Racial Status and Mental Health among Canadian Adults

by

Christoph M. Schimmele
B. A., University of Victoria, 1997
M. A., University of Victoria, 2001

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in the Department of Sociology

Supervisory Committee

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ABSTRACT

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This study examined the relationship between race and mental health among Canadian adults. The purpose was to assess how social organization contributes to the racial distribution of mental health. The study defined mental health as a multi-dimensional construct that includes negative, positive, and subjective facets. The empirical analysis compared East Asians, South Asians, Blacks, Aboriginals, and mixed race persons to Whites on major depression, psychological distress, psychological well-being, and self-rated mental health. Separate comparisons were made for women and men because the relationship between race and mental health could be conditional on gender. Using individual-level data from the Canadian Community Health Survey (CCHS) 1.2 and aggregate data from the 2001 Canadian Census, the study hypothesized that racial differences in mental health could reflect differences in stress exposure, socioeconomic status, social embeddedness, and neighborhood environment. The main assumption was that higher stress exposure, economic hardship, social isolation, and neighborhood

disadvantage could compromise the mental health of racial minorities. The study also examined whether social support and coping behaviors protected racial minorities from these health-damaging effects. The findings do not present a straightforward or a consistent set of conclusions. Although there is a good rational to believe that racial minorities should have worse mental health than Whites, this is not always or even mostly the case. Only Aboriginal women have a consistent disadvantage. For the most part, racial minorities have similar mental health as Whites, and even have an advantage in a few instances. Since the analysis covered the negative, positive, and subjective dimensions of mental health, it provides robust evidence to support this conclusion. However, the findings also demonstrate that low socioeconomic status and insufficient social resources can indeed have health-damaging effects. These factors explain some of the observed disadvantages in mental health that racial minorities experience or suppress an advantage among them.

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Selected Abbreviations

CCHS	Canadian Community Mental Health Survey
CES-D	Center for Epidemiologic Studies Depression Scale
CIDI	Composite International Diagnostic Interview
DSM	The Diagnostic and Statistical Manual of Mental Disorders
ECA	Epidemiologic Catchment Area Survey of Mental Disorders
K10	Kessler Psychological Distress Scale (10-Items)
NCS	National Comorbidity Survey
NPHS	National Population Health Survey
MDD	Major Depressive Disorder
MDE	Major Depressive Episode
MOS	Medical Outcomes Study
PWB	Psychological Well-Being
SES	Socioeconomic Status
SPM	Stress Process Model
SRMH	Self-Rated Mental Health

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Chapter 1

INTRODUCTION

Mental illnesses are a serious public health concern in Canada and other countries. These illnesses account for several of the 10 leading causes of disability and 12 percent of the global burden of disease (World Health Organization 2001). In Canada, mood disorders are as prevalent as heart disease, diabetes, and other wide-spread physical illnesses (Statistics Canada 2003). In 2002, about 4.5 percent of Canadian adults (1.12 million people) reported symptoms consistent with major depression (MDE) in the previous 12 months, making MDE the most prevalent mental illness in Canada. People suffering from depression and other mental illnesses are a vulnerable group (Funk et al. 2010). These individuals have comparatively limited educational and employment opportunities and also encounter constraints on their participation in other aspects of social life. These disadvantages contribute to a higher risk of economic hardship, poor physical health, lower quality of life, and premature mortality, among other negative implications.

This thesis focuses on the relationship between racial status and mental health. Mental health conditions affect entire populations, but the distribution of these conditions varies within populations; the experience of mental illness is not random (Health Canada 2002). Mental illnesses tend to be disproportionately concentrated among the members of disadvantaged social groups. The relationship between social status and mental health has been observed in numerous research settings and across countries and time periods. These epidemiological patterns offer a compelling indication that social status and social

organization are fundamental dimensions of stress exposure and stress resistance (see Aneshensel and Phelan 1999; Turner and Avison 2003). Given that racial stratification is a major component of social structure, racial status is antecedent to a plethora of distal and proximate risk factors (e.g. socioeconomic status, social exclusion) of health and well-being (Williams and Sternthal 2010). In terms of physical illnesses and mortality, it is well-established that negative health outcomes among racial minorities are reflection of racism, socioeconomic inequalities, and social segregation.

The implications of "race" for health do not represent a putative assumption about biological or genetic differences between people. This thesis adheres to the notion that "races" are social constructions and that the link between race and health reflect the consequences of racism. Questions regarding racial differences in health address issues at the core of the sociological discipline, such as the consequences of social stratification and marginalization (Vega and Rumbaut 1991). Since the 18th century, sociologists have observed a link between race and health outcomes. W. E. B. Du Bois (1967 [1897]) was among the first to document this relationship, demonstrating the health-damaging consequences of economic hardship and segregation for Black Americans. More than a century later, racism continues to determine life opportunities and the social distance between individuals, and for these reasons race is a relevant health variable. Hence, this thesis is concerned with the social originals of disease – i.e., the external circumstances that expose racial minorities to social stress and limit their capacities to avoid or manage stressful circumstances – and it conceptualizes racism as a potential pathogen that compromises the mental well-being of racial minorities.

Despite plausible assumptions that racial minorities *should* have comparatively higher rates of mental illness, this should not be a foregone conclusion. George and Lynch (2003) observe that, despite much research, the question of whether or not race contributes to differences in mental health is unresolved. Our knowledge on this topic is based primarily on Black-White comparisons and contains inconsistent findings. As George and Lynch note, some studies demonstrate that Blacks have a disadvantage in comparison to Whites, while others demonstrate that Blacks have more favorable outcomes. Our understanding is even less clear with regard to other racial minorities. The mental health of East Asians (e.g., Chinese, Japanese, Koreans), South Asians, and Aboriginals has been understudied because of their small numbers in community surveys. Only since the 2002 Canadian Community Health Survey (CCHS 1.2) has there been suitable data for comparing the mental health of different racial groups in Canada. Most of what is understood about the relationship between race and mental health comes from US studies. At least for physical well-being, previous research demonstrates that the health status of Black Canadians and other racial groups does not resemble that of their US counterparts (Wu and Schimmele 2005). This finding points to a possible difference in the implications of race for patterns of mental health as well, and thus warrants further Canadian research.

Little is understood about racial differences in mental health in Canada. The key objective of this study is to illustrate racial patterns in psychological distress (distress), psychological well-being (PWB), self-reported mental health (SRMH), major depression (MDE), and also to examine what mechanisms contribute to these patterns. How do non-White racial groups compare to Whites on major depression? Does psychological distress

differ between racial groups in a manner similar to major depression or does this measure capture racial disparities that are not captured because of the rigid criteria for assessment of major depression? Does psychological well-being and SRMH distinguish between racial groups further than what differences in distress and MDE tell us? To address these and other questions, this study compares five racial groups to Whites: East Asians, South Asians, Blacks, Aboriginals, and mixed race persons. These are analytical categories that are intended to represent the pattern of racial stratification in Canada. The analysis is gender-specific because the implications of racial status for mental health could be gender-dependent.

This thesis contributes to the literature in several important respects. First, a key proposition is that racial differences in stress exposure could explain (or contribute to) racial differences in mental health. Though the pathology of mental health is complex, stress exposure is certainly a major determinant of the chances of illness or lack of well-being (Aneshensel 1992; Wheaton 1999b). Between racial groups, this is perhaps the predominant reason for differences in the prevalence of illness, since it is implausible that biological or genetic differences predispose some racial groups to mental illness more so than others (see Chapter 2 for a discussion). To our knowledge, no previous studies have examined the role of stress exposure in the relationship between race and mental health. Most studies consider the effects of socioeconomic status, which is indeed a crucial factor in the race-health relationship. However, the health differences between racial minorities and Whites are irreducible to socioeconomic stressors, and recent studies point to the need to consider the effects of other sources of stress, such everyday racism and more overt forms of racial discrimination (Williams and Mohammed 2009). Although there are

a few studies that examine the consequences of these factors for racial minorities (e.g., Banks et al. 2006; Karlsen and Nazroo 2002; Krieger et al., 2011), none involve comparisons between Whites and racial minorities. This thesis examines whether racial differences in perceived stress contribute to the racial pattern of mental health in Canada. In addition, the analysis considers the effects of socioeconomic status, given its well-established importance on the risk of mental illness.

Second, there is a paucity of research that considers how social resources contribute to racial differences in mental health. This study evaluates the effects of social resources in two respects. The first considers the role of social support in the relationship between race and mental health. In general, social support is an important mediating resource, and it is widely acknowledged that access to social support helps individuals cope with stressful experiences and thus avoid or minimize illness (House 1981; Lin, Ye, and Ensel 1999; Thoits 1995). Largely because of data limitations, few studies have observed how social support (a protective effect) influences how racial minorities compare to Whites on mental health. Though it is reasonable to assume that racial minorities experience higher levels of stress than Whites, there are no grounds to assume that this experience necessarily translates into higher rates of psychiatric morbidity. There at least exists the possibility that racial minorities can employ collective strategies to protect themselves from racism-related stress and economic hardship. In addition, this study considers the effects of social embeddedness, which is a novel social resource that reflects factors such as positive social interactions, social contacts, and sense of belonging. The social distance between racial minorities and Whites coupled with the small-group and newcomer status of racial minorities (most are recent immigrants) could

be an important source of differentiation. In particular, social isolation among racial minorities could be a threat to their mental health.

Third, this study expands upon the literature through an examination of ecological effects. Most studies compare racial groups on individual-level characteristics (e.g., socioeconomic status) to examine what explains racial differences in mental health. Though individual-level variables account for most social differentiation in health status, there are also ecological mechanisms that influence health status, regardless of individual-level characteristics (Ross and Mirowsky 2008). Since racial minorities concentrate in particular neighborhoods because of discrimination in housing markets and socioeconomic constraints, it is possible that residential environment shapes differences in mental health between racial minorities and Whites. Our study considers three neighborhood effects. The first two represent potential disadvantages for racial minorities. These include the health-damaging effects of living in neighborhoods with (a) below average socioeconomic conditions or high rates of impoverishment and (b) instable or transient population basis, which contributes to a lack of social cohesion. The other neighborhood is co-ethnic density, which is a potential advantage. The literature suggests that living among co-ethnics is a mental health asset for racial minorities (Halpern 1993).

Fourth, this thesis examines if differences in coping behaviors explains racial differences in mental health or at least changes how racial minorities compare to Whites on mental health. In general, the coping behaviors of racial minorities is an under-researched topic, and no previous studies have examined the role of coping behaviors in the relationship between race and mental health. The association between stress exposure

and mental illness is not concrete. That is, mental illness is not an inevitable outcome of stress exposure. Since social stress is a normal part of life, stress-reactivity is an important aspect of the stress process, and it often determines who becomes ill and who does not (Selye 1956). Coping represents the concrete things that people do in response to social stress (Pearlin and Schooler 1978). A paradox in the literature is that US Blacks have a similar prevalence of major depression as Whites, despite the racism-related hardships that encroach on their lives. Some suggest that coping behaviors help Blacks adapt to or manage stress, but the role of coping is not clear. Our study considers how several types of coping behaviors influence racial differences in mental health. These include problem-solving, emotion-focused, and maladaptive coping strategies.

Finally, this study expands the definition of mental health to include its negative, positive, and subjective dimensions. The negative dimension of mental health refers to psychological distress and major depression, the positive dimension to psychological well-being, and the subjective dimension to self-rated mental health. The predominant focus in the sociological literature is on the negative dimension of mental health, such as distress and depression (Horwitz 2002; Payton 2009). To date, no studies have compared racial groups on positive psychology or subjective mental well-being. The common definition of "health," therefore, refers to the absence of symptoms or a positive diagnosis of a mental disorder. This is a problematic definition in at least two respects. First, previous research demonstrates that psychological distress, mental disorder (e.g., depression), and psychological well-being are distinct phenomenon and warrant separate analysis (Payton 2009). Second, the consequences of social structure (e.g., racism) are not limited to negative outcomes, but can suppress positive emotions as well. This

suggests that focusing on single or negative outcome provides an incomplete understanding of racial differences in mental health, and can lead to misinterpretations about the effects of racism and mental health.

The thesis is organized into 7 main chapters. In the following chapter, we discuss the conceptual relationship between race and health, the racial composition and hierarchy of Canada, and the methodological challenges associated with comparing racial groups on mental health. The first part of this chapter is devoted to defining race and developing a rationale for considering race as a health variable. The second part of this chapter develops the definition of mental health employed throughout this thesis and discusses the debates surrounding the conceptualization and measurement of mental health. The latter discussion is discussed with regard to the challenges of measuring mental health across racial groups.

In Chapter 3, we discuss the state of the literature on racial differences in mental health. This chapter begins with a discussion of the data limitations that have hitherto prevented a comparison of racial groups on mental health in Canada and elsewhere. The next part of this chapter reviews the literature on racial patterns of mental illness, focusing on our knowledge about how Blacks, Asians, and Aboriginals compare to Whites on distress and depression. The chapter conclusion with a discussion of the key explanations for racial differences in mental health. This chapter also addresses some of the key limitations in the literature.

Chapter 4 describes the theoretical framework of the thesis. This includes a discussion of the potential mechanisms that could contribute to racial differences in mental health. This chapter presents the conceptual definitions of the variables used in the

empirical analysis and provides a theoretical rational for their inclusion. The chapter concludes with a list of our specific research objectives. Chapter 5 describes the data and methods used in the empirical analysis. This chapter discusses the data sources used and provides operational definitions for all selected variables. This includes a definition for mental health (the outcome variables), racial status, and all the individual- and neighborhood-level variables. This chapter also provides a brief discussion of the statistical procedures used to generate a multilevel data set and conduct the regression analysis.

Chapters 6 and 7 are devoted to discussing the results of the empirical analysis. Chapter 6 focuses on racial patterns of mental health among women and Chapter 7 focuses on racial patterns in mental health among Canadian men. The concluding chapter (Chapter 8) summarizes our research findings. This includes a discussion of how each selected racial groups compares to Whites on mental health and also discusses the effects of the explanatory mechanisms (e.g., socioeconomic status, neighborhood effects, coping) on the racial pattern of mental health. The chapter also includes a discussion of research limitations and observes directions for future research.

Chapter 2

RACE AND MENTAL HEALTH

2.1 INTRODUCTION

There are three general approaches to mental health, which reflects the complex etiology of psychiatric morbidity (Thoits 1999). Biomedical approaches define mental disorders as disease entities related to abnormalities in brain structure and functioning and neurochemistry (Schwartz 1999). Psychological approaches also focus individual-level abnormalities, but examine the causal role of disturbed cognitions and maladaptive behaviors (Peterson 1999). The main contribution of sociological approaches is the notion that mental illness is associated with social conditions as well as biological and psychological abnormalities. This position is grounded on a large literature that observes that the prevalence of mental illness varies between social groups. Instead of focusing on individual-level problems, sociologists examine the external mechanisms that contribute to the onset of mental illness, such as anomie, human ecology, social status, and other social conditions (Thoits 1999). The social distribution of mental illness is linked to differential exposure to stressors and disparities in psychosocial resources, medical treatment, and social support (Aneshensel 2009).

In the present study, mental health is considered to be a “social fact” precisely because the prevalence of mental illness (and positive emotions) tends to cluster among vulnerable groups. In Durkheim’s ([1897] 1951) usage, social facts are conditions that exist prior to and outside individuals (e.g., cultural norms, social structure, ascribed status), which constrain their behavior and predict their well-being. Mental illness is a

social fact because group differences in the prevalence of illness have a definite link to social structure and are irreducible to individual-level biological or psychological abnormalities. In Canada and other countries, race is a fundamental dimension of social structure, and is thus bound to have health-related implications. The usage and meaning of race in health research is not, however, an uncontroversial issue. This is because race is often employed in a manner that gives the tacit impression that it represents a biological or genetic trait. But prior studies demonstrate that there is no legitimate biological basis for categorizing people into racial groups, and that "race" is a social construct (Omi and Winant 1994; Williams, Lavizzo-Mourey, and Warren 1994).

The purpose of this chapter is to discuss the conceptual relationship between race and health, the racial composition and hierarchy of Canada, and also the methodological issues germane to comparing ethno-cultural groups on mental health. The main argument presented in this chapter is that racial differences in mental health are generated primarily through the processes of discrimination and exclusion that shape people's social environments, life opportunities, and behaviors. Though our empirical comparisons involve racial groups (see Chapter 5), the conceptual focus is the consequences of racism. The racial groups compared in this study are pan-ethnic groups and there is a large amount of heterogeneity within them. The terms "White," "Aboriginal," "Black," "South Asian," and "East Asian" are used strictly to represent racialized groups. It is the socio-historical forces that differentiate people into superordinate and subordinate groups – not genetics or ethnicity – that makes race a useful analytical category.

2.2 RACISM AND HEALTH

Among the earliest accounts of the relationship between race and health is documented in W. E. B. Du Bois' ([1899] 1967) 19th century examination of the social conditions of Black Americans. In *The Philadelphia Negro,* Du Bois illustrated that racial inequalities were reflected in the Black-White gap in mortality. In his time, the predominant idea was that Black-White gaps in mortality and other health outcomes were rooted in biological differences. This perspective gained the broad support of physicians and scientists in the 1830s and 1840s (Krieger 1987). When addressing the question of the comparatively high mortality rate of Black Americans, the answer from the medical establishment was that it was an immutable fact of nature. The belief that Blacks were more vulnerable to disease because of "biological inferiority" was routinely taught in US medical schools (Byrd and Clayton 2000). In contrast, Du Bois approached Black-White differences in health as a social fact.

Du Bois observed that the primary cause for the comparatively high mortality of Blacks was attributable to their living conditions, and was therefore irreducible to biological vulnerability. The sources of excess mortality, according to Du Bois, were external to the individual. In a meticulous comparison of different wards (neighborhoods) in Philadelphia, he illustrated the connection between social conditions and health outcomes, as summarized in the following passage:

> The influence of bad sanitary surroundings is strikingly illustrated in the enormous death rate of the Fifth Ward – the worst Negro slum in the city, and the worst part of the city with respect to sanitation. On the other hand the low death rate of the Thirtieth Ward illustrates the influences of good houses and clean streets in a district where the better class of Negros have recently migrated (Du Bois ([1899] 1967): 150-51).

The mortality rate of Blacks in the Fifth Ward was double the rate of Blacks in the Thirtieth Ward. Moreover, the mortality rates of Blacks in the best neighborhoods was similar to or better than their White neighbors. Du Bois' findings indicated that excess Black mortality was a function of their socioeconomic status (impoverishment) and residential segregation (institutional racism). The social nature of Black health chances was also reflected in the leading causes of mortality, such as tuberculosis and gastrointestinal disorders, which were the consequences of malnutrition, crowding, poor sanitation, and other socioeconomic disadvantages. In absence of poverty and discrimination, Du Bois remarked, there would be no racial disparities in mortality.

Racial inequalities continue to be responsible for Black-White gaps in morbidity and mortality in the United States (Williams and Sternthal 2010). While the leading causes of mortality have shifted from infectious diseases in the late 19th and early 20th centuries to chronic conditions at present, the influence of racial status on health trajectories is clear from the persistent Black-White gap in mortality. Between 1980 and 1990, this gap increased from 6.3 to 7 years, largely because of the high burden of cardiovascular disease, diabetes, and cancers within the Black population (Wu and Schimmele 2005c). Since then, the Black-White gap in life expectancies has declined to about 5 years, but this is still an enormous difference (Hummer and Chinn 2011). Though other racial minorities (e.g., Mexican Americans) have similar life expectancies as Whites, this non-difference should not be accepted at face value. When controlling for socioeconomic resources, Hispanics have a lower mortality rate than their White counterparts, which suggests that a socioeconomic disadvantage is suppressing their potential for robust health. In the Black and Hispanic populations – the two largest racial

minority groups in the US – socioeconomic disadvantage pushes life expectancies beneath what would be expected with a more equitable distribution of socioeconomic resources and the desegregation of residential environments.

The evidence presented above suggests that social conditions represent the nexus between race and health outcomes; hence, it is crucial to bear in mind, as Du Bois demonstrates, that the relationship between race and health is dependent on social relations and social organization. Racial inequalities in health are inseparable from societal context and there is not universal connection between race and health outcomes (Siddiqi and Nguyen 2010). What is observed in one societal context does not necessarily parallel racial patterns of health in other contexts. To be sure, US studies are instructive for illustrating the processes through which racial status can influence health trajectories, but the Black-White gap in health in the US could be an outcome that is peculiar to the US social context. In contrast to US patterns, prior research demonstrates that Black Canadians have more favorable health profiles than White Canadians, regardless of differences in socioeconomic status (Wu and Schimmele 2005c). In Canada, all racial minorities except for Aboriginals have better life expectancies than Whites, although this advantage appears to be a "healthy migrant" effect and could thus disappear across generations (Wilkins et al. 2008).

Du Bois' ([1899] 1967) conclusions strike at the heart of on-going debates about the definition of race. Until World War II, the predominant definition of race was based on biological determinism (Evans-Campbell, Lincoln, and Takeuchi 2007). Biological determinism lumps individuals into different "races" according to characteristics such as skin color and phenotypes. The divisions between races are perceived to be natural,

mutually exclusive, and fixed across time and place. This definition of race corresponded with the ideological belief that race determined a person's intelligence, capabilities, behavior, and physical fitness, and this was used to rationalize the subordination and exploitation of "inferior" races. With regard to health disparities, Williams et al. (1994) summarize this viewpoint succinctly:

> The genetic model of racial differences in health is based on three assumptions that are all of dubious scientific validity. They are that race is a valid biological category, that the genes that determine race are linked to those that determine health, and that the health of a population is largely determined by the biological constitution of the population (p. 27).

