and Coping Skills*: ability to handle day to day tasks, self-perceived ability to handle unexpected problem, coping with stress (smoking behaviours, sleeping behaviours, eating habits, alcohol consumption, use of drugs or medication, exercise, spirituality).

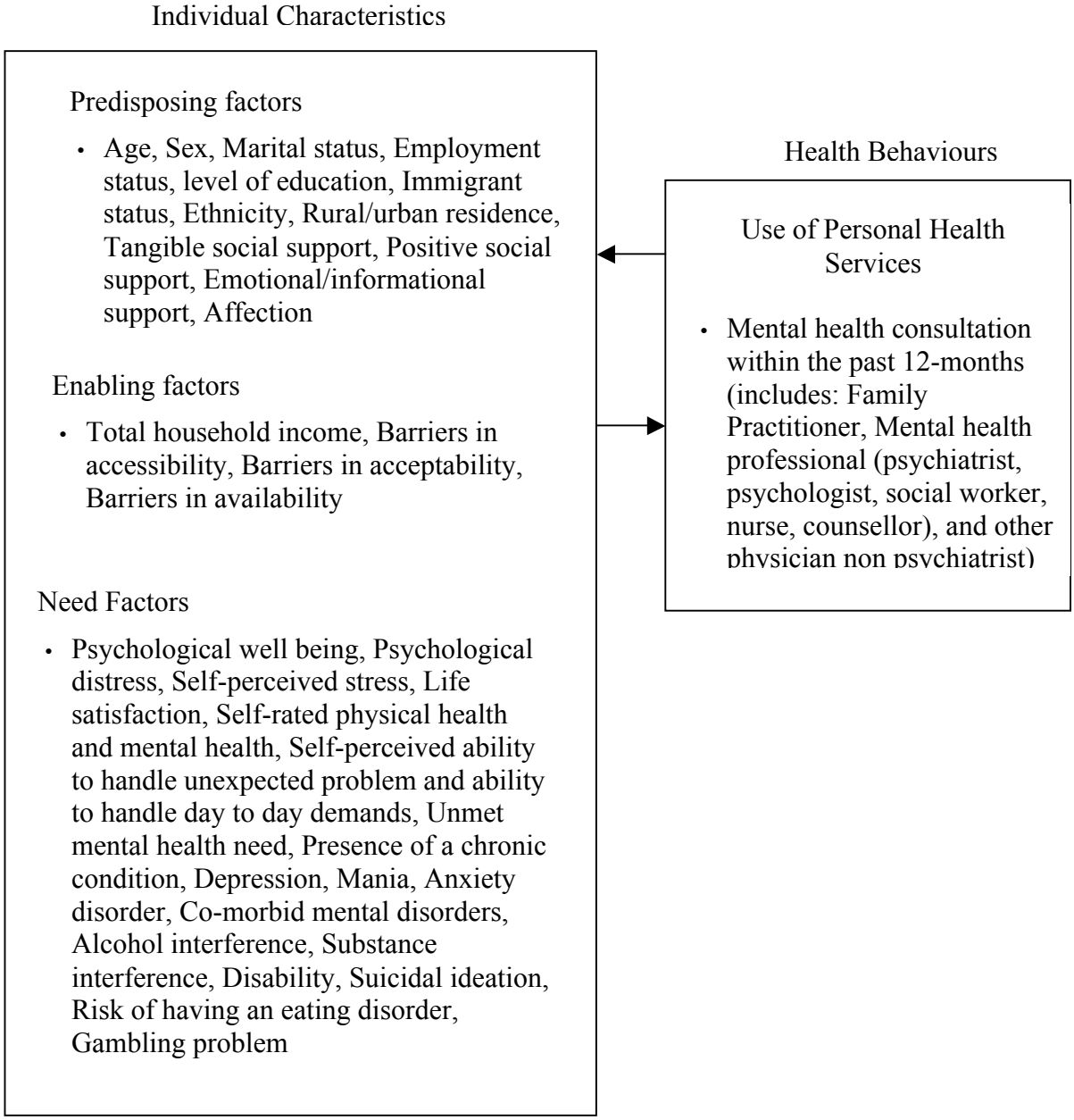
f. *Health Services*: barriers in accessibility, barriers in acceptability, barriers in availability.

g. *Gender* : sex.

h. *Culture*: cultural/ethnic background, immigrant status.

Andersen's behavioural model was modified for the current analysis (see Figure 3.1). The study was not able to examine contextual-level factors. Therefore, only individual-level predisposing, enabling, and need factors were explored. In addition, the primary health behaviour of interest was the use of mental health services within the past twelve-months.

Figure 3.1. Modified version of Andersen's behavioural model.



3.3 Data Source

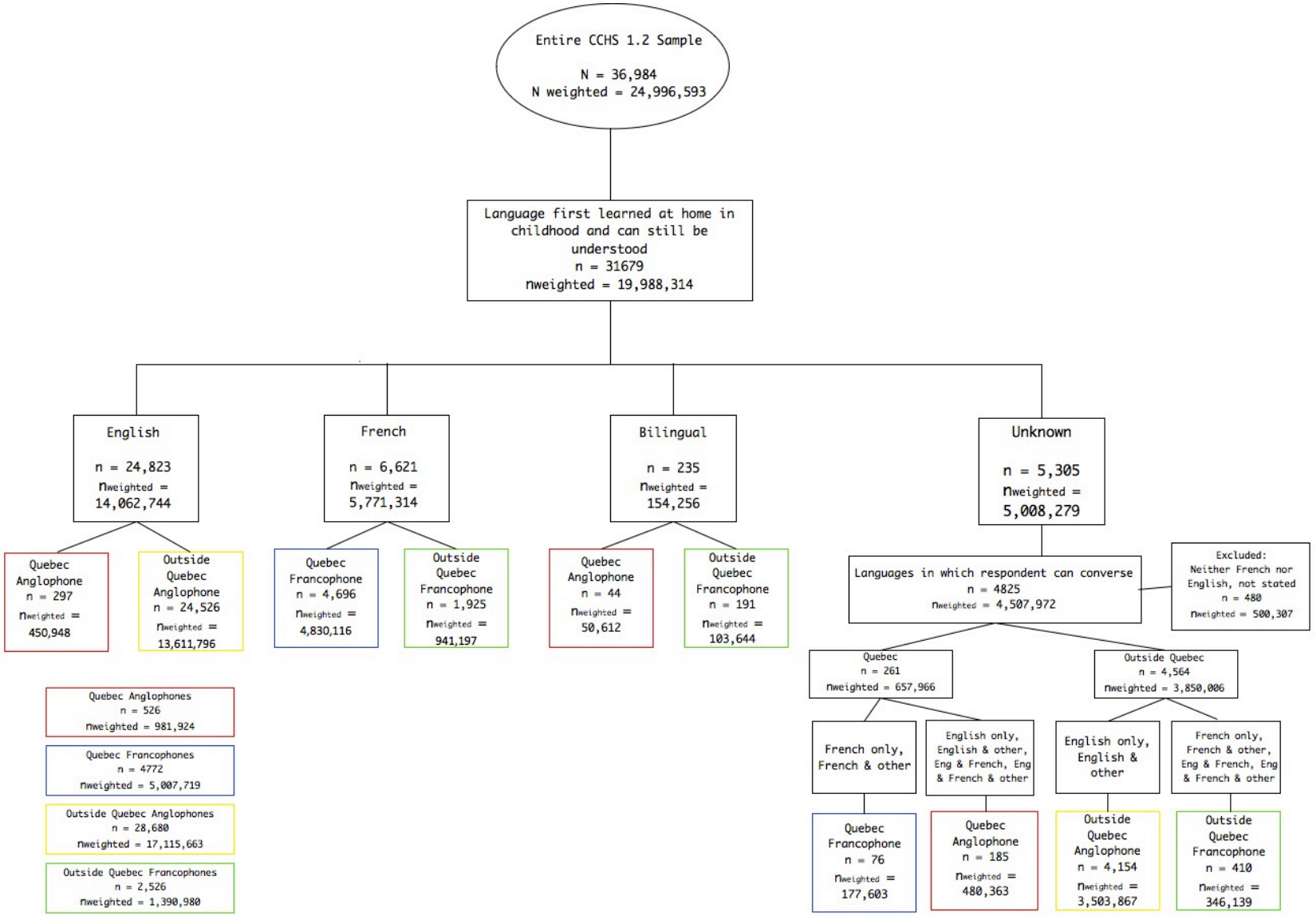
The primary objectives of the CCHS 1.2 were to provide information on the determinants of mental health, mental health status and mental health service use, determine the prevalence of common mental disorders, assess the impact of mental illness, assess the relations between access to and use of mental health care, and examine the disability and impairment associated with mental health problems.[7,102] Data was collected from May 2002 to December 2002 and uses a cross-sectional design.[102] The sample includes 36, 984 respondents aged 15 and older.[7] The CCHS 1.2 used a modified version of the World Mental Health-Composite International Diagnostic Interview (WMH-CIDI).[1,102] The WMH-CIDI is a standardized survey for diagnosing mental disorders based on the definitions and criteria of DSM-IV and ICD-10. Classification of mental disorders in the CCHS 1.2 was partially coded to the DSM-IV and did not support the ICD-10 algorithms.[7,102]

The CCHS 1.2 survey targeted individuals living in private occupied dwellings in the ten provinces and excludes residents from the three territories, Indian Reserves and Crown lands, institutions, some remote areas, and full-time members of the Canadian Armed Forces.[102]

3.4 Definition of Sample Groups

Two comparisons were made: 1) Quebec Francophones to Quebec Anglophones, and 2) outside of Quebec Francophones to outside Quebec Anglophones. Refer to Figure 3.2 for an illustration of the classification of Quebec and Outside of Quebec Francophones and Anglophones using the CCHS 1.2.

Figure 3.2. An illustration of the classification of Quebec and Outside of Quebec Francophones and Anglophones



First, respondents were classified as from Quebec or outside of Quebec based on the province in which they reside. For the current study, language use was defined with both variables: 1) the language respondents first learned at home in childhood and can still be understood, and 2) the language of conversation, with French respondents to be in the Francophone group and English respondents to be in the Anglophone group. If a respondent's first language learned at home in childhood and can still be understood was French or English, then they were classified as Francophone or Anglophone, respectively. If a respondent's first language learned at home in childhood and can still be understood was neither French nor English, then linguistic status will be determined through the languages in which the respondent can converse. Respondents who can converse in English only, English and other (not French), and English and French and other will be defined as Anglophone, whereas respondents who can converse in French only, French and other (not English), and French and English and other will be defined as Francophone. If a respondent's first language learned at home in childhood and can still be understood was both French and English, they were originally placed within the minority group within each geographical classification. However, it was decided after the data was released from Statistics Canada that bilingual respondents should be defined in the same way as respondents who spoke neither French nor English in childhood in order to remain consistent across definitions. Due to privacy concerns, Statistics Canada was unable to release the data using this new definition. Therefore, the original sample groups have been used.

Refer to Appendix B for additional information regarding the definition and coding of the target sample groups.

3.5 Definition of Primary Mental Health Outcomes

The following section outlines the definitions used for each mental health variable in the proposed study. Both non-mutually exclusive and mutually exclusive categories were analyzed in order to assess for co-morbid mental disorders. The examination of mental health was limited to the data collected by the CCHS 1.2 survey. Therefore, both twelve-month and lifetime prevalence's were assessed for MDE and anxiety disorders, while only 12-month prevalence was examined for alcohol/substance dependence as the CCHS 1.2 did not collect data on lifetime prevalence of alcohol/substance dependence. As a result, our analysis of mutually exclusive categories was limited to 12-month prevalence. Refer to Appendix C for details on mental disorder variable definitions.

Non-mutually exclusive mental disorder categories

Depression

MDE was used as an indicator of depression. Both 12-month and lifetime rates were assessed. Individuals were categorized as either: having the presence of MDE (1) or not having the presence of MDE (0).

Anxiety Disorders

Anxiety disorders include panic disorder, social phobia, or agoraphobia. Both 12-month and lifetime rates were assessed. Individuals were categorized as either: having the presence of an anxiety disorder (1) if they have any one or more anxiety disorders or not having the presence of any anxiety disorder (0) if they do not meet the criteria for any of the anxiety disorders.

Panic disorder. Individuals were categorized as either: having the presence of panic disorder (1) or not having the presence of panic disorder (0).

Social phobia. Individuals were categorized as either: having the presence of social phobia (1) or not having the presence of social phobia (0).

Agoraphobia. Individuals were categorized as either: having the presence of agoraphobia (1) or not having the presence of agoraphobia (0).

Alcohol/Substance Dependence

Only 12-month presence of alcohol/substance dependence was assessed. The presence of any alcohol/substance dependence within the past 12-month was coded as (1) while the absence of any alcohol/substance dependence will be coded as (0). The following sections provide details regarding the CCHS 1.2 classification of alcohol/substance dependence disorders.

Alcohol Dependence. The CCHS 1.2 uses the questions developed by Kessler and Mroczek to assess alcohol dependence. Only respondents who reported consuming five drinks or more on one occasion at least once a month during the past 12 months and those who had five drinks or more during another 12-month period in their lives answered the Alcohol Dependence questions. Alcohol dependence is defined as tolerance, withdrawal, or loss of control or social or physical problems related to alcohol use. Respondents were coded as (1) alcohol dependence present or (0) no alcohol dependence present.

Substance Dependence. Respondents who meet the CCHS 1.2 criteria reported a maladaptive pattern of drug use, leading to clinically significant impairment or distress. Respondents were coded as (1) if they had the presence of substance dependence and (0) if they did not have the presence of substance dependence in the past 12-months.

Mutually exclusive mental disorder categories

The following mutually exclusive categories were also derived from the CCHS 1.2: No mental disorder or addiction, Major depressive disorder only, Anxiety disorder only, MDE and

anxiety only, ASD only, ASD with any mental disorder (MDE or anxiety). Only 12-month prevalences were assessed as no lifetime variables were available for alcohol/substance dependence disorders. Individuals were categorized as either: having the meeting the criteria for the category (1) or not meeting the criteria for the category (0). Refer to Appendix C for details regarding variable definitions and coding of mutually exclusive mental disorder categories.

3.6 Definition of Secondary Mental Health Outcomes

Psychological distress

This variable determines the respondent's level of psychological distress using ten questions from the K-10 psychological distress scale. Scores ranged from 0 to 40 with higher scores indicating more distress. Two scoring bands were used: (0) low to medium distress (0-19) and (1) high distress (20-40).

Life satisfaction

This variable indicated how satisfied, in general, respondents are with their life. Responses were coded as (1) low levels of life satisfaction or (0) average to good levels of life satisfaction.

Self-rated mental health

Individuals reported whether their mental health is excellent, very good, good, fair or poor. Responses of "fair" or "poor" were categorized as (1) having poor self-perceived mental health. Responses of "excellent", "very good", or "good" were coded as (0) having good self-perceived mental health.

Self-rated stress

This variable indicates respondent's self-perceived stress by asking "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?". Responses of "quite a bit stressful" / "extremely stressful" were coded as (1) having high levels of stress. The remainder were coded as (0) average to low levels of stress.

3.7 Definition of Primary Mental Health Service use Outcomes

The following section outlines the variable definitions used for each mental health service use outcome both mutually exclusive and not mutually exclusive. Both lifetime and 12-month rates were assessed. For extended details on variable names, definitions, and coding of mental health service use variable, refer to Appendix D.

Non-mutually exclusive service use categories

Use of any mental health service

Mental health services include: family practitioner, psychiatrist, mental health professional (social worker, counsellor, psychologist) and other physician (cardiologist, gynecologist, urologist, allergist, or other doctor). For lifetime rates, respondents were coded as (1) used any service in their lifetime for mental health reasons or (0) respondent did not use any service in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) used any service within the past 12-months for mental health reasons or (0) respondent did not use any service in the past 12-months for mental health reasons.

Family Practitioner

For lifetime rates, respondents were coded as (1) having seen a family practitioner in their lifetime for mental health reasons or (0) respondent did not see a family practitioner in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) having seen a family practitioner within the past 12-months for mental health reasons or as (0) not having seen a family practitioner in the past 12-months for mental health reasons.

Psychiatrist

For lifetime rates, respondents were coded as (1) having seen a psychiatrist in their lifetime for mental health reasons or (0) respondent did not see a psychiatrist in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) having seen a psychiatrist within the past 12-months for mental health reasons or as (0) not having seen a psychiatrist in the past 12-months for mental health reasons.

Mental health professional

MHP's include: psychologist, counsellor, nurse and social worker. For lifetime rates, respondents were coded as (1) having seen a mental health professional in their lifetime for mental health reasons or (0) respondent has not see a mental health professional in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) having seen a mental health professional within the past 12-months for mental health reasons or as (0) not having seen a mental health professional in the past 12-months for mental health reasons.

Other physician non psychiatrist

Other physicians include: cardiologist, gynecologist, urologist, allergist, or other specialist. For lifetime rates, respondents were coded as (1) having seen other physician non psychiatrist in their lifetime for mental health reasons or (0) respondent has not see another physician non psychiatrist in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) having seen a other physician non psychiatrist within the past 12-months for mental health reasons or as (0) not having seen a other physician non psychiatrist in the past 12-months for mental health reasons.

Mutually exclusive service use categories

'No Mental Health consultation'

Mental health services include: family practitioner, psychiatrist, mental health professional (social worker, counsellor, psychologist, nurse) and other physician (cardiologist, gynecologist, urologist, allergist, or other doctor). For lifetime rates, respondents were coded as (0) did not use any health service in their lifetime for mental health reasons or (1) respondent used any health service in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (0) did not use any service within the past 12-months for mental health reasons or (1) respondent used a health service in the past 12-months for mental health reasons.

Family Practitioner (FP) only

For lifetime rates, respondents were coded as (1) only saw a FP in their lifetime for mental health reasons or (0) respondent did not only see an FP in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) only saw a FP within the past 12-months for mental health reasons or (0) respondent did not only see a FP in the past 12-months for mental health reasons.

'Other physician non psychiatrist' with or without FP only

This variable assesses whether or not respondents have only seen another physician for mental health problems and who may or may not have also consulted with a FP. For lifetime rates, respondents were coded as (1) only saw 'other physician non psychiatrist' with or without FP in their lifetime for mental health reasons or (0) respondent did not only see 'other physician non psychiatrist' with or without FP in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) only saw a 'other physician non psychiatrist' with or without FP within the past 12-months for mental health reasons or (0) respondent did not only

see a ‘other physician non psychiatrist’ with or without FP in the past 12-months for mental health reasons.

Mental health professional (MHP) and/or psychiatrist only

For lifetime rates, respondents were coded as (1) only saw a MHP and/or psychiatrist in their lifetime for mental health reasons or (2) respondent did not only see a MHP and/or psychiatrist in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) only saw a MHP and/or psychiatrist within the past 12-months for mental health reasons or (2) respondent only saw a MHP and/or psychiatrist in the past 12-months for mental health reasons.

FP and/or any other physician plus MHP and/or psychiatrist

This variable assesses whether or not respondents have seen both a MHP and/or psychiatrist in combination with either a FP or other physician. For lifetime rates, respondents were coded as (1) only saw a FP and/or any other physician plus MHP and/or psychiatrist in their lifetime for mental health reasons or (0) respondent did not see a FP and/or any other physician plus MHP and/or psychiatrist in their lifetime for mental health reasons. For 12-month rates, respondents were coded as (1) saw a FP and/or any other physician plus MHP and/or psychiatrist within the past 12-months for mental health reasons or (0) respondent did not see a FP and/or any other physician plus MHP and/or psychiatrist in the past 12-months for mental health reasons.

3.8 Definitions of Secondary Mental Health Service use Outcomes

Barriers to receiving mental health service due to availability of services

This variable indicates whether respondents who reported a perceived unmet mental health care need had problems obtaining mental health care services because of the unavailability

of services. Examples of availability problems include waiting too long and help not available in area or at the time required. Responses were coded as (1) respondent reported barriers obtaining mental health care services due to problems of availability or (0) respondent did not report barriers obtaining mental health care services due to problems of availability.

Barriers to receiving mental health service due to accessibility of services

This variable indicates whether respondents who reported a perceived unmet mental health care need had problems obtaining mental health care services because of the accessibility of services. The reasons for respondents not being able to access health care services for their emotions, mental health or use of alcohol or drugs were the cost, lack of transportation or issues such as childcare or scheduling. Responses were coded as (1) respondent reported barriers obtaining mental health care services due to problems of accessibility or (0) respondent did not report barriers obtaining mental health care services due to problems of accessibility.

Barriers to receiving mental health service due to acceptability of services

This variable indicates whether respondents who reported a perceived unmet mental health care need had problems obtaining mental health care services because of the acceptability of services. Acceptability issues are those where individuals chose to do without mental health care either due to competing demands on their time or because of their attitude towards illness, health care providers or the health care system. For instance, deciding not to bother, not getting around to it, preferred to manage it themselves, didn't think it could help, afraid to ask or language problems. Responses were coded as (1) respondent reported barriers obtaining mental health care services due to problems of acceptability or (0) respondent did not report barriers obtaining mental health care services due to problems of acceptability.

Hospitalization for mental health reasons

This variable indicates whether or not the respondent has been hospitalized for mental health reasons. Both 12-month and lifetime variables were used. For lifetime rates, responses were coded (1) the respondent has been hospitalized within their lifetime for mental health reasons or (0) the respondent has not been hospitalized within their lifetime for mental health reasons. For 12-month rates, responses were coded (1) the respondent has been hospitalized within the past 12-months for mental health reasons or (0) the respondent has not been hospitalized within the past 12-months for mental health reasons.

Consultation with a religious advisor

This variable indicates whether or not respondents have consulted with a religious advisor within their lifetime. Only lifetime rates were available. Responses were coded (1) the respondent has consulted with a religious advisor within their lifetime or (0) the respondent has not consulted with a religious advisor within their lifetime.

Self-help use

This variable indicates whether or not respondents have used self-help resources within their lifetime and includes use of a self-help group, an internet support group / chat room, or a telephone helpline. Only lifetime rates were available. Responses were coded (1) the respondent has used self-help resources within their lifetime or (0) the respondent has not used self-help resources within their lifetime.

Prescribed medication use

This variable indicates whether or not respondents have used prescribed medications for mental health problems within the past 12-months and includes: sleep medication, anxiety medication, anti-depressants, mood stabilizers, medication for psychotic behaviours and any stimulants. Responses were coded (1) yes and (0) no.

Health product use

This variable indicates whether respondents have used any health product for mental health problems within the past 12 months. Health products include: St. John's Wort, valerian, Chamomile, Ginseng, kava kava, lavender, chasteberry, black cohosh, ginkgo biloba, NeuRecover-DA, vitamins, and other. Responses were coded (1) used a health product for mental health reasons in the past 12 months and (0) did not use a health product for mental health reasons in the past 12-months.

3.9 Definitions of Independent Variables

The following section outlines the variable definitions used for each determinant of mental health and mental health service use within the proposed study. All applicable covariates were defined in terms of 12-month rates as the dependent variables of each model were defined as the 12-month presence of a mental or alcohol/substance dependence disorder and the 12–month use of any health services for mental health reasons. For extended details on variable names, definitions, and coding, please refer to appendix E. The following variables are sorted alphabetically into demographic, clinical, and service use categories:

Demographic variables

Age

Age was separated into four categories: (1) 15 to 24 years, (2) 25 to 44 years, and (3) 45 to 64 years, and (4) 65 years and older.

Education

Respondents were asked what the highest degree, certificate or diploma he/she has obtained. From this information, respondents' education levels were classified as follows: (1)

Less than secondary school Graduation, (2) Secondary school graduation, no post-secondary education, (3) Some post-secondary education, (4) Completed post-secondary degree or diploma.

Employment status

This variable indicates the respondent's job status over the past year. Respondents were coded as (1) having stable employment throughout the past year or (0) not having stable employment throughout the past year.

Ethnicity

This variable indicates the racial origin of the respondent. Responses were recoded into (0) non-visible minority (Caucasian) and (1) visible minority.

Gender

Respondents were classified as (0) male or (1) female.

Immigrant status

This variable indicates whether or not the respondent is an immigrant and was coded as (0) respondent is not an immigrant and (1) respondent is an immigrant.

Marital status

Respondent's marital status was coded as (1) married or common-law, (2) widowed, separated, or divorced and (3) single.

Rural versus urban residence

An urban area is defined by Statistics Canada, to be an area with a population concentration of at least 1,000 and a population density of at least 400 persons per square kilometre based on the census population count.[103] All areas that do not meet this definition are classified as being rural. Responses were be coded as (0) urban residence or (1) rural residence.

Social Support

The CCHS 1.2 used the Medical Outcomes Study (MOS) Social Support Survey to gather information on four types of Social Support[103]: 1) *Tangible social support*: This variable describes whether tangible support has been available to the respondent and asks: "In the past 12 months, did you receive the following support?" Responses are coded yes (1) or no (0). 2) *Positive social support*: This variable describes whether tangible support has been available to the respondent and asks: "(In the past 12 months, did you receive the following support:) someone [list of positive social interaction reported]?" Responses are coded yes (1) or no (0). 3) *Emotional or informational support*: This variable describes whether tangible support has been available to the respondent and asks: "(In the past 12 months, did you receive the following support:) someone [list of emotional or informational support reported]?". Responses are coded yes (1) or no (0). 4) *Affection*: This variable describes whether tangible support has been available to the respondent and asks: "(In the past 12 months, did you receive the following support:) someone [list of affection support reported]?" Responses are coded yes (1) or no (0).

Household income

This variable classifies the total household income into 2 categories based on total household income and the number of people living in the household. Respondents will be classified as (1) Low income (< $15,000 if 1 or 2 people; < $20,000 if 3 or 4 people; < $30,000 if 5+ people) or (0) Middle or High Income (>= $15,000 if 1 or 2 people; >= $20,000 if 3 or 4 people; >= $30,000 if 5+ people).

Clinical variables

Ability to handle day to day demands

This variable measures the respondent's self-perceived ability to handle the day-to-day demands in their life. Responses were coded as (1) average to good self-perceived ability to handle day to day tasks or (0) poor self-perceived ability to handle day to day tasks.

Alcohol/Substance Dependence

Refer to Definitions of primary mental health of outcomes section.

Alcohol Interference

The CCHS 1.2 describes the interference that alcohol use had on daily activities and responsibilities in the past 12 months. This is a classification that indicates whether alcohol use interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships. Respondents were coded as (1) Alcohol use interfered significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships in the past 12 months or (0) Alcohol use did not interfere significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships in the past 12 months.

Anxiety Disorders

Refer to Definitions of primary mental health of outcomes section.

Comorbid alcohol/substance dependence and anxiety or mood disorder

Refer to Definitions of primary mental health of outcomes section.

Comorbid Anxiety and depression

Refer to Definitions of primary mental health of outcomes section.

Coping with stress

The CCHS 1.2 used questions from the Ways of Coping Revisited questionnaire, the Coping Strategy Indicator, and the COPE scale.[103] Through these measures, six variables assess

ways in which respondents cope with stress. These variables indicate whether the respondent copes with stress by: sleeping more than usual, eating more or less than usual smoking more cigarettes than usual, drinking alcohol, using drugs or medication, jogging or other exercise, praying or seeking spiritual help. Responses were on a 4-point likert scale ranging from (1) often to (4) never.

Depression

Refer to Definitions of primary mental health of outcomes section.

Disability

This variable is a crude measure of the impact of long-term physical conditions, mental conditions and health problems on the principal domains of life: home, work, school, and other activities. Respondents were asked how often they must cut down on things or if they required extra effort to perform at usual level because of illness or injury due to emotional or mental health or use of alcohol or drugs during the preceding 14 days. Responses were coded as (2) Often, (1) Sometimes, and (3) never.

Eating disorder risk

This variable is based on the Eating Attitudes Test Index score and is a measure of the extent of the symptoms and concerns characteristic of eating disorders.[103] The EAT is usually administered to individuals who have expressed or displayed symptoms or problems associated with eating attitudes and behaviours. Individuals scoring above the threshold are at risk for having an eating disorder. Responses were coded as (1) respondent is at risk for having eating troubles and (0) respondent does not likely have eating troubles.

Gambling problem

This variable divides respondents into categories based on the severity of their problems associated with gambling within the past 12-months. Responses were coded as (0) no gambling problem and (1) gambling problem present.

Life satisfaction

Refer to secondary mental health problems section.

Mania

Respondents were coded as (1) met the criteria for past 12-month mania or (0) did not meet the criteria for past 12-month mania.

Presence of a chronic condition

This variable represents whether or not the respondent had any chronic health conditions which were diagnosed by a health professional. Responses were coded (1) chronic condition present and (0) respondent has no chronic conditions. Chronic conditions include: allergies, asthma, fibromyalgia, rheumatism, back problems arthritis, high blood pressure, migraines, bronchitis, chronic obstructive pulmonary disorder, diabetes, epilepsy, heart disease, cancer, ulcers, side effects from a stroke, Crohn's disease, colitis, Alzheimer's disease, cataracts, glaucoma, thyroid problems, chronic fatigue syndrome, Obsessive compulsive disorder, schizophrenia, psychosis, Post-Traumatic Stress Disorder, dysthymia, learning disability, eating disorder, or other long-term physical or mental health condition.

Self-perceived ability to handle unexpected problem

This variable measures the respondent's self-perceived ability to handle an unexpected problem. Responses were coded as (0) average to good self-perceived ability to handle an unexpected problem or (1) poor self-perceived ability to handle an unexpected problem.

Self-perceived stress

Refer to Definitions of secondary mental health outcomes section.

Self-rated physical health

Individuals reported whether their physical health is excellent, very good, good, fair or poor. Responses of "fair" or "poor" were coded (1) having poor self-perceived physical health. Responses of "excellent", "very good", or "good" were coded (0) having average to good self-perceived physical health.

Self-rated mental health

Refer to Definitions of secondary mental health outcomes section.

Substance Interference

This variable describes the interference that drug use had on daily activities and responsibilities in the past 12 months. This is a classification that indicates whether drug use interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships. Respondents were coded as (1) if drug use interfered significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships in the past 12 months. and (0) if Drug use did not interfere significantly with the person's normal routine, occupation (academic) functioning or social activities or relationships in the past 12 months.

Suicide attempt

This variable classifies the respondent based whether he/she attempted suicide in the past 12 months. Responses were coded as (1) respondent attempted suicide in the past 12 months and (0) respondent did not attempt suicide in the past 12 months.

Suicidal ideation

This variable classifies the respondent based on whether he/she thought about committing suicide or taking his/her own life in the past 12 months. Responses were coded as (1) respondent seriously thought about committing suicide in the past 12 months and (0) respondent did not seriously think about committing suicide in the past 12 months.

Work stress

The 12-item index, based on a larger pool of items from Karasek,[103] reflects a respondent's perceptions about various dimensions of his/her work. The work stress items are sub-divided into six dimensions: Decision Latitude: Skill Discretion, Decision Latitude: Decision Authority, Psychological Demands, Job Insecurity, Physical Exertion, and Social Support. Higher scores indicate greater work stress.

Service Use

Barriers to receiving mental health service due to availability/accessibility/acceptability of services

Refer to Definitions of primary mental health service use outcomes section.

Unmet mental health need

This variable assesses whether the respondent has felt the need help with emotions, mental health or use of alcohol or drugs within the past 12-months, but didn't receive it. It was coded (1) yes or (0) no.

3.10 Statistical Analysis

All data were analyzed using STATA software[101] and were weighted using Bootstrap weights through the BOOTVAR[102] program created by Statistics Canada. In this study, $\alpha < 0.05$ is considered statistically significant.

Objective one: Do the prevalences of common mental health problems differ between minority and majority official language groups within and outside of Quebec?

Four population groups were of interest: Majority Francophones within Quebec, Minority Francophones outside Quebec, Majority Anglophones outside Quebec, and Minority Anglophones within Quebec. Frequencies and descriptive analyses were conducted for each of the mutually exclusive and non-mutually exclusive mental illness variables within each minority and majority linguistic group of interest. A series of chi analyses was conducted in order to compare rates of mental health problems between minority Anglophones and majority Francophones within Quebec, and between minority Francophones and majority Anglophones outside of Quebec for each of the dichotomous categories as outlined below:

a. Non-mutually exclusive categories: Depression (lifetime and 12-month), Anxiety Disorders (Agoraphobia, Social Phobia, Panic Disorder; lifetime and 12-month), Alcohol/Substance Dependence (12-month only, lifetime not available).

b. Mutually exclusive categories (12-month rates only – no lifetime substance abuse; therefore lifetime estimate of comorbidity would be inaccurate): No mental disorder, MDE only, Anxiety only, Alcohol/Substance Dependence only, MDE and Anxiety only, Alcohol/Substance Dependence with any mental disorder (MDE or Anxiety).

In order to examine differences in secondary mental health problems (self-rated mental health, self-rates stress, low life satisfaction, and psychological distress), chi square analyses were conducted. The groups compared were Minority Francophones to Majority Anglophones outside Quebec, and Minority Anglophones to Majority Francophones within Quebec.

Two additional secondary comparisons were also conducted replicating the aforementioned statistical analyses: Quebec Anglophones to outside Quebec Anglophones, and Quebec Francophones to outside Quebec Francophones.

O*bjective two: Do the prevalences of mental health service use differ between minority and majority official language groups within and outside of Quebec?*

Frequencies and descriptive analyses were conducted for each of the mutually exclusive and non-mutually exclusive mental health service use variables for each minority and majority linguistic group of interest: Majority Francophones within Quebec, Minority Francophones outside Quebec, Majority Anglophones outside Quebec, and Minority Anglophones within Quebec. Next, a series of chi analyses were conducted in order to compare rates of mental health problems between minority Anglophones and majority Francophones within Quebec, and between minority Francophones and majority Anglophones outside of Quebec for each of the dichotomous mental health service use categories as outlined below:

a. Non mutually exclusive categories: Use of any service (12-month and lifetime), Family practitioner (12-month and lifetime), Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor; 12-month and lifetime), other physician non psychiatrist' with or without family Practitioner (12-month and lifetime).

b. Mutually exclusive categories: No mental health consultation (12-month and lifetime), Family practitioner only (12-month and lifetime), 'other physician non psychiatrist' with or without FP (12-month and lifetime), mental health professional (MHP) only (psychiatrist, psychologist, social worker, nurse,

counsellor; 12-month and lifetime), FP and/or any other physician plus MHP (12-month and lifetime).

c. Secondary service use categories (non mutually exclusive): Unmet mental health need (12-month and lifetime), Hospitalization for mental health reasons (12-month and lifetime), Consultation with a religious advisor (lifetime), Consultation with an alternative health professional (lifetime), Self-help use (lifetime), Medication use (12-month), Health product use (12-month).

The above chi square analyses for 12-month mental health service use categories were repeated only for those individuals within each of the majority and minority linguistic groups who have had a mental or alcohol/substance dependence disorder within the past twelve months. In addition, two secondary comparisons were also completed which replicated the statistical analyses described above: Quebec Anglophones to outside Quebec Anglophones, and Quebec Francophones to outside Quebec Francophones.

Objective three: Is official language minority status significantly associated with the presence or absence of common mental health problems within the past 12-months?

In order to determine whether or not official language minority status significantly determines the presence or absence of common mental health problems, a logistic regression model was built with outcome variable of presence or absence of a mental illness (MDE, Social Phobia, Agoraphobia, Panic Disorder, or ASD) within the past 12-months. The main independent variables of interest are: minority status, official language use and, most importantly, the interaction between the aforementioned variables. If the interaction between minority status and official language use was non-significant, then we could conclude that official language minority

status does not determine mental health problems. Based on the Social Determinants of Health framework, the following independent variables were to be controlled for:

a. *Income and Social Status*: total household income.
b. *Social Support Networks*: tangible social support, positive social support, emotional or informational support, affection, marital status.
c. *Education and Literacy*: highest level of education obtained.
d. *Employment/Working Conditions*: employment status, work stress.
e. *Personal Health Practices and Coping Skills*: ability to handle day to day tasks, self-perceived ability to handle unexpected problem, coping with stress (smoking behaviours, sleeping behaviours, eating habits, alcohol consumption, use of drugs or medication, exercise, spirituality).
f. *Health Services*: barriers in accessibility, barriers in acceptability, and barriers in availability.
g. *Gender* : sex.
h. *Culture*: cultural/ethnic background, immigrant status

Variables with $p<.05$ were selected to include in the multivariate model. Variables in the multivariate model with statistical significance ($p<.05$) were considered for the final multivariate model. Interactions were assessed between pairs of independent variables by entering each interaction into the main effects model individually. Interactions with $p<.05$ will be selected to include in the multivariate model and statistically significant interactions ($p<.05$) will be included in the final multivariate model.

Objective four: Is official language minority status significantly association with use or non-use of mental health services within the past 12-months?

In order to examine whether or not official language minority status significantly determines use or non-use of mental health services, a logistic regression model was built with the outcome variable "use or non-use of a mental health service" (GP, Other Physician, other MHP (psychiatrist, psychologist, social worker, nurse, and counsellor) within the past 12-months. The main covariates of interest are: minority status, official language use and the interaction between the aforementioned variables. If the interaction between minority status and official language use was non-significant, then we could conclude that official language minority status does not determine mental health service use. Based on Andersen's Behavioural Model, the following independent variables were to be controlled for: :

a) *Predisposing factors*: age, sex, marital status, employment status, highest level of education obtained, immigrant status, ethnicity, rural vs. urban residence, tangible social support, positive social support, emotional/informational support, and affection.
b) *Enabling/impeding factors:* total household income, barriers in accessibility, barriers in acceptability, and barriers in availability.
c) *Need factors:* psychological well being, psychological distress, self-perceived stress, life satisfaction, self-rated physical health, self-rated mental health, self-perceived ability to handle unexpected problem, self-perceived ability to handle day to day demands, unmet mental health need, presence of a chronic condition, depression, mania, anxiety disorder, alcohol/drug dependence, comorbid depression and anxiety, comorbid depression and/or anxiety disorder with alcohol/drug dependence, alcohol

interference, substance interference, disability, suicidal ideation in past 12 months, at risk of having an eating disorder, a gambling problem.

Variables with $p<.05$ were selected to include in the multivariate model and statistically significant variables ($p<.05$) will be considered for the final multivariate model. Interactions between pairs of independent variables were tested by entering each interaction into the main effects model individually. Statistically significant interactions ($p<.05$) were included in the final multivariate model.

CHAPTER FOUR
RESULTS

4.1 Sample Sociodemographics

4.1.1 Sociodemographics: Outside Quebec Francophones and Anglophones

Table 4.1 shows the sociodemographic information for majority Anglophones and minority Francophones outside Quebec. Sex was evenly split between males and females for both Francophones (males = 49.9%) and Anglophones (males = 49.3%). Significant differences were found for age groups between Francophones and Anglophones with Francophones significantly older in each category than Anglophones. More Anglophones belong to a visible minority (17.7%) compared to Francophones (12.0%, $p < .001$). No significant differences existed between language groups with respect to immigrant status with proportions ranging from 21.8% for Francophones to 24.1% for Anglophones. Significant variations were found for marital status: significantly more Francophones were married compared to Anglophones (64.87% versus 61.67%, 95% CI for the difference: -5.6, -0.8) and, in contrast, a higher percentage of Anglophone respondents were single (25.6%) compared to Francophones (21.4%, 95% CI for the difference: 2.0, 6.4). Significantly more Anglophones (25.33%) were classified as rural dwellers compared to 18.7% of Anglophones ($p < .001$). The highest level of education completed differed between groups within the categories ‘less than secondary school’ and ‘completed secondary school’ with Francophones having a significantly lower prevalence in each category. Though no significant differences exist for stable past year employment (53.9% for Francophones and 55.0% for Anglophones), significant differences were observed for low income adequacy with 10.7% of Francophones classified as having low income adequacy versus 8.9% of Anglophones ($p = .03$).

Table 4.1. Demographic information for Francophones and Anglophones Outside Quebec.

	Outside Quebec Francophones n= 2,526[1]		**Outside Quebec Anglophones** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE*	%	SE*		Lower	Upper	*p*-value
Sex (male)	49.88	1.329	49.30	.125	-0.58	-3.2	2.0	.6879
Age								.0003**
15 to 24	14.08	.963	17.02	.091	2.94	1.0	4.8	
25 to 44	36.23	1.187	38.71	.115	2.48	0.1	4.8	
45 to 64	33.43	1.293	29.65	.087	-3.78	-6.3	-1.2	
65+	16.26	.763	14.44	.087	-1.82	-3.3	-0.3	
Visible Minority	11.95	1.035	17.72	.400	5.77	3.6	7.9	.000**
Immigrant	21.79	1.299	24.06	.400	2.27	-0.4	4.9	.1034
Marital status								.0004**
Married	64.87	1.190	61.67	.305	-3.20	-5.6	-0.8	
Widow, divorced, separated	13.76	.780	12.46	.212	-1.30	-2.9	0.3	
Single	21.37	1.101	25.55	.251	4.18	2.0	6.4	
Rural	25.33	1.419	18.74	.632	-6.59	-9.6	-3.5	.0000**
Highest level of education								.0014**
< Secondary	27.4	1.216	23.54	.334	-3.86	-6.3	-1.4	
Secondary	16.22	1.038	20.13	.355	3.91	1.8	6.1	
Some post-secondary	8.60	.8508	9.049	.240	0.45	-1.3	2.2	
Completed post-secondary	47.78	1.466	47.28	.441	-0.50	-3.5	2.5	
Stable employment	53.91	1.423	55.01	.432	1.10	-1.8	4.0	.4647
Low income adequacy***	10.72	.882	8.90	.222	-1.82	-3.6	0.0	.0290*

* Standard error

** $p < .05$

***Individuals whose have low income adequacy based on the following household criteria: < $15,000 if 1 or 2 people; $20,000 if 3 or 4 people; < $30,000 if 5+ people.

[1] weighted n = 1,390,980

[2] weighted n = 17,115,663

4.1.2 Sociodemographics: Quebec Francophones and Anglophones

Sociodemographic information for Quebec Francophones and Anglophones can be found in Table 4.2. The proportion of males and females within each language group outside Quebec was quite equal (Anglophone males = 53.1%, Francophone males = 48.4%). No statistically significant differences exist with respect to age with proportions ranging from 15.2% to 19.5% for the category '15 to 24', 36.5% to 39.2% for '25 to 44', 28.7% to 33.0% for '45 to 64', and 12.6% to 15.3% for '65 and older'. Significantly more Anglophone respondents were from a visible minority and are immigrants: 34.0% of Anglophones were from a visible minority group compared to 4.3% of Francophones ($p < .0001$) and 46.7% of Anglophones were immigrants versus 5.8% of Francophones ($p < .0001$). Differences in marital status were not found between groups: most respondents were married (59.1% to 60.9%). A greater percentage of Francophone respondents lived in rural areas (20.6%) compared to Anglophone respondents (7.6%, $p = .03$).

Significant differences were observed for the highest level of education completed between Anglophones and Francophones: more Francophones had completed less than secondary education (30.6%) versus Anglophones (22.7%) (95% CI for difference: 2.3, 13.4) and more Anglophones completed post-secondary education compared to Francophones, 55.0% and 46.3%, respectively (95% CI for difference: -15.0, -2.5). Stable past year employment was stable across language groups ranging from 49.8% for Francophones to 50.6% for Anglophones. Similarly, no significant variation in low income adequacy was found with 14.0% of Anglophones and 11.6% of Francophones classified as having low income adequacy.

Table 4.2. Demographic information for Francophones and Anglophones within Quebec.

	Quebec Anglophones n = 526[1]		**Quebec Francophones** n = 4,772[2]		Diff. (%)	95% CI of difference		
	%	SE*	%	SE*		Lower	Upper	*p*-value
Sex (male)	53.14	2.607	48.39	.519	-4.75	-10.0	0.5	.1251
Age								
15 to 24	19.53	2.001	15.16	.397	-4.37	-8.4	0.4	.1009
25 to 44	39.20	2.747	36.52	.533	-2.68	-8.2	2.8	
45 to 64	28.71	2.737	33.02	.537	4.31	-1.2	9.8	
65+	12.56	1.451	15.30	.320	2.74	-0.2	5.7	
Visible Minority	33.95	3.025	4.27	.541	-29.68	-35.7	-23.7	.0000**
Immigrant	46.72	2.930	5.825	.616	-40.89	-46.8	-35.0	.0000**
Marital status								.3761
Married	59.14	2.928	60.90	.955	1.76	-4.3	7.8	
Widow, divorced, Separated	12.20	1.593	13.83	.5847	1.63	-1.7	5.0	
Single	28.66	2.691	25.27	.803	-3.39	-8.9	2.1	
Rural	7.64	1.222	20.56	1.206	12.93	9.6	16.3	.0000**
Highest level of education								.0321**
< Secondary	22.71	2.658	30.58	.932	7.87	2.3	13.4	
Secondary	14.96	2.194	16.32	.821	1.36	-3.2	6.0	
Some post-secondary	7.311	1.704	6.79	.474	-0.52	-4.0	2.9	
Completed post-secondary	55.02	3.030	46.31	1.005	-8.71	-15.0	-2.5	
Stable employment	50.63	3.378	49.77	1.036	-0.86	-7.8	6.1	.8109
Low income adequacy**	13.98	2.169	11.64	.628	-2.34	-6.8	2.1	.2773

*Standard error.

** $p < .05$

***Individuals whose have low income adequacy based on the following household criteria: < $15,000 if 1 or 2 people; $20,000 if 3 or 4 people; < $30,000 if 5+ people.