There is no empirical support for the genetic model, and there is indeed at least as much genetic variation within racial groups as between them (Williams 1997). Moreover, the definition of race has shifted over time and has different meanings across societies, which is additional proof that biological-based definitions of race have a precarious foundation (LaVeist 1994).[1]

Our concern surrounding the definition of race lies in its implications for the interpretation of racial differences in health outcomes. If race is defined as a biological variable, this suggests that racial differences in health are natural (unavoidable) outcomes and have little to do with social inequalities. The concept of race continues to be employed in uncritical ways in epidemiological research and public health (Cooper and David 1986; Williams 1997). Biological determinism has re-surfaced with the Human Genome Project and genetic studies on vulnerability to disease (Kawachi, Daniels, and Robinson 2005; Phelan, Link, and Feldman 2013). Hence, some researchers argue that we should abandon the concept of race in health surveillance, considering that its uncritical usage has contributed to the reification of race as a biological variable and led

to misinterpretations of racial differences in health (see Cooper 1994). Employing race as a health variable is also problematic because it conflates heterogeneous ethnic groups and can thus conceal health differences within racial groups and between ethnic groups (Brown et al. 1999). At least, this suggests that race is not a good variable for some research questions and can lead to imprecise comparisons. For example, race is an unsuitable variable for understanding the culturally-specific aspects of health status, such as help-seeking behaviors and the sick-role.

For these reasons, Cooper (1994) suggests that we replace race (e.g., Asian) with ethnicity (e.g., Chinese, Korean, Japanese, Vietnamese, Filipino)[2] in health research. Of course, comparisons of ethnic groups can refine our knowledge about social differences in health behaviors and outcomes. But there is a good rationale for retaining racial comparisons as well. The hazard with replacing race with ethnicity is that this approach can focus our attention on cultural and behavioral factors and de-emphasize the consequences of racism (Thomas 2001). What is needed is not a substitute for race but a critical usage of race that demonstrates that it functions as a health variable through social processes. This involves defining race as a social construct and recognizing that the classification of people into different “races” is a function of racism. The use of race as a biological variable must be abandoned, but race should be retained as an analytical category for several reasons. Racial categories (the color line) capture social inequalities, reflect prejudice and institutional racism, and demarcate social differences between groups (Williams 1997). The categorization of people into races is a fundamental aspect of social organization that has concrete implications for relations between groups and an individual’s social status, interests, and identity.

For our purposes, racism represents a pathogen because it is a basic or fundamental source of exposure to a constellation of health risks and can limit the acquisition of salutogenic resources. Racism is irreducible to individual-level prejudice or overt acts or behaviors (Bonilla-Silva 1997). The core of racism embodies differences in power and social prestige between superordinate and subordinate racial groups, as reflected in state policies, access to resources, and levels of inclusion in social, economic, and political institutions. These macro-level arrangements limit the opportunities and life chances of the members of subordinate groups (Williams 1997). Figure 2.1 maps the conceptual linkage between racism and mental health outcomes. The figure depicts a framework for contextualizing racial differences in the stress process. The framework is based on Link and Phelan's (1995) "fundamental cause" perspective on disease. This perspective illustrates that social status functions as a fundamental cause of disease for several reasons: statuses such as race, gender, and socioeconomic status (SES) influence numerous outcomes, placing the members of disadvantaged groups at higher risk of multiple health problems; these health outcomes arise via exposure multiple risk factors; the risk factors that link social status to health can shift over time; and social status influences the resources that can be deployed to avoid health risks and manage illness.

Figure 2.1 About Here

Link and Phelan argue that it is essential to focus on the "risk of risks" to understand the social origins of illness. This involves uncovering the distal mechanisms of illness instead of just examining the proximate determinants of specific diseases. The later can lead to individual-centered interpretations of health outcomes, masking the social conditions that create differential health chances. For example, a focus on the

proximate determinants of heart disease involves examining proximate risk factors such as blood pressure, cholesterol, and obesity. These factors are most closely linked to behaviors such as diet, smoking, and lack of exercise. Stopping at this point in the pathological chain gives the impression that individual-level behavior is the cause of disease. But Link and Phelan observe that macro-level forces influence people's health behaviors and their capacity to make healthy choices. This observation counters the rhetoric of "personal responsibility" that dominates neo-liberal interpretations of health disparities. The fundamental cause perspective compels us to consider two elementary facts when comparing groups on health outcomes. First, there is a causal relationship between social organization and the risks of illness (Aneshensel 2005). The bases of societies lead to conditions that generate intolerable health risks (e.g., stress) for some people. In accordance, some level of psychiatric morbidity is an *expected* outcome of social organization. Second, judgments about whether group X is sicker or healthier than group Y cannot be made from comparisons of single outcomes. Social conditions influence health trajectories at a higher level than single outcomes and a multi-outcome approach is required for robust comparisons.

In Figure 2.1 racism is the basic (or fundamental) cause of mental health outcomes because it is responsible for ascribing racial status and has a strong effect on SES. Race and SES are analytical categories that represent power relations between racial groups. In this model, race and SES operate in tandem as a pervasive source of multiple jeopardy (Williams 1997). Both race and SES are intertwined with the societal forces that shape the stress process and the social distribution of mental illness and well-being. These statuses create the surface (or proximate) causes of illness. Surface causes mediate

the relationship between social status and mental health, and include factors such as stressors, psychosocial resources, social integration, and access to medical care. Social status can also influence stress-reactivity. Exposure to stressors (stress-producing agents) does not automatically translate into a negative outcome. Selye (1956) argues that the experience of stress also involves the perception and appraisal of it. Whether a stressor leads to stress (a state of arousal) and whether stress leads to a negative outcome (distress) depends on other factors. An identical stressor can produce different reactions and outcomes between individuals and groups because of differences in the perception of the stressor, tolerance to stress, and coping behavior.[3]

There are two principal sources of chronic stress that link race to mental health. First, the over-representation of racial minorities in low-SES groups links race to mental health via exposure to SES-related stressors and coping behaviors. The socioeconomic gradient in mental illness demonstrates that stressors such as economic hardship, unemployment, occupational demands, and role-conflict tend to cluster in lower socioeconomic strata (Eaton and Muntaner 1999; Miech and Shanahan 2000; Yu and Williams 1999). Besides encountering a higher amount of stressors, the disadvantaged also have fewer resources to mitigate these problems. Considering the polarization of wealth in American society, it is unsurprising that most studies have focused on SES as a key explanation for the relationship between race and mental health. Racial minorities are more economically vulnerable, have lower aggregate incomes, work in more hazardous environments, receive lower returns from education, and have less purchasing power than Whites (Fryer 2011; Williams and Sternthal 2010). When SES is controlled, racial disparities in mental health attenuate or disappear (Bratter and Eschbach 2005; Williams

et al. 1997; Wu et al. 2003). In some cases, these disparities reverse, with racial minorities having better mental health than Whites when SES is held equal (Williams et al. 1997; Wu et al. 2003).

But in other cases SES cannot account for all racial disparities in health, and, even when it does, the relationship between race and health involves more than SES. The second principal source of chronic stress for racial minorities comprise race-specific stressors related to segregation and personal experiences of racism in social interactions and institutions. Of these, the caustic effects of residential segregation has been given the greatest attention in the literature. Williams and Sternthal (2010) describe segregation in the US as "a primary institutional mechanism of racism and a fundamental cause of racial disparities in health" (p. S20). The stressors associated with segregation include concentrated poverty, community disorder, social isolation, dilapidated housing, and crime. There is also growing interest in how subjective experiences of discrimination can have health-damaging effects. Much less is known about this topic because there are few community surveys that include suitable variables to measure every-day racism. However, racial minorities experience racist attitudes and treatment in a broad range of settings, and it is important to recognize these as a source of stress and an assault on self-esteem (Williams and Mohammed 2009; Williams and Williams-Morris 2000). The experience of every-day racism can create feelings of anger and frustration, and racist stereotypes can be internalized, leading to feelings of anxiety, worthlessness, and demoralization.

2.3 THE CANADIAN CONTEXT

Most of our knowledge about racial differences in mental health is based on the US context. This is a limitation of the literature because race is a social construct and its meaning depends on societal and historical context (see LaVeist 1994). The knockout blow against biological determinism is research that proves that there is an inconsistent relationship between race and health across countries. Wu and Schimmele (2005c) observe that Black Canadians have better functional and self-reported health than average, even before controlling for SES and other risk factors. This finding is in sharp contrast to US studies that show that Black Americans have worse than average health outcomes. If race represented a biological variable, it would have a much more consistent relationship across countries, with transnational differences functioning as a nuisance variable. This is not the case, however, as societal context is a driving factor of the race-health nexus. In numerous respects, the US and Canada are similar. Yet, in terms of welfare policies, demographic composition, and level of segregation, the US and Canada are dissimilar enough to have different racial patterns of health.

Table 2.1 presents the principle racial groups (excluding Aboriginals[4]) in Canada and their proportional size in the general population. These are pan-ethnic categories intended to represent an individual's position in the color-coded vertical mosaic, and are not intended to capture ethno-cultural differences between people. The ethnic heterogeneity within each of these racial categories are potential sources of variation in health, but the purpose of this study is to examine how race functions as a mental health variable in the Canadian context. In 2006, there were over 5 million racial minorities in Canada, comprising 16 percent of the general population.[5] The racial minority population

is growing at a faster rate than the White population and is projected to increase to one-third of the general population within 20 years (Wu, Schimmele, and Hou 2012b). This population expanded after the repeal of place-of-origin restrictions in immigration policy. About 65 percent of 1980s and 75 percent of 1990s immigrants came from non-European sources (Reitz and Banerjee 2007). Over two-thirds of racial minorities are first generation immigrants and most others are second generation. The small number in third and higher generations reflects the racist tenor of immigration policy until the 1960s.

Table 2.1 About Here

In Canada, East Asians, South Asians, and Blacks number about 3.5 million persons and account for 70 percent of non-indigenous racial minorities. About 95 percent of these people live in metropolitan areas (Wu et al. 2012b). As noted, these are heterogeneous groups. The East Asian group consists of people with Chinese, Japanese, and Korean origins. This group accounts for 28 percent of the racial minority population and 4.6 percent of the general population. About 70 percent of East Asian Canadians are first generation immigrants. The South Asian population consists of immigrants (69 percent) and their descendants from countries such as India, Pakistan, and Sri Lanka. There are over 1.2 million people of South Asian descent in Canada. This group comprises one-quarter of racial minorities. The Black Canadian population numbers 783,000 persons and over half are immigrants. The Black Canadian population consists of people with African or Caribbean origins. Black Canadians have a longer history in Canada than East and South Asians, and thus a larger proportion of them are Canadian-born.[6]

The Aboriginal population consists of three broad groups: First Nations (which includes over 600 bands), Inuit, and Métis. This population represents the indigenous peoples that inhabited Canada for thousands of years prior to European colonization. Table 2.2 illustrates the composition of the Aboriginal population. In 2006, there were about 1.2 million Aboriginals, including 698,000 First Nation peoples, 389,000 Métis, and 50,000 Inuit. About one-fifth of the Aboriginal population live on Indian reserves. First Nations peoples account for most of the on-reserve Aboriginal population. About 40 percent of them live on reserves (Statistics Canada 2008a). Of off-reserve Aboriginals, 20 percent live in rural areas and 57 percent live in urban areas. The Aboriginal population accounts for about 4 percent of the general population. This study focuses on the off-reserve Aboriginal population because the on-reserve population is not included in national surveys, which makes it difficult to directly compare them to Whites or other racial groups. There is a large difference in the health of on- and off-reserve Aboriginals, with the latter doing better, but both segments of the Aboriginal population have worse health than the general population (Waldram, Herring, and Young 2006). Our findings of the difference between Aboriginals should be interpreted with this in mind.

Table 2.2 About Here

Canadians like to distinguish themselves as belonging to a more tolerant, multicultural society than their American counterparts. The facts paint a much less favorable portrait of inter-racial relations in Canada (Reitz and Breton 1998). Canada has a long history of racial discrimination and nativist attitudes continue to frame discourses about non-European immigration and Aboriginal rights. As Satzewich (1998) observes, there is no factual basis for considering Canada to be a less racist country than the US,

although racism in Canada is (and has been) expressed through different mechanisms. He points out that immigration policy and Indian affairs have been key fields of the exclusion of non-European groups and the denigration of their cultures. Until the 1960s, place-of-origin restrictions defined immigration policy, and the Chinese Immigration Act (head tax) and Continuous Passage Regulation were explicit attempts to bar Chinese and South Asians from immigrating to Canada. These exclusions were based on a racist notion that these groups were "inferior" and would cause problems for Canadian society. In other respects, immigration policy also involved racialized evaluations about the desirability of immigrants and their capacity to assimilate. In addition to determining what ethno-racial groups to allow into Canada, immigration policy influenced the employment that was available for each group. Thus immigration policy wrought the ethno-racial composition of Canadian society and the ethnicity-based socioeconomic hierarchy within it.

For Aboriginals, it was the Indian Act and other policies that determined their socioeconomic status and social distance from Whites. Satzewich writes that these policies embodied racist assumptions about the biological and cultural inferiority of Aboriginals. These policies treated Aboriginals as uncivilized peoples and incapable of governing or providing for themselves. The role of the state and state-sponsored institutions was to eliminate Aboriginals cultures and assimilate Aboriginals into the dominant culture. The residential school system, which has profound implications for Aboriginal mental health (see Kirmayer, Brass, and Tait 2000), was set up to accomplish this goal. The residential schools attempted to assimilate Aboriginal children through separating them from their families and communities and teaching them to despise their

native cultures. About 150,000 Aboriginals were forced into residential schools between the 1870s and 1990s. This system is sometimes referred to as a form of cultural genocide since it deprived a generation of Aboriginals (and their children) from their native culture, without integrating them into the mainstream. The state's paternalistic and racist attitude toward Aboriginals was apparent in their economic exclusion and political disenfranchisement. Status Indians could not vote in federal elections until 1960 and were granted provincial voting rights between the 1950s and 1960s (Satzewich 1998). The state continues to control revenues generated on Indian Reserves and on-reserve Aboriginals still have limited economic autonomy.

Despite positive change, there remains a considerable social distance between Whites and racial minorities in Canada, and the latter encounter barriers to socioeconomic integration. In 1962, the Canadian government dropped place-of-origin restrictions from immigration policy, but public opinion about non-European immigrants was slow to change. In the early 1980s, public opinion polls indicated that a small proportion (10 percent) of Canadians still supported the idea of cutting off the in-flow of non-White immigrants (Reitz and Breton 1998). A Gallop poll on racial issues illustrated a lingering unease with the changing ethno-racial landscape. About 14 percent of respondents agreed with the statement that "riots and violence increase when non-Whites are let into the country" (Satzewich 1998). Over one-fifth of the respondents did not agree that non-White immigrants make "Canada a richer country" and one-quarter preferred these immigrants to remain in their countries of origin. Current debates on racial diversity and multiculturalism also raise serious questions about whether immigrants are being welcomed into the mainstream or whether diversity is contributing

to an erosion of social cohesion and isolation between racial groups (Banting and Kymlicka 2010; Hou and Wu 2009).

At least, the social distance between Whites and racial minorities is a source of alienation and inter-group tension. Social distance refers to the level of social relations between the dominant group and minorities (Reitz and Breton 1998). The dominant-group tolerance for inter-groups relations corresponds to its evaluation of the social standing of subordinate groups. The social distance between Whites and racial minorities is demonstrated in the preference for own-group relations among the White population and feelings of social exclusion among racial minorities. In 1991, an Angus Reid study reported that Canadian-born people have higher levels of comfort when interacting with Whites than non-Whites (Satzewich 1998). The discomfort Whites feel when interacting with non-Whites is clear to racial minorities. Anecdotal evidence indicates that racial minorities are treated as outsiders or not true Canadians. These feelings of exclusion are particularly strong among the second generation of non-European immigrants, who perceive that it is skin color (Whiteness), not nativity or citizenship, that determines who is considered to be a Canadian (Reitz and Banerjee 2007). This experience of being treated as the "Other," according to Foster (1996), binds Blacks together. Perceived discrimination is high among racial minorities. The 2002 Ethnic Diversity Survey (Statistics Canada 2003) asked respondents: "In the past 5 years, do you feel that you have experienced discrimination because of your ethnicity, race, skin color, language, accent or religion?" One-third of Chinese and South Asian and one-half of Black respondents gave an affirmative answer to this question.

A consequence of racial discrimination is socioeconomic inequality. The 2006 Census indicates that racial minorities have lower median incomes and higher unemployment rates than non-minorities. Table 2.3 presents these figures and shows the relationship between race and socioeconomic status in Canada. Relative to the mean for the metropolitan area of residence, the incomes of racial minorities are $7686 under the local average, while the income of Whites is $1895 above the local average (Reitz and Banerjee 2007). This translates into an average gap in income of $9581 between Whites and racial minorities. This gap is smaller for East and South Asian Canadians, but larger for Black Canadians. These disparities cannot be accounted for because of differences in education (Samuel and Basavarajappa 2006). Except Aboriginals, racial minorities have more years of schooling and higher educational attainment than average. About 32 percent of Black Canadians, 36 percent of South Asian Canadians, and 40 percent of East Asian Canadians have a college degree or higher (Lee 2011). This compares to 24 percent of the general population. In 2001, the poverty rate of racial minorities was double that of non-minorities (Reitz and Banerjee 2007). The number of households that fell below low-income cut-offs ranged between 16.5 and 19.7 percent for European ethnic-origin groups, which compares to 50.4 percent for Blacks, 27.8 percent for South Asians, 28.4 percent for East Asians, and 39.6 percent for off-reserve Aboriginals (Lee 2011). Since the 1980s, there has been a downward trend in the economic integration of immigrants, which is largely attributable to discrimination in labor markets and a devaluation of foreign credentials (Reitz and Banerjee 2007).

Table 2.3 About Here

2.4 METHODOLOGICAL ISSUES

The discussion above demonstrates that race is an important mental health variable; racism exposes subordinate groups to social conditions that influence the type and magnitude of stressors that the members of these groups encounter. The mechanisms that form the race-health nexus are discussed in detail in Chapter 4, which lays out the theoretical framework for the empirical analysis. What remains to be discussed in this chapter are methodological questions surrounding the definition of mental health and the cross-cultural validity of the variables used to measure it. Comparing social groups on mental health requires a standardized instrument (Horwitz 1999). A standardized instrument is needed to ensure that is the same construct (e.g., depression) that is measured across groups. As Chapter 3 discusses, a lack of standardized instruments hindered comparative research on mental health until the 1990s. However, there is concern that these instruments could be insensitive to social differences in the symptom-disorder relationship (Alegría and McGuire 2003). This problem involves response bias, and also the conceptualization of mental health.

At the conceptual level, the possibility of a universal measure first depends on the assumption that mental illnesses are indeed “real” conditions. There are no objective or scientific tests for diagnosing most mental illnesses. The subjective nature of diagnoses has fueled debate about whether mental illnesses are pathological conditions (diseases) or social constructions of the psychiatric profession (see Horwitz 2011). Labeling theory disputes the notion that mental illness are diseases and argues that these illnesses are socially ascribed statuses or public “labels” used to demarcate social deviants (Phelan and Link 1999). Scheff (1999) argues that labels such as “insane” or “mentally ill” are default

social responses to deviant behaviors that fall into an amorphous area of rule-breaking. This "residual rule-breaking" is distinguished from rule-breaking that involves well-defined violations of social norms, such as assault, theft, rudeness, perversion, etc. The label "mentally ill" is reserved for deviant behaviors that cannot be named so precisely, but violate taken-for-granted norms in a pervasive manner (Phelan and Link 1999). For labeling theorists, it is the social treatment of residual rule-breakers as "mentally ill" (e.g., institutionalization, exclusion for normal social roles, stigma) – not a pathological condition – that differentiates these people from the well.

Most sociologists accept that mental illness is more than a label, although it is important to acknowledge that the social response has implications for how the illness is experienced.[7] The problem with reducing mental illness to a label is that this approach leaves little room for considering the empirical relationship between exposure to social stress and the prevalence of illness. Gove (1970) argues that labeling theorists over-state how much public perceptions of deviance contribute to labels of mental illness. Residual rule-breaking (symptoms) are insufficient predictors of the labeling process, and most societies are resistant to label all but the extreme cases of psychological disturbance (Gove 1970; Phelan and Link 1999). Moreover, the presence of similar symptom-sets across settings demonstrates that some mental illnesses have an objective reality (Aneshensel and Phelan 1999). In a comparative study of 23 European countries, Missinne and Bracke (2012), observe a consistent relationship between subordinate ethnic status and psychiatric morbidity. This pattern of distress indicates that there is a ubiquitous response to social stress across countries, languages, and cultures. The notion

that mental illnesses are “labels” elides over the fact that social conditions create high levels of stress for marginalized groups.

However, even though symptoms of distress are ubiquitous, how these symptoms are expressed is not culture-neutral (Phelan and Link 1999). Though “real” diseases, there are no clear-cut criteria for assessing mental illnesses, and their classification requires subjective judgments (Mechanic 1978). Whether these judgments are consistent across cultural groups is a methodological concern. If our instruments for measuring mental health are insensitive to cultural differences in the expression and/or endorsement of symptoms, the problem of response bias arises. Response bias refers to occurrences of the study subjects responding to items in ways that do not fit the content or intent of the research instrument (Rogler et al. 2001). With response bias, observed inter-group differences could be an artifact of measurement error rather than a true difference in the prevalence of illness. In general, the diagnoses of illness depends on an empirical relationship between a symptom-set and a latent disorder (Alegría and McGuire 2003). Since the disorder itself is unobservable, it is presumed to exist when a particular symptom-set is observed. This symptom-disorder relationship implies that a failure to understand how race influences symptoms can lead to misdiagnoses and inaccurate group-level estimates.