[1] weighted n = 981,924

[2] weighted n = 5,007,719

4.2 Prevalence of Mental Health Problems

4.2.1 Mental health problems: Francophones versus Anglophones outside Quebec

The primary lifetime and twelve-month prevalences for mental health problems among Francophones and Anglophones outside Quebec can be found in Table 4.3 (For a description of mental health categories, refer to "Definitions of primary mental health outcomes" in Methods (page 48)) Prevalences for the non-mutually exclusive categories were quite similar between linguistic groups for each mental illness category. MDE and anxiety disorders were quite common among both samples. Francophones had a significantly higher lifetime prevalence of MDE than Anglophones (13.19% versus 11.39%, $p = .04$). In contrast, a statistically significant difference was not found in 12-month prevalence of MDE. No significant differences were found between Francophones (2.56%) and Anglophones (3.31%) language groups for alcohol/substance dependence ($p = .28$).

Within the mutually exclusive mental illness categories, no statistically significant differences were found between groups, though the results indicate that comorbid MDE and anxiety disorders may be more common among Francophones (.83%) compared to Anglophones (.13%) as the *p*-value approached significance ($p = .07$). Overall, the presence of a mental illness within the past twelve months ranged from 9.72% among Francophones to 10.82% among Anglophones.

Table 4.3 indicates that no differences were observed in secondary mental health outcomes between language groups outside Quebec (For a description of secondary mental health categories, refer to "Definitions of secondary mental health outcomes" in Methods (page 50)).

Table 4.3. Lifetime and twelve-month prevalences for mental health problems among Francophones and Anglophones outside Quebec

	Outside Quebec Francophones n= 2,526[1]		**Outside Quebec Anglophones** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
MDE	13.19	.866	11.39	.266	-1.80	-3.6	0.0	0.0372*
Anxiety Disorder	12.54	1.002	11.70	2.666	-0.84	-6.4	4.7	.4102
12 month								
Non-mutually exclusive								
MDE	4.60	.450	4.78	.175	0.18	-0.8	1.1	.6950
Anxiety disorder	4.40	.520	5.11	.187	0.71	-0.4	1.8	.2205
Alcohol/substance dependence	2.56	.577	3.31	.136	0.75	-0.4	1.9	.2786
Mutually exclusive								
No mental illness	90.27	.840	89.18	.256	1.10	-0.6	2.8	.2172
MDE only	3.02	.339	2.73	.139	-0.29	-1.0	0.4	.3997
Anxiety Disorder only	3.04	.456	3.23	.145	0.19	-0.7	1.1	.6689
ASD only	1.98	.535	2.45	.118	0.48	-0.6	1.6	.4923
MDE and an Anxiety Disorder	.83	.189	.13	.099	-0.70	-1.1	-0.3	.0651
ASD and any disorder	.62	.184	.79	.066	0.17	-0.2	0.6	.4100
Secondary outcomes								
Poor self-rated mental health	7.24	.645	7.36	.221	0.11	-1.2	1.5	.8560
Low rated life satisfaction	4.19	.492	5.30	.180	1.11	-0.1	2.1	.0536
High self-rated stress levels	3.64	.490	3.56	.146	-0.08	-1.1	0.9	.8718
High psychological distress	2.72	.136	2.56	.351	-0.16	-0.9	0.6	.6873

* $p < .05$

** Standard error

[1] weighted n = 1,390,980

[2] weighted n = 17,115,663

4.2.2 Mental health problems: Francophones versus Anglophones in Quebec

Table 4.4 shows the lifetime and twelve month prevalences for mental health problems among Francophones and Anglophones in Quebec (For a description of primary mental health categories, refer to "Definitions of primary mental health outcomes" in Methods (page 48)). Though the prevalences varied between language groups, no statistically significant differences were found for any of the non-mutually exclusive categories. The lifetime prevalence of MDE was 12.1% for Anglophones and 15.1% for Francophones. The difference between language groups for the twelve-month prevalence of MDE approached statistical significance with more Francophones reporting MDE (5.13%) than Anglophones (3.15%) (p=.06). The twelve-month prevalence for alcohol/substance dependence was slightly higher among Anglophones (3.76%) then Francophones (2.59%) though not significant.

Among the mutually exclusive mental health problem categories, no statistically significant differences were observed besides the comorbid 'MDE and anxiety disorder only' category. Anglophones had lower rates of both MDE and an anxiety disorder (.22%) than Francophones (1.07%) ($p < .001$). The prevalence of having any mental illness within the past year (MDE, anxiety disorder, or alcohol/substance dependence disorder) was 8.46% for Anglophones and 9.80% for Francophones. Prevalences of alcohol/substance dependence only could not be compared due to cell sizes less than five.

Among the secondary mental health outcome variables (Table 4.4), significantly more Anglophones (4.26%) reported having low life satisfaction compared to Francophones (2.1%) within Quebec ($p = .02$). For a description of secondary mental health categories, refer to "Definitions of secondary mental health outcomes" in Methods (page 50).

Table 4.4. Lifetime and twelve-month prevalences for mental health problems among Francophones and Anglophones within Quebec

	Quebec Anglophones n = 526[1]		**Quebec Francophones** n = 4772[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
MDE	12.09	2.243	15.08	.730	2.99	-1.6	7.6	.2421
Anxiety Disorder	10.50	1.710	11.39	.696	0.89	-2.7	4.5	.6416
12 month								
Non-mutually exclusive								
MDE	3.15	.809	5.13	.438	1.98	0.2	3.8	.0626
Anxiety disorder	3.19	.778	4.17	.427	0.98	-0.8	2.7	.3083
ASD	3.76	1.098	2.59	.259	-1.17	-3.4	1.0	.8716
Mutually exclusive								
No Mental illness	91.54	1.717	90.20	.598	1.34	-2.2	4.9	.4857
MDE only	2.78	.790	3.28	.374	0.50	-1.2	2.2	.5928

* $p < .05$
** Standard error
*** Data could not be released due to confidentiality (cell sizes less than 5)
[1] weighted n = 981,924
[2] weighted n = 5,007,719

Table 4.4. (Continued). Lifetime and twelve-month prevalences for mental health problems among Francophones and Anglophones within Quebec

	Quebec Anglophones n = 526[1]		**Quebec Francophones** n = 4772[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Anxiety Disorder only	2.51	.717	2.66	.365	0.15	-1.4	1.7	.8443
ASD only	2.57	1.084	1.84	.221	-0.73	-2.9	1.4	.4347
MDE and Anxiety Disorder	.22	.109	1.07	.186	0.85	0.4	1.3	.0009*
ASD and any disorder ***	—	—	—	—	—	—	—	—
Secondary outcomes								
Poor self-rated mental health	4.20	.960	4.99	.399	0.79	-1.2	2.8	.4758
Low rated life satisfaction	4.26	1.252	2.12	.221	-2.13	-4.6	-0.4	.0232*
High self-rated stress levels	4.22	1.161	3.05	.445	-1.16	-3.6	1.3	.2488
High psychological distress	2.53	.796	2.70	.288	0.17	-1.5	1.8	.8386

* $p < .05$
** Standard error
*** Data could not be released due to confidentiality (cell sizes less than 5)
[1] weighted n = 981,924
[2] weighted n = 5,007,719

4.2.3 Mental Health Problems among Quebec Anglophones: Immigrants versus non-Immigrants

Due to the large proportion of immigrant respondents among the Anglophone population in Quebec (46%), a post-hoc analysis was completed to compare rates of mental health problems and mental health service rates between immigrant and non-immigrant Anglophone groups within Quebec (Appendix F). Non-immigrant Anglophones had a significantly higher prevalence of any mental illness (MDE, anxiety disorders and alcohol/substance dependence) (11.7% versus 4.6%) ($p = .02$). No other statistically significant differences were observed, though the difference was approaching statistical significance for 12-month prevalence of anxiety disorders: non-immigrant Anglophones had a greater percentage (13.7%) than immigrant Anglophones (6.8%) ($p = .05$).

4.2.4 Mental Health Problems: Minority versus Majority Francophones

Table 4.5 illustrates both the lifetime and twelve month prevalences for mental health problems in addition to secondary mental health outcomes among Francophones within and outside of Quebec. A detailed description of mental health categories is available in the section "Definitions of primary mental health outcomes" and "Definitions of secondary mental health outcomes" within Methods (pages 48 and 50). No statistically significant differences were found for the Francophone comparisons with the exception of poor self-rated mental health with more outside Quebec Francophones reporting poor mental health (7.2%) compared to Quebec Francophones (4.9%) ($p = .01$). Moreover, a significant difference was found in reports of life satisfaction with 4.2% of majority and 2.12% of minority Francophones indicating they have low levels of life satisfaction ($p < .0001$).

Table 4.5. Lifetime and twelve-month prevalences for mental health problems among Francophones within and outside of Quebec

	Quebec n = 4,772[1]		**Outside Quebec** n = 2,526[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
MDE	15.08	.730	13.19	.866	-1.89	-4.1	0.3	.1023
Anxiety Disorder	11.39	.696	12.54	1.00	1.15	-1.2	3.5	.3492
12 month								
Non-mutually exclusive								
MDE	5.13	.438	4.60	.450	-0.53	-1.8	0.7	.4033
Anxiety disorder	4.17	.427	4.40	.520	0.23	-1.1	1.5	.7427
ASD	2.59	.259	2.56	.577	-0.03	-1.3	1.2	.9948
Mutually exclusive								
Presence of a mental illness	9.80	.598	9.72	.840	-0.078	-2.1	1.9	.9408
MDE only	3.28	.374	3.02	.339	-0.26	-1.2	0.7	.6251
Anxiety Disorder only	2.66	.365	3.04	.456	0.38	-0.8	1.5	.5212
ASD only	1.84	.221	1.98	.535	0.135	-1.0	1.3	.8176
MDE and an Anxiety Disorder	1.07	.186	.83	.189	-0.23	-0.8	0.3	.3700
ASD and any disorder	.746	.153	.62	.184	-0.12	-0.6	0.3	.6085
Secondary outcomes								
Poor self-rated mental health	4.99	.399	7.24	.645	2.25	0.8	3.7	.0015*
Low rated life satisfaction	2.12	.221	4.19	.492	2.07	1.0	3.1	.0000*
High self-rated stress levels	3.05	.445	3.64	.490	0.59	-0.7	1.9	.3780
High psychological distress	2.70	.288	2.56	.351	-0.14	-1.0	0.7	.7489

* $p < .05$

** Standard error

[1] weighted n = 5,007,719

[2] weighted n = 1,390,980

4.2.5 Mental Health Problems: Minority versus Majority Anglophones

For the minority to majority Anglophone comparisons, a higher percentage of outside Quebec Anglophones had an anxiety disorder present in the past twelve months (5.11% versus 3.19%) (p = .05%) (refer to Table 4.6) while a higher prevalence of comorbid 'MDE and anxiety only' were found among Quebec Anglophones (.22%) compared to outside Quebec Anglophones (.09%)(p < .0001). In addition, a higher percentage of outside Quebec Anglophones reported having poor mental health (7.4%) when compared to Quebec Anglophones (4.2%) (p = .01).

4.3 Prevalence of Mental Health Service Utilization

4.3.1 Mental Health Service Use: Francophones versus Anglophones outside Quebec

Table 4.7 shows the primary lifetime and twelve-month prevalence of mental health service utilization for both mutually and non-mutually exclusive categories among Francophones and Anglophones outside Quebec. For a description of the primary mental health service use categories, refer to "Definitions of primary mental health service use outcomes" in Methods (page 51). The prevalences of service use were quite uniform across language groups with no significant differences found for any service provider category. The lifetime prevalence of service use for mental health reasons ranged from 21.8% for Anglophones to 22.4% for Francophones. For both language groups, FP were consulted most frequently (approximately 15.1%) followed by MHPs (12.4 to 12.9%). Within the past twelve months, 8.0% of Francophones and 8.2% of Anglophones used a mental health care service. Again, family practitioners received the highest prevalence of use (4.7% to 5.6%) followed next by MHPs (3.8% to 3.8%).

Table 4.6. Lifetime and twelve-month prevalences for mental health problems among Anglophones within and outside of Quebec

	Quebec n = 526[1]		**Outside Quebec** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
MDE	12.09	2.243	11.39	.266	-0.70	-5.1	3.7	.7459
Anxiety Disorder	10.5	1.710	11.70	2.667	1.20	-5.0	7.4	.5043
12 month								
Non-mutually exclusive								
MDE	3.15	.809	4.78	.175	1.63	0.0	3.3	.0982
Anxiety disorder	3.19	.780	5.11	.187	1.92	0.3	3.5	.0493*
Alcohol/substance dependence	2.76	1.098	3.31	.136	0.55	-1.6	2.7	.6517
Mutually exclusive								
Presence of a mental illness	8.46	1.717	10.82	.256	2.36	-1.0	5.8	.2173
MDE only	2.78	.790	2.73	.139	-0.05	-1.6	1.5	.9941
Anxiety Disorder only	2.51	.717	3.23	.145	0.72	-0.7	2.2	.3620
Alcohol/substance dependence only	2.57	1.08	2.45	.118	-0.12	-2.3	2.0	.9058
MDE and Anxiety disorder	.22	.109	.13	.099	-0.09	-0.4	0.2	.0001*
ASD and any disorder***	-	-	-	-	-	-	-	-
Secondary outcomes								
Poor self-rated mental health	4.20	.960	7.36	.221	3.16	1.2	5.1	.0124*
Low life Satisfaction	4.26	1.252	5.301	.1798	1.046	-1.4	3.5	.4538
High self-rated stress levels	4.22	1.161	3.557	.146	-0.658	-3.0	1.6	.5395
High psychological distress	2.53	.796	2.72	.136	0.19	-1.4	1.8	.8229

* $p < .05$
** Standard error
*** Data could not be released due to confidentiality (cell sizes less than 5)
[1] weighted n = 981,924
[2] weighted n = 17,115,663

Table 4.7. Lifetime and twelve-month prevalences for mental health service use among Francophones and Anglophones outside Quebec.

	Outside Quebec Francophones n = 2,526[1]		**Outside Quebec Anglophones** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
Use of any MH service	22.41	1.074	21.82	.328	-0.59	-2.8	1.6	.5924
Family Practitioner	15.11	.943	15.08	.290	-0.03	-2.0	1.9	.9721
Psychiatrist	9.02	.797	8.411	.228	-0.61	-2.2	1.0	.4494
Other physician	1.42	.257	1.25	.090	-0.18	-0.7	0.4	.5012
MHP	12.89	.899	12.41	.246	-0.48	-2.3	1.3	.5920
Mutually exclusive								
No service use	77.59	1.074	78.18	.328	0.59	-1.6	2.8	.5924
FP only	4.67	.530	5.16	.178	0.491	-0.6	1.6	.4021
MHP and/or psychiatrist only	7.20	.675	6.62	.199	-0.59	-2.0	0.8	.3805
FP and/or other doctor & MHP and/or psychiatrist	10.33	.825	9.71	.232	-0.63	-2.3	1.1	.4550
Other doctor 'non- psychiatrist' with or without FP	.21	.089	.344	.042	0.13	-0.1	0.3	.2594
12 month								
Non-mutually exclusive								
Use of any MH service	7.99	.632	8.24	.228	0.25	-1.1	1.6	.7029
Family Practitioner	4.67	.499	5.63	.184	0.97	-0.1	2.0	.0806
Psychiatrist	2.22	.363	2.21	.122	-0.01	-0.8	0.7	.9716

* $p < .05$

** Standard error

[1] weighted n = 1,390,980

[2] weighted n = 17,115,663

Table 4.7. **(Continued).** Lifetime and twelve-month prevalences for mental health service use among Francophones and Anglophones outside Quebec.

	Outside Quebec Francophones n= 2,526[1]		**Outside Quebec Anglophones** n = 28,680 [2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Other physician	.44	.169	.32	.043	-0.12	-0.5	0.2	.4405
MHP	3.84	.421	3.79	.154	-0.05	-0.9	0.8	.9108
Mutually exclusive								
No service use	92.01	.632	91.76	.228	-0.25	-1.6	1.1	.7029
FP only	2.5	.367	2.98	.130	0.47	-0.3	1.2	.2520
MHP and/or psychiatrist only	3.26	.442	2.50	.134	-0.76	-1.7	0.1	.0733
FP and/or other doctor & MHP and/or psychiatrist	2.10	.325	2.60	.130	0.50	-0.2	1.2	.1869
Other doctor 'non- psychiatrist' with or without FP	.12	.056	.16	.063	0.046	-0.1	0.2	.5118

* $p < .05$
** Standard error
[1] weighted n = 1,390,980
[2] weighted n = 17,115,663

Next, comparisons were made for twelve month prevalences of service use between Francophones and Anglophones outside Quebec restricting the analysis to respondents who have had a mental illness within the past twelve months (refer to Table 4.8). No significant differences were found for any of the service use categories between language groups. However, the results indicated that a very high proportion of individuals with mental health problems did not seek mental health services: 65.1% of Francophones and 64.4% of Anglophones with a mental illness reported not seeking help from the medical system (p = .86).

Among secondary service use categories, a few significant differences were found between outside Quebec Francophones and Anglophones (refer to Table 4.9). A description of each secondary service use category can be found in the "Definitions of secondary service use outcomes" within Methods (page 2). Francophones had a higher proportion of respondents who were hospitalized within their lifetime for mental health reasons than Anglophones, 6.0% and 4.8%, respectively (p = .02). Francophones also had a higher prevalence of medication use for mental health purposes (18.6% versus 16.1%) (p = .02). Notably, very few Francophone and Anglophone respondents reported accessibility (.5% to .6%) and availability (.7% to .8%) barriers in receiving mental health services.

4.3.2 Mental Health Service Use: Francophones versus Anglophones in Quebec

Both lifetime and twelve month prevalences of primary mental health service use categories were compared between Francophones and Anglophones in Quebec (see Table 4.10) (refer to "Definitions of primary mental health service use outcomes" section). Within both lifetime non-mutually exclusive and mutually exclusive service use categories, Francophones had greater prevalences for use of any mental health service (27.3%) when compared to Anglophones (20.6%) (p = .02). The most commonly used service providers for both 12-month

Table 4.8. Twelve-month prevalences for mental health service use among Francophones and Anglophones outside of Quebec with a mental illness within the past 12-months.

	Outside Quebec Francophones n= 2,526[1]		**Outside Quebec Anglophones** n = 28,680 [2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
12 month								
Non-mutually exclusive								
Use of any MH service	34.88	3.846	35.62	1.258	0.74	-7.2	8.7	.8582
Family Practitioner	26.50	3.346	26.68	1.161	0.18	-6.8	7.1	.9599
Psychiatrist	12.37	2.539	12.18	.804	-0.19	-5.4	5.0	.7789
Other physician	1.838	1.154	1.328	.282	-0.51	-2.8	1.8	.6225
MHP	16.51	2.826	16.72	.912	0.21	-5.6	6.0	.9478
Mutually exclusive								
No service use	65.12	3.846	64.38	1.258	-0.74	-8.7	7.2	.8582
FP only	11.32	2.404	12.17	.883	0.85	-4.2	5.9	.7534
MHP and/or psychiatrist only	8.379	2.154	8.626	.675	0.25	-4.2	4.7	.9154
FP and/or other doctor & MHP and/or psychiatrist	14.97	2.608	14.24	.853	-0.73	-6.1	4.6	.7920
Other doctor 'non-psychiatrist' with/without FP***	—	—	—	—	—	—	—	—

* $p < .05$
**Standard error
*** Data could not be released due to confidentiality (cell sizes less than 5)
[1] weighted n = 1,390,980
[2] weighted n = 17,115,663

Table 4.9. Secondary mental health service use for mental health reasons among Francophones and Anglophones outside of Quebec.

	Outside Quebec Francophones n= 2,526[1]		**Outside Quebec Anglophones** n = 28,680 [2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Accessibility barriers	.51	.165	.63	.059	0.11	-0.2	0.5	.5487
Acceptability barriers	4.06	.576	3.71	.165	-0.35	-1.5	0.8	.5552
Availability barriers	.68	.171	.80	.081	0.11	-0.3	0.5	.5649
Hospitalization (12- month)	.52	.155	.48	.051	-0.05	-0.4	0.3	.7579
Hospitalization (life)	6.02	.550	4.77	.175	-1.26	-2.4	-0.1	.0216*
Consultation with a religious professional (life)	3.40	.553	3.21	.130	-0.19	-1.3	0.9	.7387
Use of self-help resources (life)	6.65	.195	6.22	.188	-0.43	-1.0	0.1	.4650
Prescription medication use (12-month)	18.62	1.069	16.12	.304	-2.50	-4.7	-0.3	.0201*
Health product use (12-month)	13.82	.909	14.30	.311	0.48	-1.4	2.4	.6200

* $p < .05$

** Standard error

[1] weighted n = 1,390,980

[2] weighted n = 17,115,663

Table 4.10. Lifetime and twelve-month prevalences for mental health service use among Francophones and Anglophones within Quebec.

	Quebec Anglophones n = 526 [1]		**Quebec Francophones** n = 4772[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
Use of any MH service	20.62	2.547	27.34	.950	6.72	1.4	12.0	.0202*
Family Practitioner	12.26	2.181	14.32	.758	2.06	-2.5	6.6	.3970
Psychiatrist	5.52	1.173	6.83	.508	1.31	-1.2	3.8	.3500
Other physician	2.00	1.328	1.32	.196	0.12	-2.5	2.8	.5345
MHP	11.48	1.655	18.84	.855	7.36	3.7	11.0	.0000*
Mutually exclusive								
No Service Use	79.38	2.547	72.66	2.547	-6.72	-13.8	0.3	.0202*
FP only	4.36	.987	5.45	.543	1.09	-1.1	3.3	.3607
MHP and/or psychiatrist only	8.46	1.53	12.79	.724	4.33	1.0	7.6	.0220*
FP and/or other doctor & MHP and/or psychiatrist	6.51	1.221	8.70	.551	2.19	-0.4	4.8	.1409
Other doctor 'non-psychiatrist' with or without FP	-	-	-	-	-	-	-	-

* $p < .05$

** Standard error

*** No results available due to confidentiality (cell sizes less than 5).

[1] weighted n = 981,924

[2] weighted n = 5,007,719

Table 4.10. (Continued). Lifetime and twelve-month prevalences for mental health service use among Francophones and Anglophones within Quebec.

	Quebec Anglophones n = 526 [1]		**Quebec Francophones** n = 4772[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
12 month								
Non-mutually exclusive								
No service use	4.91	1.135	9.25	.6024	4.34	1.8	6.9	.0059*
Family Practitioner	3.27	.877	5.13	.425	1.86	0.0	3.8	.1006
Psychiatrist	.77	.431	1.35	.192	0.58	-0.3	1.5	.3107
Other physician								
MHP	3.13	.892	5.96	.556	2.83	0.8	4.9	.0264*
Mutually exclusive								
No service use	95.09	1.135	90.75	.6024	-4.34	-6.9	-1.8	.0059*
FP only	1.39	.594	2.48	.279	1.09	-0.2	2.4	.1799
MHP and/or psychiatrist only	1.61	.672	4.01	.465	2.40	0.8	4.0	.0234*
FP and/or other doctor & MHP and/or psychiatrist	1.84	.658	2.65	.336	0.81	-0.6	2.3	.3364
Other doctor 'non-psychiatrist' with or without FP***	-	-	-	-	-	-	-	-

* $p < .05$

** Standard error

*** No results available due to confidentiality (cell sizes less than 5).

[1] weighted n = 981,924

[2] weighted n = 5,007,719

and lifetime non-mutually exclusive categories were family practitioners and MHPs. For the non-mutually exclusive lifetime service use categories, Francophones also had a higher proportion of respondents who consulted a MHP (18.8%) than Anglophones (11.5%) ($p <$ .0001). A statistically significant differences was observed for the lifetime mutually exclusive categories of MHP and/or psychiatrist only: Francophones had a higher prevalence (12.8%) when compared to Anglophones (8.5%) ($p = .02$).