The debate in the sociological literature is over whether to define mental illness as a discreet illness or as a continuum of distress. Much of the concern over the insensitivity of standardized instruments is directed at DSM-based measures of illness. The DSM defines mental illnesses as discrete conditions. These illnesses are considered to be discrete because a disorder is something a person has or does not have – there is no

middle ground. To illustrate, a positive diagnosis of major depression requires the presence of either dysphoria (sadness) or anhedonia (loss of interest or pleasure), an additional five depressive symptoms, and the persistence of this symptom-set for two weeks (Horwitz 2011). This definition is the gold standard for epidemiological research and is the basis for measuring depression in most US and Canadian community surveys. The assumption is that these diagnostic criteria correspond to an underlying pathological state and anything below this cut-point does not. The criticism of this definition of depression is the arbitrary nature of the criteria for a positive diagnosis. There is a limited empirical basis for these criteria.

In survey research, individuals that fall beneath the cut-point for a positive diagnosis are coded as “not depressed” (healthy), even if not symptom-free. The danger with this approach is that the criteria for depression could mask social disparities in illness (Coyne and Marcus 2006). For our purposes, the problem with these criteria stems from possible cultural differences in the endorsement of screening questions (dysphoria or anhedonia), the expression of symptoms (e.g., somatization), and a reluctance to report symptoms because of cultural differences in the stigma of mental illness (Kirmayer 1989; Kleinman 2004; Leong and Lau 2001). Previous studies suggest that response bias is not as large a problem as some suspect. For instance, Parker, Chan, and Hadzi-Pavlovic (2007) demonstrate that the low rate of depression among Chinese Americans is not attributable to a methodological artifact. This consistent with research that shows that Chinese Americans are not adverse to using non-somatic idioms to express depressive symptoms and are not reluctant to discuss their emotional problems because of perceived stigma (Loo, Tong, and True 1989; Takeuchi et al. 1998). In addition, Uebelacker et al.

(2009) report that racial groups endorse DSM criteria for depression in a similar ways. There is, however, also evidence that the DSM criteria for depression can underestimate its prevalence among some racial groups (Alegría and McGuire 2003; Coyne and Marcus 2006).[8]

Mirowsky and Ross (2002) propose using dimensional assessments to overcome the limitations of the DSM diagnostic criteria. This approach counts negative symptoms and imposes no cut-point for distinguishing between sick and non-sick respondents. Their argument is that indexes of distress (e.g., the CES-D scale) better reflect the range of adverse emotional reactions to social stress. The DSM-based diagnostic approach can discount much distress because it ignores sub-threshold cases. There is no legitimate way, according to Mirowsky and Ross, to dichotomize people into "depressed" or "not depressed" groups. For them, mental illnesses are "real," but exist along a continuum that ranges from mild to severe. Their position is that categorical measures of illness are too insensitive to the full range of human emotions to provide an accurate understanding of the relationship between social stress and psychiatric morbidity. As noted in Chapter 3, the literature supports this point. In comparison to Whites, some racial groups have a lower prevalence of major depression, which suggests that social stress does not influence their mental health. However, these groups also have higher levels of depressive symptoms, which could indicate that categorical measures are insensitive to important disparities in mental health. As Mirowsky and Ross point out, most social differences in psychological problems occur at sub-syndromal levels.

To be sure, indexes of distress have advantages over categorical measures, but this is not a sufficient reason to abandon the latter. There are at least two pieces of

information that categorical measure can provide that indexes cannot (Kessler 2002). The first is data on age of onset or the timing of illness in the life-course. This data is essential for understanding how age-graded phenomenon contribute to age differences in depression within and across racial groups. Secondly, categorical measures are needed to obtain data about the incidence and lifetime prevalence of illness. Most dimensional measures limit assessment to the previous two weeks, and thus are themselves insensitive to the total number of cases. These measures also preclude an examination of duration of illness or recurrent illness. Moreover, it appears that clinical measures of depression and continuous measures of distress are tapping distinct phenomenon (Aneshensel 2002; Payton 2009). That is, depression and distress do not exist along a single continuum and need to be examined separately. This is consistent with Horwitz's (2002) argument that robust comparisons require looking at multiple outcomes. Looking at a single measure – this is the conventional approach – provides a partial view of the race-health nexus.

In addition to considering different types of illness, it is also important to consider the positive side of mental health. The predominant focus in the literature is on the negative side, such as depression or distress. This corresponds to the preoccupation among sociologists of the negative consequences of social structure and interventions for preventing disparities in stress exposure (Horwitz 2002). In this literature, "health" is therefore presumed to represent a negative diagnosis or an absence of symptoms. More properly, these are neutral states of mental health; research is needed on social differences in emotional flourishing. Flourishing represents a cluster of "symptoms" that correspond to positive feelings (Keyes 2002). Seligman and Csikszentmihalyi (2002) observe that the near exclusive focus on suffering has resulted in a model of mental

health that is devoid of the positive emotions that contribute to life satisfaction. The consequences of social structure are not limited to negative outcomes, and it is logical to expect that social conditions can promote/suppress the development of positive emotions in some groups (Horwitz 2002).

2.5 SUMMARY

The purpose of this chapter was to discuss the broad conceptual link between race and mental health. Race functions as a health variable because of the consequence of racism. Given that race is a core organizing principle of social structure, racial status is associated with a constellation of indicators that predict exposure to social stress and access to salutogenic resources. In terms of mortality, it is clear that there is a relationship between race and health, although the nature of this relationship is dependent on societal context. The latter point cannot be over-stressed because it demonstrates that the race-health nexus is non-biological. Much less in known about racial differences in mental health, for reasons discussed in the next chapter. In part, our limited knowledge stems from the challenges of comparing racial groups on mental health. We require a multi-outcome approach that is sensitive to cultural differences in symptomatology and that incorporates the subjective and positive dimensions of mental health.

Endnotes

1. In the United States, some European-origin ethnic groups, such as Italians and the Irish, were considered to be “non-White” until the 1920s (Oppenheimer 2001). This reflected the social hierarchy and social distance between different European-origin immigrants at that time. These groups have since been re-classified as “White” in definitions of race. In Canada, Southern and Eastern European immigrants were considered to be “racially” different from the British and French well into the 20th century (Satzewich 1998).

2. In health research, ethnicity refers to a cultural group that has shared norms, religious practices, dietary habits, and other behaviors that could influence group-level health outcomes (Williams 1997). To some extent, conventional measures of ethnicity (e.g., Chinese, Indian) also tend to conflate heterogeneous ethno-cultural groups. For example, there are over 50 major ethnic groups in China, which complicates the idea of a homogenous “Chinese” ethnicity. The boundaries that delineate individuals into different racial, ancestral, or ethnic origins are always ascribed and tenuous (see Omi and Winant 1994; Perez and Hirschman 2009).

3. To illustrate this point, a teenager living with her/his parents is likely to perceive job loss (unemployment) differently than a middle-aged adult with dependents, even though this event counts as the same stressor in statistical analysis. Similarly, a person with ample savings is likely to cope with unemployment better than a person without savings.

4. Statistics Canada defines all non-White people except Aboriginals as “visible minorities.” The data in Table 2.1 reflects this definition. To be consistent with the

literature, I use the term “racial minorities” to refer to all non-White groups, including Aboriginals.

5. When Aboriginals are included in this figure, the racial minority population numbers 6.2 million persons and forms one-fifth of the Canadian population.

6. Many Black Canadians are descended from the Black Loyalists who fled the US in the 18th century, ex-slaves who arrived in the 19th century via the Underground Railroad, and also the small slave population that once existed in Canada (Milan and Tran 2004).

7. Mental illness is not limited to the underlying condition, but is entangled with the social reaction to the illness, such as the social distance between the well and the unwell (Charmaz 2000). The stereotypes, labels, and stigma surrounding mental illness are pervasive (Link et al. 1999). In particular, the public misconception that people with a mental disorder are violent, dangerous, or instable is common. Stigma is a characteristic attributed to persons for violating a social norm and it devalues their social status and discredits them as functional persons (Link and Phelan 1999). This stigmatization of mental illness determines the social distance between the well and the unwell.

8. Although there could be variation in symptom endorsement, Simon et al. (2002) demonstrate that this should not be interpreted as evidence that depression is a culture-bound illness. The symptoms used to define depression in the DSM appear in similar forms across cultures, languages, and countries with different levels of economic development.

Table 2.1 Visible Minorities (in 1000s) in Canada, 2006

	Total	Non-Immigrants	Immigrants
All Minorities[a]	**5068**	**1528**	**3362**
East Asian[b]	1439	382	992
South Asian[c]	1262	370	867
Blacks	783	346	411
Other Minorities	1585	430	1092
Non-Minorities[d]	26172	23260	2824
All Groups	31241	24788	6186

Source: Statistics Canada, 2006 Census of Population

[a] Statistics Canada's definition of visible minorities excludes Aboriginals.

[b] This includes Chinese, Japanese, and Korean.

[c] This Includes Indians, Pakistani, Sri Lankan, etc.

[d] Statistics Canada's definition combines Whites and Aboriginals in this group.

Note: The values for non-immigrants and immigrants may not add up to the total because non-permanent residents are included in the denominator.

Table 2.2 Aboriginal Population (in 1000s) in Canada, 2006						
	Canada		Reserve	Rural	Urban
Aboriginal Population	1172		21.7%	20.9%	57.4%
First Nations	698				
Métis	389				
Inuit	50				
Others	35				
Total Population	31241				
Sources: Statistics Canada (2008a)					

Table 2.3 Racial Economic Inequalties among Canadians Aged 15+, 2006

	Median Income	Unemployment
Non-Minority	$26,863	6.20%
Visible Minority	$19,115	8.60%
Chinese	$17,174	7.50%
South Asian	$19,464	8.60%
Black	$21,149	10.70%
Aboriginal	$16,796	14.80%

Source: 2006 Census

Basic Cause →	Social Status →	Surface Cause →	Stress Reactivity →	Outcome
		Stressors	Stress	Clinical Disorders
	Racial Status	Psychosocial Resources	Social Support	Distress
RACISM				
	SES	Social Integration	Help-seeking	Not Sick
		Medical Care	Coping	Positive Emotions

Figure 2.1 Mapping the Link between Race and Mental Health
Source: Adapted from Williams (1997)

Chapter 3

RESEARCH BACKGROUND

3.1 INTRODUCTION

There is a good rationale behind the comparison of racial groups on mental health. Race is a proxy for a constellation of risk factors linked to illness (Hummer and Chinn 2011; Williams et al. 1997). As Chapter 2 outlines, sociological interest in race (or racialization) as a health variable lies primarily in the relationship between social structure and disparities in health risks and outcomes. But whether or not there are racial disparities in mental health is not so clear-cut. The outcome depends on how mental health is defined, societal context, and the characteristics of racial groups. For example, while studies that use DSM-based definitions observe that Black Americans have a lower or similar rate of major depression as Whites, studies that use scales of depressive symptomatology demonstrate that Blacks have comparatively higher levels of psychiatric morbidity (George and Lynch 2003; Vega and Rumbaut 1991). Our knowledge about the mental health of non-Black minorities is even less clear because of the under-representation of these groups in population surveys.

The literature on inter-racial differences in health is based largely on the US context and studies of physical health and mortality. The US literature itself has a strong focus on Black-White disparities. Much less is understood about how Chinese, South Asians, Aboriginals, and other racial minorities compare to Whites. The mental health of Blacks in Canada is another area that is opaque. Given the unique aspects of Black-White relations in the United States (e.g., hyper-segregation), the processes that contribute to

health disparities among Black Americans could be less pervasive for Black Canadians and perhaps for non-Black racial minorities in the United States as well. Moreover, the factors that jeopardize the physical well-being of Black Americans do not necessarily have similar effects on their mental health. Yet, the common presumption is that the mechanisms that compromise the physical health of Black Americans are likewise risk factors for psychiatric morbidity. The literature, however, offers inconsistent findings about how these mechanisms affect the mental health of Black Americans.

This chapter relies on US research because of the paucity of studies from Canada and other comparable countries. This is not to assume a priori that there is a parallel between US and Canadian patterns. Cross-national differences in the demographic composition of racial groups, immigration, state policies, and the socioeconomic status of racial minorities undermine such a presumption. What is instructive about US research, however, is the connection it illustrates between social conditions and health trajectories across the life-course (see Williams and Collins 1995). The social inequalities within societies can and often do manifest themselves in disease (Schnittker 2001). The US literature warrants consideration because it turns our attention to the external triggers of individual-level health problems. That said, societal context is, without doubt, a fundamental aspect of the implications that race has for health outcomes. In accordance, this thesis endeavors to contrast its empirical findings with US patterns.

Siddiqi and Nguyen (2010) refer to Canada as the “best counterfactual” case for re-examining US hypotheses for health disparities between Whites and racial minorities. Though similar in numerous respects, the US and Canada are dissimilar in the social distribution of resources that predict health chances. As Siddiqi and Nguyen observe,

racial differences in health are not inevitable outcomes (i.e., genetic facts), but depend on societal context. It is social forces that differentiate people into "races" in the first place (Omi and Winant 1994), and it is the tenor of racism and social inequalities that determine "racial effects" on health outcomes. What distinguishes the US context is the hyper-segregation of Black Americans. This is both a source of health risks and a constraint on health-fostering resources (e.g., human capital) and access to health care (LaVeist 2003; Osypuk and Acevedo-Garcia 2010; Williams and Collins 2001). The US is also a less comprehensive welfare state than Canada (Banting 1997). Siddiqi and Nguyen's (2010) takeaway message is that Canada represents a comparatively healthier societal context for Blacks and other racial minorities because of state policies that temper socioeconomic disparities and provide more equitable access to health care services. But it is unknown whether these policies also have protective effects on mental health.[1]

The purpose of this chapter is to outline the state of knowledge of the mental health of racial minorities (Blacks, Asians, and Aboriginals). Throughout this discussion, Whites are the reference group. Although this thesis is also concerned with the positive dimension of mental health, this chapter is restricted to a review of racial variation in mental illness, i.e., major depression, depressive symptoms, and psychological distress. The sociological literature on racial variation in the positive dimension of mental health is far too sparse for review. This is indeed a major gap in the literature that this thesis aims to address. Even our knowledge of racial differences in the prevalence and predictors of mental illness is nascent. As detailed below, mental illness among racial minorities in the US and Canada has been understudied because of a lack of suitable

population data and methodological limitations. This chapter summarizes what is known about racial differences in the prevalence of mental illness and the key explanations for these differences. The chapter concludes with a discussion of the principal deficiencies in the literature.

3.2 PRIOR DATA LIMITATIONS

The general difficulties surrounding the conceptualization and measurement of mental health (see Chapter 2) become more challenging when comparing ethnic or pan-ethnic groups (Berthoud and Nazroo 1997). In Canada, major depression is the commonest mental disorder, with an annual prevalence of 4.8 percent for the population aged 15 and older (Caron and Liu 2010). This poses a challenge for comparing larger and smaller sub-populations, because such comparisons require a large enough survey sample to ensure that the smaller groups are represented well enough to observe the rate of illness (or well-being) among them. Non-White racial groups account for a small proportion of the Canadian population. For example, South Asians, the largest non-White group, account for 4.0 percent of the population (Statistics Canada 2008b). These low numbers are reflected in survey samples, which has left racial minorities almost invisible in mental health research. Before the 1990s, national surveys in the US and Canada had too few numbers of non-White racial groups to estimate their prevalence of mental illness or answer theoretical questions about their mental well-being.

Recent surveys include larger numbers of non-Whites, but this has not extinguished concerns about whether the same questions (diagnostic interview) can be employed to measure the prevalence of mental illness across ethno-cultural groups.

Besides the under-representation of racial minorities in survey data, our knowledge about racial variation in mental well-being is underdeveloped because of a lack of suitable dependent variables. In general, symptom checklists cannot be used to assess cases of major depression or other clinical disorders (Vega and Rumbaut 1991). In the late 1970s, the first survey instrument (the Diagnostic Interview Schedule (DIS)) capable of assessing cases of mental disorder outside of clinical settings was developed. Although this was an important development, the DIS was a culture blind instrument. The DIS ignored questions about how symptoms present themselves across ethno-racial groups and how factors such as language and culture influence the accuracy of diagnosis. These are vital questions because a universal (a reliable and valid) instrument is a prerequisite for comparing racial groups on the same item.

The dependence on clinical data and flawed survey instruments (dependent variables) casts doubt on the findings of studies conducted before the 1990s. Before this, it was not possible to compare or explain racial differences in the rate of major depression or other mental disorders (Kessler and Zhao 1999). There are two general methods for measuring the prevalence of illness (Berthoud and Nazroo 1997). The first uses clinical or administrative data to count the number of outpatients and/or patients in hospitals or other treatment facilities. This number is divided into the general population or a sub-population to estimate the overall or sub-population prevalence rate. The second method uses community samples to estimate the number of sick people in the population, which includes both treated and untreated individuals. Until the 1990s, most studies on mental illness among racial minorities were based on clinical or administrative data (Berthoud and Nazroo 1997; Vega and Rumbaut 1991). The predominance of these

studies reflected the dominance of the medical model and the limitations of population surveys.

The strength of clinical (or administrative data) is that clinicians are well-trained to recognize cases of mental illness (Wakefield 1999).[2] Such expertise is the optimum method for generating reliable diagnoses and, therefore, for estimating the prevalence of illness. The fatal shortcoming of clinical data is that it is unrepresentative of sick people. Similar to the US, 60 percent of all cases of mental illness in Canada go untreated (Kessler et al. 1994; Lesage et al. 2006), and thus numerous cases are left unobserved in clinical studies. For this reason, clinical data are unsuitable for estimating the true rate of mental illness for populations or social groups (Halpern 1993). Community-based surveys are indispensable for measuring the prevalence of illness, since these do not preclude individuals because of differences help-seeking behavior or access to mental health services (Wakefield 1999).[3] However, before the 1980s, it was not possible to collect community-level data on mental disorders. The field lacked a standard instrument that non-clinicians could administer in order to generate reliable diagnoses (Kessler and Zhou 1999). This motivated the National Institute of Mental Health (NIMH) to support the development of the DIS.

In the US, the Epidemiological Catchment Area (ECA) program (1980-1985) represented a new generation of mental health research.[4] The pivotal difference between the ECA and prior epidemiological studies was its measurement of clinical (DSM-III) disorders, such as major depression, phobia, and alcohol dependence (Eaton et al. 1981). In the 1950s, the Midtown Manhattan Study in the US and the Stirling County Study in Atlantic Canada pioneered the usage of standard measures of mental well-being

(Dohrenwend and Dohrenwend 1982). These surveys decreased our dependence on clinical data and oriented the field toward the structured interview approach to data collection. But these surveys measured psychiatric impairment and could not discern between specific disorders (Goldstein 1979). This distorted group-level effects, considering that social groups are differentiated on specific disorders (Eaton et al. 1981). Moreover, the association between these global scales of impairment and diagnosable disorders provided to be tenuous, which led to definitional confusion over what, exactly, these scales were tapping (Dohrenwend and Dohrenwend 1982). A low score was a good indication that "something was wrong," but there proved to be an indirect relationship these scores and diagnosable disorders, such as major depression.

The ECA project was the first community survey large enough (N = 20,000) to compare group differences on specific mental disorders. The findings from ECA data challenged long-held assumptions about the overall prevalence of disorders and Black-White differences in psychopathology. The ECA data indicated that about one-third of Americans experienced a mental disorder in their lifetimes, which was contested as being too high (Wakefield 1999). The findings also indicated that, although Black Americans had a higher overall rate of psychiatric disorder, Black-White differences on some disorders (e.g. affective disorders, alcoholism, drug abuse) were negligible (Williams and Harris-Reid 1999). This exposed the limitations of global measures of psychiatric impairment, which conflate specific disorders and tap a host of problems not considered to be psychiatric illness. But the ECA data were not without serious limitations either. The ECA program was not a nationally representative dataset and there were concerns that the DIS measures of mental disorders could be invalid or at least misestimate their

prevalence (Kessler and Zhao 1999). In post-hoc methodological studies, problems arose with the agreement between the DIS classifications and diagnoses made in clinical re-assessments.

The National Comorbidity Survey (NCS) was developed to address these issues. Conducted from 1990-1992, the NCS was the first nationally representative survey to measure the prevalence of mental disorders in the US (Kessler and Zhao 1999). The NCS was followed up between 2001 and 2004 with the NCS Replication, the National Survey of American Life (NSAL), and the National Latino and Asian American Survey, which provided samples of African Americans, Caribbean Blacks, Hispanics, and Asians Americans sufficient for comparative purposes. These surveys used the Composite International Diagnostic Interview (CIDI) to measure psychiatric disorders (Wittchen and Kessler 1994). The CIDI is a lay-administered interview that generates diagnoses of disorders based on DSM-III-R (and later editions) and International Classification of Disease (ICD-10) definitions and criteria. In Canada, the Canadian Community Health Survey (CCHS 1.2) was the first national survey to use the full version of CIDI, although the National Population Health Survey (NPHS) has included a brief version since the mid-1990s (Patten et al. 2006). The CCHS 1.2 was conducted in 2002 and it is the best data source for measuring and comparing differences in mental health in the Canadian population.

3.3 RACIAL PATTERNS OF MENTAL ILLNESS

The NCS established that the burden of psychiatric disorders was a lot higher than previous research suggested, confirming the earlier ECA finding, and showed that

clinical studies did indeed underestimate the true prevalence of illness (Kessler et al. 1994). According the NCS, about 50 percent of Americans aged 15-54 years reported having at least one psychiatric disorder in their lifetimes, and 30 percent had a disorder in the previous 12 months. Among all disorders, major depression is the leading illness. Over 16 percent of American adults experience major depression in their lifetimes (Kessler et al. 2005). In the adult population, the 12-month prevalence of major depression is around 8 percent for males and 10 percent for females. In Canada, the overall prevalence of major depression is lower: the 12-month prevalence is 3 percent for males and 5 percent for females (Patten et al. 2006). This cross-national difference implies that the US could be a more stressful (unhealthier) place than Canada, and alludes to a relationship between societal context and the chances of mental illness.

In another surprising finding, the NCS illustrated that Black Americans had a significantly lower lifetime prevalence of affective disorders and alcohol/substance abuse disorders than Whites (Kessler et al. 1994). The 12-month prevalence of these disorders was also comparatively lower for Black Americans, though the difference on affective disorders was non-significant. To be sure, discrimination and socioeconomic hardship are common experiences for Black Americans (Massey and Denton 1993). But the NCS findings caution against presuming that this necessarily translates into a higher prevalence of psychiatric disorder. Of course, it is also inappropriate to presume that a lower prevalence of disorder among Blacks is evidence that race is inconsequential for mental health. As discussed below, there is indeed a link between race and depressive symptomatology. The outcome (dependent variable) on which racial groups are compared is, therefore, of fundamental importance to understanding the relationship

between race and mental well-being. Strictly focusing on clinical disorders can foster a misleading belief that racial inequalities have minimal or no impact on mental well-being.

3.3.1 The Black Population

In the 1930s, US Census data appeared to indicate that Black Americans had a higher rate of mental illness than Whites (Williams and Harris-Reid 1999). This data was flawed since the Census estimated the prevalence of illness using counts of patients in state facilities. For methodological reasons, researchers started to dismiss administrative data after World War II, but this did little to re-shape our understanding of mental illness among Blacks, given their under-representation in community surveys. The Midtown Manhattan Study, for example, was 99 percent White, prohibiting robust comparisons. No firm conclusions about the mental well-being of Black Americans can be gleaned from research conducted in the 1950s and 1960s because of these data limitations (Neighbors 1984). Starting in 1979-1980, the National Survey of Black Americans (NSBA) addressed the under-representation of Blacks in field research. But the NSBA was not designed for comparative research (see Neighbors and Jackson 1996), unlike the NCS and NSAL. To some extent, however, perhaps too much emphasis has been placed on racial comparisons. As Neighbors (1984) observes, without supplemental analysis of within-group variation, comparative research can lead to a one-dimensional understanding of mental health in the Black population.[5] That said, between-group comparison can reveal the structural effects that are unobservable in within-group analysis.

How Black Americans compare to Whites on mental illness appears to depend on the dependent variable. On selected clinical disorders, Black Americans are similar to or better off than Whites. Using NCS data, Breslau et al. (2005) examined Black-White differences in mood disorders, such as major depression, dysthymia, and bipolar disorder. For this group of disorders, the 12-month prevalence of illness is lower among non-Hispanic Blacks (9.3 percent) than non-Hispanic Whites (10.7 percent), although this difference is statistically non-significant. According to Williams et al. (2007), NSAL data also indicate a non-significant difference between African Americans, US Caribbean-origin Blacks, and Whites in the 12-month prevalence of major depression, and both Black ethno-racial groups have a lower lifetime prevalence of major depression than Whites. The lifetime rate for Whites is 17.9 percent in comparison to 12.9 percent for Caribbean-origin Blacks and 10.4 percent for African Americans. These findings are consistent with those of Breslau et al. (2006) for Black-White differences in the lifetime prevalence of all mood disorders.

These studies, however, illustrate that there is a substantial disadvantage within the Black American population. Even though their prevalence of mood disorders is lower, Blacks experience a more persistent and debilitating form of illness than Whites. Mood disorders are more likely to be a chronic illness (existing for 2+ years) for Blacks (Breslau et al. 2005). In addition, Blacks have a higher rate of dysthymic disorder, which has longer-lasting, but less severe, symptoms than major depression (Riolo et al. 2005). Blacks also have higher odds of their experience of depression being a recurrent condition (Gonzalez et al. 2010). Among individuals with a reoccurring mood disorder, the 12-month prevalence rate is 6.4 percentage points higher for Blacks than Whites

(Breslau et al. 2005). Furthermore, there are Black-White differences in depression-related role impairment, which includes personal dysfunction in the home, at work, in marital relationships, and in social situations (Williams et al. 2007). Three-quarters of Blacks (versus two-thirds of Whites) with major depression reported severe or very severe role impairment.

Black-White comparisons of depressive symptomatology present troubling findings as well, and perhaps provide a more incisive perspective than comparisons of the prevalence of major depression. Studies using the CES-D scale[6] or similar dimensional measures of depressive symptoms indicate that Blacks have a lower level of mental well-being than Whites (e.g., Brown, Meadows, and Elder 2007; Miller and Taylor 2012; and Williams et al. 1997). This is reported for both age-heterogeneous and age-restricted samples (George and Lynch 2003). Adkins et al. (2009) observe a significant Black-White gap in the trajectories of depressive symptoms among the population aged 25 and younger. Black Americans experience higher levels of depressive symptomatology than Whites from early adolescence through early adulthood. Though the level of depressive symptoms declines at older ages,[7] the Black-White gap extends across the life-course. Black Americans have comparatively higher levels of depressive symptomatology in middle and later life (Liang et al. 2011; Skarupski et al. 2005). In addition, the Black-White gap in depressive symptomatology widens in late middle age, contributing to larger disparities in old age.

Studies from other countries offer further insights about Black-White differences in mental illness. In Britain, Caribbean-origin Blacks have a higher rate of dysthymia (or neurotic depression) than Whites (Berthoud and Nazroo 1997). Though higher, the

prevalence of dysthymia for Black women is not significantly different from White women. The high rate among Blacks is attributable to men. The weekly prevalence of dysthymia among Black British men is 5.6 percent, in comparison to 2.7 for White men. This large disadvantage is consistent with US studies that report that depression is a more chronic condition for Blacks. This disadvantage is also concentrated among the British-born and childhood immigrants. Those Blacks who immigrated to Britain at age 12 and older have a similar risk of dysthymia as Whites. Like US findings, Black Canadians have a similar risk of major depression as Whites (Wu et al. 2003). In contrast to US findings, Black Canadians have similar levels of depressive symptoms, which could reflect their demographic composition (a healthy migrant effect) and/or a less stressful social environment (a country-level effect). The Canadian pattern exists despite Black-White disparities in household income and low-income, which suggests that these factors could have a less malignant effect in Canada than is observed in US studies.

3.3.2 The Asian Population

The Asian American and Canadian populations consist of numerous ethnic groups and immigrants (Hoeffel et al. 2012; Statistics Canada 2008b). Their small relative size makes it difficult to get samples adequate for sub-division into specific ethnic groups (Sue et al. 1995). Some argue that Asian Americans (or Canadians) should never be lumped together or compared en masse to Whites, since this population is so heterogeneous. For our purposes, the aggregation of Asian Americans (or other pan-ethnic groups) is problematic because it masks intra-group variation in mental well-being and its risk factors (González et al. 2010). This is a legitimate concern, but Sue et al. (1995) remark that it is “mistaken and premature” to conclude that it is always

inappropriate to combine Asians for comparative research. As Sue et al. argue, broad comparisons are useful for establishing baseline differences between racial groups. These comparisons should be interpreted with care, however, to avoid over-generalization. To some degree, disaggregating Asians according to region of origin (e.g., South Asian, East Asian) can reduce these problems, while still keeping our analytical focus on racial variation.

The earliest research on the mental health of Asian Americans was based on treatment rates (Williams and Harris-Reid 1999; Vega and Rumbaut 1991). This generation of research reported that Asian Americans had a lower prevalence of psychiatric disorder than Whites. The key question that surrounded this finding was whether it better reflected an under-utilization of services (unmet needs) or an actual lower prevalence of illness among Asians Americans (Noh and Avison 1996; Sue et al. 1995). The consensus is that cultural differences in help-seeking behaviors (e.g., fear of stigma) obscure the rate of mental illness among Asian Americans and how it compares to Whites (Leong and Lau 2001). In comparison to Whites, Asian Americans are more reluctant to get professional help and postpone getting help for longer periods of time (Kuo 1984). This difference in help-seeking behavior helps explain the Asian-White gap in the seriousness of illness among inpatients. Asian Americans in psychiatric facilities have higher levels of disturbance than Whites because less severe cases are often hidden within families. This problem of under-utilization is complicated because of a lack of knowledge about available services and cultural barriers between White clinicians and Asian clients (Kuo 1984; Loo et al. 1989).

The ECA suggested that the assumption that Asian Americans have better mental health than Whites and other racial groups could be fallacious (Chang 2002). For some disorders, such as manic episode and bipolar disorder, this assumption held (Zhang and Snowden 1999). But the ECA showed a non-significant difference between Asian Americans and Whites on major depression and dysthymia. However, the small, and presumably heterogeneous, sample of Asians in the ECA decreases the face value of these comparisons somewhat. The ECA indicated that the lifetime prevalence of major depression is 3.4 percent among Asian Americans. In contrast, the Chinese American Psychiatric Epidemiological Survey (CAPES) found a lifetime prevalence of 6.9 percent (Sue et al. 1995). This survey's focus on Chinese Americans and regional sample (Los Angeles) does not appear explain its disagreement with the ECA findings. Other studies also suggest that the ECA under-estimated the rate of depression among Asian Americans. Loo, Tong, and True's (1989) research in San Francisco's Chinatown demonstrated that symptoms of depression were quite common among Asian Americans. In their study, 40 percent of respondents reported having "had 'a sinking down feeling' like depression" (288). In addition, their research showed that the somatization of psychological problems and a reluctance to discuss them (under-reporting) were not as large of a methodological issue as suspected.

For East Asians, there is evidence of a comparative disadvantage in depressive symptomology. Kuo's (1984) study of Asian Americans (Chinese, Japanese, and Koreans) living in Seattle, Washington was the first to use community-level data to estimate their prevalence of depression. Kuo employed the CES-D scale to measure depressive symptoms. A score of 16 on this scale is the conventional threshold for

potential cases of clinical depression, although the CES-D is not designed to be a diagnostic instrument (Jones-Webb and Snowden 1993). Kuo observed that over 19 percent of Asian Americans had CES-D scores that reached or exceeded this cut-point. This was higher than the percentage other studies reported for Whites. Ying (1988) demonstrated that the mean level of depressive symptomatology among Chinese Americans was higher than the levels reported for Whites. Age-restricted studies corroborate these findings. Asian American youth experience steeper growth in the onset of depression than Whites, which contributes to a Asian-White gap in depressive symptomatology (Adkins et al. 2009). Among Canadian seniors, the prevalence of depression is twice as high for Chinese than White people, with 9.4 percent of Chinese Canadians experiencing mild depression and another 11.5 percent experiencing moderate to severe depression (Lai 2000).

On clinical measures, Chinese and other East Asians fare better than Whites. In Canada, the 12-month prevalence of major depression is 4.2 percent for Whites, 1.7 percent for Chinese Canadians, and 2.8 for other Asian Canadians (Tiwari and Wang 2006).[8] This corresponds to a lower risk of major depressive episode among East Asian Canadians (Wu et al. 2003). As for Blacks, the effect of being Asian on major depression is dissimilar from its effect on depressive symptomatology. Perhaps this is because the diagnostic criteria for major depression are insensitive to how Asians present this disorder (Hwang and Meyers 2007). However, the comparatively low rate of major depression among Asian Americans appears to be genuine and not a methodological artifact (Parker, Chan, and Hadzi-Pavlovic 2007). Their lower prevalence of major depression seems to reflect nativity. On major depression, US-born Asians resemble

Whites more so than foreign-born Asians. The 12-month prevalence of major depression is 3.7 percent for foreign-born Chinese Americans, 8.8 percent for US-born Chinese Americans, and 8.3 percent for Whites (González et al. 2010). Canadian research confirms that there is a healthy migrant effect on major depression, but shows that this effect weakens with length of residence (Wu and Schimmele 2005b).[9]

As for Blacks and East Asians, there is disagreement about the prevalence of mental illness among South Asians (Ineichen 2012). Studies on clinical disorders find that South Asians have better or no worse mental health than Whites. In Britain, Berthoud and Nazroo (1997) observe that South Asians have a lower prevalence of dysthymia than Whites, but this difference is not statistically significant. Wu et al. (2003) demonstrate that the risk of major depression is lower for South Asian Canadians than Whites. This difference is not as large as it is between East Asian Canadians and Whites, which underlines the reason for analyzing South Asians as a separate racial group. The mental health of South Asians also appears to reflect a healthy migrant effect. Berthoud and Nazroo (1997) argue that immigrants from South Asia have comparatively good mental health, but that this advantage disappears in the 1.5 and second generations. Other small-scale studies further challenge the general pattern, and indicate that distress and depression are common in the South Asian population, especially when comparing low-income groups and women (Ineichen 2012).

3.3.3 The Aboriginal Population

There is considerable variation in the mental health of the Aboriginal peoples of North America (Kirmayer, Brass, and Tait 2000). This intra-group variation reflects differences in socioeconomic status, living conditions, cultural retention, and other

factors. Despite socioeconomic and ethno-cultural heterogeneity, Aboriginals share circumstances with regard to the effects of colonization and institutional racism in the post-colonial state. The broad similarities in mental health problems that span across Aboriginal communities in Canada, the United States, and Australia demonstrate that these peoples represent a distinct group vis-à-vis Whites. At least, there is similar constellation of health risks among Aboriginal peoples in Canada.[10] The state policies of assimilation (e.g., residential schools), disenfranchisement, and marginalization of Aboriginal peoples have negative implications for all Aboriginal nations and their members. While it is certainly important to acknowledge the heterogeneity among Aboriginals, it is also important to understand how the racialization of Aboriginal peoples generates common threats for their mental health.

To date, the mental well-being of Aboriginal peoples has been under-researched. Much of our knowledge about this topic comes from studies on suicide and alcoholism. The rate of suicide among Aboriginals in Canada is alarmingly high and stands out as the highest of any social group in the world (Kirmayer 1994). In Canada, the suicide rate of the Aboriginal population is triple that of the general population. The suicide rate is highest among Aboriginal youth, who are 5-6 times more likely to die from suicide than non-Aboriginal youth. The research on suicide is germane for our purposes because the risk factors of suicide correspond to the risk factors of depression. Their high rate of suicide associates with social stress and a lack of social integration (anomie), and it is a red flag for the severity of mental health problems within Aboriginal communities. Most prior studies are restricted to on-reserve Aboriginals, whose social circumstances, economic well-being, living conditions, and, consequently, health status tends to be much

worse compared to Aboriginals residing in the general population (Tjepkema 2002). Both off- and on-reserve Aboriginals, however, experience a greater amount of health risks and poorer health than Whites. That said, the off- and on-reserve Aboriginal populations cannot be compared to Whites en masse, because life on the reserves represents a unique set of health risks.

Though there are few epidemiological studies, the available evidence suggests that Aboriginals experience comparatively high levels of distress. The First Nations Regional Longitudinal Survey (FNRHS) demonstrates that emotional problems are wide-spread among Aboriginal communities across Canada (Wingert 2010). According to the 2002/2003 wave of the FNRHS, 30 percent of off-reserve Aboriginals reported feeling sad, blue, or depressed and 30 percent had suicidal thoughts in their lifetimes, which are key indicators of major depression. Caron and Luo (2010) observe that off-reserve Aboriginals have a level of psychological distress that is 42 percent higher than Whites. Wu et al. (2003) demonstrate that the risk of major depression is higher among off-reserve Aboriginals than Whites. The authors also show that off-reserve Aboriginals have comparatively higher levels of depressive symptoms. US Studies also demonstrate high levels of psychiatric morbidity among Native Americans (Bratter and Eschbach 2005). Surveys using the CES-D scale illustrate that between 48-58 percent of Native Americans meet the threshold for clinically significant levels of depressive symptoms.

3.4 KEY EXPLANTIONS

The literature is short on explanations for racial differentiation in mental well-being. Besides the under-representation of racial minorities in population data, the risk

factors included in community surveys are rather limited. In some respect, racism or discrimination is at the core of most theories (and hypotheses) of racial differences in mental well-being, given that race is antecedent to socioeconomic status, residential environment, and other factors related to stress exposure and coping resources. Although there is reason to believe that racism has health-damaging effects, few studies have measured its direct impact on physical or mental health outcomes (Krieger et al. 2011). This is because such measures are not often included in community surveys and are difficult to quantify (Williams and Mohammed 2009). The common approach is to model the effects of socioeconomic status (and sometimes stress), which is a crucial predictor of mental well-being and well-known to differ across racial groups. It is misleading to consider SES as confounding variable because race predicts SES and how SES influences the health of racial minorities is a function of racism (Williams, et al. 1997). In accordance, it is important to interpret the influence of SES on racial differences in health as a consequence of institutional racism (Williams and Williams-Morris 2000).

There is a well-established relationship between socioeconomic status and multiple indicators of mental well-being, with a higher prevalence of psychiatric morbidity in the lower socioeconomic strata (Eaton and Muntaner 1999). The higher level of stress exposure is the principal reason for this relationship. Similar to findings for mortality and chronic conditions, there is a socioeconomic gradient in mental well-being (Kosteniuk and Dickinson 2003; Williams and Williams-Morris 2000). Table 3.1 presents the annual prevalence of major depression in Canada across five income categories. The table illustrates a clear relationship between income and depression. There is a monotonic change in the prevalence of depression with each income group. This pattern is similar to

that observed in the US. The NCS demonstrates an inverse relationship between socioeconomic status and mental disorders (Kessler et al. 1994). Longitudinal studies confirm that socioeconomic status has direct (causal) effects on depression, and that the "drift" of the depressed into a lower socioeconomic group does not account for the relationship between SES and depression (Lorant et al. 2003; Muntaner et al. 2004).

Table 3.1 About Here

Much attention has been paid to how socioeconomic status shapes racial differences in health trajectories. This is understandable given that socioeconomic disparities are a major consequence of racism, which constrains educational and labor market opportunities and restricts choices in housing markets. However, the mediating effect of SES on the race-health relationships is still a matter of discussion. In the literature, there are three central questions regarding the role of SES in racial differences in psychiatric morbidity. First, there is the question of whether (or to what extent) racial differences in psychiatric morbidity are independent of SES. That is, is race just a proxy for racism-related socioeconomic inequalities or does it influence mental well-being through other mechanisms? Second, there is the question of whether SES can be treated as a confounding or additive effect or whether SES interacts with race to produce unique outcomes. Finally, there is the question of how to operationalize SES and the implications that different measures (e.g., education, income, housing, wealth) have for racial differences in mental well-being.

Before Kessler and Neighbors' (1986) landmark study, the common expectation was that racial disparities in mental well-being would be largely, if not entirely, a consequence of socioeconomic inequalities (Cockerham 1990). The conventional

hypothesis was that the racial gap in psychological distress would narrow or close altogether once SES was controlled. The basic argument is that race is primarily a proxy for SES and has little or no additional effect on mental well-being. There is certainly no question that race and mental well-being are connected through SES. Socioeconomic disadvantage in childhood and adulthood is a key reason for racial differences in trajectories of depression (Adkins et al. 2009; Walsemann et al. 2009). Studies that observe a racial gap (minority disadvantage) in depressive symptomatology demonstrate that this gap attenuates or disappears after SES is controlled (Bratter and Eschbach 2005; Williams et al. 1997; Wu et al. 2003). Moreover, in studies where racial minorities have similar or better mental health than Whites at baseline, low SES appears to suppress their mental health (Williams et al. 1997; Wu et al. 2003). In these cases, Whites have a comparatively higher prevalence of psychiatric morbidity after SES is controlled.

In the mid-1980s, Kessler and Neighbors (1986) challenged the assumption that SES was simply an additive effect. To be additive, the effect of SES would have to be similar across racial groups. In contrast, Kessler and Neighbors proposed that the effects of SES are conditional on race. The differential vulnerability hypothesis suggests that low SES Blacks are more sensitive to the effects of social stress than low SES Whites. The support for an interaction effect is, however, mixed and far from being definitive. Some studies find weak or no interaction effects whatsoever, which suggests that the effect of SES is similar across racial groups (Cockerham 1990; Ostrove, Feldman, and Adler 1999; Wu et al. 2003). In addition, in studies that do observe interaction effects, there is not a clear disadvantage for Blacks or other racial minorities. Though there is evidence that low SES is more harmful for Black and other racial minorities than Whites (e.g., Kessler

and Neighbors 1986; Bratter and Eschbach 2005), there is also evidence that low SES is more harmful for Whites than Blacks (e.g., Ulbrich, Warheit, and Zimmerman 1989; Williams, Takeuchi, and Adair 1992). In part, these inconsistencies could reflect how SES is measured in different studies.