For twelve-month prevalences of mental health service use within the mutually and non-mutually exclusive categories, Francophones had a higher proportion of respondents who had used any service compared to Anglophones, 9.2% versus 4.9%, respectively ($p = .01$). Francophones also had a higher prevalence of consulting a MHP (6.0%) within the non-mutually exclusive category when compared to Anglophones (3.1%) ($p = .03$). No other statistically significant differences were found within the non-mutually exclusive, twelve-month service use categories. However, within the mutually exclusive 12-month service use category MHP and/or psychiatrist only, Anglophones had a lower prevalence (1.6%) compared to Francophones (4.0%) ($p = .02$).

Among Francophones and Anglophones from Quebec with a mental illness present within the past twelve-months, the results indicate that no significant differences exist in the prevalence of service use (refer to Table 4.11). Table 4.12 shows the prevalence for the secondary mental health service use variables between Francophones and Anglophones within Quebec. For a description of secondary mental health service use categories, refer to "Definitions of secondary mental health service use outcomes" in Methods (page 54). The results indicated that more Francophones used self-help resources within their lifetime compared to Anglophones, 7.3% and 3.0%, respectively ($p = .01$). A statistically significant difference was also observed

Table 4.11. Twelve month prevalences for mental health service use among Francophones and Anglophones within Quebec with a mental illness within the past 12-months.

	Quebec Anglophones n = 526 [1]		**Quebec Francophones** n = 4772[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
12 month								
Non-mutually exclusive								
Use of any MH service	32.87	7.931	37.19	3.06	4.32	-12.3	21.0	.6124
Family Practitioner	27.32	7.862	25.21	2.911	-2.11	-18.5	14.3	.7940
Psychiatrist***	—	—	—	—	—	—	—	—
Other physician***	—	—	—	—	—	—	—	—
MHP	13.30	5.050	24.58	2.833	11.28	-0.1	22.6	.0943
Mutually exclusive								
No service use	67.13	7.931	62.81	3.060	-4.32	-21.0	12.3	.6124
FP only	15.26	6.982	6.987	1.351	-8.273	-22.2	5.7	.1046
MHP and/or psychiatrist only***	—	—	—	—	—	—	—	—
FP and/or other doctor & MHP and/or psychiatrist	12.06	4.973	18.08	2.652	6.02	-5.0	17.1	.3309
Other doctor 'non- psychiatrist' with or without FP***	—	—	—	—	—	—	—	—

* $p < .05$

**Standard error

*** No results available due to confidentiality (cell sizes less than 5)

[1] weighted n = 981,924

[2] weighted n = 5,007,719

Table 4.12. Secondary mental health service use among Francophones and Anglophones within Quebec for mental health reasons.

	Quebec Anglophones n = 526 [1]		**Quebec Francophones** n = 4772[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Accessibility barriers***	—	—	—	—	—	—	—	—
Acceptability barriers	3.09	.950	2.75	.324	-0.34	-2.3	1.6	.7173
Availability barriers	.71	.380	.799	.175	0.09	-0.7	0.9	.8291
Hospitalization (12-month)***	—	—	—	—	—	—	—	—
Hospitalization (life)	4.31	1.431	4.86	.343	0.54	-2.3	3.4	.7260
Consultation with a religious professional (life)	1.61	.629	1.18	.220	-0.43	-1.7	0.9	.4637
Self-help use (life)	2.99	.708	6.27	.565	3.28	1.5	5.1	.0018*
Prescription medication use (12-months)	9.70	1.448	16.66	.763	6.96	3.7	10.2	.0002*
Health product use (12-months)	9.12	1.962	11.18	.619	2.06	-2.0	6.1	.3339

* $p < .05$

**Standard error

*** No results available due to confidentiality (cell sizes less than 5).

[1] weighted n = 981,924

[2] weighted n = 5,007,719

for use of medications for mental health reasons within the past twelve months: 16.7% for Francophones versus 9.7% for Anglophones ($p < .01$). No other statistically significant differences were found for prevalences of secondary service use between Francophones and Anglophones.

A exploratory analysis was also conducted which compared immigrant to non-immigrant Anglophones in Quebec (see Appendix G). The results indicated that non-immigrants had a higher prevalence of consulting a psychiatrist within their lifetime (7.6%) compared to non-immigrants (3.2%) ($p = .02$). In addition, non-immigrants also had a higher prevalence of consulting a MHP during their lifetime (14.9%) than immigrants (7.5%) ($p = .04$). Within lifetime mutually exclusive service use categories, a statistically significant difference was found with a higher proportion of non-immigrants consulting both a FP and/or another medical doctors and a MHP and/or psychiatrist (8.7%) than immigrants (4.0%, $p = .02$). No other significant differences were found between immigrant and non-immigrant Anglophones.

4.3.3 Mental Health Service Use: Minority versus Majority Francophones

A secondary analysis was conducted to compare Francophones within and outside in terms of mental health service use. Refer to page 51 for a detailed description of primary mental health service use categories. Table 4.13 shows the lifetime and twelve-month prevalences for mental health service use in both mutually and non-mutually exclusive service use categories. Overall, Quebec Francophones used more mental health services within their lifetime than outside Quebec Francophones: 27.3% and 22.4%, respectively ($p < .001$).

Table 4.13. Lifetime and twelve month prevalences for mental health service use among Francophones within and outside of Quebec.

	Quebec n = 4,772[1]		**Outside Quebec** n = 2,526[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
Use of any MH service	27.34	.950	22.41	1.074	-4.93	-7.7	-2.1	.0006*
Family Practitioner	14.32	.758	15.11	.943	0.79	-1.6	3.2	.5080
Psychiatrist	6.83	.508	9.02	.797	2.19	0.3	4.0	.0185*
Other physician	1.32	.196	1.42	.257	0.1	-0.5	0.7	.7381
MHP	18.84	.855	12.89	.899	-5.95	-8.4	-3.5	.0000*
Mutually exclusive								
No service use	72.66	.950	77.59	1.074	4.93	2.1	7.7	.0006*
FP only	5.45	.543	4.67	.530	-0.78	-2.3	0.7	.3074
MHP and/or psychiatrist only	12.79	.724	7.20	.675	-5.59	-7.5	-3.7	.0000*
FP and/or other doctor & MHP and/or psychiatrist	8.70	.551	10.33	.825	1.63	-0.3	3.6	.1004
Other doctor 'non-psychiatrist' with or without FP	.40	.111	.21	.089	-0.19	-0.5	0.1	.1758
12 month								
Non-mutually exclusive								
Use of any MH service	9.26	.602	7.99	.632	-1.27	-3.0	0.4	.1318
Family Practitioner	5.13	.425	4.67	.499	-0.46	-1.8	0.8	.4365
Psychiatrist	1.35	.192	2.22	.363	0.87	0.1	1.7	.0203*
Other physician	.20	.060	.437	.169	0.24	-0.1	0.6	.1041
MHP	5.96	.556	3.84	.421	-2.13	-3.5	-0.8	.0018*

* $p < .05$
** Standard error
[1] weighted n = 5,007,719
[2] weighted n = 1,390,980

Table 4.13. (Continued). Lifetime and twelve month prevalences for mental health service use among Francophones within and outside of Quebec.

	Quebec n = 4,772[1]		**Outside Quebec** n = 2,526[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Mutually exclusive								
No service use	90.8	.602	92.01	.632	1.26	-0.5	3.0	.1318
FP only	2.48	.279	2.51	.367	0.03	-0.9	0.9	.9547
MHP and/or psychiatrist only	4.01	.465	3.26	.442	-0.75	-2.0	0.5	.2340
FP and/or other doctor & MHP and/or psychiatrist	2.65	.336	2.10	.325	-0.54	-1.5	0.4	.2416
Other doctor 'non-psychiatrist' with or without FP	.120	.047	.120	.056	0	-0.1	0.1	.9679

* $p < .05$
** Standard error
[1] weighted n = 5,007,719
[2] weighted n = 1,390,980

Significant differences also were observed for some lifetime non-mutually exclusive service use variables. While Francophones outside Quebec had a higher percentage of respondents who consulted a psychiatrist (9.0% versus 6.8%) ($p = .02$), Quebec Francophones had a higher prevalence of consultation with a MHP (18.8% versus 12.9%) ($p < .0001$). Within the lifetime mutually exclusive service use categories, results indicated a statistically significant difference for consultation with a 'MHP and/or psychiatrist only': Quebec Francophones had a higher prevalence (12.8%) than outside Quebec Francophones (7.2%) ($p < .0001$). With respect to twelve-month non-mutually exclusive service use, no difference was found in overall use of any mental health service between Quebec and outside Quebec Francophones. However, 2.2% of outside Quebec Francophones consulted a psychiatrist (non-mutually exclusive) compared to 1.4% of Quebec Francophones ($p = .02$). In contrast, a lower proportion of outside Quebec Francophones consulted a MHP versus Quebec Francophones, 3.8% and 6.0%, respectively ($p = .01$). The comparison of twelve-month mutually exclusive service use categories revealed no significant differences.

Twelve-month service use comparisons were replicated among Francophones with a mental illness present within the past twelve months (refer to Table 4.14). The only significant difference was found within the MHP category (non-mutually exclusive): 24.6% of Quebec Francophones consulted with a MHP within the past twelve-months versus 16.5% of outside Quebec Francophones ($p = .04$).

Table 4.14. Twelve month prevalences for mental health service use among Francophones within and outside of Quebec with a mental illness present within the past twelve-months.

	Quebec n = 4,772[1]		**Outside Quebec** n = 2,526[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
12 month								
Non-mutually exclusive								
Use of any MH service	37.19	3.060	34.88	3.846	-2.31	-11.9	7.3	.6410
Family Practitioner	25.21	2.911	26.50	3.346	1.29	-7.4	10.0	.7706
Psychiatrist	9.82	1.724	12.37	2.539	2.55	-3.5	8.6	.3878
Other physician	1.41	.5724	1.84	1.154	0.43	-2.1	3.0	.7334
MHP	24.58	2.833	16.51	2.826	-8.07	-15.9	-0.2	.0461*
Mutually exclusive								
No service use	62.81	3.060	65.12	3.846	2.31	-7.3	11.9	.6410
FP only	6.99	1.351	11.32	2.404	4.33	-1.1	9.7	.0909
MHP and/or psychiatrist only	11.29	1.678	8.38	2.154	-2.91	-8.3	2.4	.3036
FP and/or other doctor & MHP and/or psychiatrist	18.08	2.652	14.97	2.608	-3.11	-10.4	4.2	.4089
Other doctor 'non-psychiatrist' with /without FP***	—	—	—	—	—	—	—	—

* $p < .05$
** Standard error
*** No results available due to confidentiality (cell sizes less than 5).
[1] weighted n = 5,007,719
[2] weighted n = 1,390,980

Secondary mental health service use was also compared between Francophone minority and majority groups (refer to Table 4.15 and page 54 for a description of each category). Results showed that a greater proportion of outside Quebec Francophones (4.1%) reported experiencing acceptability barriers in accessing mental health services compared to Quebec Francophones (2.8%) ($p = .03$). In addition, more outside Quebec Francophones (3.4%) consulted with a religious professional within their lifetime for mental health reasons than Quebec Francophones (1.2%) ($p < .0001$). A statistically significant difference was also found between language groups with respect to health product use for mental health reasons within the past twelve-months. Approximately 13.8% of minority Francophones used a health product compared to 11.2% of majority Francophones ($p = .01$). The remaining secondary service use comparisons were non-significant.

Table 4.15. Secondary mental health service use variables among Francophones within and outside of Quebec for mental health reasons.

	Quebec n = 4,772[1]		**Outside Quebec** n = 2,526[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Accessibility barriers	.44	.090	.51	.165	0.06	-0.3	0.4	.7178
Acceptability barriers	2.75	.324	4.06	.576	1.3	0.0	2.6	.0308*
Availability barriers	.799	.175	.68	.171	-0.12	-0.6	0.4	.6251
Hospitalization (12-month)	.68	.149	.52	.155	-0.15	-0.6	0.3	.4978
Hospitalization (lifetime)	4.86	.343	6.02	.550	1.17	-0.1	2.4	.0631
Consultation with a religious professional (lifetime)	1.18	.220	3.40	.553	2.22	1.1	3.4	.0000*
Self-help use (lifetime)	6.27	.565	6.65	.195	0.37	-0.8	1.5	.6441
Prescription medication use (12-month)	16.66	.763	18.62	1.069	1.96	-0.6	4.5	.1507
Health product use (12 month)	11.18	.619	13.82	.909	2.64	0.5	4.8	.0142*

* $p < .05$

** Standard error

[1] weighted n = 5,007,719

[2] weighted n = 1,390,980

4.3.4 Mental Health Service Use: Minority versus Majority Anglophones

Table 4.16 shows the secondary analysis that was conducted to compare differences in mental health service use between minority and majority Anglophones. Very few differences were found between Anglophones for both mutually exclusive and non-mutually exclusive lifetime service use categories: majority Anglophones had a higher prevalence of consultation with a psychiatrist (8.4% for majority Anglophones versus 5.5% for minority Anglophones) (p = .04) in addition to a higher percentage of respondents who consulted a 'FP and/or other doctor and MHP and/or psychiatrist only' (9.7%) when compared to minority Anglophones (6.5%) (p = .03). With respect to twelve-month prevalences of service use, a higher percentage of Anglophones outside Quebec used a mental health service (8.2%) when compared to Quebec Anglophones (4.9%) (p = .02). In addition, the prevalences for the non-mutually exclusive categories of consultation with a family practitioner and consultation with a psychiatrist were higher among majority Anglophones. Specifically, 5.6% of majority Anglophones consulted with a family practitioner compared to 3.3% of minority Anglophones (p = .04), and 2.2% of majority Anglophones consulted with a psychiatrist compared to .8% of minority Anglophones (p = .04).

Table 4.16. Lifetime and twelve month prevalences for mental health service use among Anglophones within and outside of Quebec.

	Quebec n = 526[1]		**Outside Quebec** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
Use of any MH service	20.62	2.547	21.82	.328	1.20	-3.8	6.2	.6449
Family Practitioner	12.26	2.181	15.08	.290	2.82	-1.5	7.1	.2359
Psychiatrist	5.52	1.173	8.41	.228	2.89	0.5	5.2	.0434*
Other physician	2.00	1.328	1.25	.090	-0.75	-3.4	1.9	.4778
MHP	11.48	1.655	12.41	.246	0.93	-2.3	4.2	.5901
Mutually exclusive								
No service use	79.38	2.547	78.18	.328	-1.20	-6.2	3.8	.6449
FP only	4.36	.987	5.16	.178	0.80	-1.2	2.8	.4528
MHP and/or psychiatrist only	8.46	1.530	6.62	.199	-1.85	-4.9	1.2	.1816
FP and/or other doctor & MHP and/or psychiatrist	6.51	1.221	9.71	.232	3.20	0.8	5.6	.0289*
Other doctor 'non- psychiatrist' with/without FP***	-	-	-	-	-	-	-	-
12 month								
Non-mutually exclusive								
Use of any MH service	4.91	1.135	8.24	.228	3.33	1.1	5.6	.0208*
Family Practitioner	3.27	.877	5.63	.184	2.36	0.6	4.1	.0356*
Psychiatrist	.77	.431	2.21	.122	1.44	0.6	2.3	.0475*
Other physician***	-	-	-	-	-	-	-	-
MHP	3.13	.892	3.79	.154	0.66	-1.1	2.4	.5012

* $p < .05$

** Standard error

*** No results available due to confidentiality (cell sizes less than 5).

[1] weighted n = 981,924

[2] weighted n = 17,115,663

Table 4.16. (Continued). Lifetime and twelve month prevalences for mental health service use among Anglophones within and outside of Quebec.

	Quebec n = 526[1]		**Outside Quebec** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Mutually exclusive								
No service use	95.09	1.135	91.76	.228	-3.33	-5.6	-1.1	.0208*
FP only	1.39	.594	2.98	.130	1.58	0.4	2.8	.0638
MHP and/or psychiatrist only	1.61	.672	2.50	.134	0.89	-0.5	2.2	.2832
FP and/or other doctor & MHP and/or psychiatrist	1.84	.658	2.60	.130	0.76	-0.6	2.1	.3256
Other doctor 'non-psychiatrist' with/without FP***	-	-	-	-	-	-	-	-

* $p < .05$
** Standard error
*** No results available due to confidentiality (cell sizes less than 5).
[1] weighted n = 981,924
[2] weighted n = 17,115,663

When restricting the analysis to Anglophones with a mental illness present within the past twelve-months, no differences were statistically significant for any twelve- month service use category (see Table 4.17).

Table 4.18 shows the prevalence of secondary service use categories among minority and majority Anglophones in Canada. The results indicated that several statistically significant differences existed between these two groups and in each instance majority Anglophones had a higher prevalence of service use. More specifically, 6.18% of majority Anglophones used self-help resources within their lifetime versus 2.99% of minority Anglophones ($p = .01$). Medication use for mental health reasons was also higher among majority Anglophones (16.12%) when compared to minority Anglophones (9.70%) and a lower proportion of Anglophones from Quebec used a health product for mental health purposes within the past twelve months compared to outside Quebec Anglophones (9.12% and 14.3%, respectively; $p = .03$).

Table 4.17. Twelve month prevalences for mental health service use among Anglophones within and outside of Quebec with a mental illness present within the past twelve-months.

	Quebec n = 526[1]		**Outside Quebec** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
12 month								
Non-mutually exclusive								
Use of any MH service	32.87	7.931	35.62	1.258	2.75	-13.0	18.5	.7327
Family Practitioner	27.32	7.862	26.68	1.161	-0.64	-16.2	14.9	.9342
Psychiatrist***	—	—	—	—	—	—	—	—
Other physician***	—	—	—	—	—	—	—	—
MHP	13.3	5.05	16.72	.9121	3.42	-6.6	13.5	.5380
Mutually exclusive								
No service use	67.13	7.931	64.38	1.258	-2.75	-18.5	13.0	.7327
FP only	15.26	6.982	12.17	.8832	-3.09	-16.9	10.7	.6209
MHP and/or psychiatrist only***	—	—	—	—	—	—	—	—
FP and/or other doctor & MHP and/or psychiatrist	12.06	4.973	14.24	.8528	2.18	-7.7	12.1	.6788
Other doctor 'non-psychiatrist' with/without FP***	—	—	—	—	—	—	—	—

* $p < .05$
**Standard error
***No results available due to confidentiality (cell sizes less than 5).
[1] weighted n = 981,924
[2] weighted n = 17,115,663

Table 4.18. Secondary mental health service use variables among Anglophones within and outside of Quebec.

	Quebec n = 526[1]		**Outside Quebec** n = 28,680[2]		Difference (%)	95% CI of difference		
	%	SE**	%	SE**		Lower	Upper	*p*-value
Accessibility barriers***	-	-	-	-	-	-	-	-
Acceptability barriers	3.09	.950	3.71	.165	0.62	-1.3	2.5	.5525
Availability barriers	.71	.380	.80	.081	0.09	-0.7	0.9	.8256
Hospitalization (12-months)***	-	-	-	-	-	-	-	-
Hospitalization (lifetime)	4.31	1.431	4.79	.175	0.48	-2.3	3.3	.7629
Religious professional (lifetime)	1.61	.629	3.21	.136	1.6	0.3	2.9	.0696
Self-help use (lifetime)	2.99	.708	6.18	.1947	3.19	1.8	4.6	.0016*
Medication use (12-month)	9.70	1.45	16.12	.304	6.42	3.5	9.3	.0004*
Health product use (12-month)	9.12	1.962	14.3	.3111	5.18	1.3	9.1	.0288*

* $p < .05$

** Standard error

*** No results available due to confidentiality (cell sizes less than 5).

[1] weighted n = 981,924

[2] weighted n = 17,115,663

4.4 Association between OLMC and Mental Health Problems

Logistic regression analysis was conducted in order to understand whether or not linguistic minority/majority status is significantly associated with the presence of mental health problems within the past 12-months. The dependent variable was presence of a mental health problem (MDE, anxiety disorder or alcohol/substance dependence) within the past twelve-months. The main covariates of interest were language status (Anglophone or Francophone) and minority status (official language minority or official language majority). The covariate 'province' (Quebec or outside Quebec) was also of interest in order to control for the effects of geographic location on mental health. Sex, age, and immigrant status were also tested (refer to "Definitions of independent variables section" on page 57).

Table 4.19 shows the results from the univariate analyses.

Table 4.19. Results from the univariate logistic regression analyses with presence of a mental illness within the past 12-months as the outcome variable

Factor	OR	SE	CI for OR		*p*-value
			Lower	Upper	
Linguistic Minority Status (Minority = 0)	1.176	.1265	.9519	1.4531	.132
Language (Anglophone = 0)	.8806	.0493	.7887	.9832	.024*
Age	.972	.0013	.9688	.9743	.000
Sex (male = 0)	1.16	.0595	1.049	1.2831	.004
Immigrant status (immigrant = 0)	1.95	.1616	1.6539	2.2919	.000
Province (Quebec = 0)	1.11	.0785	.9738	1.2833	.113

*$p < .05$

Although official language minority status was not a significant predictor of mental health problems (OR: 1.18, 95% CI: .95, 1.45), language status was a significant predictor with Francophones less likely to have a mental illness (OR = .88, 95% CI: .79, .98). Sex, age, and immigrant status were all significantly associated with the presence of a mental illness.

Specifically, women (OR = 1.16, 95% CI: 1.05, 1.28), younger individuals (OR = .972, 95% CI: .96, .97), and non-immigrants (OR = 1.95, 95% CI: 1.65, 2.29) were more likely to have a mental health problem. Province of residence (Quebec versus outside Quebec) was not a significant predictor of mental health problems (OR: 1.11, 95% CI: .97, 1.28).

Table 4.20 shows the results from the final multivariate model. Although official language minority status was not a significant predictor, it was retained in the model as it is one of the main covariates of interest. The model indicates that when controlling for sex, age, and immigrant status, language use (French or English) is no longer significant. The interaction between language use and official language minority-majority status was also tested and was found to be non-significant. Because both linguistic minority status and language status (and the interaction between two the two independent variables) were non-significant, we concluded that official language minority/majority status does not predict the presence of a mental illness within the past twelve-months and did not proceed any further.

Table 4.20. Final multivariate model for presence of a mental illness within the past 12-months.