There are other experiences besides the negative effects of socioeconomic disadvantage that race can influence mental well-being. There is a small literature that stresses the importance of seeking out variables that provide a more comprehensive understanding of the relationship between race and exposure to social stress. Williams et al. (1997) observe that race-related stress is an important predictor of psychological distress among Black Americans. In their comparisons, the authors observed a non-significant difference between Blacks and Whites, controlling for SES. But when a measure for "everyday discrimination"[11] is introduced into the model, Blacks report significantly lower of distress than Whites. This demonstrates that race-based mistreatment and perceptions of institutional racism are stressors for the Black population. Focusing on racial harassment in Britain, Karlsen and Nazroo (2002) report that the risk of depression is 2.45 times higher among people who experienced verbal abuse (racial slurs) and 2.89 times higher among those who experienced an attack. Prior studies also demonstrate that perceptions of unfair treatment in the workplace, school, and public settings are sources of race-related stress (Brown et al., 2000; Krieger et al. 2011; Hudson-Banks, Kohn-Wood, and Spencer 2006).

3.5 SUMMARY

Given the recent availability of appropriate survey data, racial differences in mental health have not been as thoroughly examined as have racial differences in physical health and mortality (Breslau et al. 2005). The advent of national surveys with standardized measures of mental health has improved research in at least two major respects. First, these surveys contain sufficient numbers of non-Whites for comparative purposes, albeit low numbers still present limitations for disaggregated racial groups into ethnic sub-groups. Second, the development of diagnostic interviews allowed field research to move past comparisons of non-specific distress. This was an important breakthrough because the previously used global measures tapped aspects of mental well-being un- or loosely related to mental illness. The global measures also concealed points of disorder-specific vulnerability.

Perhaps the most crucial finding that arises from the US literature on Black-White differences in mental health is the need for a multifaceted approach. Focusing on one outcome or mechanism tends to lead to a unidimensional understanding of mental well-being among racial minorities and how these groups compare to Whites. One of the major puzzles that is unresolved is why Blacks and other racial minorities are less depressed than Whites, despite facing higher levels of stress. Our incomplete understanding of the stress process among racial minorities has clouded our knowledge about racial differences in mental well-being. There are two possible reasons for the paradox that racial minorities have lower levels of depression than Whites. First, it could be incorrect to presume that race is necessarily a risk factor for major depression. However, the findings for racial differences in major depression need to be interpreted

carefully. Second, it is also possible that racial differences in responses to social stress are an important factor and represent a protective effect for racial minorities.

Though racial minorities tend to have a lower prevalence of major depression, these groups also experience a comparatively higher level of depressive symptoms and distress as well as a more chronic form of depression. This is another paradox. The lower prevalence of major depression is not a methodological artifact, i.e., reflective of ethno-cultural differences in the endorsement of screening criteria of major depression. Most methodological studies demonstrate that the observed rate of major depression among racial minorities is accurate or at least not misestimated to a degree that it could contaminate racial comparisons (see Chapter 2). The discrepancy between clinical and dimensional measures of mental health is, however, an important consideration when comparing racial groups. As Somervell et al. (1989) remark, both types of measures are informative, but appear to address different questions about the relationship between race and mental well-being. The implication is that each measure offers a partial understanding of this relationship. The conclusion is that this relationship is complex and demands an approach that includes multiple indicators of mental well-being.

What is clear is that social stress among racial minorities does not appear to translate into a higher prevalence of mental disorder. This is consistent with Selye's (1956) argument that stress is a necessary but insufficient condition for the onset of distress. How people respond to negative experiences or manage life strains has considerable bearing on the outcome. In this regard, racial status appears to also capture differences in coping responses, in addition to differential exposure to social stress. The relationship between coping and mental health is well-known, but surprisingly few

studies have considered how differences in coping responses influence the relationship between race and mental well-being. Perhaps coping resources explain the comparatively low levels of major depression among racial minorities. Hence, we must be careful in how we interpret the lower levels of major depression among them. Their comparatively lower level of major depression could be mistakenly interpreted as a sign that there is no link between race and depression, when it is in fact coping in the stress process that is decreasing the otherwise health-damaging effects of social stress.

At least, from comparisons of major depression alone, we cannot conclude that racial minorities are in better mental health than Whites. Studies that focus on a single disorder or dimension of mental well-being, as is the common approach in etiological research, present a one-dimensional understanding (Aneshensel 2005). Within this approach, individuals are classified as "sick" or "well" depending on whether or not they meet the criteria for the disorder under investigation. The problem with this is that the distress associated with clinical illness is distinct from non-specific psychological distress. While the DSM does not define the latter as an illness, and is consequently given scant attention in the psychiatric and epidemiological literature, it is of sociological interest because it reflects people's struggle to cope with life stress and can impair their social functioning. In addition, the absence of clinical illness should never be confused with *robust* mental health. At best, it represents a neutral condition. What is absent from the literature is a racial comparison of positive psychology. This is another important dimension of human functioning, and it turns our attention to the promotion of well-being. To date, most of the sociological literature has focused on the elimination of the risks of illness.

Endnotes

1. It is doubtful that public health insurance in Canada has a major effect on the cross-national difference in the relationship between race and mental illness. In Canada, the main focus of general practitioners and hospital services is on physical illness, which has contributed to a de-emphasis of the prevention and treatment of mental illness, except for severe disorders, such as schizophrenia (Romanow and Marchildon 2003). Most (80 percent) consultations with psychologists, the primary source of treatment for non-psychotic disorders, are user-paid services, since these illnesses fall under an ambiguous definition of what is considered insurable (i.e., "medically necessary" treatment) under the Canada Health Act. This implies that there could be similarities between the US and Canada inasmuch as the cost of services and medications (socioeconomic status) contributes to racial disparities in the growth trajectories of untreated mental health problems.

2. This excludes clinician-made diagnoses before the publication of the DSM-III in 1980. Traditional diagnostic practices were highly judgmental (subjective) and had questionable inter-rater reliability (Goldstein 1979). Kendell (1976) demonstrated that there was no consensus about how depression should be defined, as he identified 12 dissimilar classification schemes. The DSM-III was a turning point for the psychiatric profession because it standardized the definition and diagnostic protocols for depression and hundreds of other mental disorders (Horwitz 2011)

3. For example, Anglin et al. (2008) demonstrate that Black Americans are less likely than Whites to seek professional care for a mental illness. Though having comparatively favorable beliefs about treatment effectiveness, more Blacks than Whites

believe that mental illness can resolve itself. Hence, the Black-White difference in service utilization corresponds to racial differences in beliefs about the necessity of treatment. Other studies observe that Asian Americans under-utilize services because of fear of social stigma (Gary 2005; Leung, Cheng, and Tsui 2012).

4. The ECA was conducted in 5 metropolitan areas: Baltimore, Maryland; Durham, North Carolina; Los Angeles, California; New Haven, Connecticut; and St. Louis, Missouri.

5. This observation applies to all racial groups, including Whites.

6. The CES-D (Center for Epidemiological Studies Depression Scale) is a 20-item scale of depressive symptoms and their severity during the past week (Radloff 1977). The severity of each symptom is scored as follows: 0 (symptom not present), 1 (symptom present for 1-2 days), 2 (symptom present for 3-4 days), and 3 (symptom present for 5-7 days). The total score ranges from 0-60, with higher scores representing higher levels of depressive symptomatology.

7. This is consistent with studies that report that the onset of depression occurs largely in adolescence and tapers off at older ages (see Kessler et al. 2005).

8. The prevalence of anxiety disorders, social phobia, and substance dependence is also lower among Asian Canadians. This pattern is consistent across age, marital status, and level of education.

9. Tiwari and Wang (2006) also support this finding. The 12-month prevalence of mood and anxiety disorders is 12.1 percent among Asians who know only English or French, compared to 4.7 among those know another language (e.g., Chinese) in addition to English or French. This could represent a healthy migrant effect considering that

fluency in a language other than English or French is related to nativity. The prevalence of disorder for Asians who speak only an official language is several percentage points lower than for Whites.

10. There is a substantial gap in physical well-being between Aboriginal living on reserves and those living in the general population, with the off-reserve Aboriginals faring a lot better (Curtis 2007). This gap is attributable to sub-group differences in socioeconomic status, demographics, and health behaviors. The assumption is that these conditions also contribute to a gap in mental well-being, although this has never been confirmed because of a lack of comparable data. Most national surveys, including the CCHS, exclude on-reserve Aboriginals.

11. Williams et al. (1997) measure everyday discrimination using a 9-item index that creates a score for the following items based on their frequency of occurrence: being treated with less courtesy than others; being treated with less respect than others; receiving poorer service than others in restaurants or stores; people acting as if you are not smart; people acting as if they are better than you; people acting as if they are afraid of you; people acting as if they think you are dishonest; being called names or insulted; and being threatened or harassed.

Table 3.1 The Economic Gradient of Major Depression: Canada, 2002

Household Income[a]	Annual Prevalence (%)	95% CI
Lowest	8.5	6.6 – 10.3
Lower middle	5.3	4.3 – 6.3
Middle	4.2	3.6 – 4.8
Upper middle	3.7	3.2 – 4.2
Highest	3.2	2.7 – 3.7
Overall	4.8	4.5 – 5.1

Source*:* Patten et al. (2006)

[a] Each income group represents approximately 20% of the population

Chapter 4

THEORETICAL FRAMEWORK

4.1 INTRODUCTION

This study uses the stress process model (SPM) as an orienting framework for conducting the empirical analysis and interpreting the results. The main purpose of the SPM is to uncover the relationship between social conditions and the factors that generate inter-group differences in health status (Aneshensel 2009). As Figure 4.1 illustrates, the components of the stress process are stressors, social resources, stress-reactivity, and stress outcomes (Pearlin 1989; Pearlin et al. 1981). The foremost explanatory variable is social stress or the notion that social arrangements and structural forces contribute to exposure to stressors that challenge adaptive capacities and obstruct sought-after ends (Aneshensel 1992). Besides focusing on the effects of group- or role-based inequalities, the SPM has been expanded to incorporate ecological sources of stress, especially neighborhood effects (Aneshensel 2010; Elliott 2000). Social stress is conceptualized as a "process" because it involves multiple causal factors and different outcomes rather than fixed responses (Pearlin 1999). In addition to its effects on exposure to life events and chronic strains, social status influences social resources, coping behaviors, and the manifestations of stress.

Figure 4.1 About Here

4.2 SOCIAL STRESS

There is a conceptual distinction between stressors and the condition of stress. A stressor is an external stimulus that challenges a person's adaptive capacity or obstructs

her/his sought-after needs or goals (Aneshensel 1992). Wheaton (1999b) defines stressors as the threats, demands, and structural constraints that affect well-being. A threat is a potential source of harm or a trauma, such as the psychological outfall of abuse, physical illness, or neighborhood crime. A demand involves a situation of psychological overload due to role strain. A structural constraint refers to the limits on opportunities, security, and self-determination that correspond to social stratification and social exclusion. Stressors should not be confused with stress. Stressors are *potential* sources of stress, but stress is not an inevitable outcome of exposure to a stressor (Aneshensel 1992). Stress also does not represent a pathological condition (Selye 1956). Stress refers to an internal state of arousal (a reaction to a stressor) and it can lead to negative (distress), positive (eustress), or neutral outcomes. The experience of stress depends on how a stressor is perceived and its health consequences are conditional on psychosocial resources or an individual's resistance to stress loads.

How stressors are conceptualized and measured has implications for our understanding of their distribution across social strata (Aneshensel 1992). There are two general classes of stressors: life events and chronic strains (Pearlin 1989). A life event is a significant life change or a sudden trauma that has a clear onset and conclusion (Wheaton 1999a). Life events are discrete events such as divorce, getting robbed, getting fired, or the death of a significant other. The clear definition and ease of observing life events has contributed to their frequent use in stress research (Pearlin 1999). The Holmes-Rahe scale is the gold standard for measuring the effects of life events (Holmes and Rahe 1967).[1] This scale assigns a score to each life event according to its severity and tallies the scores of all events experienced to predict the stress load or threshold at

which the risk of illness is high. The limitation of this scale and other event-based checklists is that finite inventories cannot observe all relevant events and pre-fixed scores of severity cannot account for the contingent meaning of life events (Aneshensel 1992). Comparing people on life events presumes that a life event has similar effects across the life-course and between individuals.

Not all life events have harmful effects or are eventful (Aneshensel 1992; Pearlin 1989). Change is a routine aspect of human life and it is misleading to conceptualize all change or the magnitude of change as harmful. Some life events are indeed uneventful in that these are scheduled or welcomed occurrences (Wheaton 1999s). A life event is a potential source of stress when it occurs off-time in the life-course or is unplanned or undesirable (Pearlin 1989).[2] The meaning of a stressor is context-laden and its effect varies according to the life stage when it is experienced and on personal characteristics (George 1993). However, most life events have modest or innocuous effects (Aneshensel 1992). Few people develop a mental health problem from experiencing life events. This is because most life events are scheduled changes (e.g., school leaving, marriage) or do not initiate changes in well-being. The actual "eventfulness" of life events is also questionable (Aneshensel 1992; Pearlin 1989). Most life events are episodic or represent life transitions instead of discrete phenomena. These so-called events develop over time and are foreseen well in advance of their occurrence. Focusing on the discrete event dislocates it from the context in which it is embedded, which could present a greater source of stress than the event itself (Pearlin 1989).[3] A focus on discrete events can exaggerate their importance while overlooking the long-term processes that surround them.

Chronic strains are the second major class of stressors. Chronic strains consist of the stressors that are consequences of social conditions. These refer to the enduring threats, demands, and structural constraints that individuals encounter because of their social status, social roles, or social environment (Wheaton 1999b; Pearlin 1989). Chronic strains are distinguished from event-based stressors in terms of their onset and duration. Chronic strains have no clear on-set, are amorphous, and function as a continuous intrusive presence. In comparison to life events, these types of stressors have a greater impact on social disparities in mental health (Aneshensel 1992). Chronic strains are rooted in social inequalities and institutional roles and thus represent a generalized force that arises from social stratification and the complexities of social roles (Pearlin 1999). Their relationship to social structure is the reason that such stressors are so difficult to avoid or mitigate. These sources of stress are inseparable from social organization and present constant demands on adaptive capacities, have long-term and cumulative effects, and can elude individual attempts to control their harmful effects.

There are two main sub-types of chronic strains. The first reflect the structural constraints or the societal factors (e.g. institutional racism) that delimit life chances (Aneshensel 1992). This includes constraints on achievement or socioeconomic mobility, political representation, participation in public and social institutions, and inclusion in labor and housing markets. These constraints determine systemic differences in resource deprivation, social marginalization, social segregation, low self-esteem, and other kinds of social stress. The second sub-type of chronic stress is role strain (Pearlin 1989). A role refers to a social position that has certain behavioral expectations and responsibilities that a role incumbent has to fulfill (George 1993). The social roles of interest in stress

research refer to relationship- and occupation-related roles, such as wife, mother, and bread-winner. Role strain arises in cases of role overload, role conflict, and role captivity (Pearlin 1999). This includes overwhelming demands within a role, the competing demands of multiple roles, and being confined in an unwanted role. The classic example of role conflict is the double day or women's dual role as wage-earner and care-giver. Being captive in a role reflects the normative and structural constraints on life choices, such as some women's confinement to domestic roles.

The distinction between life events and chronic strains can be counterproductive and ignores their overlapping nature (Aneshensel 1992). Though conceptually distinct, life events and chronic strains are not disconnected. These classes of stressors can splice or converge in a pattern of stress proliferation (Pearlin 1989). The effects of life events can be long-term and require changes in social roles that increase exposure to chronic stress (Wheaton 1999b). For example, a divorce can require a person to assume a breadwinner role in addition to a care-giving role, which can become a source of role strain. Similarly, the experience of a chronic strain can increase the likelihood of experiencing a negative life event. Role strain can be a source of marital discord and can thus increase the likelihood of divorce. Stressors seldom develop in isolation of one another and tend to cluster together (Pearlin 1999). People are incumbents of multiple roles and trouble in one role can lead to trouble in other roles. Moreover, the sources of stress in different domains are interlinked through their mutual connection to social status. People have cross-cutting social statuses which interact to produce multiple jeopardy and conjoint pathways in the stress process.

Stressors can also be thought of as tiers of social stress that extend from the individual to the societal level (Wheaton 1999b). Conceptualizing social stress as a multilevel issue is important for establishing the relationship between social status and clusters of stressors. This approach classifies stressors according to level of analysis. Stressors are generated at the macro, meso, and micro levels of social organization. The macro-level consists of the broad social arrangements (e.g., relations of production) and socio-demographic structures that define societies (Turner and Boyns 2006). Macro-level stressors originate in the systems of social differentiation that correspond to ascribed status, institutional roles, and the distribution of resources. The meso-level consists of the local communities and organizations where individuals are nested (Johnson 2008). Neighborhood disorder, concentrated disadvantage, workplace hazards, and other aggregate contexts are examples of meso-stressors. The micro-level encompasses an individual's social interactions, social relationships, and social roles (Turner and Boyns 2006). The micro-level is the domain of life changes and role strain.

For our purposes, we employ a global measure of perceived stress. There are considerable methodological challenges with measuring stressors. As noted, event-based inventories exclude important events. Moreover, these inventories are insensitive to the subjective experience of life events, which could be sources or stress, relief, or have no effect on well-being. The main issue with measuring chronic strains lies in their amorphousness and pervasiveness in people's lives. This makes it difficult to directly observe them. In most cases, social status is measured as a proxy for chronic strain. This is not an unreasonable approach given that social status is the fundamental source of chronic strain. The sheer number of threats, demands, and structural constraints that

associates with social status makes a comprehensive measurement of chronic strains impractical. But an empirical relationship between social status and stress should be established rather than assumed a priori. A global measure of stress is useful for establishing how much stress people face. This measure captures the entire universe of stressors and also their subjective meaning. However, the comprehensive nature of this measure is also a limitation. A consequence of the global content of this measure is that it is not possible to discern variation in exposure to different types of stressors.

4.3 SOURCES OF STRESS

In the stress process, variation in exposure to stressors is the primary factor in the relationship between social status and mental health (Turner and Avison 2003). This hypothesis is based on the assumption that the structural contexts of people's lives are the main sources of negative events and chronic strains (Pearlin 1989). The search for the sources of social stress, therefore, requires the close examination of social arrangements and individual experiences within these arrangements. Most stressful experiences are rooted in social structure and routed through the uneven distribution of economic resources and social assets (Raphael 2006). There is a good rationale to assume that stress exposure is a consequence of social status, but Turner and Avison (2003) observe that our knowledge about the social distribution of stressors is incomplete. Despite the conceptual importance of stressors in the stress process, the focus of most stress research is the effects of mediating resources (e.g., mastery, social support) on stress outcomes. Few studies establish an empirical linkage between social status and stress exposure or model the effects of stress on social differences in mental health.

Earlier studies presumed that stress exposure had a modest impact on psychiatric morbidity. This research considered differential vulnerability to stress to be the principal factor behind social differences in stress outcomes (Turner and Turner 2005). This placed the conceptual focus on psychosocial resources rather than the structural context of people's lives. The inattention to stress exposure corresponded to observations of a weak relationship between event-based stressors and mental illness. However, there has been a shift in perspective as stress research has incorporated measures of exposure to chronic strains. More recent studies show that exposure to stress is indeed a significant factor of population differences in the risk of mental illness. Turner, Wheaton, and Lloyd (1995) demonstrate that variation in stress exposure accounts for 23 percent of the gender gap in depressive symptoms among Canadians. Across socioeconomic groups, stress exposure accounts for 38 percent of disparities in depressive symptomatology, controlling for other risk factors. These differences in mental health are related to exposure to chronic strains, since event-based stressors have no independent effects. This research confirms that differences in economic resources, human capital, and social roles mediate the relationship between social status and stress exposure.

4.3.1 Racism-Related Stress

Our interest is the function of racial status in the stress process. This encompasses the racism-related sources of social stress and also inter-racial differences in social resources, coping, and stress outcomes. Few studies have estimated the effects of stress exposure (or perceived stress) on the relationship between racial status and mental health outcomes. There are three racism-related sources of social stress (Perry, Harp, and Oser 2013). Firstly, there are the psychological threats that come from with overt or open

expressions of racism. Overt racism includes prejudice, extreme right-wing politics, and verbal or physical attacks on racial minorities. In the post-war era, this form of racism has become a less common experience for racial minorities in Canada, and covert and institutional racism comprise the brunt of their negative experiences (Satzewich 1998). These latter forms of racism refer to stereotypes about racial groups (unconscious bigotry) and the systems of discrimination that uphold White dominance and subordinate racial minorities (Miles and Brown 2003). Secondly, there are the subtle but pervasive forms of degradation and marginalization, such as unfair treatment in the labor market, receiving inferior service from shopkeepers, getting looked down at, and racial profiling (Ong, Fuller-Rowell, and Burrow 2009). Finally, there are the chronic strains that arise from economic and social exclusion.

The available evidence suggests that racial status is an important variable in stress exposure. Turner and Avison (2003) observe US Blacks experience high levels of exposure to racism-related stress. Their exposure to chronic strains and life events is also higher than among Whites. Besides having direct effects, racism-related stressors are a source of stress proliferation, which refers to the process of a primary stressor becoming a source of secondary stressors (Ong et al. 2009). Turner and Avison's findings indicate that indexes of life events underestimate the burden of stress among US Blacks. This is consistent with Ulbrich, Warheit, and Zimmerman's (1989) conclusion that chronic stress has a relatively greater impact on psychological distress among racial minorities. Exposure to chronic strains is a principal factor in the Black-White gap in depressive symptoms (Turner and Avison 2003). Williams et al. (1997) show that the experience of everyday racism suppresses a mental health advantage among US Blacks. Krieger et al.

(2011) observe that racial discrimination is responsible for a seven-fold increase in the risk of clinically significant distress among Blacks. The effects of racism-related stress are not limited to the US context. Karlsen and Nazroo (2002) show that the risk of depression increases 2.45 times with experiences of racist verbal abuse (e.g. racial slurs) and 2.89 times with experiences of physical attacks in Britain.

4.3.2 Race and Socioeconomic Status

Racial differences in stress exposure need to be situated in context of socioeconomic inequalities. When SES is controlled, racial differences in health attenuate or disappear (see Chapter 3). This has prompted some researchers to argue that race has a non-significant effect on health. This interpretation is flawed since it assumes that SES is independent of racial status (Williams et al. 1997). But race is antecedent to SES, given that racial discrimination and segregation are structural constraints on socioeconomic mobility. Thus SES should be conceptualized as an outcome of racism and thus as a mediator (not a confounder) of the relationship between race and health. SES tends to be defined according to Weberian notions of stratification, with little attention to Marxian concepts of class relations (Williams and Collins 1995).[4] This study also focuses SES because our concern is the contribution of economic resources (not class relations) to racial differences in health. In addition, our dataset does not have a suitable measure of social class. SES refers to the hierarchies that reflect the unequal distribution of human capital, employment opportunities, and material wealth. Conventional measures of SES are education, income, occupation, or a composite of these variables. Some studies also include additional sources of wealth and purchasing power. These latter indicators are uncommon but are potentially important since conventional indicators are insensitive to

racial disparities in savings, homeownership, and other financial assets that contribute to well-being (Williams and Sternthal 2010).

In general, SES is a fundamental cause of social differences in health (Herd, Goesling, and House 2007; Link and Phelan 1995). Despite historical changes in the causes of poor health, the relationship between SES and morbidity and mortality has remained constant over time and across countries. SES is a robust predictor of stress exposure and it is well-known that socioeconomic disadvantage increases the risk of mental illness (Baum, Garofalo, and Yali 1999; Lorent et al. 2003). The SES-health relationship operates in two broad respects (Baum et al. 1999). The conventional approach is to consider how socioeconomic disadvantage contributes to stress exposure and vulnerability to stress. This encompasses the health-damaging effects that accrue from economic deprivation, living and working in noxious environments, and constraints on life choices. But SES can be conceptualized as having salutogenic effects in addition to being a source of disease. Higher SES reduces exposure to stressors and increases stress-mitigating resources. Hence, the total effect of SES on health is double-edged, with the gap between the haves and have-nots reflecting cumulative advantage on one side and cumulative disadvantage on the other.

Though economic hardship is a major risk factor, the effects of SES are more fine-grained than a difference between the poor and non-poor. The Black Report provides compelling evidence that relative socioeconomic disadvantage matters (Townsend and Davidson 1982). The report illustrates that there is a monotonic increase (or a gradient) in mortality that mirrors the relative disadvantages between SES groups. The socioeconomic gradient in physical health is present numerous countries including

Canada and the US (Beckfield and Olafsdottir 2006; Kosteniuk and Dickinson 2003; Marmot 2003). This gradient is also germane to mental health (Patten et al. 2006; Yu and Williams 1999). In Canada, levels of mental distress incrementally increase with reductions in household income (Kosteniuk and Dickinson 2003). This evidence answers questions about a selection effect in the relationship between SES and mental health. The selection (or drift) hypothesis suggests that individuals prone to mental illness are "selected" into low-SES groups because their poor health is a barrier to the acquisition of human capital and good employment (Warren 2009). This implies that SES does not cause differences in mental health. This hypothesis is difficult to reconcile with the effects of relative disadvantage, which provide much stronger support for a causal effect of SES.

The indicators that comprise SES, although correlated, are only partially overlapping and have different implications in the stress process (Baum et al. 1999). Too many epidemiological studies treat indicators such as income and education as interchangeable, disregarding their distinct effects (Herd et al. 2007). Income is perhaps the most potent indicator of an individual's health chances. In the US, income explains 59 percent of the Black-White gap in life expectancies among females and 52 percent among males (Geruso 2012). High income correlates with more happiness and self-confidence and low income with greater perceived vulnerability (Link, Lennon, and Dohrenwend 1993). Table 4.1 illustrates the relationship between income and the 12-month prevalence of major depression in Canada. There is a clear income-related gradient in depression and the prevalence of depression among the three lowest income groups is twice as high as in the three highest income groups. Income is an important predictor of health because it

taps the instrumental aspects of SES such as the ability to purchase goods and services needed for well-being (Baum et al. 1999). A lack of income has consequences ranging from the proximate stressors (e.g., poor housing, food insecurity) that compromise well-being to the constraints on the formation of human capital across the life-course. The effect of economic deprivation can instill feelings of powerlessness that damage self-esteem and leave individuals vulnerable to social stress (Eaton and Muntaner 1999). Among the major ancillary effects of low-income are alienation, lack of control, and stigma (Wu and Schimmele 2005a).

Table 4.1 About Here

Education is a predictor of income and occupation, but it also affects mental health through its association with salutogenic resources (Herd et al. 2007). Education is an internal (and therefore permanent) resource that is integral to the development of human capital (Ross and Mirowsky 2006). A high education provides a wider range of life choices and comparatively more freedom from living in poverty. This alone is a long-term benefit for an individual's psychological disposition because it contributes to a sense of economic security (Catalano 1991; Mirowsky 2013). The knowledge, skills, and learning abilities that are acquired with education are also beneficial in non-economic respects. As noted above, the experience of a stressor does not necessarily result in stress or a mental illness. The experience of stress depends on whether the problem is perceived as a challenge or a threat. Problem solving and rational thinking are among the general skills that education provides. Schooling also increases self-motivation and inculcates independent work habits. This cache of human capital is important for mental health

because it improves a person's sense of control over life problems (stress appraisal) and coping abilities (Thoits 1995). People with a sense of control have better mental health.

The foregoing implies that socioeconomic inequalities could mediate the relationship between race and mental health. In Canada, racial minorities have higher rates of low-income, lower median incomes, and higher rates of unemployment than Whites (see Chapter 2). This study considers the effects of income, education, work status, and homeownership on racial differences in mental health. How SES contributes to racial differences in mental health is unclear. In contrast to US research, Wu et al. (2003) observe that household income, low-income, and education have no effect on ethno-racial differences in depressive symptoms or major depression. This finding could be a result of the differential meaning of SES across racial groups or inter-racial differences in stress-reactivity. Previous research suggests that race could moderate the effects of SES on mental health. Though the empirical evidence is mixed, the effects of SES indicators on mental health could differ across racial groups (Cockerham 1990; Kessler and Neighbors 1986; Ostrove, Feldman, and Adler 1999; Williams et al. 2010). The main question in the literature is whether low-income has greater health-damaging effects for racial minorities than Whites. Racial disparities in mental health could be concentrated among low-income groups and the strains of poverty could combine with the strains of racial discrimination to produce a unique form of social stress (Kessler and Neighbors 1986). To address this question, the empirical analysis considers whether low-income moderates the relationship between race and mental health.

4.3.3 Race and Neighborhood

This study examines whether neighborhood environment mediates the relationship between race and mental health. We focus on neighborhood socioeconomic conditions, population stability, and co-ethnic density. Unlike the US, hyper-segregation is not a serious problem in Canada, but racial minorities still tend to live in lower-income neighborhoods and in co-ethnic communities (Wu, Schimmele, and Hou 2012a). Racial minorities concentrate in these neighborhoods for several reasons. Most racial minorities are recent immigrants and face economic constraints on their residential choices. A lack of financial resources limits their choices to neighborhoods with cheap housing. In addition, the concentration of racial minorities can reflect the realities of an unwelcoming host population. The spatial concentration of racial minorities represents a form of covert racism because economic and social exclusion "pushes" racial minorities into certain neighborhoods. The long-term concentration of racial minorities in these neighborhoods can be interpreted as a group-level coping response to discrimination (Bauder and Sharpe 2002). Ethnic enclaves (e.g., Chinatowns) form because of the need for co-ethnics to co-operate and establish networks to share resources and create employment opportunities for themselves (Portes and Sensenbrenner 1993). Ethnic groups (e.g., Jews, Chinese, Italians) that experienced the most discrimination tend to form tight-knit and long-lasting enclaves. In contrast, ethnic groups that face little or no discrimination disperse into the general population, which accounts for ethnic differences in spatial assimilation and bounded solidarity.

The neighborhood represents a meso-level source of social stress and social resources (Aneshensel 2010). Among the earliest accounts of ecological effects on health

are Dubois' (1967 [1899]) observation that Black mortality rates differed according to neighborhood economic characteristics and Durkheim's (1951 [1897]) analysis of the effect of environmental characteristics on the spatial distribution of suicide. Faris and Dunham's (1939) analyses of the effects of urbanization and demographic change is the classic account of the relationship between neighborhood characteristics and mental health. Their study of Chicago illustrated a link between social disorganization and the risk of mental illness. Their pioneering work used maps of Chicago and hospital records to trace the pre-admission neighborhood addresses of over 30,000 psychiatric in-patients. Their map of the pre-admission residents of in-patients illustrated that the highest rates of illness were concentrated in neighborhoods with high levels of poverty and instable populations. Faris and Dunham argued that these conditions discouraged social cohesion and a lack of positive social relationships in slum neighborhoods explained the high risk of mental illness within them. In disorganized neighborhoods, the condition of social disorder or the absence of social integration appeared to increase vulnerability to mental illness, which is consistent with Durkheim's idea that anomie (normlessness) is a source of unhappiness. This suggests that density of social ties – as well as the processes that disrupt these ties, such as neighborhood transition – are important factors in the stress process.

The limitation of Faris and Dunham's study was its reliance on aggregate data (Silver, Mulvey, and Swanson 2002). The main criticism of the concept of neighborhood in health research is that individual-level characteristics can confound the proposed neighborhood effects (Diez Roux 2001; Yen and Syme 1999). The thrust of this criticism is that individuals are selected into neighborhoods according to their socioeconomic

status. Since poor people cluster in impoverished neighborhoods, it is possible that the spatial distribution of mental illness is a function of vulnerability to illness at the individual level. The high concentration of poor people (a compositional effect) is therefore responsible for the high rate of illness observed in impoverished neighborhoods. The issue of selection raises the question of whether neighborhood context has effects that are independent of the characteristics (risk factors) of the people that compose neighborhoods. This question has been answered in studies that use multilevel data that examine neighborhood effects, controlling for individual-level characteristics. These studies confirm that neighborhood context has an independent effect, although individual characteristics have a relatively greater impact on health outcomes (Matheson et al. 2006; Ross and Mirowsky 2008). Moreover, experimental research shows that re-locating low-income people from impoverished neighborhoods to advantaged neighborhoods has a positive effect on their mental health (Leventhal and Brooks-Gunn 2003; Turney, Kissane, and Edin 2012).

In the neighborhood effects literature, a focus on concentrated socioeconomic disadvantage is common, which includes considering factors such as median household income, proportion of low-income households, percent of college graduates, and proportion of single-parent households in the neighborhood. The underlying assumption is that living in an impoverished neighborhood is health-damaging for both poor and non-poor residents. These neighborhoods have health consequences for all residents because of ambient strains (e.g., few amenities, high crime rates) and a lack of community efficacy (Aneshensel 2010; Turney et al. 2012). Galea et al. (2007) provide conclusive evidence in support of neighborhood effects. Their longitudinal study of the New York

metropolitan area followed a sample of individuals without depressive symptoms at baseline over an 18-month period. The incidence (occurrence of new cases) of depression was twice as high among respondents living in low-income neighborhoods in comparison to those living in neighborhoods where the median household income is above the regional average. Their findings are conservative estimates of neighborhood effects, considering that the analysis controlled for numerous individual-level covariates, including exposure to event-based stressors and social support. In Detroit, Black-White differences in distress and life satisfaction disappear or reverse when neighborhood poverty is controlled (Schulz et al. 2000).

The demographic structure of neighborhoods can also influence the stress process. A key interest of Faris and Dunham and other Chicago School sociologists was the effect of neighborhood transition on the social organization of communities (Flippen 2001). From this perspective, a stable and homogeneous population is needed for the development of social capital in communities (Guest et al. 2006). As neighborhoods change through in- and out-migration, the social networks within them recede. Putnam (2007) observes that demographic factors are a constraint on social capital since the residents of heterogeneous neighborhoods “hunker down” and have fewer social interactions that the residents of homogeneous neighborhoods. This suggests that social isolation (and cohesion) is a function of neighborhood stability (e.g., percent of homeowners and long-term residents) and its ethnic composition. The demographic structure of neighborhoods also associates with social disorder because social control (enforcement of norms) requires social ties between people and the collective will to maintain order (Ross, Reynolds, and Geis 2000). Prior research suggests that individuals

living in neighborhoods with instable and heterogeneous populations – precisely where numerous racial minorities reside – have a comparatively higher risk of depression (Ross, Reynolds, and Geis 2000; Silver et al. 2002).

Our assumption is that social isolation is the main reason for the negative effects of neighborhood socioeconomic disadvantage and population instability on mental health. The perception of neighborhood disorder, fear of crime, and urban decay compels individuals to withdraw from their communities, and this generates feelings of alienation and social isolation (Aneshensel 2010; Pickett and Wilkinson 2008; Turney et al. 2012). The reverse of this logic also applies, and is important given the preference of racial minorities (recent immigrants) to live among co-ethnics. The spatial concentration of racial minorities is not necessarily a sign of social isolation, and it can be an effective adaptive strategy for recent immigrants (Bauder and Sharpe 2002). Within-group differences in mental health supports the notion that living among co-ethnics has positive effects on mental health (Halpern 1993). Neighborhoods with dense co-ethnic networks appear to have a protective effect through their promotion of social integration and community social capital. This “group density” effect is especially important for racial minorities because it can protect them from racism-related stress, such as prejudice and economic hardship. Co-ethnic communities can function as “safe harbors” that buffer the experience of discrimination and provide alternative economic opportunities.

4.3.4 Race-Gender Intersection

This study conducts separate analysis for females and males. There is a gender difference in mental health in numerous countries (Hopcroft and Burr Bradley 2007; Kessler 2004). Women experience a higher prevalence of internalizing problems (e.g.,

depression, anxiety) than men, which results from gender differences in role strain (e.g., double day) and vulnerability to stress (Rosenfield and Mouzon 2013). In Canada, women have a higher prevalence of depression than men at every level of household income (see Table 4.1). Most studies on racial differences in mental health control for gender, but few examine the intersection between race and gender in the stress process. Our assumption is that the effects of race on stress exposure, social resources, coping, and stress outcomes is conditional on gender. Studies that control for gender assume that its effects are additive to the effects of racial status. However, it is possible the intersection of race and gender form a unique status that influences racial patterns of mental health. Racial patterns of mental health are indeed inconsistent across gender (see Bratter and Eschbach 2005; Lincoln et al. 2011; Rosenfield and Mouzon 2013). This indicates that a gender-specific analysis is required to understand the differences in mental health between Whites and racial minorities.

Though our interest is not in gender per se, it is essential to compare races within gender groups. Studies that "control" for gender assume that its effects are constant across racial groups. This is a flawed assumption in several respects. Foremost, this assumption is irreconcilable with evidence that suggests that gender differences in internalizing disorders are inconsistent across racial groups. In the US, the gender gap in these disorders is smaller among Blacks than Whites (Rosenfield and Mouzon 2013). In context of race, controlling for gender is problematic in two other related respects. First, it assumes that the power differentials that contribute to excess morbidity among females are comparable across racial groups. The notion of female disadvantage is not straightforward when comparing across racial groups, since power differentials between

race groups confound the comparison of White women and non-White men. Second, controlling for gender assumes that the implications of gender in the stress process are universal. The main concern is that the implications of gender in the stress process could be racialized.

Beauboeuf-Lafontant (2007) observes that the dominant conceptions of internalizing disorders among women conflate distress with an unrepresentative form of femininity and ignore racial differences in vulnerabilities between women and men. Rosenfield (Rosenfield 2012; Rosenfield and Mouzon 2013) illustrates that definitions of femininity differ between White and Black Americans in important respects. Among Whites, the prevailing conception of gender juxtaposes the public sphere associates with males and masculinity with the domestic sphere associated with females and femininity. To be sure, this has changed with women's labor force participation, but women still shoulder the burden of domestic labor and experience gender-related obstacles in the labor market. Rosenfield argues that male-female relations could have different implications for the mental health of African Americans because gender roles among them are less rigid. The structural disadvantages that African Americans have historically encountered has fostered a culture that necessitates comparatively greater co-operation among women and men and self-reliance among women. Male-female economic inequality is lower among Blacks than Whites, which influences gender relations and their function in the stress process.

4.4 MEDIATING RESOURCES

Stress exposure is an important but insufficient explanation for group differences in distress (Aneshensel 1992; Turner et al. 1995). This confirms Selye's proposition that external stimuli (stressors) trigger "non-specific" (or variable) emotional responses. The same stress-provoking situation can have different outcomes. This shifts our attention to stress-reactivity or differential vulnerability in the stress process. The experience of stress is more than a condition of the number, type, and magnitude of stressors (Pearlin et al. 1981). The cognitive appraisal and behavioral response to a stress-provoking situation can transform or "mediate" its impact. There is no a priori means to determine the threshold at which stress exposure becomes overwhelming. The elastic limit of stress tolerance differs from person-to-person (Wheaton 1999a). Given this, our choice to focus on perceived stress, not stressors per se, is well-motivated. This variable incorporates stress exposure and the subjective interpretations of stress-provoking situations. An itemization of stressors is an inadequate approach because their impact is not universal. The pathway between a stressor, the experience of stress, and distress depends on the perception of threat and coping resources that can be deployed to counter this threat (Lazarus and Folkman 1984; Pearlin et al. 1981).

Our focus is on the mediating effects of social resources and coping behaviors. We refrain from discussing the effects of cognitive appraisal because data limitations prevent us from measuring its independent effects – its effects are submerged in our measure of perceived stress. However, we acknowledge that cognitive processes intervene between the encounter of stressors and reactions to them, and this partially accounts for variation in the experience of distress under identical or near identical stress-

provoking situations (see Lazarus and Folkman 1984). In simple terms cognitive appraisal refers to the how individuals discriminate between benign and threatening situations. In stress research, this has largely been the domain of psychologists. Stress appraisal in the sociological literature is restricted to the effects of mastery (sense of control) on stress outcomes. But stress appraisal involves more than beliefs about personal control over situations. Cognitive appraisal also involves the personal context that the stressor occurs in. What is at stake for a person – i.e., the threat (or benefit) to commitments, goals, or self-esteem – determines the meaning of a stress-provoking situation (ibid.).

The literature is thin, but there is reason to suspect that there are racial differences in emotional responses to stressors, which, in part, appear to correspond to subjective differences in stress appraisal. To our knowledge, the evidence is limited to Black-White differences in the US, but this is sufficient for demonstrating that cognitive appraisal can indeed contribute to racial differences in distress. Ulbrich et al. (1989) test the hypothesis that vulnerability to stress is higher among low-SES Blacks than low-SES Whites. Their decomposition analysis separates the effects of stress exposure from differential vulnerability. The results demonstrate that low-SES Blacks are more vulnerable to undesirable life events than Whites, but less vulnerable to the strain of economic insecurity. The comparative resilience of Blacks to economic-related stressors is because of two adaptive strategies. The first is that economic problems are appraised as products of structural inequalities and not as personal failures, which changes the meaning of these problems in the stress process. In addition, their adaption to economic problems involves a group-level response that cushions their individual-level impact. This adaptive response

is relevant for our analysis because it illustrates the function of social resources in the coping process.

4.4.1 Social Resources

In this study, social resources refer to social support and social embeddedness.[5] In his pioneering study, Durkheim (1951 [1897]) concluded that "suicide varies inversely with the degree of integration of the social groups of which the individual forms a part" (p. 223). Since then, numerous studies have confirmed the relationship between social affiliation and health. This includes the salutogenic effects of conjugal relationships, friendships, neighboring, and participation in religious organizations, clubs, and recreational groups (Bierman, Fazio, and Milkie 2006; Ellison et al. 2001; Lin, Ye, and Ensel 1999; Thoits and Hewitt 2001). The changes in mental health that occur when social ties are gained (e.g., with marriage) or lost (e.g. with divorce) illustrate the benefits of social integration (Frech and Williams 2007; Horwitz 2007). Our focus is on the positive effects of social relationships, but there are circumstances when these can have negative effects. Durkheim recognized that too much social integration can create oppressive social demands on individuals (Horwitz 2007). In addition, while social relationships are a source of support and gratification, these are also a source of inter-personal conflict and role strain.

This study differentiates between the functional and structural aspects of social networks, which are distinct phenomena (Thoits 1995). The structural aspects of social support refers to social embeddedness – i.e., the properties of social networks that connect individuals to one another. To avoid confusion, we employ the term social support to refer specifically to its functional properties. This encompasses the emotional,

informational, and tangible support that is available to people through their social networks. This excludes support provided through state agencies, charitable organizations, or professional care-givers. The focus is on informal sources of support, such as relatives, friends, neighbors, and co-workers. Our definition of social support refers to perceived support. There is a conceptual and empirical difference between perceived support and received support (Hartwell and Benson 2007). The former refers to subjective appraisals of the support available in times of need and the latter to support that has been received in the past. Perceived support accounts for most of the salutogenic effect of social support (Hartwell and Benson 2007; Seeman 1996; Thoits 1995). Moreover, Sherbourne and Stewart (1991) remark that "received support is confounded with need and may not accurately reflect the amount of support that is available to a person" (p. 706).