Factor	OR	SE	CI for OR		*p*-value
			Lower	Upper	
Linguistic Minority Status (Minority = 0)	1.0371	1.253	.8179	1.3150	.763
Language (Anglophone = 0)	.8819	.0637	.7651	1.0165	.083
Age	.9723	.0014	.9696	.9751	.000*
Sex (male = 0)	1.206	.0639	1.087	1.3390	.000*
Immigrant status (immigrant = 0)	1.824	.1603	1.5351	2.1684	.000*

*$p < .05$

4.5 Association between OLMC and Mental Health Service use within the past 12-months

Logistic regression analysis was conducted in order to examine whether or not official linguistic minority-majority status was significantly associated with mental health service utilization. The dependent variable of interest was use of any mental health service within the past 12-months for mental health reasons. The main independent variables of interest were language use (English or French) and minority status (official language minority or majority). The covariates province, sex, age, and immigrant status were also tested. Table 4.21 illustrates the results from the univariate analyses (refer to "Definitions of independent variables section" on page 57 for a description of covariates). Linguistic minority status was a significant predictor (OR: 1.30, 95% CI: 1.06, 1.58). Individuals from an official language majority were 1.30 times more likely to use a mental health service within the past 12-months compared to individuals from an official language minority. Language use was not significantly associated with the presence of a mental health problem (OR: 1.008, 95% CI: .90, 1.13). Sex, age, and immigrant status were all independently significantly associated with mental health service use with a higher odds of service utilization among women, older respondents, and non-immigrants. Province of residence (Quebec versus outside Quebec) was not significantly associated.

Table 4.21. Results from the univariate logistic regression analyses with use of mental health services within the past 12-months as the outcome variable

Factor	OR	SE	CI for OR		*p*-value
			Lower	Upper	
Linguistic Minority Status (Minority = 0)	1.30	.1305	1.0670	1.5832	.009*
Language (Anglophone = 0)	1.008	.0595	.8975	1.1321	.892
Age	.9889	.0013	.9863	.9915	.000*
Sex (male = 0)	2.0672	.1096	1.8627	2.2942	.000*
Immigrant status (immigrant = 0)	2.0282	.1747	1.7124	2.4024	.000*
Province (Quebec = 0)	.9409	.0679	.8164	1.0844	.400

* $p < .05$

Table 28 shows the results from the final multivariate model. Language status was retained in the model in order to answer our research question. The model indicates that all three covariates (sex, age, immigrant status) were significant predictors of service use. Women, older respondents, and non-immigrants had a higher odds of using a mental health service within the past 12-months. When controlling for all other variables in the model, respondents from the official language majority group were times more 1.24 times more likely to have used a mental health service (95% CI: .996, 1.53). This association was approaching statistical significance (p = .053). Official language use (anglo versus franco) was not significant after controlling for the variables linguistic minority status, age, sex, and immigrant status. Moreover, the interaction between linguistic minority status and language use was non-significant and, consequently, it was concluded that official language minority/majority status is not associated with the use of mental health services within the past twelve-months.

Table 4.22. Final multivariate model with use of a mental health service within the past 12-months as the outcome variable

Factor	OR	SE	CI for OR		p-value
			Lower	Upper	
Linguistic Minority Status (Minority = 0)	1.235	.1349	.996	1.5313	.053
Language (Anglophone = 0)	1.083	.0797	.9376	1.2519	.277
Age	.9892	.0013	.9867	.9918	.000*
Sex (male = 0)	2.13	.1133	1.9255	2.3715	.000*
Immigrant status (immigrant = 0)	1.8358	.1625	1.5426	2.1847	.000*

*$p < .05$

CHAPTER FIVE
DISCUSSION

Although Canada is home to two official languages, French and English, French- and English-speaking Canadians may still belong within a linguistic minority dependent on where they reside geographically. English-speaking individuals from Quebec and French-Speaking individuals from outside of Quebec are considered part an OLMC.[5] Though it has been speculated that health disparities may exist between official language minority and majority groups, very little work has been done to examine this issue, specifically with regard to mental health problems and mental health service use.[5,34,37] Therefore, the first two objectives of the current study were to fill the gap within the literature by examining the prevalence of mental health problems and mental health service use among OLMC in Canada with the goal of determining whether or not these prevalences differ from that of official language majority groups. The final two objectives were to investigate whether or not official language minority or majority status is associated with the presence of mental health problems and the use of mental health service use within the past 12-months. The current study adds to the previous literature by using a nationally representative Canadian sample to examine the effects of both language and minority status.

5.1 Mental Health Problems and Official Language Minority-Majority Status

First, we compared the prevalence of common mental health problems (MDE, anxiety disorder (social phobia, panic disorder and agoraphobia), and alcohol/substance dependence) between Francophones and Anglophones first outside of Quebec then within Quebec. It was expected that differences would exist between official language minority and majority language groups, though the hypothesis was non-directional because it was unclear from past research

whether individuals from minority groups have poorer mental health compared to their majority counterparts.[23,29,48-49,56,57] Our findings indicate that the prevalence of having any mental health problem within the past 12-months ranged from 8.5% to 9.7% for linguistic minority groups and 9.8% to 10.8% for linguistic majority groups coinciding with past research which revealed that 10.2% of Canadians, overall, had either MDE, an anxiety disorder or ASD.[42]

5.1.1 Primary Mental Health Outcomes

For common mental health problems present outside of Quebec, very few differences were found between Anglophones and Francophones with the exception of lifetime prevalence of MDE wherein Francophones had a higher prevalence than Anglophones. No differences were found between outside Quebec language groups for 12-month prevalence of mental disorders for both non-mutually exclusive and mutually (categories independent of one another) exclusive categories. Likewise, our results show that very few variations in mental illness between Francophones and Anglophones within Quebec. Significant differences were not observed within the lifetime and 12-month non-mutually exclusive mental health problem categories. Francophones had significantly higher rates of comorbid 'MDE and anxiety disorder only' (.83% versus .13%) within the 12-month mutually exclusive categories. Although most differences were not significant within the comorbid mental disorder categories both within and outside Quebec, the prevalence of co-morbidites was consistent with past research which demonstrated the prevalence of co-morbid MDE and anxiety in Canada was 1.2% and alcohol/substance dependence with MDE and/or anxiety disorder was 0.7%.[42]

In a secondary analysis, primary mental health outcomes were next compared between Quebec Francophones to outside Quebec Francophones, and Quebec Anglophones to outside Quebec Anglophones. Francophone comparisons showed no differences in terms of lifetime and

twelve-month prevalences of mental health problems. The Anglophone comparisons revealed a few variations between regions: Anglophones outside Quebec had a higher 12-month prevalence of anxiety disorders (5.1% versus 3.2%), whereas more Quebec Anglophones had comorbid 'MDE and anxiety disorder only' (.2% versus .1%). However, the aforementioned difference may be attributed to small cell sizes for the Anglophone group.

Overall, mental disorder prevalences between official language minority and majority groups appear to be more similar than different. This contrasts previous work which has shown that individuals with poor language proficiency have higher rates of depression, anxiety, and substance abuse compared to those with good to excellent language proficiency.[47,48,62] However, in these studies participants had at least limited English skills. In addition, data collection took place in the United States where there is a pre-eminence of English as an "official language". In contrast, the current study was unable to assess English or French language proficiency and takes place in Canada where two official languages exist, which limits comparability to these studies. One may also look towards previous research which has examined minority status, in general, and mental illness. Such research reveals an inconsistent association between minority status and mental illness.[23,29,49,56,57] Therefore, it is not surprising to observe minimal differences between our language groups of interest.

A potential explanation for a lack of difference between official language groups within Quebec is the proportion of Anglophone immigrants. Nearly half of the minority Anglophones interviewed were immigrants; therefore, we conducted mental health comparisons between immigrant and non-immigrant Anglophones in order to determine whether differences exist in mental health between these groups. Though we did find a significant difference for 12- month prevalence of 'any mental illness', the relatively low number of immigrant and non-immigrant

Anglophones inhibited the ability to examine each of the mental disorders of interest. A large body of research has examined the "healthy immigrant effect" in Canada wherein immigrants have been shown to be healthier than Canadian born-residents when they arrive in Canada largely due to the extensive physical and mental health screening process necessary in order to enter Canada. This translates into better health outcomes among immigrants when compared to non-immigrants.[105-111] Our results show that this effect may be influencing our findings due to the fact that such a large percentage of the minority Anglophone sample are immigrants. It may be the case that differences between minority and majority official language groups in Quebec, and majority to minority Anglophones are confounded by the "healthy immigrant effect". When stratifying the prevalence of mental health problems by immigrant status, one can see that the prevalences for Anglophone immigrants are quite similar to majority Francophones. In contrast, the prevalences for Anglophone non-immigrants is much higher than both Anglophones immigrants and majority Francophones. Indeed, immigrant status was a significant predictor of mental illness within the past 12-months after controlling for language use, official language minority/majority, age and sex with immigrants having a lower likelihood of mental illness (see Table 26).

5.1.2 Secondary Mental Health Outcomes

Self-reported mental health and well-being indicators are important in order to better understand how respondents view their own health that may not be otherwise captured through diagnostic screening measures. In the current study, four secondary mental health outcomes were assessed: self-rated mental health, self-rated life satisfaction, self-rated stress levels, and psychological distress levels (based on the K-10). Certainly self-rated mental health and diagnosed mental illnesses are related.[111-113] A study measured the relations between self-rated

mental health and multiple mental/physical health measures.[111] The results indicated that self-rated mental health was related to all four mental health scales, though it's association with emotional role functioning (i.e., as a result of emotional problems, how frequently individuals completed less than they would have liked to or completed tasks less carefully than would be expected) was weak. Therefore, the authors conclude that although self-rated mental health is certainly related to many psychological measures, it cannot by itself replace such measures, but rather may provide complementary and supplementary mental health information, such as an individual's knowledge of their own emotional and psychological stability.

Statistics Canada re-affirms this finding indicating that the examination of self-rated mental health and self-rated outcomes related to mental health remain extremely important and, hence, have been included in the CCHS 1.2.[112] Mawani and Gilmour used the CCHS 1.2 survey to determine the association between classification with a mental illness and self-rated mental health.[113] A significant association was in fact found with individuals with a mental disorder more likely to indicate having poor or fair mental health compared to respondents who did not have a mental disorder; however, many individuals with a mental disorder did not endorse poor or fair mental health. Therefore, the authors concluded that although an association exists between self-rated mental health and measurement of specific mental disorders, self-rated mental health cannot act as a substitute for such measures.

Although our hypothesis that the proportion of respondents with common mental health problems would differ between minority and majority official language groups was not supported, the results from our secondary mental health outcomes analyses indicated that some self-rated indicators of well-being may, in fact, vary between groups—though it is not necessarily the case that minority groups fare poorer than majority groups. In some instances,

minority language groups reported lower levels of life satisfaction (minority Anglophones versus majority Francophones, and minority versus majority Francophones) and poor mental health (minority versus majority Francophones), while in other instances more majority Anglophones endorsed poor life satisfaction and mental health (majority Anglophones versus minority Francophones, and majority versus minority Anglophones).

Generally, the pattern seems to favour of Quebeckers where in all significant cases, they reported having a higher life satisfaction and lower mental health problems compared to outside Quebec Francophones and Anglophones. This finding coincides and extends upon a past meta-analysis by Goyder and McCutcheon which examined Franco-Anglo differences in life satisfaction within Quebec and outside Quebec from the early 1960's to the early 1990's.[114] The results demonstrated that although Francophones in Quebec had lower levels of life satisfaction in the early 1960's, this disparity began to diminish over each decade and improved dramatically in the early 1990's. The current study, which examined life satisfaction in 2001, provides evidence to suggest not only are the levels of life satisfaction among Quebeckers equal to outside Quebeckers, but that they may even be higher.

This trend towards poor self-rated mental health and low life satisfaction among outside Quebeckers versus within Quebeckers points towards the influence of contextual factors on mental health and well-being, rather than the effects of official language minority status as a higher proportion of both outside Quebec Francophones *and* Anglophones reported having poor mental health and low life satisfaction when compared to their respective language counterparts in Quebec. One of the limitations of the current study was the inability to assess environmental and contextual factors. Nevertheless, it may be the case that the contextual and cultural environmental factors found within Quebec differs from that of the rest Canada and these factors

may play a strong role in determining an individual's mental health experiences. Indeed, research increasingly acknowledges the potential impact of environmental determinants on mental health and well being.[32,115] Such factors include: poor socioeconomic statuses, urbanization, economic instability, inequity, social and community participation, a sense of belonging, and social support, among many others.

Although very few studies have directly assessed environmental and contextual differences related to mental health between Quebec and the rest of Canada, some research has acknowledged that differences are apparent with respect to history, culture, values and ideologies.[116-18] As such, future research should examine the socio-cultural factors associated with mental health that may aid in our understanding of perceived mental health within and outside of Quebec.

5.1.3 Summary of Key Findings for Mental Health Outcomes

Outside Quebec. No differences were found in lifetime and 12-month prevalences of mental disorders between Anglophones and Francophones outside Quebec with the exception of lifetime prevalence of MDE. Anglophones had a lower lifetime prevalence (11.39%) than Francophones (13.19%). These findings are perhaps unsurprising based on the mixed findings in previous studies which have examined mental disorders between minority and majority groups.[23,29,47-49,56,57] With respect to self-rated mental health and well-being indicators, more Anglophones reported having low life satisfaction and poor mental health than Francophones extending upon past work which demonstrated increasing levels of life satisfaction among French Canadians compared to English Canadians from the 1960's to early 1990's.[114]

Quebec. A majority of lifetime and 12-month prevalences of mental disorders did not significantly differ between majority Francophones and minority Anglophones with the

exception of the 12-month mutually exclusive category 'MDE and anxiety disorder only': more Anglophones had 'MDE and anxiety disorder only' (.22%) compared to Francophones (.11%). The fact that nearly half of Quebec Anglophones were also immigrants (46%) may provide a potential explain for a lack of differences in mental health between official language groups. Specifically, "the healthy immigrant effect" [105-111] may decrease the proportion of minority Anglophones, overall, that have a mental illness. An analysis of self-rated life satisfaction indicated that significantly more minority Anglophones reported lower levels of life satisfaction compared to majority Francophones once again re-affirming the research findings that life satisfaction is increasing among Franco-Canadians.[114]

5.2 Mental health service use and official language minority-majority status

5.2.1 Primary Mental Health Service use Outcomes

The second objective of the current thesis was to compare the prevalence of mental health service use between minority and majority Francophones and Anglophones both within and outside of Quebec. Previous research has demonstrated that minority groups are less likely to use health care services when compared to majority groups.[78,96,98] As a result, we expected differences would exist between minority and majority official language groups. However, the prevalences were more uniform than different outside Quebec. More specifically, the lifetime and 12-month prevalences of service use for mental health reasons did not differ outside of Quebec between Anglophones and Francophones both within the mutually and non-mutually exclusive provider categories. The lack of difference between Francophones and Anglophones outside Quebec may be due to the high rates of Bilingualism among Francophones. Among Canadians whose mother tongue is French, 43.4% can also converse in English.[119] This rate is much higher than the approximately 9% of Anglo-Canadians can also speak French. Therefore,

if this is the case, then many Francophones outside of Quebec may also speak English which would deter many of the related barriers to using services, such as access to services in one's own language.

In contrast, more variations were observed between Anglophones and Francophones within Quebec wherein the likelihood of Bilingualism among Anglophones may be much lower.[119] Both 12-month and lifetime prevalences for 'use of any mental health service' differed between groups with more majority Francophones using services than minority Anglophones. When broken down by service provider, a greater number of Francophones had contact with specialized mental health service providers. For instance, more Francophones consulted with a MHP compared to Anglophones within their lifetime and within the past 12-months. In addition, within the mutually exclusive categories, 12-month and lifetime usage of a 'MHP and/or psychiatrist only' was more common among Francophones than Anglophones. This is not unexpected as poor language proficiency has been identified as a particularly strong predictor of psychotherapy non-utilization between ethnic groups.[120]

Differences in mental health service use between official language majority and minority groups in Quebec may be best interpreted in light of the high proportion of Quebec Anglophones who are immigrants (46%). The high proportion of Anglophone immigrants within Quebec does not correspond to the proportion of Francophone immigrants outside Quebec (21.79%) found in the current sample. In fact, it has been previously reported that while more than one in four Anglophones in Quebec are immigrants, only one in twenty Francophones outside Quebec are immigrants. Anglophone minorities may often be placed in a unique situation in that they are often times both not within the official language majority in addition to not being Canadian born.

Indeed, when comparing mental health service use between immigrant to non-immigrant Anglophones in Quebec, we found that non-immigrants had significantly higher rates of psychiatrist and MHP consultation than non-immigrants. This finding indicates that the differences we observed between Francophones and Anglophones in terms of mental health service use within Quebec may potentially be attributed to the large number of immigrant Anglophones who utilize less specialized services, perhaps as a result of language barriers or less need for mental health services due to lower rates. When controlling for official language status, language use, sex and age, immigrant status remained a significant predictor of 12-month mental health service use with non-immigrants more likely to use mental health care. This coincides with past research that has demonstrated that individuals from visible minority are more likely to consult a general practitioner for mental health reasons, while white populations are significantly more likely to consult a psychiatrist or psychologist.[23,91]

Unfortunately, the current study was unable to fully address these issues as they were outside the bounds of the current study and our data source did not have an adequate sample to examine. Nevertheless, the current study provides important knowledge regarding the impact of immigrant status within OLMC and points to the need for more research surrounding this particular population. Based on the large proportion of immigrants within OLMC in Quebec and the evidence provided from the current study that mental health and mental health service use disparities may potentially exist between immigrant and non-immigrant Anglophones in Quebec, more research is required to ascertain whether or not they are official language minority immigrants are, in fact, faring better psychologically and using less specialized mental health care services. This information will help inform ways in which the health care system facilitates service use among this particularly vulnerable official language minority group.

5.2.2 Primary Mental Health Service use Outcomes among those with a Mental Illness

Twelve-month prevalences of mental health service use were also compared among only those respondents who had a mental illness present within the past 12-months. Although no differences were found between Francophones and Anglophones both within and outside Quebec, it is clear from our findings that mentally ill Canadians do not use mental health care services at an alarmingly high rate. The prevalence of non-service use among those with a mental illness ranged from 62.81% to 67.13%, replicating previous service use research.[32-42] It is interesting to note that our analysis of secondary service use categories revealed that very few respondents from any of the minority-majority language groups reported experiencing accessibility (.44% to .63%) or availability (.68% to .80%) barriers to receiving mental health services; moreover, these proportions did not significantly differ between Quebec Anglophones and Francophones, and outside Quebec Anglophones and Francophones.

Based on the assumption that individuals from OLMC would have more difficulty receiving health care services in their own language, this finding suggests such individuals are experiencing less language access barriers than one would expect. However, the barrier most frequently reported was acceptability barriers which ranged from 2.75% to 4.06%. Although acceptability barriers could not be analyzed among strictly those with a mental illness present in the past 12-months due to a low number of respondents, it is reasonable to speculate that such individuals would experience higher levels of acceptability barriers in the form of stigma than those without a mental illness. Individuals with mental disorders have been considered that the largest group with the highest levels of stigmatization within society.[121] Indeed, stigmatization greatly affect individuals with mental disorders leading to high levels of stress and impairment in addition to the non-use of mental health services.[121-124] Results from past research in combination

with our current findings indicate that continued efforts are required to ensure individuals within mental illnesses are not only de-stigmatized within society, but also that they feel comfortable accessing services to enhance their mental health and well-being.

5.2.3 Secondary Mental Health Service use Outcomes

Several secondary service use categories which were of interest: barriers to receiving care, hospitalization, religious consultation, self-help use, and medication and health product usage. Outside of Quebec, more Francophones had been hospitalized for mental health reasons within their lifetime than Anglophones. It is perhaps not surprising that hospitalization for mental health reasons is higher among minority Francophones based on the significantly larger proportion of Francophones outside Quebec who live within rural areas. Rural populations have fewer services available to them, particularly speciality services such as those for mental health.[125-127] Research shows that rural populations have a greater likelihood of primarily consulting a general practitioner for mental health reasons and less likelihood of consulting a MHP when compared to urban samples.[126-28] More specifically, past research has indicated that while urban residents use mental health services significantly more than rural residents, individuals from rural areas have higher rates of hospitalization for mental health reasons than urban individuals[127-28] and have longer length of stays.[29] Consequently, the fact that many minority Francophones are from rural areas may help explain why their lifetime hospitalization rates for mental health purposes differs from majority Anglophones.

The proportion of respondents who use self-help resources was very similar between minority/majority Francophones and majority Anglophones (6.22% to 6.55%) compared to minority Anglophones (2.99%), many of which are immigrants. Language and cultural barriers may account for differences in this specific type of health behaviour.[32,130] For instance,

information regarding health promotion, the prevention and treatment of disease, and the availability of health care resources may not always be provided in both French and English. Moreover, it may be difficult to obtain effective translation services, many health care centres do not have a substantial number of bilingual staff, and self-help groups may be monolingual which likely plays a role in the underutilization of self-help resources among minority Anglophones who are less likely to be bilingual and more likely to be immigrants. Moreover, the current study only assessed western, mainstream forms of self-help resources (telephone line, support group, and internet support groups) and did not examine alternative forms of self-help, such as meditation, consultation with family, or reading books. Minority groups may also hold varying ethnic traditions with alternative methods and models of health and medicine that differ from that of the majority population[32], which may be of importance considering the large proportion of immigrant Anglophones from Quebec. Though limited research exists surrounding the relations between language, culture, and self-help use, minority groups have been shown to be largely underrepresented within self-help group membership.[131] This suggests that it may be particularly important to ensure minority Anglophones in Canada, many of which are both from a linguistic and ethnic minority background, are aware of the health care services and resources available to them. Moreover, due to the diversity found within this population, it is likely key for health care practitioner to be education and accepting of alternative health care practices used by individuals from different cultural backgrounds.

Both Francophones within and outside Quebec reported higher usage rates of prescription medication for mental health reasons when compared to their Anglophones counterparts. Because Francophones in both minority and majority situations had a higher prevalence, differences in medication use cannot be attributed to official language minority

status. Scholars have argued that language is inextricably related to culture.[132-33] Research has demonstrated that different cultural groups have varying attitudes towards health and healing, some endorsing the traditional western medical model, while others are more wary of the treatments provided by the majority health care system, such as medication.[134-135] It follows that Francophones may utilize medications for mental illness more frequently than Anglophones due to cultural differences in beliefs and knowledge about prescription medication, mental illness, and health.

5.2.4 Summary of Key Findings for Mental Health Service use Outcomes

Outside Quebec. The current thesis showed no differences in lifetime or 12-moths prevalences of mental health service use between Anglophones and Francophones outside Quebec perhaps due to the large proportion of bilingual Francophones in Canada[119] which would eliminate language barriers to accessing services. The comparisons of mental health service use between minority Francophones and majority Anglophones among those with a mental illness within the past 12-months indicated no statistically significant differences. Very low numbers of individuals with mental illness used mental health services. Acceptability barriers were most commonly reported compared to accessibility and availability barriers suggesting stigma plays a large role in influencing service use.