Our measure of perceived support is based on Sherbourne and Stewart's (1991) definition. This definition refers to the degree (e.g., always, sometimes, never) that social relationships are perceived to fulfill supportive functions. Sherbourne and Stewart break social support into five components: emotional support, informational support, tangible support, positive social interaction, and affectionate support. Emotional support involves the expression of empathetic understanding and validation of feelings. The most robust indicator of social support is having an intimate, confiding relationship (Thoits 1995). This provides a trusted outlet to discuss problems, feelings, or worries (House 1981). Informational support is the provision of advice, guidance, or feedback (Sherbourne and Stewart 1991). This consists of information that helps a person resolve a stress-provoking situation. Tangible support refers to instrumental assistance, such as the provision of

material goods or services. This includes support such as cash loans or gifts and help with activities of daily living. Tangible support can target the source of stress or reduce demands so that the stressed person can focus on the problem. Positive interaction refers to the availability of network members to do enjoyable things with. Sherbourne and Stewart acknowledge that affectionate support is not a conventional indicator of support, but include it in their definition because of the presumption that receiving love and attention has positive effects on mental health.

Turner observes that there is debate over the "main versus stress-buffering" effects of social support (Turner 1999; Turner and Turner 1999). Most studies focus on whether social support buffers (or mitigates) the effects of stress. The buffering hypothesis suggests that social support is situational or relevant only within in the context of a stressful situation. In these situations, social support functions as an intervening resource that helps a person overcome or manage a crisis or strain. Through mitigating the effects of a stressful situation, this form of support decreases the risk of distress. There is also evidence for a main effect of social support on health. The main effect hypothesis suggests that social support has general effects and is more than a situational resource. This implies that social support matters with or without the experience of stress. Low levels of social support associate with a higher risk of distress, regardless of stress exposure, which appears to reflect the psychological strain of a lack of social connection. Turner concludes that social support matters in general, but its salutogenic effects are strongest in context of a stress-provoking situation.

Thoits (2011) observes that social support has two salutogenic effects. First, social support is a form of coping assistance. The stress-buffering effects of social

support occur when a threat, demand, or strain overwhelm a person. Under these circumstances, social support ceases to be subtle and reciprocal. The character of social support transforms into a visible and deliberate form of assistance in the period of crisis. Consistent with the sick-role model (Levine and Kozloff 1978; Parsons 1951), the intentional nature of support involves a social recognition that the individual is facing a stress-provoking situation that is beyond her/his control. The stressed individual is not blamed for the stress-provoking situation – however, if perceived to be culpable, social support is more limited – and given a period of respite to cope with this situation and recover from its effects. The provision of social support is a demonstration that social stress is incapacitating and requires the stressed individual to be granted exemption or relief from normal social roles and relations of reciprocity. As coping assistance, social support can be emotion- or problem-focused (Thoits 2011). The aim of emotion-focused assistance is to change the recipient's feelings or appraisal of the problem. Problem-focused assistance (e.g., informational support) is a direct intervention that aims to defuse the stress-provoking situation. These forms of social support are stress-buffering because of their capacity to moderate the emotional response to stress or resolve the stress-provoking situation or at least decrease its health-damaging effects.

Second, Thoits defines social support as a source of emotional sustenance. This is similar to the demonstrations of caring, valuing, and understanding that are covered under what Sherbourne and Stewart (1991) classify as affectionate support. This is distinguished from emotional support, which involves a deliberate attempt to transform a stressed person's emotional state. In contrast, emotional sustenance is not aimed at the stressful situation, and thus cannot be considered a coping resource. There are parallels

with emotional support, however, since emotional sustenance involves supportive behaviors such as expressions of concern, talking and listening, providing encouragement, and providing reassurance (Gottlieb 1978). The main distinction between emotional support and emotional sustenance is that the latter is unfocused and involves a general expression of concern for the *individual* rather than specific attention to their stress-provoking situation. Thoits argues that the benefits of emotional sustenance are indirect, and operate through psychological mechanisms. The core benefit is the provision of a sense of mattering, which increases the stressed person's feelings of acceptance (emotional security) and self-worth. This has parallels with the effects of social embeddedness, but the latter represents a "main" effect versus a situational effect of support.

Social embeddedness refers to the structural properties a social network and is an indicator of the level of social integration or social isolation (Thoits 1995). Common measures of embeddedness include factors such as network size, network density, quantity of social interactions, and also experiential factors, such as sense of belonging. Lin, Ye, and Ensel (1999) argue that the structural context of people's lives includes their embeddedness in addition to their ascribed and achieved statuses. The structural aspects of social relationships are composed of outer, intermediate, and inner layers. The outer layer refers to a community and social engagement in a broad sense. Within communities are nested the social contacts that comprise social networks. Social networks develop through regular investments of time and commitments between contacts. These interactions represent the binding relationships that maintain social networks. The inner-

most layer consists of the intimate and intense interactions that for binding relationships, such as affiliations with spouses, relatives, or close friends.

Since Durkheim, sociologists have contrasted close social ties with concepts such as social isolation, alienation, and anomie (Hughes and Gove 1981). A person's embeddedness (or isolation) represents the number of relationships a person has and the frequency of interaction with these people (House, Umberson, and Landis 1988). This is distinct from the functional properties or quality of social relationships, since it is possible to have a large social network and little social support, or vice versa. The significance of embeddedness for mental health lies in the opportunities it provides for social affiliation (Lin and Peek 1999). The relationship between social isolation and distress is well-established (Kawachi and Berkman 2001). The consistent finding is comparatively higher levels of distress associate with few or weak social ties between an individual and significant others or the community. In accordance, social isolation, while not a stressor, is a source of vulnerability to illness. The converse is that social embeddedness has structural-level protective effects. Our assumption is that social embeddedness represents a psychosocial asset that decreases vulnerability to illness.

This reduction in vulnerability operates through several mechanisms. Embeddedness fulfills a person's affiliative needs through connecting her/him to others for given purposes (Horwitz 2007). Social interaction and performing the roles that human relationships consist of provides a sense of meaning, identity, and purpose in life. The lower rate of suicide in married people, for instance, stems from their role as parents, which makes them feel needed. These role relationships inform us about who we are to others, and this knowledge is a shield against existential despair (Thoits 2011). The belief

that one has a purpose and matters to others is source of emotional gratification. As Thoits (2011) observes, the role identities that correspond to social ties stimulate two additional psychosocial assets: self-esteem and mastery. Performing social roles (e.g., wife, mother, breadwinner) is the basis of a person's self-evaluation of worth to others. The performance of multiple role identities confirms that one is valued and needed in general. This strengthens self-esteem, which increases resilience to distress. The fulfillment of roles also bolsters mastery or sense of control. Role performance influences beliefs about self-competence and control because it requires the completion of numerous routine tasks, meeting the needs and expectations of others, and overcoming challenges in these endeavors. That is, success in specific domains (e.g., parenting, work) contributes to a general belief in one's ability to accomplish things, including managing stress-provoking situations.

There are grounds to assume that social variation in mental health arises in some part from differences in social resources (Turner and Marino 1994). Little is known about the social distribution of social resources, but disadvantaged racial groups could develop stronger social networks than Whites to cope with discrimination and low-income (Almeida et al. 2009; Portes and Sensenbrenner 1993). In the US, Blacks are twice as likely as Whites to use social support to cope with economic strains (Ulbrich et al. 1989). The cultivation of co-ethnic networks among immigrants – recall that most racial minorities in Canada are foreign-born – is a common strategy of adaption and their limited contact with members of the host population is not necessarily an indicator of social isolation (Kuo and Tsai 1986). Hence, despite higher stress exposure than Whites, the social support between racial minorities could protect them from excess morbidity.

This study contributes to the literature in two respects. First, it examines the mediating effects of tangible, emotional/informational, and affectionate support on the relationship between race and mental health. This determines the general effect of social support as well as the specific effects of different kinds of social support. Second, the study considers whether social embeddedness also mediates the relationship between race and mental health.

4.4.2 Coping Behaviors

Considering that social stress is a normal part of life, how individuals cope with stressful circumstances is an important dimension of the stress process. Coping represents the concrete things that people do in response to stress (Pearlin and Schooler 1978). Lazarus and Folkman (1984) define coping as the "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). This definition distinguishes coping from a person's psychosocial resources (e.g., mastery, psychological hardiness), since it refers to the actions taken after psychosocial resources are over-taxed or become insufficient. Many stressful situations cannot be controlled, and coping is what allows people to manage these situations. Little is known about the coping strategies of racial minorities, let alone how coping behaviors differ between racial groups. However, among racial minorities, the prevalence of mental illness is not as high as would be expected from their level of exposure to a plethora of racism-related stressors and socioeconomic constraints (Broman 1996). As Chapter 3 illustrates, there is a non-significant difference between Whites and most racial minorities in the prevalence of major depression, although some studies indicate that the latter experience higher levels

of depressive symptoms or psychological distress. The coping strategies of racial minorities is a potential explanation for this epidemiological paradox. Our objective is to examine the mediating effects of several coping strategies on the relationship between race and mental health.

Following Lazarus and Folkman's (1984) typology, our analysis considers the effects of several coping strategies. First, problem-focused coping strategies, which are directed at resolving the problem that is the immediate source of stress. Problem-focused coping strategies are optimal responses since these aim to defuse or eliminate the source of stress. Problem-solving skills involve the ability to analyze situations to assess the nature of the problem, formulate possible solutions to the problem, weigh the costs and benefits of these solutions, and select and implement a plan to manage the problem. These skills are products of a person's cache of personal resources, including their cognitive abilities, past experiences managing stress, and sense of control. Problem-focused coping can involve (a) help-seeking to get the information or instrumental support needed to implement a solution or prevent the problem from reoccurring or (b) taking control of the situation, such as removing oneself from a stressful situation or adapting to it. Lazarus and Folkman observe that problem-focused coping can be focused outward on the problem itself or inward on the self. The latter type of coping involves changing the self to address the problem, such as changing one's behavior or learning new skills to adapt to the problem or avoid it.

Second, this study also considers emotion-focused coping strategies. Some emotion-focused coping strategies are directed at changing the meaning of a stressful situation or altering the emotional response to it. These coping strategies are similar to

cognitive reappraisal and do not alter the objective nature of problem. Attempts to control the meaning of a problem are especially important when problem-solving coping is ineffective. People can cognitively neutralize stressful situations in several respects (Pearling and Schooler 1978). This includes recognizing that the problem is common among one's peer group ("we're all in the same boat"), counting one's blessings ("it could be worse"), or focusing on the good things in one's life ("I have lots of friends") to defuse the negative effects of stress. For some, the perception that some situations are beyond personal control can also change the meaning of a problem. For example, rather than engage in self-blame, African Americans tend to attribute economic hardship to racism (structural constraints), which appears to reduce its negative effects on their mental health (Ulbrich et al. 1989). To some extent, this involves the acceptance of hardship, which neutralizes situations that cannot be changed.

Third, we extend Lazarus and Folkman's typology to accommodate maladaptive coping. An emerging question in the literature is whether African Americans engage in risky coping strategies to "self-medicate" as a means of managing social stress (Keyes, Barnes, and Bates 2011; Mezuk et al. 2010). The idea of maladaptive coping is based on several observations. First, as aforementioned, the prevalence of psychiatric morbidity among US Blacks is surprisingly low considering their exposure to stress. Second, the prevalence of chronic conditions (e.g., heart disease, diabetes) is much higher among US Blacks than Whites. Third, the health behaviors of Blacks is a primary reason for this excess morbidity. Some researchers speculate that Blacks are responding to social stress with maladaptive coping behaviors, such as such as smoking, overeating, drinking, or using drugs. While these "risky" coping behaviors could reduce the risk of mental illness,

these also increase the risk of physical illness. There are a few studies that observe that US Blacks who engage in these health-risk behaviors are at lower risk of developing depression than Blacks who do not engage in health-risk behaviors (Jackson, Knight, and Rafferty 2009; Martin, Tuch, and Roman 2003). However, it is unclear if these risky coping strategies are a reason for the non-significant Black-White difference in major depression. Moreover, little is known about whether risky coping behaviors are common among non-Black racial minorities, and how these behaviors influence the relationship between race and mental health.

4.5 RESEARCH OBJECTIVES

The general purposes of this study is to compare racial differences in mental health, using several outcomes that capture the negative, positive, and subjective dimensions of mental health. To summarize the problems discussed above, this study has several research objectives:

1. To examine if stress exposure contributes to racial differences in mental health, considering whether stress exposure is a “generalized force” on the mental health of racial minorities or is limited to specific dimensions of their mental health.
2. To examine if socioeconomic status (economic hardship) mediates the relationship between race and mental health and whether economic hardship is more health-damaging for racial minorities than Whites, or vice versa.

3. To examine if social support mediates the relationship between race and mental health.
4. To examine if differences in social embeddedness is an important factor behind racial differences in mental health.
5. To examine if ecological-level stressors such as neighborhood socioeconomic conditions (concentrated disadvantage) and population stability contribute to racial differences in mental health.
6. To examine if co-ethnic density within neighborhoods is a mental health asset for racial minorities.
7. To examine how coping behaviors influence the relationship between race and mental health, and to determine what types of coping strategies are most influential.
8. To examine if gender influences racial differences in the effects of stress exposure, socioeconomic status, social support, social embeddedness, neighborhood effects, and coping on mental health outcomes.

Endnotes

1. The Holmes-Rahe scale is an inventory of over 40 life events. This includes events such as: death of a spouse, divorce, personal injury or illness, getting fired, change in residence, and other important life changes. Each event is assigned a numerical score according to its severity, ranging from 11 (e.g., minor violations of the law) to 100 (e.g., death of a spouse), and these scores are tallied for an overall stress load. Scores of 300+ associate with a 90 percent probability of psychiatric morbidity or psychological distress.

2. To illustrate, a divorce can be a source of stress if it is an unplanned event, but it can also provide relief from stress in cases where it releases a person from a troubled marriage. For children, the timing of parental divorce can have negative consequences if it occurs during childhood, but it can be a relatively harmless event if it occurs later in life. Fixed scores of the putative stressfulness of divorce and other life events fail to capture their contingent meaning across intra- and inter-personal circumstances.

3. The case of divorce demonstrates this point. The marital conflict that leads up to divorce is likely a greater source of stress than the divorce itself. Post-divorce adjustment is also an important source of stress. A focus on events can de-contextualize the source of stress and lead to misinterpretations about their effects. In this example, it is better to attribute the source of stress to marital breakdown and post-divorce hardship rather than divorce per se.

4. The concept of class is sometimes misused to refer to indicators of social stratification, such as education, income, and occupation (Muntaner, Borrell, and Chung 2007; Yu and Williams 1999). To be sure, these indicators are a reflection of class, but SES and class are non-equivalent concepts and have different implications for the stress

process. The meaning of class is complex and difficult to define – this explains the preference for SES in stress research – but in simple terms class refers to social relations and SES to a social position (Krieger, Williams, and Moss 1997). These social relations are the embodiment of the systems of property ownership, production, and labor, that predominant societies. The most concise measures of class categorize people in groups based on ownership of capital assets, control of organizational assets, and skill or credentials. These groups include different types of wage-laborers, managers, and employers. Class is an important concept because it informs us about the processes that create inequalities in education, income, and occupation (Muntaner et al. 2007). Controlling for SES cannot account for all differences in mental health between social classes, which demonstrates that the latter has distinct effects. The reasons for this are unclear, but it seems that role strain within classes and the psychological effects of exploitation are important factors.

5. There is also a literature that examines whether social capital is a determinant of inequalities in health (Chappell and Funk 2010; Kawachi, Subramanian, and Kim 2008; Veenstra 2000). There is no consistent definition of social capital, but it is commonly operationalized with measures or trust, community participation, and group co-operation. However, social capital does not appear to be a promising explanation of inequalities in health, and its conceptual imprecision could indeed obfuscate our knowledge about this topic (Chappell and Funk 2010).

Table 4.1 Income and Depression in Canada, 2002

	12-month MDE (%)	
Household Income	Male	Female
<$10,000	9.3	13.1
$10,000-14,999	6.2	10.2
$15,000-19,999	8.5	9.2
$20,000-29,999	4.5	7.2
$30,000-39,000	2.8	5.5
$40,000-49,999	3.3	4.1
$50,000-59,999	3.4	4.2
$60,000-79,999	2.8	5.1
≥$80,000	2.8	4.9
All groups	3.5	6.1

Source: Akhtar and Landeen (2007)

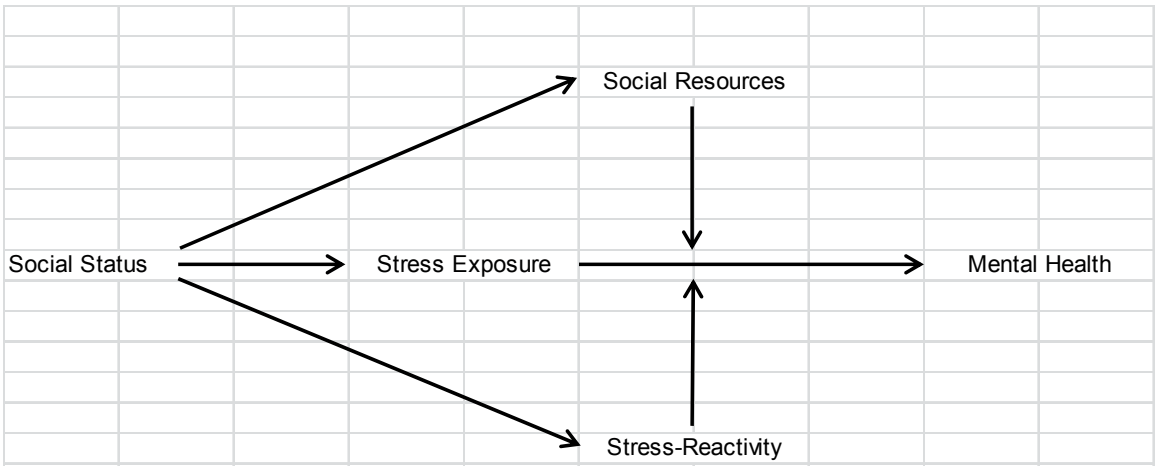


Figure 4.1 The Stress Process

Chapter 5

DATA AND METHODS

5.1 INTRODUCTION

This chapter describes the research design and methods used to examine the relationship between race and mental health in Canada. The study involves quantitative analysis of secondary data, including survey and census data. The empirical analysis provides a description of racial differences on several dimensions of mental health and aims to explain these differences using theories germane to the stress process model. This chapter discusses the data sources, study sample, dependent variables, selected independent and control variables, and statistical procedures used in the analysis.

5.2 DATA SOURCES

The empirical analysis is based on two sources of data: the Canadian Community Health Survey: Mental Health and Well-Being (CCHS 1.2) and the 2001 Canadian Census. Statistics Canada collected the data for both the CCHS 1.2 and the census. Using common geographic identifiers, the CCHS 1.2 survey data and the aggregate census data were merged to generate a multilevel dataset.

5.2.1 The CCHS 1.2

The CCHS is a cross-sectional data collection program that began in 2000/2001. The survey operates on two-year data collection cycles (Statistics Canada 2004b). The first year of each cycle consists of a large national sample and collects comprehensive information about the health of Canadians across health regions. The second year of each

cycle has a smaller sample and collects data on specific health topics (e.g., mental health, nutrition, healthy aging) across all 10 provinces. The CCHS 1.2 focused on the mental health and well-being of the Canadian population. The topic selection for the CCHS 1.2 was decided in consultation with regional, provincial, and federal representatives and members of the research community. The survey was conducted between May 2002 and December 2002. Before the CCHS 1.2, data on the mental health of Canadians was incomplete and fragmented, which limited research and knowledge (Gravel and Béland 2005). The primary objectives of the CCHS 1.2 were to collect data on: the mental health status of Canadians and the determinants of their mental health; the national prevalence of selected mental disorders[1] and the burden of illness; the disabilities associated with mental illness; and relationship between perceived needs and access to and utilization of mental health services.

The CCHS 1.2 is the source for the individual-level data used in the analysis. The CCHS 1.2 is the best dataset available for assessing mental health in the Canadian population and examining its risk factors. The CCHS 1.2 includes the complete version of the Composite International Diagnostic Interview (CIDI) (Patten et al. 2006). The CIDI is a comprehensive and structured interview that is designed for assessing mental disorders using DSM-IV and ICD-10 definitions and lay-administered interviews (Akhtar-Danesh and Landeen 2007; Wittchen 1994).[2] The CIDI was designed for use in epidemiological and cross-cultural research. To better ensure reliability, Statistics Canada recruited interviewers competent in languages other than English or French and translated the key concepts into other languages. Earlier Canadian surveys include measures of depression,[3] but these exclude other dimensions of mental health and their covariates.

The CCHS 1.2 contains modules on major depression and other disorders as well as measures of psychological distress, psychological well-being, and self-rated mental health. In addition, the CCHS 1.2 is unique for its comprehensive coverage of the covariates of mental health, such as social support, coping behaviors, and social stress.