Several secondary mental health service use categories were also examined. Lifetime hospitalization for mental health problems was higher among Francophones compared to Anglophones. The rurality of many Francophone groups outside of Quebec may contribute to this difference as rural areas often have less specialized services (i.e., psychiatrists, counsellors).[125-27] Francophones used medications for mental health more than Anglophones. It is important to note that Francophones within Quebec also had a higher prevalence of medication

use than Québec Anglophones. This points to the role of culture in determining some aspects of mental health care patterns.[134-35]

Quebec. Comparisons of mental health service use within Quebec showed significant variations in mental health service use between Francophone and Anglophones groups. Specifically, 12-month and lifetime prevalences for 'use of any mental health service' varied between language: a higher proportion of Francophones used services than Anglophones. When broken down by service provider, fewer Anglophones used specialized mental heath services, such as MHPs. These differences may be attribute to the large sample of immigrant Anglophones in Quebec who were found to consult psychiatrists and MHPs less than non-immigrant Anglophones. Among Quebeckers who had a mental illness within the past 12-months, no differences were found with respect to mental health service use between English and French language groups.

The analysis of secondary mental health service use outcomes revealed that few minority Anglophones uses self-help resources compared to majority Francophones. Both Language and cultural barriers may account for this difference,[32,130] particularly in light of the number of Anglophone immigrants found within the population. Health information is often not provided in multiple languages, and some immigrant groups use alternative self-help methods (i.e., meditation, prayer) which was not covered by the CCHS 1.2. Francophones had a higher prevalence of prescription medication use for mental health reasons compared to Anglophones, which was also the result found outside of Quebec pointing to cultural differences in belief systems regarding mental health care.[134-35]

5.3 Official Language Minority-Majority Status as a Determinant of Mental Illness and Mental Health Service use

The third objective of the current thesis was to determine whether or not official language minority-majority status was associated with the presence of mental health problems within the past 12-months. After controlling for age, sex, and immigrant status, official language minority-majority status was not significantly associated with the presence of a mental illness and, therefore, we concluded that it is not a significant predictor of mental illness. Again, this result is not unexpected given the mixed findings between minority status (overall) and mental health.[2,23,29,34,47,48,56,57] Very few studies have specifically examined the relation between linguistic; therefore, the current thesis helps fill the gap within the literature by indicating those who are from a linguistic minority are not necessarily at a heightened risk for poor mental health.

The fourth objective was to examine the association between official language minority-majority status and the use of mental health services within the past 12-months. Language use was not significantly associated with the use of mental health services after controlling for age, sex, and immigrant status. However, linguistic minority status was a significant predictor of mental health service use with respondents from the official language majority more likely to use mental health services. This finding aligns with previous work examining minority groups and health service use wherein majority groups consistently use more health services. [6,23,46,47,90,91] The interaction between language use and minority-majority status was not significant. Consequently, we were able to conclude that official language minority-majority status is not a predictor of mental health service use.

Although the results indicate that neither official language minority-majority status nor province of residence were significantly associated with overall mental health service use within

the past 12-months, our univariate comparisons of mental health service use between Francophones within and outside Quebec, and Anglophones within and outside of Quebec revealed that differences may, in fact, exist when examining specific categories of service use between regions. Specifically, the results indicated that, generally, individuals outside of Quebec consulted a psychiatrist more, while individuals within Quebec consulted with MHPs more. These differences cannot be explained by official language minority status as both minority and majority language groups outside Quebec utilized psychiatrists more; likewise, both Francophones and Anglophones in Quebec used MHPs more.

This suggests there may be differences in mental health service use based on geography (Quebec and outside Quebec) that may be explained by alternate reasons. Past research has demonstrated provincial differences in prevalences of mental health service use in Canada.[86] For instance, individuals outside Quebec may have a higher perceived need for help, as evidenced by the higher prevalence of poor mental health and life satisfaction among respondents outside Quebec, which could translate into higher mental health service use, particularly consultation with a psychiatrist. Research has identified that perceived need for mental health care is a key determinant of service use that may be linked to socio-environmental factors.

However, the CCHS 1.2 did not assess perceived need for mental health and, therefore, cannot be examined in the current study. As such, future research should examine Franco-Anglo and Quebec-outside Quebec differences in perceived need for help as a moderator of mental health service use.

5.3.1 Summary of the Association between Official Language Minority Status and Mental Health and Mental Health Service use

One of the main objectives of the current thesis was to determine the association between official language minority-majority status and mental health problems within the past 12-months. Membership within an OLMC was not found to be significantly associated with mental illness within the past 12-months when accounting for age, sex, and immigrant status. This is not unexpected due to the inconsistent association between minority status and mental disorders within the literature.[2,23,29,34,47,48,56,57] Our finding adds to past research by determining the association between *linguistic* minority status and mental health, which to this point has been scarcely examined.

The relationship between official language minority status and mental health service use within the past 12-months was also of interest. Although language use was not significantly associated with the use of mental health services after controlling for age, sex, and immigrant status, a significant relation was found between linguistic minority-majority status and mental health service use with official language majority groups more likely to utilize mental health services. This finding coinciding with past research which has indicated minority groups are less likely to use mental health services.[6,23,46,47,90,91]

These results show that no relation exists between official language minority-majority status and mental health service use, in general, over the past 12-months. However, the study provides evidence to suggest that use of specific mental health services may be linked to geographical regions within Canada (Quebec versus outside Quebec). Indeed, past research has shown provincial variations in mental health service use in Canada.[86] In the current study, Anglophones and Francophones outside Quebec consulted with psychiatrists more than Quebec Anglophone

and Francophones, respectively. Conversely, Quebeckers consulted more with MHPs. This finding cannot be attributed to official language minority-majority status. It is suggested that differences in socio-cultural factors and perceived need for care may be producing differences in mental health between Quebec and outside Quebec.[92]

5.4 Strengths of the Current Study

There are several strengths to the current study. First, little if any work has examined differences in mental health problems and mental health service use in Canada between official language minority and majority groups. Therefore, this thesis is the first of its kind to investigate these issues and may serve as the basis for future studies exploring the health and service use patterns of OLMC. Second, by using the CCHS 1.2, we were able to access a large, nationally representative Canadian sample, which allowed us to gain a wide perspective into the mental health problems and use of mental health services among OLMC across Canada. Third, the CCHS 1.2 contains an array of variables, which permitted us to examine multiple areas of mental health problems and mental health service use. For instance, both diagnosed and self-rated indicators of mental health were examined. In addition, both traditional and non-traditional mental health service and resource variables were available, such as self-help use, consultation with religious professionals, and health product use. Fourth, with such a robust sample in the CCHS1.2, it was possible to test for statistical differences between minority and majority official language groups in Canada, while previous work has been largely descriptive. In summary, based on these combined strengths, comparisons were drawn about a wide array of mental health problems and mental health service utilization among OLMC in Canada and, therefore, has set the stage for future studies concerning these specific populations.

5.5 Limitations of the Current study

There are several limitations to the current thesis, many of which are related to the use of the CCHS 1.2 data source. First, there are specific variables that would benefit from analysis in the current study, but are not available within the CCHS 1.2. For instance, although Generalized Anxiety Disorder is very prevalent within the population and creates high levels of impairment,[22,23] this specific illness was not assessed and, therefore, cannot be considered. Consequently, future studies should examine a broader array of mental disorders. Second, one must consider the results are based on self-report data, which could introduce several types of bias (i.e., report, recall, and social desirability bias).[103,104] Furthermore, the reported mental disorder diagnoses were not determined or confirmed by a mental health professional. Therefore, there is a chance that respondents may be misclassified as having a disorder when one is not present or, conversely, not having a disorder when one is present.

Another limitation of this thesis is the way in which minority-majority Francophone and Anglophone groups were classified. There was no consistent definition provided in the research literature as to how Anglophone and Francophone groups should be defined. Therefore, this study based the current definition on past studies examining OLMC in Canada (language first learned at home in childhood and can still be understood) and included additional criteria (language in which respondents can converse) in order to retain the largest number of respondents possible while still maintaining accuracy. Although every effort was made to ensure the appropriate classification of each respondent, the lack of specific questions regarding official language use limited our ability to directly assess language usage, which has the potential to produce a misclassification bias.

Furthermore, it is also possible that some individuals who were deemed bilingual based on their response to the question "first language learned at home in childhood and can still be understood" may have been misclassified. Originally, this group was placed within the official language minority, but it was later decided that they should be defined in the same way as individuals who spoke neither French nor English in childhood. Although these respondents could not be re-defined in the same way due to confidentiality reasons in place by Statistics Canada, analyses show that no substantial differences were found between results using the different definitions, either including those misclassified, excluding those misclassified, or classifying bilinguals using the same definition as that for those who spoke neither French nor English in childhood.

Another limitation is the geographical classification of Anglophones and Francophones. Proportions of minority and majority French- and English-speaking populations vary substantially province to province; however, the numbers of official language linguistic groups surveyed was inadequate to conduct analyses at the provincial level. Therefore, the analyses were restricted to Quebec and outside of Quebec Francophones and Anglophones in order to allow for accurate estimates and the ability to access the results from Statistics Canada. By selecting the geographic boundaries of Quebec and outside Quebec, we may be muting some of the differences that may be apparent in some provinces, particularly in light of the fact that a large array of variation is found provincially in regards to the proportion of residents who are from OLMC.[14] For instance, approximate 33% of New Brunswick residents are from the official language minority, and most of Canada's minority Francophones populate Ontario. However, an analysis of mental health and mental health service use among Acadians from New Brunswick and Francophones in Ontario revealed no differences from the results found in the current study.

This is not to say that such status doesn't predict mental health disparities within smaller, more underserved population groups in Canada. Indeed, it has been argued that the experiences of Anglophones and Francophones in Canada are quite diverse, that "English Canada" and "French Quebec" are not homogeneous groups, and that studies should acknowledge the heterogeneous nature of these groups.[136]

5.6 Areas for Future Research

There are several areas related to mental health and mental health service use among OLMC that may be examined in future research. First, although the current study is the first of it's kind to examine mental health and mental health service utilization among Francophones and Anglophones in minority situations, additional knowledge may be gained by conducting the analysis at a provincial level. In order to acknowledged the heterogeneity of OLMC in Canada, research should next move from the current study's broad geographical analysis to more focused, small-scale analyses that takes into account the unique experiences of Francophones and Anglophones within Canada.

Second, a longitudinal analysis would allow researchers to better understand mental health and mental health service use of OLMC over time. For instance, information may be gathered to assess the duration of mental health problems over months and years, and the temporality of mental disorders in co-morbid cases may be determined. By also including an examination of mental health service use across time, information may be gathered regarding patterns of service use in relation to the occurrence and duration of mental disorders.

Third, the current study was able to provide a preliminary analysis of mental health and service use among OLMC using quantitative analysis using predominantly dichotomous outcomes. Using such data has allowed us to take the first steps in understanding disparities in

health among official language minority and majority groups; however, this type of data often does not allow for flexibility in responses and does not ask respondents to elaborate on their experiences with mental health problems or issues that may have arisen when accessing or receiving health care services. Therefore, a qualitative analysis may be best suited to understand the experiences and needs of such populations. Together, qualitative and quantitative findings will allow researchers to triangulate research findings to produce the most accurate, informative and rich knowledge.

5.7 Conclusions

The current study is important because it is the first of its kind to examine common mental health problems and mental health service use among Canada's OLMC. Although our results indicate that very few differences exist between official language minority and majority groups, this knowledge remains extremely important to many key stakeholders, including patients, health care providers, administrators, and the health care system. Understanding how language and minority status may influence on mental health and service use within Canada may help aid in redirecting resources and developing policies and programs towards areas wherein health disparities exist. Future research should continue to address mental health and mental health service utilization within OLMC in Canada by focusing the examination provincially, examining outcomes longitudinally, and by employing both quantitative and qualitative methods. As well, the socio-cultural contexts in which Francophones and Anglophones are situated should be explored while paying special attention to particularly vulnerable groups, such as official language minority immigrants. By doing so, it may be ensured that official language minority communities in Canada are well-served in the areas they need most.

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APPENDICES

APPENDIX A
DSM-IV-TR criteria for MDE, Agoraphobia, Social Phobia, Panic Disorder, Alcohol and Substance Dependence*

	DSM-IV-TR criteria
MDE	A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure. (1) depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).. (2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others) (3) significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note:** In children, consider failure to make expected weight gains. (4) insomnia or hypersomnia nearly every day (5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down) (6) fatigue or loss of energy nearly every day (7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick) (8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others) (9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide B. The symptoms do not meet criteria for a Mixed Episode.

	C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism). E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.
Social phobia (Social Anxiety)	A. A persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be embarrassing and humiliating. B. Exposure to the feared situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally pre-disposed Panic Attack. C. The person recognizes that this fear is unreasonable or excessive. D. The feared situations are avoided or else are endured with intense anxiety and distress. E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia. F. In individuals under age 18 years, the duration is at least 6 months. G. The fear or avoidance is not due to direct physiological effects of a substance (e.g., drugs, medications) or a general medical condition not better accounted for by another mental disorder. H. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of Stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behavior in Anorexia Nervosa or Bulimia Nervosa.
Panic disorder	A) Both (1) and (2) (1) recurrent unexpected Panic Attacks

	(2) at least one of the attacks has been followed by 1 month (or more) of one (or more) of the following: (a) persistent concern about having additional attacks, (b) worry about the implications of the attack or its consequences (e.g., losing control, having a heart attack, "going crazy"), or (c) a significant change in behavior related to the attacks. B) The Panic Attacks are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hyperthyroidism). C) The Panic Attacks are not better accounted for by another mental disorder, such as Social Phobia (e.g., occurring on exposure to feared social situations), Specific Phobia (e.g., on exposure to a specific phobic situation), Obsessive-Compulsive Disorder (e.g., on exposure to dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., in response to stimuli associated with a severe stressor), or Separation Anxiety Disorder (e.g., in response to being away from home or close relatives). Panic Disorder is divided into with or without agoraphobia.
Agoraphobia	A) Anxiety about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of having an unexpected or situationally predisposed. Panic Attack or panic-like symptoms. Agoraphobic fears typically involve characteristic clusters of situations that include being outside the home alone; being in a crowd, or standing in a line; being on a bridge; and traveling in a bus, train, or automobile. B) The situations are avoided (e.g., travel is restricted) or else are endured with marked distress or with anxiety about having a Panic Attack or panic-like symptoms, or require the presence of a companion. C) The anxiety or phobic avoidance is not better accounted for by another mental disorder, such as Social Phobia (e.g., avoidance limited to social situations because of fear of embarrassment), Specific Phobia (e.g., avoidance limited to a single situation like elevators), Obsessive-Compulsive Disorder (e.g., avoidance of dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., avoidance of stimuli associated with a severe stressor), or Separation Anxiety Disorder (e.g., avoidance of leaving home or relatives).
Alcohol/substance dependence	Alcohol/substance dependence is defined as a maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring any time in the

	same 12-month period: 1. Tolerance, as defined by either of the following: (a) A need for markedly increased amounts of the substance to achieve intoxication or the desired effect *or* (b) Markedly diminished effect with continued use of the same amount of the substance. 2. Withdrawal, as manifested by either of the following: (a) The characteristic withdrawal syndrome for the substance *or* (b) The same (or closely related) substance is taken to relieve or avoid withdrawal symptoms. 3. The substance is often taken in larger amounts or over a longer period than intended. 4. There is a persistent desire or unsuccessful efforts to cut down or control substance use. 5. A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects. 6. Important social, occupational, or recreational activities are given up or reduced because of substance use. 7. The substance use is continued despite knowledge of having a persistent physical or psychological problem that is likely to have been caused or exacerbated by the substance (for example, current cocaine use despite recognition of cocaine-induced depression or continued drinking despite recognition that an ulcer was made worse by alcohol consumption). DSM-IV criteria for substance dependence include several specifiers, one of which outlines whether substance dependence is with physiologic dependence (evidence of tolerance or withdrawal) or without physiologic dependence (no evidence of tolerance or withdrawal). In addition, remission categories are classified into four subtypes: (1) full, (2) early partial, (3) sustained, and (4) sustained partial; on the basis of whether any of the criteria for abuse or dependence have been met and over what time frame. The remission category can also be used for patients receiving agonist therapy (such as methadone maintenance) or for those living in a controlled, drug-free environment.

*American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision. Washington, DC, American Psychiatric Association, 2000.

APPENDIX B
Information on linguistic status variable definitions, deriving, and coding**

Variable	CCHS 1.2 Variable(s)	Description of Question or Concept	Coding
Language status*	SDCB_6A SDCB_6B	If respondents First language learned and still understood is English (SDCB_6A), then they will be coded as Anglophone (1). If respondents First language learned and still understood is French (SDCB_6B), then they will be coded as Francophone (2). If respondents indicate yes to both SDCB_6A and SDCB_6B, then they are bilingual (3). Remaining respondents will be coded as (3) unknown.	1 = Anglophone 2 = Francophone 3 = Bilingual 4 = Unknown
Language (Anglophone or Francophone)	Language status* SDCBDLNG Quebec vs. outside Quebec*	If Language status* = 1, then respondent will be coded as Anglophone (1). If Language status* = 2, then respondent will be coded as Anglophone (1). If Language status* = 3, then respondent will be coded as Anglophone (1) if they are from Quebec, and Francophone (2) if they are from outside Quebec. If Language status* = 4, then language will be based on the responses the SDCBDLNG. Within Quebec, responses of English only, English and French, English and French and other, and English	1 = Anglophone 2 = Francophone

		and other will be coded as Anglophone (1). Within Quebec, responses of French only and French and other will be coded as Francophone (2). Outside Quebec, responses of English only and English and other will be coded as Anglophone (1). Responses of French only, French and other, English and French, English and French and other will be coded as Francophone (2). All remaining respondents will be excluded from the analysis (data missing or speak neither French nor English).	
Quebec vs. outside Quebec*	GEOB_PRV	This variable indicates the province in which respondents live and is coded as following: NEWFOUNDLAND AND LABRADOR = 10 PRINCE EDWARD ISLAND = 11 NOVA SCOTIA = 12 NEW BRUNSWICK = 13 QUEBEC = 24 ONTARIO = 35 MANITOBA = 46 SASKATCHEWAN = 47 ALBERTA = 48 BRITISH COLUMBIA = 59 This variable will be recoded as follows: If GEOB_PRV = 10, 11, 12, 13, 35, 46, 47, 48, 59, then respondants will be classified as living outside Quebec. If GEOB_PRV = 24, then respondants will be	1 = Quebec 2 = outside Quebec

		classified as living in Quebec.	
Linguistic Minority Status*	Based on 'language'* and 'Quebec vs Outside Quebec'*	If 'Language' = 1 and 'Quebec vs Outside Quebec' = 1, then Linguistic Minority Status = 1, Anglophones in Quebec If language' = 2 and 'Quebec vs Outside Quebec' = 2, then Linguistic Minority Status = 2, Francophones Outside Quebec If 'language' = 1 and 'Quebec vs Outside Quebec' = 2, then Linguistic Minority Status = 3, Anglophones Outside Quebec If 'language' = 2 and 'Quebec vs Outside Quebec' = 1 then Linguistic Minority Status = 4, Francophones in Quebec	1 = Anglophones in Quebec 2 = Francophones Outside Quebec 3 = Anglophones Outside Quebec 4 = Francophones in Quebec

*Derived variable

**Sources: Statistics Canada. CCHS Cycle 1.2: Data Dictionary Master File (Integrated). 2004.; Statistics Canada. Canadian Community Health Survey (CCHS) Cycle 1.2: Derived Variable (DV) Specifications

APPENDIX C
Information on mental health problem variable definitions, deriving, and coding**

Variable	CCHS 1.2 Variable(s) used	Description of Question or Concept	Coding
Mental disorders			
Not mutually exclusive categories			
Depression (lifetime)	DEPBDDPS	This is the final variable that identifies whether respondents meet or fail to meet the CCHS 1.2/WMH-CIDI criteria for lifetime major depressive episode. Respondents who meet the criteria reported: 1. two weeks or longer of depressed mood or loss of interest or pleasure and at least five symptoms associated with depression which represent a change in functioning; 2. that symptoms cause clinically significant distress or impairment in social, occupational or other important areas of functioning; and 3. that symptoms are not better accounted for by bereavement or symptoms last more than two months or the symptoms are characterised by a marked functional impairment, preoccupation with worthlessness, suicidal ideation, or psychomotor retardation.	1 = Respondent meets CCHS 1.2/WMHCIDI criteria for lifetime major depressive disorder. 0 = Respondent does not meet the CCHS 1.2/WMH-CIDI criteria for lifetime major depressive disorder.
Depression (12-month)	DEPBDDY	This is the final variable that identifies whether respondents meet or fail to meet the CCHS 1.2/WMH-CIDI criteria for major depressive episode in the 12 months prior to the interview. Respondents who meet the criteria reported: 1. meeting the criteria for lifetime major depressive episode; 2. having a major depressive episode in the 12 months	1 = CCHS 1.2/WMH-CIDI Criteria are met for past 12-month major depressive episode. Respondent reported (1) meeting the criteria for lifetime major depressive episode; (2)

		prior to the interview; and 3. clinically significant distress or impairment in social, occupational or other important areas of functioning.	having a major depressive episode in the 12 months prior to the interview; and (3) clinically significant distress or impairment in social, occupational or other important areas of functioning. 0 = All CCHS 1.2/WMH-CIDI criteria are not met for 12-month major depressive episode. Respondent did not report (1) meeting the criteria for lifetime major depressive episode; (2) having a major depressive episode in the 12 months prior to the interview; and (3) clinically significant distress or impairment in social, occupational or other important areas of functioning.
Anxiety (lifetime)	MHPBFLA	This variable identifies whether respondent met the CCHS 1.2/WMH-CIDI criteria for any of the measured anxiety disorders (agoraphobia (AGPBDAP), panic disorder (PADBDPDS) , social phobia (SOPBDSP)) in their lifetime.	1 = Respondent met the criteria for at least one listed anxiety disorder in their lifetime (AGPBDAP = 1 or

			PADBDPDS = 1 or SOPBDSP = 1). 0 = Respondent did not meet the criteria for any listed anxiety disorder in their lifetime. (AGPBDAP = 0 and PADBDPDS = 0 and SOPBDSP = 0).
Anxiety (12-months)	MHPBFYA	This variable identifies whether respondent met the CCHS 1.2/WMH-CIDI criteria for any of the measured anxiety disorders (agoraphobia (AGPBDAP), panic disorder (PADBDPDS) , social phobia(SOPBDSP)) in the past 12 months.	1 = Respondent met the criteria for at least one listed anxiety disorder in the past 12 months. (AGPBDPY = 1 or PADBDDY = 1 or SOPBDPY = 1). 0 = Respondent did not meet the criteria for any listed anxiety disorder in the past 12 months. (AGPBDPY = 0 and PADBDDY = 0 and SOPBDPY = 0).
Alcohol/Substance Dependence (12-month)	MHPBFYSA	This variable identifies whether respondent met the CCHS 1.2/WMH-CIDI criteria for dependence of alcohol or illicit drugs in the past 12 months. Alcohol/substance dependence is defined as tolerance, withdrawal, or loss of control or social or physical problems related to alcohol use. The index is based on	1 = Respondent met the criteria for at least one listed dependency in the past 12 months. 0 = Respondent did not meet criteria for at least

		a subset of items from the Composite International Diagnostic Interview (CIDI) developed by Kessler and Mroczek. The CIDI is a structured diagnostic instrument that provides diagnostic estimates according to the operationalization of some of the criteria of the DSM-III-R classification for psychoactive substance user disorder.	one listed dependency in the past 12 months.
Mutually exclusive categories (12-month)			
No mental disorder or addiction*	DEPBDDY MHPBFYA MHPBFYSA	This variable is derived out of the CCHS 1.2 variables that assess 12-month rates of depression (DEPBDDY), anxiety disorders (MHPBFYA) and alcohol/substance dependence (MHPBFYSA). If DEPBDDY = 0 and MHPBFYA = 0 and MHPBFYSA = 0, then the respondent will be categorized as not having a mental disorder or addiction in the past 12-months. If DEPBDDY = 1 or MHPBFYA = 1 or MHPBFYSA = 1, then the respondent will be categorized as having a mental disorder or addiction in the past 12 months.	0 = No mental Disorder (12-month). 1 = Presence of a mental disorder (12-month).
Major depressive disorder only*	DEPBDDY MHPBFYA MHPBFYSA	This variable is derived out of the CCHS 1.2 variables that assess 12-month rates of depression (DEPBDDY), anxiety disorders (MHPBFYA) and alcohol/substance dependence (MHPBFYSA). If DEPBDDY = 1 and MHPBFYA = 0 and MHPBFYSA = 0, then the respondent will be categorized as only having a MDE within the past 12-months.	1 = Only having a MDE within the past 12-months. 0 = No MDE within the past 12-months.

		All other combinations will be coded as no presence of only having a MDE within the past 12-months.	
Anxiety disorders only*	DEPBDDY MHPBFYA MHPBFYSA	This variable is derived out of the CCHS 1.2 variables that assess 12-month rates of depression (DEPBDDY), anxiety disorders (MHPBFYA) and alcohol/substance dependence (MHPBFYSA). If DEPBDDY = 0 and MHPBFYA = 1 and MHPBFYSA = 0, then the respondent will be categorized as only having an Anxiety disorder within the past 12- months. All other combinations will be coded as no presence of only having an Anxiety disorder within the past 12-months.	1 = Only having an Anxiety disorder within the past 12-months. 0 = No Anxiety disorder within the past 12-months.
MDE and anxiety only*	DEPBDDY MHPBFYA MHPBFYSA	This variable is derived out of the CCHS 1.2 variables that assess 12-month rates of depression (DEPBDDY), anxiety disorders (MHPBFYA) and alcohol/substance dependence (MHPBFYSA). If DEPBDDY = 1 and MHPBFYA = 1 and MHPBFYSA = 0, then the respondent will be categorized as both an anxiety disorder and Major depressive disorder within the past 12- months. All other combinations will be coded as no presence of both Major Depressive Episode and Anxiety disorder present in the past 12-months.	1 = Both Major Depressive Episode and Anxiety disorder present in the past 12-months. 0 = Both Major Depressive Episode and Anxiety disorder not present in the past 12-months.
Alcohol/substance dependence only *	DEPBDDY MHPBFYA MHPBFYSA	This variable is derived out of the CCHS 1.2 variables that assess 12-month rates of depression (DEPBDDY), anxiety disorders (MHPBFYA) and alcohol/substance dependence (MHPBFYSA).	1 = alcohol/substance dependence/ only present within the past 12- months.

		If DEPBDDY = 0 and MHPBFYA = 0 and MHPBFYSA = 1, then the respondent will be categorized as only having an Anxiety disorder within the past 12- months. All other combinations will be coded as no presence of only having an Anxiety disorder within the past 12-months.	0 = alcohol/substance abuse/interference not only present within the past 12- months.
Substance dependence with any mental disorder*	DEPBDDY MHPBFYA MHPBFYSA	This variable is derived out of the CCHS 1.2 variables that assess 12-month rates of depression (DEPBDDY), anxiety disorders (MHPBFYA) and alcohol/substance dependence (MHPBFYSA). If both or either DEPBDDY = 1 and MHPBFYA = 1, and MHPBFYSA = 1, then the respondent will be categorized as only having an Anxiety disorder within the past 12- months. All other combinations will be coded as no presence of only having an Anxiety disorder within the past 12-months.	1 = alcohol/substance dependence with any mental illness present within the past 12-months. 0 = alcohol/substance dependence with any mental illness not present within the past 12- months.
Secondary mental health outcomes			
Psychological distress	DISBDDSX	This variable determines the respondent's level of psychological distress using ten questions. Higher scores indicate more psychological distress. Scores above 20 are coded as high levels of psychological distress.	1 = high levels of psychological distress 0 = low to average levels of psychological distress
Life satisfaction*	SCRBDSAT	This variable describes the respondent's satisfaction with life in general. Higher scores indicate more satisfaction and are coded as follows:	1 = low life satisfaction 2 = average life satisfaction

		1 = Very dissatisfied. 2 = Dissatisfied. 3 = Neither satisfied nor dissatisfied. 4 = Satisfied. 5 = Very satisfied. Responses will be recorded as follows: If SCRBDSAT = 1 or 2, then respondents will be coded as (1) low life satisfaction. If SCRBDSAT = 3, 4 or 4, then respondents will be coded as (2) average life satisfaction.	
Self-rated mental health*	SCRBDMEN	This variable describes the respondent's self-rated mental health. Higher scores indicate better health: 0 = Poor 1 = Fair 2 = Good 3 = Very good 4 = Excellent Poor or fair scores will be coded as (1) poor self-rated mental health. Good, very good, or excellent scores will be coded as (2) good self-rated mental health.	1 = poor self-rated mental health. 2 = average to good self-rated mental health
Self-rated stress*	GENB_07	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, extremely stressful)? Available responses were:	1 = high levels of stress 2 = average to low levels of stress

		1 = NOT AT ALL STRESSFUL 2 = NOT VERY STRESSFUL 3 = A BIT STRESSFUL 4 = QUITE A BIT STRESSFUL 5= EXTREMELY STRESSFUL If GENB_07 = 5, then responses will be coded as (1) high stress. If GENB_07 = 1 or 2 or 3 or 4, then responses will be coded as (2) not high stress.	
Self-rated mental health*	SCRBDMEN	This variable describes the respondent's self-rated mental health. Higher scores indicate better health: 0 = Poor 1 = Fair 2 = Good 3 = Very good 4 = Excellent Poor or fair scores will be coded as (1) poor self-rated mental health. Good, very good, or excellent scores will be coded as (0) average to good self-rated mental health.	1 = poor self-rated mental health. 0 = average to good self-rated mental health

*Derived variable

**Sources: Statistics Canada. CCHS Cycle 1.2: Data Dictionary Master File (Integrated). 2004.; Statistics Canada. Canadian Community Health Survey (CCHS) Cycle 1.2: Derived Variable (DV) Specifications

APPENDIX D
Information on service utilization variable definitions, deriving, and coding

Variable	CCHS 1.2 Variable(s)	Description of Question or Concept	Coding
Non- mutually exclusive categories			
Use of any service (lifetime)*	SERB_10B SERB_10F SERB_10E SERB_10D SERB_10A SERB_10C	Based on SERB_10B (Ever saw / talked to family doctor or GP), SERB_10F (Ever saw / talked to social worker/counsellor), SERB_10E (Ever saw / talked to nurse), SERB_10D (Ever saw / talked to a psychologist), SERB_10A (Ever saw / talked to a Psychiatrist), and SERB_10C (Ever saw / talked to other medical doctor – cardiologist, gynecologist, urologist, allergist, or other doctor). If respondents reported yes (1) to any of the variables: SERB_10B, SERB_10F, SERB_10E, SERB_10D, SERB_10A, SERB_10C, then they will be coded as (1) use of any service in their lifetime for mental health reasons).	1 = respondent used any service in their lifetime for mental health reasons. 0 = respondent did not use any service in their lifetime for mental health reasons.
Use of any service (12-month)*	Based on the variables derived from CCHS 1.2 data: Family Practitioner (12-month)*, Psychiatrist*, MHP	If Family Practitioner (12-month)* = 1, or Psychiatrist* = 1, or Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)* = 1, or other physician non psychiatrist' with or without family Practitioner (12-month)* = 1, then respondents will be coded (1) used any mental health service within the past 12-months. If Family Practitioner (12-month)* = 0 and Psychiatrist* = 0 and Mental health professional (psychologist, social	1 = yes 0 = no

	(psychologist, social worker, nurse, counsellor) (12-month)*, and other physician non psychiatrist' with or without family Practitioner (12-month)*	worker, nurse, counsellor) (12-month)* = 0 and other physician non psychiatrist' with or without family Practitioner (12-month)* = 0, then respondents will be coded (0) did not use any mental health service within the past 12-months.	
Family Practitioner (lifetime)	SERB_10B	Ever saw / talked to family doctor or GP	1 = yes 0 = no
Family Practitioner (12-month)*	SERB_31	SERB_31 asks respondents the last time consulted family doctor. Answers were coded: DURING THE PAST MONTH = 1 BETWEEN 2 AND 6 MONTHS AGO = 2 BETWEEN 7 AND 12 MONTHS AGO = 3 MORE THAN A YEAR AGO = 4 If SERB_31 = 1, 2, or 3, or missing then respondents will be coded as (1) seeing a Family practitioner for mental health reasons within the past 12-months. If SERB_31 = 4, then respondents will be coded as (0) not having seen a Family practitioner for mental health	1 = yes 0 = no

		reasons within the past 12-months.	
Psychiatrist (lifetime)	SERB_10D	Respondents were asked the following question: During your lifetime, have you ever seen, or talked on the telephone, to a psychiatrist about your emotions, mental health or use of alcohol or drugs. Each response was coded (1) yes or (0) no.	1 = yes 0 = no
Psychiatrist (12-month)	SERB_23	SERB_23 (psychiatrist) indicate how many times the respondent has seen a psychiatrist within the past 12 months. Values range from 0 to 365. If 33 = 0 or missing, then respondents will be coded as (0) not having seen a mental health professional within the past 12 months. If SERB_23 > 0, then respondents will be coded as (1) saw a mental health professional within the past 12 months.	1 = yes 0 = no
Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (lifetime)*	SERB_10F SERB_10E SERB_10D SERB_10A	Respondents were asked the following question: During your lifetime, have you ever seen, or talked on the telephone, to any of the following professionals about your emotions, mental health or use of alcohol or drugs: SERB_10F (social worker/counsellor) SERB_10E (nurse) SERB_10D (psychologist) SERB_10A (psychiatrist) Each response was coded (1) yes or (0) no. If SERB_10F = 1 or SERB_10E = 1 or SERB_10D = 1 or SERB_10A = 1, then respondents will be coded as (1)	1 = yes 0 = no

		having seen a mental health professional within their lifetime. If SERB_10F = 0 and SERB_10E = 0 and SERB_10D = 0 and SERB_10A = 0, then respondents will be coded as (0) not having seen a mental health professional within their lifetime.	
Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)*	SERB_73 SERBG63 SERB_53	Variables SERB_73 (social worker/counsellor), SERBG63 (nurse), and SERB_53 (psychologist) indicate how many times the respondent has seen each mental health professional within the past 12 months. Values range from 0 to 365. If SERB_73 = 0 and SERBG63 = 0 and SERB_53 = 0 or all values are missing, then respondents will be coded as (0) not having seen a mental health professional within the past 12 months. If SERB_73 > 0 and SERBG63 > 0 and SERB_53 > 0 and SERB_23 > 0, then respondents will be coded as (1) saw a mental health professional within the past 12 months.	1 = yes 2 = no
other physician non psychiatrist' with or without family Practitioner (lifetime)	SERB_10C	SERB_10C asks respondents if they have ever seen another medical doctor for mental health reasons (CARDIOLOGIST, GYNAECOLOGIST, UROLOGIST, ALLERGIST, or OTHER). Responses are coded (1) yes or (0) no.	1 = yes 0 = no
other physician non psychiatrist' with or without family Practitioner (12-month)*	SERB_41	SERB_41 asks respondents: During the past 12 months, what kind of other medical doctor did you see, or talk to on the telephone, the most often (about your emotions, mental health or use of alcohol or drugs)? Responses are coded:	1 = yes 0 = no

		CARDIOLOGIST = 1 GYNAECOLOGIST = 2 UROLOGIST = 3 ALLERGIST = 4 OTHE] NONE If SERB_41 = 1, 2, 3, 4, or 5, then respondents were coded as (1) saw other physician non psychiatrist' with or without family Practitioner within the past 12-months. If SERB_41 = 6, then respondents were coded as (0) did not see other physician non psychiatrist' with or without family Practitioner within the past 12-months.	
Mutually exclusive categories			
'No MH consultation' (lifetime)	Family Practitioner (lifetime); Mental health professional (psychologist, social worker, nurse, counsellor) (lifetime)*; other physician non psychiatrist' with or without	If Family Practitioner (lifetime) = 0 and Mental health professional (psychologist, social worker, nurse, counsellor) (lifetime)* = 0 and other physician non psychiatrist' with or without family Practitioner (lifetime) = 0, then respondents will be coded as (0) not having any mental health consultation in their lifetime. All other combinations were coded as (1) had a mental health consultation in their lifetime.	1 = yes 0 = no

	family Practitioner (lifetime)		
'No MH consultation' (12-month)	Family Practitioner (12-month)*, Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)* , other physician non psychiatrist' with or without family Practitioner (12-month)*	If Family Practitioner (12-month)* = 0 and Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)* = 0 and other physician non psychiatrist' with or without family Practitioner (12-month)* = 0, then respondents will be coded (2) did not use any mental health service within the past 12-months. All other combinations will be coded as (1) used a mental health service in the past 12-months.	1 = yes 0 = no
Family Practitioner (FP) only (lifetime)	Family Practitioner (lifetime); Mental health professional (psychologist, social worker, nurse,	If Family Practitioner (lifetime) = 1 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (lifetime)* = 0 and other physician non psychiatrist' with or without family Practitioner (lifetime) = 0, then respondents will be coded as (1) seen a FP only for mental health reasons in their lifetime. All other combinations will be coded as (0) did not only see a family practitioner for mental health reasons in their	1 = yes 0 = no

	counsellor) (lifetime)*; other physician non psychiatrist' with or without family Practitioner (lifetime)	lifetime.	
Family Practitioner (FP) only (12-month)	Family Practitioner (12-month); Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)*; other physician non psychiatrist' with or without family Practitioner (12-month)	If Family Practitioner (12-month)* = 1 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)* = 0 and other physician non psychiatrist' with or without family Practitioner (12-month)* = 0, then respondents were coded as (1) used a Family Practitioner (FP) only within the past 12-months. All other combinations will be coded as () did not only use a Family Practitioner (FP) within the past 12-months.	1 = yes 0 = no
Psychiatrist only	Family	If FP (lifetime) = 0 and Mental health professional	1 = yes

(lifetime)	Practitioner (lifetime); Mental health professional (psychologist, social worker, nurse, counsellor) (lifetime)*; other physician non psychiatrist' with or without family Practitioner (lifetime)	(psychologist, social worker, nurse, counsellor) (lifetime)* = 0 and other physician non psychiatrist (lifetime) = 0 and Psychiatrist (lifetime) = 1, then respondents will be coded as (1) having seen a Psychiatrist only within their lifetime. All other combinations will be coded as (0) not having seen a Psychiatrist only in their lifetime.	0 = no
Psychiatrist only (12-month)	Family Practitioner (12-month); Psychiatrist (12-month); Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)*; other	If Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)* = 0 and other physician non psychiatrist' with or without family Practitioner (12-month) = 0, and Psychiatrist (12-month)* = 1, then respondents will be coded as (1) having seen a Psychiatrist only within the past 12-months. All other combinations will be coded as (0) not having seen a Psychiatrist only within the past 12-months.	1 = yes 0 = no

	physician non psychiatrist' with or without family Practitioner (12-month)		
'other physician non psychiatrist' with or without FP (12-month)	Family Practitioner (12-month); Psychiatrist (12-months); Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)*; other physician non psychiatrist' with or without family Practitioner (12-month)	If Psychiatrist = 0 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)* = 0 and other physician non psychiatrist' with or without family Practitioner (12-month)* = 1, then respondents will be coded as (1) used 'other physician non psychiatrist' with or without FP only within the past 12-months. All other combinations will be coded as (0) did not only use 'other physician non psychiatrist' with or without FP only within the past 12-months.	1 = yes 0 = no
Mental health professional (MHP) (psychologist, social	Family Practitioner (lifetime);	If: Psychiatrist = 1 and Mental health professional (psychiatrist, psychologist, social worker, nurse,	1 = yes 0 = no

worker, nurse, counsellor) and/or psychiatrist (lifetime)	Mental health professional (psychologist, social worker, nurse, counsellor) (lifetime)*; other physician non psychiatrist' with or without family Practitioner (lifetime)	counsellor) (lifetime)* = 1 OR Psychiatrist = 1 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (lifetime)* = 0 OR Psychiatrist = 0 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (lifetime)* = 1 AND other physician non psychiatrist' with or without family Practitioner (lifetime)* = 0 and Family Practitioner (lifetime) then respondents will be coded as (1) used a MHP and/or Psychiatrist only within their lifetime. All other combinations will be coded as (0) did not only use a MHP and/or Psychiatrist only within their lifetime.	
mental health professional (MHP) only (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)	Family Practitioner (12-month); Psychiatrist (12-month); Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)*; other physician non psychiatrist'	If: Psychiatrist = 1 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)* = 1 OR Psychiatrist = 1 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)* = 0 OR Psychiatrist = 0 and Mental health professional (psychiatrist, psychologist, social worker, nurse, counsellor) (12-month)* = 1 AND other physician non psychiatrist' with or without family Practitioner (12-month)* = 0 and Family Practitioner (12-month) then respondents will be coded as (1) used a MHP and/or Psychiatrist only within their lifetime.	1 = yes 0 = no

	with or without family Practitioner (12-month)	All other combinations will be coded as (0) did not only use a MHP and/or Psychiatrist only within the past12-months.	
FP and/or any other physician plus MHP and/or psychiatrist (lifetime)	Family Practitioner (lifetime); Psychiatrist (lifetime); Mental health professional (psychologist, social worker, nurse, counsellor) (lifetime)*; other physician non psychiatrist' with or without family Practitioner (lifetime)	If one of or both Family Practitioner (lifetime) = 1 and other physician non psychiatrist' with or without family Practitioner (lifetime) = 1, and Psychiatrist = 1 or Mental health professional (psychologist, social worker, nurse, counsellor) (lifetime)* = 1 and, then respondents will be coded as (1) seen a FP and/or any other physician plus MHP and/or psychiatrist for mental health reasons in their lifetime. All other combinations will be coded as (0) did not only see a FP and/or any other physician plus MHP and/or psychiatrist for mental health reasons in their lifetime.	1 = yes 0 = no
FP and/or any other physician plus MHP and/or psychiatrist (12-month)	Family Practitioner (12-month); Psychiatrist (12-month);	If one of or both Family Practitioner (12-month)* = 1 and other physician non psychiatrist' with or without family Practitioner (12-month)* = 1, and Psychiatrist (12-month) = 1 or Mental health professional (psychologist, social worker, nurse, counsellor) (12-month)* = 1, then	1 = yes 0 = no

	Mental health professional (social worker, nurse, counsellor) (12-month)*; other physician non psychiatrist' with or without family Practitioner (12-month)	respondents will be coded as (1) used FP and/or any other physician plus MHP within the past 12-months. All other combinations will be coded as (0) did not use FP and/or any other physician plus MHP and/or psychiatrist within the past 12-months.	
Secondary service utilization outcomes			
Barriers in accessibility	SERBFACS	This flag indicates whether a respondent reported a perceived unmet mental health care need due to accessibility. The reasons for respondents not being able to access health care services for their emotions, mental health or use of alcohol or drugs were the cost, lack of transportation or issues such as childcare or scheduling.	1 = Respondent reported barriers related to accessing mental health care services. 0 = Respondent did not report barriers related to accessing mental health care services.
Barriers in acceptability	SERBFACP	Flag indicating whether respondent reported a perceived unmet mental health care need due to acceptability. Acceptability issues are those where individuals chose to do with out mental health care either	1 = The respondent reported barriers related to problems of acceptability of

		because of competing demands on their time or because of their attitude towards illness, health care providers or the health care system. Examples are deciding not to bother, not getting around to it, preferred to manage it themselves, didn't think it could help, afraid to ask or language problems.	mental health care services. 0 = The respondent did not report barriers related to reasons of acceptability of mental health care services.
Barriers in availability	SERBFAVA	Flag indicating whether respondent who reported a perceived unmet mental health care need had problems obtaining mental health care services because of the unavailability of services. Examples of availability problems include waiting too long, help not available in area or at the time required.	1 = Respondent reported barriers obtaining mental health care services due to problems of availability. 0 = Respondent did not report barriers obtaining mental health care services due to problems of availability.
Hospitalization for mental health reasons (12-month)	SERBFHYR	Hospitalization for mental health within the past 12-months	1 = yes 0 = no
Hospitalization for mental health reasons (lifetime)	SERBFLHO	Hospitalization for mental health within your lifetime.	1 = yes 0 = no
Consultation with a religious advisor (lifetime only available)	SERB_10G	Ever saw / talked to a religious / spiritual advisor.	1 = yes 0 = no

Consultation with an alternative health professional (i.e., acupuncturist, naturopath, massage therapist) (lifetime only available)*	SERB_10H	During your lifetime, have you ever seen, or talked on the telephone, to any of the following professionals about your emotions, mental health or use of alcohol or drugs? Includes: acupuncturist, biofeedback teacher, chiropractor, energy healing specialist, exercise or movement therapist, homeopath or naturopath, hypnotist, massage therapist, guided imagery specialist, relaxation, yoga or meditation dietician, and other.	1 = yes 0 = no
Self-help use (i.e., internet support groups, self-help groups, telephone help-lines) (lifetime only available)*	SERB_A0A SERB_A1A SERB_A2A	The variables SERB_A1A (Self-help group for help with emotions), SERB_A0A (Used an internet support group / chat room), and SERB_A2A (Used telephone helpline for mental health) indicate whether or not the respondent has used the specified self-help categories within their lifetime. Each variable is coded (1) yes or (0) no. If SERB_A0A = 1, or SERB_A1A = 1, or SERB_A2A = 1, then respondents will be coded as (1) used self-help within their lifetime. If SERB_A0A = 0, and SERB_A1A = 0 and SERB_A2A = 0, then respondents will be coded as (0) have not used self-help within their lifetime.	1 = yes 2 = no
Medication use (prescribed) (12-month only available)*	MEDB_11A MEDB_11C MEDB_11D MEDB_11E MEDB_11F MEDB_11G	The variables: MEDB_11A (medication to help you sleep (such as Imovane, Nytol or Starnoc)), MEDB_11C (reduce anxiety or nervousness (such as Ativan, Valium or Serax)), MEDB_11D (mood stabilizers (such as Lithium, Tegretol or Epival)), MEDB_11E (anti-depressants (such as Prozac, Paxil or Effexor)), MEDB_11F (for the treatment of psychotic behaviours	1 = yes 2 = no

		(such as Haldol, Risperdol or Seroquel)), and MEDB_11G (any stimulants (such as Ritalin, Dexedrine or Alertec)), indicate whether or not the respondent has taken the specified medication within the past 12-months. Responses are coded (1) yes and (2) no. If MEDB_11C = 1, or MEDB_11D = 1, or MEDB_11E = 1, or MEDB_11F = 1, or MEDB_11G = 1, the respondents will be coded as (1) having used a prescribed medication for mental health reasons in the past 12-months. If MEDB_11C = 0 and MEDB_11D = 0 and MEDB_11E = 0 and MEDB_11F = 0 and MEDB_11G = 0, the respondents will be coded as (0) not having used a prescribed medication for mental health reasons in the past 12-months.	
Health product use (i.e., St. John's Wort, chamomile, ginseng) (12-month only)	MEDB_5	Indicated whether or not the respondent has used health products for mental health within the past 12-months. Included: St. John's Wort, valerian, Chamomile, Ginseng, kava kava, lavender, chasteberry, black cohosh, ginkgo biloba, NeuRocover-DA, vitamins, other.	1 = yes 0 = no

*Derived variable
**Sources: Statistics Canada. CCHS Cycle 1.2: Data Dictionary Master File (Integrated). 2004.; Statistics Canada. Canadian Community Health Survey (CCHS) Cycle 1.2: Derived Variable (DV) Specifications

APPENDIX E
Information on independent variable definitions, deriving, and coding**

Variable	CCHS 1.2 Variable(s) used	Description of Question or Concept	Coding
Covariates (alphabetical order)			
Sex	DHHB_SEX	Respondent's sex.	1 = Male 2 = Female
Age*	DHHB_AGE	Age in years (continuous). Age will be categorized into three age groups: 15 to 24 years, 25 to 44 years, and 45 to 64 years.	1 = 15 to 24 years 2 = 25 to 44 years 3 = 45 to 64 years 4 = 65 years and older
Alcohol/Substance Dependence (12-month)	MHPBFYSA	This variable identifies whether respondent met the CCHS 1.2/WMH-CIDI criteria for dependence of alcohol or illicit drugs in the past 12 months. Alcohol/substance dependence is defined as tolerance, withdrawal, or loss of control or social or physical problems related to alcohol use. The index is based on a subset of items from the Composite International Diagnostic Interview (CIDI) developed by Kessler and Mroczek. The CIDI is a structured diagnostic instrument that provides diagnostic estimates according to the operationalization of some of the criteria of the DSM-III-R classification for psychoactive substance user disorder.	1 = Respondent met the criteria for at least one listed dependency in the past 12 months. 0 = Respondent did not meet criteria for at least one listed dependency in the past 12 months.
Alcohol/substance dependence with any mental disorder* (12-	Refer to Appendix C.		

month)			
Alcohol interference (12-months)	ALDBFINT	This variable describes the interference that alcohol use had on daily activities and responsibilities in the past 12 months. This is a classification that indicates whether alcohol use interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships.	1 = Alcohol use interfered significantly with the person's normal routine, occupational (academic) functioning, or social activities or relations in the past 12 months. 0 = Alcohol use did not interfere significantly with the person's normal routine, occupational (academic) functioning, or social activities or relations in the past 12-months.
Anxiety (12-months)	Refer to Appendix C.		
Barriers in accessibility	Refer to Appendix D.		
Barriers in acceptability	Refer to Appendix D.		
Barriers in availability	Refer to Appendix D.		
Coping - sleeping more than usual	STRB_64	How often do you sleep more than usual to deal with stress?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER
coping - eating more or less than usual	STRB_65A	When dealing with stress, how often do you try to feel better by eating more, or less, than usual?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER

coping - smoking more cigarettes than usual	STRB_65B	When dealing with stress, how often do you try to feel better by smoking more cigarettes than usual?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER
coping - drinking alcohol	STRB_65C	When dealing with stress, how often do you try to feel better by drinking alcohol?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER
coping - using drugs or medication	STRB_65D	When dealing with stress, how often do you try to feel better by using drugs or medication?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER
coping - jogging or other exercise	STRB_66	How often do you jog or do other exercise to deal with stress?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER
coping - praying or seeking spiritual help	STRB_67	How often do you pray or seek spiritual help to deal with stress?	1 = OFTEN 2 = SOMETIMES 3 = RARELY 4 = NEVER
Chronic condition	CCCBF1	This variable represents whether or not the respondent had any chronic health conditions which were diagnosed by a health professional. Chronic conditions include: allergies, asthma, fibromyalgia, rheumatism, back problems arthritis, high blood pressure, migraines, bronchitis, chronic obstructive pulmonary disorder, diabetes, epilepsy, heart disease, cancer,	1 = chronic condition present 0 = respondent has no chronic conditions

		ulcers, side effects from a stroke, Crohn's disease, colitis, Alzheimer's disease, cataracts, glaucoma, thyroid problems, chronic fatigue syndrome, Obsessive compulsive disorder, schizophrenia, psychosis, Post-Traumatic Stress Disorder, dysthymia, learning disability, eating disorder, or ther long-term physical or mental health condition.	
Depression (12-month)	Refer to Appendix C.		
Disability	RACBDIMP	This variable is a crude measure of the impact of long-term physical conditions, mental conditions and health problems on the principal domains of life of: home, work, school, and other activities. Respondents are asked how often they must who cut down on things or required extra effort to perform at usual level because of illness or injury due to emotional or mental health or use of alcohol or drugs during the preceding 14 days. Responses were coded as (2) Often, (1) Sometimes, and (3) never.	1 = Sometimes 2 = Often 3 = Never
Eating disorder risk (12-month)	ETABFIND	Based on Eating Attitudes Test Index score. This variable is a measure of the extent of the symptoms and concerns characteristic of eating disorders. The EAT is usually administered to individuals who have expressed or displayed symptoms or ill concerns associated with eating attitudes and behaviours. Individuals scoring above the threshold are at risk for having an eating disorder.	1 = Respondent is at risk for having eating troubles. 0 = Respondent does not likely have eating troubles.
Education	EDUBDR04	This variable describes the highest level of education acquired by the respondent.	1 = Less than secondary school Graduation.

			2 = Secondary school graduation, no post-secondary education. 3 = Some post-secondary education. 4 = Post-secondary degree/diploma.
Ethnicity*	SDCBDRAC	This variable indicates the racial origin of the respondent: 1 = white only 2 = Black only 3 = Korean only 4 = Filipino only 5 = Japanese only 6 = Chinese only 7 = Native only 8 = south asian only 9 = south east asian only 10 = Arab only 11 = West Asian only 12 = Latin American only 13 = Other Responses will be recoded into (0) Ethnic majority (white only) and (1) Ethnic minority (includes: Black only, Korean only, Filipino only, Japanese only, Chinese only, Native only, south Asian only, south east Asian only, Arab only, West Asian only, Latin American only, and Other).	0 = ethnic majority (white only) 1 = Visible minority
Employment	LBFBDJST	This variable indicates the respondent's job status	0 = stable employment

Status*		over the past year. Possible responses include: 1 = Respondent has had a job throughout the past year. 2 = Respondent was without a job and looking for work throughout the past year. 3 = Respondent was without a job and not looking for work throughout past year. 4 = Respondent has had a job part of the year – was without a job and looking for other part of the year. 5 = Respondent has had a job part of the year – was without a job and not looking for other part of the year. 6 = Respondent was without a job and looking for part of the year – was without a job and not looking for other part of the year. 7 = Respondent has had a job part of the year – was without a job and looking for part of the year – was without a job and not looking for other part of year. If LBFBDJST = 1, then respondents will be coded as (1) having stable employment throughout the past year. If LBFBDJST = 2 or 3 or 4 or 5 or 6 or 7, then respondents will be coded as (2) having unstable employment throughout the past year.	throughout the past year 1 = unstable employment throughout the past year
Gambling problem*	CPGBDTYP	This variable divides respondents into categories based on the severity of their problems associated with gambling. This variable indicates the level of	0 = No gambling problem. 1 = Gambling problem.

		gambling problems of respondents using a 9 item scale. The following information results: 1 = Non-gambler 2 = Non-problem gambler 3 = Low risk gambler 4 = Moderate risk gambler 5 = Problem Gambler Respondents with CPGBDTYP = 1, 2, 3, 4 will be coded as not having a gambling problem. Respondents with CPGBDTYP = 5 will be coded as having a gambling problem.	
Immigrant Status	SDCBFIMM	This variable indicates if the respondent is an immigrant based on the Year of immigration to Canada variable (SDCB_3)	1 = Respondent is an immigrant. 0 = Respondent is not an immigrant.
Life satisfaction*	SCRBDSAT	This variable describes the respondent's satisfaction with life in general. Higher scores indicate more satisfaction and are coded as follows: 1 = Very dissatisfied. 2 = Dissatisfied. 3 = Neither satisfied nor dissatisfied. 4 = Satisfied. 5 = Very satisfied. If SCRBDSAT = 1 or 2, then respondents will be coded as (1) low life satisfaction. If SCRBDSAT	1 = low life satisfaction 0 = average life satisfaction

		= 3, 4 or 4, then respondents will be coded as (2) average life satisfaction.	
Mania	MIABDEY	This is the final variable that identifies whether respondents meet or fail to meet the CCHS 1.2/WMH-CIDI criteria for manic episode in the 12 months prior to the interview. Respondents who meet the criteria report: 1. meeting the criteria for lifetime manic episode; 2. having a manic episode in the 12 months prior to the interview; and 3. clinically significant distress or impairment in social, occupational or other important areas of functioning.	1 = All CCHS 1.2/WMH-CIDI criteria are met for past 12-month mania. Respondent reported (1) meeting the criteria for lifetime manic episode; (2) having a manic episode in the 12 months prior to the interview; and (3) clinically significant distress or impairment in social, occupational or other important areas of functioning. 0 = All CCHS 1.2/WMH-CIDI Criteria are not met for past 12-month manic episode. Respondent did not report (1) meeting the criteria for lifetime manic episode; (2) having a manic episode in the 12 months prior to the interview; or (3) clinically significant distress or impairment in social, occupational or other important areas of functioning.
Marital Status*	DHHB_MS	Respondent's marital status was coded as	1 = married or common-law

		1 = MARRIED 2 = COMMON-LAW 3 = WIDOWED 4 = SEPARATED 5 = DIVORCED 6 = SINGLE, NEVER MARRIED Respondent's marital status will be recoded as (1) married or common-law, (2) widowed, separated, or divorced and (3) single.	2 = widowed, separated, or divorced 3 = single.
MDE (12-month)	Refer to Appendix C.		
MDE and anxiety only* (12-month)	Refer to Appendix C.		
Psychological well-being	PWBBDPWB	This scale, which assesses psychological well-being, is based on the proposed questions from Raymond Massé. Higher scores indicate greater well-being.	Respondent's score on the psychological well-being scale. Higher values indicate higher wellbeing. (min: 0; max: 100)
Rural vs Urban status	GEOBDUR2	This field permits the identification of "urban" areas, or indicates that the EA is in a rural area. Urban areas are those continuously built-up areas having a population concentration of 1,000 or more and a population density of 400 or more per square kilometre based on the previous census. This definition of urban/rural may not correspond to the areas that Canada Post identifies as urban or rural postal codes.	0 = urban 1 = rural
self-perceived	STRB_2	In general, how would you rate your ability to	0 = average to good self-

ability to handle day to day demands*		handle the day-to-day demands in your life, for example, handling work, family and volunteer responsibilities? Respondent's can choose from: EXCELLENT, VERY GOOD, GOOD, FAIR, POOR. Responses of EXCELLENT, VERY GOOD, GOOD will be coded as average to good self-perceived ability to handle day to day demands (0). Responses of fair or poor will be coded as poor self-perceived ability to handle day to day demands (1).	perceived ability to handle day to day demands. 1 = poor self-perceived ability to handle day to day demands.
self-perceived ability to handle unexpected problem*	STRB_1	In general, how would you rate your ability to handle unexpected and difficult problems, for example, a family or personal crisis? Respondent's can choose from: EXCELLENT, VERY GOOD, GOOD, FAIR, POOR. Responses of EXCELLENT, VERY GOOD, GOOD will be coded as average to good self-perceived ability to handle an unexpected problem (0). Responses of fair or poor will be coded as poor self-perceived ability to handle an unexpected problem (1).	0 = average to good self-perceived ability to handle an unexpected problem. 1 = poor self-perceived ability to handle an unexpected problem.
Self-perceived mental health*	SCRBDMEN	This variable describes the respondent's self-rated mental health. Higher scores indicate better health:	1 = poor self-rated mental health.

		0 = Poor 1 = Fair 2 = Good 3 = Very good 4 = Excellent Poor or fair scores will be coded as (1) poor self-rated mental health. Good, very good, or excellent scores will be coded as (0) good self-rated mental health.	0 = average to good self-rated mental health
Self-Perceived physical health *	GENBDHDI	This variable describes the respondent's self-rated physical health. Higher scores indicate better health: 0 = Poor 1 = Fair 2 = Good 3 = Very good 4 = Excellent Poor or fair scores will be coded as (1) poor self-rated physical health. Good, very good, or excellent scores will be coded as (0) good self-rated physical health.	1 = poor self-rated physical health. 0 = average to good self-rated physical health
Self-perceived stress*	GENB_07	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, extremely stressful)? Available responses were:	1 = high levels of stress 0 = average to low levels of stress

		1 = NOT AT ALL STRESSFUL 2 = NOT VERY STRESSFUL 3 = A BIT STRESSFUL 4 = QUITE A BIT STRESSFUL 5= EXTREMELY STRESSFUL If GENB_07 = 5, then responses will be coded as (1) high stress. If GENB_07 = 1 or 2 or 3 or 4, then responses will be coded as (2) not high stress.	
Social Support-Emotional or Informational Support	SSMBDEMO	This variable summarizes if the respondent receives emotional or informational support. Questions about whether the respondent has someone to listen and advise in a crisis, someone to give information and confide in and talk to, or someone to understand problems are included.	Higher values indicate more emotional or informational support. (min: 0; max: 32)
Social Support-Positive Social Interaction – MOS Subscale	SSMBDSOC	This variable summarizes if the respondent is involved in positive social interaction. Questions about whether the respondent has someone to have a good time with, get together with for relaxation, do things with to get his/her mind off things, or someone to do something enjoyable with are included.	Amount of positive social interaction. (min: 0; max: 16)
Social Support-Tangible Social Support – MOS Subscale	SSMBDTNG	This variable summarizes the tangible support that is available to the respondent. Questions about whether or not the respondent had someone to help if confined to bed, someone to take him/her to the doctor, someone to prepare meals or someone to do daily chores are included.	Amount of tangible social interaction. (min: 0; max: 16)
Social Support-Affection – MOS	SSMBDAFF	This variable summarizes whether or not the respondent receives any affection. Questions	Amount of affection support.

Subscale		about whether or not the respondent has someone that shows him/her love, someone to hug or someone to love and someone to make him/her feel wanted are included.	(min: 0; max: 12)
Substance interference	IDGBFINT	This variable describes the interference that drug use had on daily activities and responsibilities in the past 12 months. This is a classification that indicates whether drug use interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships.	1 = Drug use interfered significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships in the past 12 months. 0 = Drug use did not interfere significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships in the past 12 months.
Suicidal thoughts (12-month)	DEPBFSYT	This variable classifies the respondent based on whether he/she thought about committing suicide or taking his/her own life in the past 12 months.	1 = Respondent seriously thought about committing suicide in the past 12 months. 0 = Respondent did not seriously think about committing suicide in the past 12 months
Suicide attempts (12-month)	DEPBFSYA	This variable classifies the respondent based whether he/she attempted suicide in the past 12 months.	1 = Respondent attempted suicide in the past 12 months. 0 = Respondent did not attempt suicide in the past 12 months.

Total household income, 2 categories	INCBDIA2	This variable classifies the total household income into 2 categories based on total household income and the number of people living in the household.	1 = Low income < $15,000 if 1 or 2 people; < $20,000 if 3 or 4 people; < $30,000 if 5+ people 0 = Middle or High Income >= $15,000 if 1 or 2 people; >= $20,000 if 3 or 4 people; >= $30,000 if 5+ people
Unmet mental health need	SERB_A3	This variable assesses whether the respondent has felt the need help with emotions, mental health or use of alcohol or drugs within the past 12-months, but you didn't receive it. It is coded (1) yes or (0) no.	1 = yes 0 = no
Work stress	WSTBDSKI WSTBDAUT WSTBDPSY WSTBDJIN WSTBDPHY WSTBDSOC	The work stress items are sub-divided into six dimensions. As is the case for the overall index, answers to the items indicate a respondent's perception about various dimensions of his/her work. The name of each subscale reflects the dimension which is measured. Respondents between the age of 15 and 75 who worked at a job or business at anytime in the past 12 months were asked to evaluate their main job in the past 12 months. The 12-item index, based on a larger pool of items from Karasek, reflects a respondent's perceptions about various dimensions of his/her work including job security, social support, monotony, physical effort required, and extent of participation in decision-making. Higher scores indicate greater work stress. See derived work stress scale dimensions below.	See derived work stress scale dimensions below.

Work Stress Scale - Decision Latitude: Skill Discretion (Skill Requirements)	WSTBDSKI	This variable summarizes the respondent's task variety at main work in the past 12 months. Questions are asked about whether the respondent was required to keep learning new things, whether his/her job required a high level of skill and whether the job required that the respondent do things over and over.	(min: 0; max: 12)
Work Stress Scale - Decision Latitude: Decision Authority	WSTBDAUT	This variable summarizes the questions asked about whether the respondent's main job in the past 12 months allowed them freedom on how to do job and if had a lot of say about what happened on job.	(min: 0; max: 8)
Work Stress Scale - Psychological Demands	WSTBDPSY	This variable summarizes the psychological demands of the job if the respondent free from conflicting demands that others make and if the main job in the past 12 months was very hectic.	(min: 0; max: 8)
Work Stress Scale - Job Insecurity	WSTBDJIN	This variable indicates if the respondent feels that their main job's security was good.	(min: 0 ; max: 4)
Work Stress Scale - Physical Exertion	WSTBDPHY	This variable indicates whether the main job in the past 12 months required a lot of physical effort.	(min: 0; max: 4)
Work Stress Scale - Social Support	WSTBDSOC	This variable summarizes the social support available to the respondent at his/her main job in the past 12 months. Questions are asked about whether or not the supervisor and the people the respondent worked with were helpful in getting the job done, and whether the respondent was exposed to hostility or conflict from the people they worked with.	(min: 0; max: 12)

*Derived variable

**Sources: Statistics Canada. CCHS Cycle 1.2: Data Dictionary Master File (Integrated). 2004.; Statistics Canada. Canadian Community Health Survey (CCHS) Cycle 1.2: Derived Variable (DV) Specifications

APPENDIX F

Lifetime and twelve-month prevalences for mental health problems among Immigrant and non-Immigrant Anglophones within Quebec

	Immigrant		Non-immigrant		Difference	95% CI of difference		
	%	SE**	%	SE**	(%)	Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
MDE	13.96	4.077	10.45	2.049	-3.51	-12.5	5.4	.3998
Anxiety Disorder	6.75	2.290	13.74	2.420	6.99	0.5	13.5	.0537
12 month								
Non-mutually exclusive								
MDE	2.163	1.059	4.027	1.238	1.864	-1.3	5.1	.2691
Anxiety***	-	-	-	-	-	-	-	-
ASD***	-	-	-	-	-	-	-	-
Mutually exclusive								
Presence of a mental illness	4.64	1.913	11.74	2.407	7.10	1.1	13.1	.0197*
MDE only	2.16	1.059	4.03	1.238	1.8640	-1.3	5.1	.2691
Anxiety disorder only***	-	-	-	-	-	-	-	-
ASD only***	-	-	-	-	-	-	-	-
MDE and Anxiety disorder only***	-	-	-	-	-	-	-	-
ASD and any disorder***	-	-	-	-	-	-	-	-
Secondary outcomes								
Poor self-rated mental health	3.81	1.39	4.55	1.26	0.74	-2.9	4.4	.6847
Life Satisfaction	4.91	1.82	3.69	1.57	-1.22	-5.9	3.5	.5860
High self-rated stress levels	4.02	1.61	4.39	1.54	0.37	-4.0	4.7	.8606
High distress								

* $p < .05$

** Standard error

*** Data not available due to confidentiality (cell sizes less than 5)

APPENDIX G

Lifetime and 12-month prevalence of mental health service use among immigrant and non-immigrant Anglophones within Quebec

	Immigrant		Non-Immigrant		Difference	95% CI of difference		
	%	SE**	%	SE**	(%)	Lower	Upper	*p*-value
Lifetime								
Non-mutually exclusive								
Use of any MH service	15.82	3.819	24.83	3.241	9.01	-0.8	18.8	.0775
Family Practitioner	10.26	3.298	14.01	2.238	3.75	-4.1	11.6	.3245
Psychiatrist	3.16	1.189	7.588	1.721	4.43	0.3	8.5	.0198*
Other physician***	--	--	--	--	--	--	--	--
MHP	7.52	2.403	14.94	2.239	7.42	1.0	13.9	.0395*
Mutually exclusive								
No service use	84.18	3.819	75.17	3.241	-9.01	-18.8	0.8	.0775
FP only	3.33	1.358	5.26	1.441	1.93	-2.0	5.8	.3405
MHP and/or psychiatrist only	5.56	2.33	11.01	2.042	5.46	-0.6	11.5	.1197
FP and/or other doctor & MHP and/or psychiatrist	3.95	1.295	8.7	1.852	4.808	0.4	9.2	.0222*
Other doctor 'non- psychiatrist' with or without FP***	--	--	--	--	--	--	--	--
12 month								
Non-mutually exclusive								
Use of any MH service	4.08	1.540	5.64	1.496	1.57	-2.6	5.8	.4439
Family Practitioner	2.90	1.204	3.60	1.153	0.71	-2.6	4.0	.6547
Psychiatrist***	--	--	--	--	--	--	--	--
Other physician***	--	--	--	--	--	--	--	--
MHP	2.29	1.105	3.86	1.207	1.57	-1.6	4.8	.4825
Mutually exclusive								
No service use	95.92	1.540	94.36	1.496	-1.56	-5.8	2.6	.4439
FP only***	--	--	--	--	--	--	--	--

* $p < .05$

** Standard error

*** Data not available due to confidentiality (cell sizes less than 5)

APPENDIX G, CONTINUED

Lifetime and 12-month prevalence of mental health service use among immigrant and non-immigrant Anglophones within Quebec

	Immigrant		Non-Immigrant		Difference	95% CI of difference		
	%	SE**	%	SE**	(%)	Lower	Upper	*p*-value
MHP and/or psychiatrist only***	--	--	--	--	--	--	--	--
FP and/or other doctor & MHP and/or psychiatrist	1.80	.941	1.87	.766	0.07	-2.3	2.4	.9508
Other doctor 'non- psychiatrist' with or without FP***	--	--	--	--	--	--	--	--

* $p < .05$

** Standard error

*** Data not available due to confidentiality (cell sizes less than 5)