The target population of the CCHS 1.2 was individuals aged 15 and older living in private dwellings. The sampling frame excluded the residents of Indian Reserves, Crown Lands, institutions, some remote areas, and full-time members of the Canadian Armed Forces (Statistics Canada 2004b). The CCHS 1.2 sample was randomly selected. The survey used a two-stage stratified cluster design. In the first stage, homogeneous strata were formed and independent samples of clusters were drawn from each stratum. In the second stage, dwelling lists were prepared for each cluster and households were selected from these lists. One person was selected from each household, but the selection of individuals was designed to ensure the over-representation of people aged 15-24 years and 65+ years. The survey questionnaire was administered through face-to-face and telephone interviews using computer-assisted interviewing techniques. Completion of the questionnaire over the telephone was permitted in cases where travel was probative or when the respondent refused a face-to-face interview. About 14 percent of all cases were completed over the telephone. The interviews could be conducted in a wide range of languages to reduce the impact of language barriers on non-response rates. The observed sample included 36,984 respondents and has a 77 percent response rate. See Statistics Canada (2004b) for further details about the CCHS 1.2 sample design and data collection procedures.

5.2.2 The 2001 Census

The aggregate-level variables are based on data from the 2001 Census long-form questionnaire. The 2001 Census was selected because it best corresponds to the neighborhood environments of the respondents from the 2002 CCHS. The 2001 Census long-form questionnaire was distributed to 20 percent of Canadian households and contains questions on socio-cultural background, residential mobility, socioeconomic status, and other variables pertinent to the multilevel analysis. Following research conventions, this study uses census tract (CT) data to define neighborhoods (Alba, Logan, and Stults 2000; Hou 2006) CTs are small areas that resemble "natural" neighborhoods in terms of socioeconomic and socio-demographic characteristics. The typical CT neighborhood has about 4,000 residents. Using the 20 percent sample microdata file reduces this number accordingly. Our neighborhood-level variables are computed from an average sample size of 800 respondents per neighborhood. The neighborhood-level analysis is restricted to neighborhoods nested in Census Metropolitan Areas (CMA). Statistics Canada (2006) defines a CMA as "one or more adjacent municipalities situated around a major urban core" with at least 100,000 inhabitants. Almost all (96 percent) non-Aboriginal racial minorities and 57 percent of Aboriginals reside in CMAs (Statistics Canada 2008a, 2008b). The study includes over 4,000 neighborhoods.

5.2.3 Multilevel Data

Multilevel data is needed to disentangle individual- from ecological-level effects on health outcomes. Individual level studies can lead to atomistic interpretations of health outcomes since these ignore the environments where people live and work. Ecological

level studies can result in an “ecological fallacy” when relationships at the aggregate level are used to infer the same relationships for individuals. To understand how neighborhood-level variables function, it is essential to control for individual-level attributes, which can confound neighborhood-level effects (Pickett and Pearl 2001). Without neighborhood-level variables, the contribution of individual attributes to health status can also be misunderstood. Multilevel data overcome these problems (Raudenbush and Bryk 2002). This approach views health outcomes as the simultaneous effects of individual- and ecological-level variables. To construct a multilevel dataset, we merged the CCHS 1.2 survey data with the aggregate census data. The CCHS has geographic identifiers that allows individual-level data to be linked with geographic units, such as metropolitan areas, census agglomerations, and CTs (Gonthier et al. 2006). Our analysis links individuals to their CTs of residence. The sample sizes for the models of neighborhood-level effects are reduced because CTs are urban geographic units and do not cover rural residents.[4]

5.3 STUDY SAMPLE

The study sample consists of 7 racial groups and is divided into sub-samples of females and males. The racial groups considered in the regression analysis are analytical categories. These categories are based on Statistics Canadian definitions and self-reports of racial background. The CCHS 1.2 asked respondents:

> People living in Canada come from many different racial backgrounds. Are you: White, Chinese, South Asian, Black, Filipino, Latin American, Southeast Asian, Arab, West Asian, Japanese, Korean, Aboriginal, or Other?

We re-grouped the respondents into 5 pan-ethnic groups plus 2 additional categories. This includes: East Asians (Chinese, Koreans, and Japanese); South Asians; Blacks; Aboriginals, Whites (the reference group); mixed race; and other visible minorities, which includes Filipino, Southeast Asian, Arab, West Asian, Latin American, and others. Our interest is comparing East Asians, South Asians, Blacks, Aboriginals, and mixed race individuals to Whites. The other racial minorities in the analysis are retained for statistical reasons, but the findings for them are not interpreted. Data limitations prevented us from disaggregating this group into refined categories. The muddled composition of this category leaves little room for meaningful interpretation. Cases (n = 223) with missing data on racial background were coded as White.

Table 5.1 presents the descriptive statistics for racial status in the analysis and all other selected variables. The table is divided into female and male sub-samples. The female sub-sample includes 20,211 respondents. The percentages for each racial group are weighted to represent their distribution in the general population. The large majority (84.2 percent) of the female population aged 15 and older are White people. Racial minorities account for 15.8 percent of the female population aged 15 and older. East Asians comprise 3.9 percent of the female population aged 15 and older, South Asians 2.7 percent, Blacks 2.1 percent, Aboriginals 1.1 percent, and mixed race people 1.3 percent. The male sub-sample includes 16,773 respondents. Whites also account for the majority (83.5 percent) of the male population, with racial minorities comprising 16.5 percent of the male population aged 15 and older. East Asians comprise 4.1 percent of the male population aged 15 and older, South Asians 3.9 percent, Blacks 2 percent, Aboriginals 1 percent, and mixed race people 4.3 percent.

Table 5.1 About Here

5.4 MENTAL HEALTH VARIABLES

This study uses a multi-outcome approach to examine racial differences in mental health. Four dependent variables are considered: psychological distress, psychological well-being, self-rated mental health, and major depressive disorder. The selected dependent variables are intended to capture the negative, positive, and subjective sides of mental health. This sub-section provides a definition of the dependent variables and a discussion of missing responses.

5.4.1 Psychological Distress

Psychological distress is measured with the Kessler Psychological Distress Scale (K10). The K10 is a brief dimensional scale that is designed to screen populations for cases of non-specific distress (Kessler et al. 2002). The K10 has robust psychometric properties and has been used in numerous settings and translated into different languages. The K10 is 10-item questionnaire that provides a global measure of distress based on the experience of symptoms of depression or anxiety over the previous 4 weeks. The CCHS 1.2 asked respondents:

During the past month, about how often did you feel...

1. Tired out for no good reason?
2. Nervous?
3. So nervous nothing calms you down?
4. Hopeless?
5. Restless or fidgety?
6. So restless you could not sit still?
7. Sad or depressed?
8. So depressed that nothing could cheer you up?
9. That everything was an effort?
10. Worthless?

There are 5 main responses to each question: All of the time; most of the time; some of the time; a little of the time; and none of the time. In the CCHS 1.2, each item is scored between 0 (none of the time) and 4 (all of the time) for a summed range of 0-40 for the scale. A higher score on the scale associates with a higher level of distress. People with a high level of non-specific distress can have a wide range of mental disorders (Kessler et al. 2002). Some studies use cut-points to distinguish between different levels of distress, but we employ the K10 as a continuous measure. In general, scores below 9 associate with an absence or low levels of distress, scores of 10-14 with mild levels, scores of 15-19 with moderate levels, and scores of 20+ with severe distress. In the study sample, the mean K10 score is 5.6 for females and 5.1 for males aged 15 and older.

5.4.2 Psychological Well-Being

The CCHS 1.2 uses a 25-item scale to measure psychological well-being (PWB). The PWB scale is designed to measure the positive side of mental health and make distinctions among individuals who have no or low levels of distress (Massé et al. 1998). This distinction is important given that most people have low levels of distress. We include the PWB scale to detect if there are racial differences in flourishing as well as in languishing in mental health. Massé et al. (1998) observe that mental health represents not just the absence of negative symptoms or mental disorder, but also includes a range of positive emotions and feelings. This concept of mental health requires the concomitant use of measures of psychological distress and PWB. The PWB scale is based on questions about self-confidence, life satisfaction, emotional balance, feeling loved, enjoyment, positivity, engagement, and morale. See Statistics Canada (2004b, pp. 104-116) for a complete list of the items that comprise the PWB scale. The main responses for

each item are: almost always, frequently, half the time, rarely, and never. The items were scored between 0 (never) and 4 (almost always) so that the sum of the items ranges from 0-100. Higher scores associate with higher PWB. Table 5.1 indicates that females aged 15 and older have a mean PWB score of 81 and males a mean score of 82.

5.4.3 Self-Rated Mental Health

The analysis measures self-rated mental health (SRMH) using a 5-level ordinal variable. In the CCHS 1.2, respondents were asked: “In general, would you say your mental health is excellent, very good, good, fair, or poor?” The score for SRMH ranges between 1 (poor) and 5 (excellent). SRMH represents the subjective side of mental health because it taps how individuals perceive it. SRMH is a valid measure of mental health and it correlates with psychiatric morbidity in the Canadian population, although it is not a good proxy for measures of psychological distress, depression, or other mental disorders (Mawani and Gilmour 2010). To our knowledge, there are no prior studies on racial differences in SRMH. However, previous research indicates that there appears to be a weaker link between SRMH and common measures of psychiatric morbidity (e.g., major depression, psychological distress) among some non-White racial groups (see Kim et al. 2012). This confirms that there could be a subjective dimension to mental health that should be addressed in inter-racial comparisons. In the Canadian population aged 15 and older, the means of SRMH are 3.82 for females and 3.92 for males.

5.4.4 Major Depressive Episode

In the CCHS 1.2, major depressive episode (MDE) is a derived variable that is operationalized according to DSM-IV criteria (Statistics Canada 2004a). The CIDI questions and algorithms used to assess MDE are recognized worldwide and are the gold-

standard in epidemiological research. However, a positive assessment of MDE is not a clinical diagnosis – the latter requires an assessment from a medical professional – but refers to "caseness" or a high probability that a disorder is present. The DSM-IV (American Psychiatric Association 1994) definition of MDE is based on the following criteria:

1. Self-report of a period of at least two weeks with the presence of sadness/depressed mood (dysphoria) or diminished interest or loss of pleasure in hobbies or activities (anhedonia);
2. Self-report of at least 5 other depressive symptoms, including changes in weight or appetite, insomnia or hypersomnia, psychomotor agitation, fatigue or loss of energy, feelings of worthlessness, diminished ability to think or concentrate, and recurrent thoughts of death;
3. This symptom-set should not meet the criteria for a Mixed Episode;[5]
4. This symptom-set should be associated with clinically significant distress or impairment in occupational and social functioning;
5. These symptoms should not be the result of the direct effects of substance abuse, medication, or a medical condition; and
6. These symptoms should not be better accounted for because of bereavement.

In this study, the 12-month prevalence of MDE is measured. This refers to old and new cases of MDE that were present in the 12 months prior to the interview. The 12-month prevalence of MDE is preferable because retrospective self-reports of life-time rates underestimate the prevalence of depression (Patten 2009). The 12-month measure also corresponds better with the time-variant variables (e.g., income, neighborhood) used to

explain the relationship between race and the risk of depression. The 12-month prevalence of MDE is 6.8 percent for females and 4.5 for males aged 15 and older (see Table 5.1).

5.4.5 Zero-Order Correlations

Table 5.2 presents the zero-order correlations for psychological distress, psychological well-being, self-rated mental health, and 12-month MDE. The purpose of this analysis is to test the relationship between pairs of the selected dependent variables. Following the literature, our assumption is that our selected dependent variables tap distinct dimensions of mental health (Payton 2009). The results demonstrate that our selected dependent variables have good construct validity. To illustrate, there is a positive correlation between MDE and psychological distress and a negative correlation between MDE and PWB and SRMH. The results also demonstrate that psychological distress and PWB cannot co-exist: there is a negative correlation between these variables, which represent opposing sides of mental health. Moreover, the correlations between the pairs of the dependent variables demonstrates that the variables represent distinct aspects of mental health, although there is some limited (and expected) overlap. This confirms that it is appropriate and preferable to use a multi-outcome approach.

Table 5.2 About Here

5.4.6 Missing Data

Missing data on the dependent variables could present a serious issue if related to racial status. If a racial group has a high number of missing cases for a dependent variable, then listwise deletion could result in the misestimation of the true mean of the response variable for that group. The latter would compromise our inter-group

comparisons and undermine the generalizability of the findings. There are 153 missing cases (.41 percent) for psychological distress, 714 missing cases (1.93 percent) for PWB, 24 missing cases (.06 percent) for SRMH, and 237 missing cases (.64 percent) for MDE. The numbers in brackets are the percentage of missing cases in the study sample. Zero-order correlation analysis suggests that missing data is unrelated to race for PWB, SRMH, and MDE. For psychological distress, there is a significant relationship ($p = .012$). Missing data are more common among South Asians and "other" racial minorities, but not the other racial categories. There is no missing data on PWB for Blacks and mixed race Canadians. For South Asians, the number of missing cases represents .87 percent of the sample for this racial group. Even if the missing cases for South Asians are extreme outliers (e.g., having very low/high K10 scores), there numbers are too few to influence the group mean for psychological distress. In sum, the listwise deletion of missing cases for the dependent variables does not present a serious issue because missing cases are either unrelated to race or too few to bias group averages.

5.5 EXPLANATORY VARIABLES

5.5.1 Perceived Stress

As noted, racism is a direct source of stress and an independent risk factor of mental illness. In the CCHS 1.2, there are no direct questions that measure racism-related stressors, such as perceived discrimination, racial abuse, or everyday racism. To help overcome this data limitation, we include a global measure of perceived stress, which should capture the effects of these stressors, albeit in non-specific terms. Respondents were asked: "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?" Perceived stress is a continuous variable that ranges from not at all stressful (1) to extremely stressful (5) The mean of perceived stress is 2.8 among females and 2.7 among males. These means fall between not very stressful and a bit stressful. Cases with missing values on perceived were coded as "a bit stressful."

5.5.2 Socioeconomic Status

Socioeconomic status is defined in terms of household income, work status, homeownership, and educational attainment. Income adequacy is measured in quartiles. This ranks respondents into 4 income groups based on total household income and household size.[6] About 11 percent of females and 7.4 percent of males are in the 1st income quartile (lowest income), 20.4 percent of females and 17.4 of males are in the 2nd quartile, 31.5 percent of females and 33.4 percent of males are in the third quartile, and 26.5 percent of females and 33.5 percent of males are in the fourth quartile. Over 10 percent of females and 8.3 of males refused to report or did not know their household income. These respondents are coded as "income missing" in the analysis. Work status is defined as not working, retired, and working (paid employment). The categorical variable "not working" consists of homemakers, students, the unemployed, and respondents not working for other reasons. Among females, 27.1 percent of are not working, 12.5 are retired, and 60.4 percent are working. Among males, 18.3 percent are not working, 9.4 percent are retired, and 72.7 are working. Homeownership is a dichotomous variable that measures whether the respondent or a member of the respondent's household owns the respondent's dwelling. Over 71 percent of female and about 75 percent of male respondents are homeowners. Education is measured using a 10-level continuous

variable, ranging from grade 8 or lower to a university degree above a Bachelor's degree. Respondents with missing values on education (about 1 percent of the sample) were coded to the mean level of education.[7] The mean level of education for females and males is equivalent to some post-secondary education or a trades certificate.

5.5.3 Neighborhood Environment

Using 2001 Census data, several neighborhood-level variables have been constructed. The socioeconomic context of the neighborhood is measured according to the percentage of low-income households in the neighborhood (calculated using Statistics Canada cut-offs[8]), the percentage of residents that have a university degree, and the median household income of the neighborhood. To capture neighborhood population stability, the analysis includes measures for the percentage of movers (past 12 months), the percentage of renters, and the percentage of never married people. The analysis also considers co- ethnic density (percentage of own racial/ethnic group) in the neighborhood. Table 5.3 presents the zero-order correlations for the neighborhood-level variables. The overlap between percentage of low-income households and percentage of renters is high. There is also quite a bit of collinearity between percentage of low-income households and median household income of the neighborhood and also median household income and percentage of renters.

Table 5.3 About Here

5.5.4 Social Support

The MOS scale is employed to measure 3 dimensions of social support: tangible support, affection, and emotional or informational support (Sherbourne and Stewart 1991). The measure of tangible support is based on a 4-item subscale. The items include

questions on whether the respondent had someone to provide help if confined to bed, to bring them to the doctor, to prepare meals, and to help with chores when sick. The main responses for each item are: none of the time, a little of the time, some of the time, most of the time, and all of the time. The responses were scored between 0 (none of the time) and 4 (all of the time) so that the sum of the subscale ranges from 0-16, with higher scores representing higher levels of support. The mean level of tangible support is 13.3 for females and 13.7 for males. The measure of affection is based on a 3-item subscale, including questions on whether the respondent has someone to give them love or affection, who gives hugs, and makes them feel wanted. The score for the scale ranges from 0-12, using the same response categories as for tangible support. The mean level of affection is 10.7 for females and 10.5 for males. The measure of emotional or informational support is based on an 8-item subscale. The items include whether the respondent has someone to listen to her/his problems, give general advice, give advice about a crisis, give information, confide in, share worries/fears with, give suggestions about problems, and who understands her/his problems. This subscale uses the same response categories as for tangible support; the summed score ranges from 0-32. The mean level of emotional or informational support is over 27 for females and males.

5.5.5 Social Embeddedness

Three variables are used to operationalize social embeddedness: network size, positive social interaction, and sense of belonging. Network size refers to the number of close friends and relatives the respondent has. This includes the friends or relatives the respondent feels at ease with and can discuss her/his feelings and problems with. Females have a mean of over 7 close friends or relatives in their social network and males have a

mean of over 8 close friends or relatives. The measure of positive social interaction is based on a 4-item MOS subscale. This indicates whether the respondent has someone to have a good time with, to get together for relaxation, to do things with to get her/his mind off things, and to do something enjoyable with. The items are scored from 0-4 (none of the time, a little of the time, some of the time, most of the time, and all of the time) and summed for a total score that ranges between 0-16, with higher scores indicating higher levels of positive interaction. The mean level of positive social interaction is 13.7 for females and males. Sense of belonging taps the respondent's perceived sense of belonging to the local community. The responses included very strong, somewhat strong, somewhat weak, and very weak. Sense of belong is a continuous variable that ranges between very weak (1) and very strong (4) The mean of sense of belonging for females and males is 3.2 or around somewhat strong.

5.5.6 Coping Behavior

The analysis considers 8 coping variables. Factor analysis demonstrates that the internal consistency between these items (Cronbach's alpha = .36) is too low combine them into a coping scale. The correlations between pairs of the coping variables are also low (max. = <.35), which indicates that each item is tapping a distinct aspect of coping. Problem-solving refers to how often the respondent tries to cope with stress through resolving the problem behind it. Help-seeking refers to how often the respondent talks to others or turns to religion (prays or seeks spiritual guidance) to resolve or mitigate the source of stress. Positive reappraisal refers to how often the respondent mitigates the source of stress through doing something enjoyable or looking on the bright side of things. Maladaptive behavior refers to unhealthy responses to stress, including drinking

alcohol, drug use, and eating more or less than usual. The responses categories for each item are: often (1), sometimes (2), rarely (3), and never (4). The coping variables are treated as continuous variables.

5.5.7 Control Variables

The analysis controls for age, marital status, chronic health conditions, and immigrant status. Age is a well-known indicator of the risk of mental illness and the relationship between age and mental illness is non-linear or u-shaped (Blanchflower and Oswald 2008; Mirowsky and Ross 1992). This study measures age in years and includes a quadratic term to adjust for its non-linear effect. The average age of females in the study sample is 44.6 years and the average age of males is 42.3 years. Marital status influences the risk of mental illness (Bierman, Fazio, and Milke 2006; Gove, Briggs-Style, and Hughes 1990; Frech and Williams 2007). Marital status is operationalized as separated/divorced, never married, widowed, and married/cohabiting people. Most of the respondents (60 percent of females and 64 percent of males) are married or cohabiting. Chronic illness increases the risk of mental illness (Patton 2001). This refers to a long-term health condition such as respiratory problems, joint problems, diabetes, heart disease, cancer, etc. This also includes schizophrenia and other psychosis, dementia, developmental disorders, eating disorders, and learning disorders. The analysis measures the presence of a chronic condition using a dichotomous variable. About 59 percent of females and 53 percent of males aged 15 and older have a chronic conditions. A “healthy migrant” effect could confound the relationship between race and mental health, considering that immigrants (foreign-born people) tend to be healthier than non-immigrants (Wu and Schimmele 2005b) and that a large proportion of racial minorities

are immigrants. Hence, the analysis includes a dummy variable to indicate immigrant status. About 22 percent of females and males aged 15 and older are immigrants.

5.6 STATISTICAL PROCEDURE

Ordinary least squares (OLS) regressions are used for the continuous outcome variables (psychological distress, PWB, and SRMH) and logistic regressions for the binary outcome variable (MDE). The statistical analysis is conducted using the framework of generalized linear models (GLMs). GLMS are a class of statistical models that belong to the same exponential family of distributions and are unified under a generalized framework (McCullagh and Nelder 1989; Wu 2005). This framework provides a common theory for different types of regression models. This provides a flexible approach that is suitable for both the continuous and dichotomous variables estimated in the analysis. In addition, the analysis uses multilevel data to model to estimate the neighborhood effects. Multilevel data is a useful approach to research that has a hierarchical data structure (Raudenbush and Bryk 2002). Our analysis examines individuals (level-1 data) nested in urban neighborhoods (level-2 data). With multilevel data, we can simultaneously estimate the individual-level and neighborhood-level effects on the outcome variables. In the regression models, robust standard errors are computed to account for the cluster effects (correlated errors within neighborhoods and unequal variances across neighborhoods) that can arise when multilevel data is used (Steenbergen and Jones 2002). All multivariate regression models are weighted.

Endnotes

1. The CCHS selected a mental disorder on the basis that its 12-month prevalence would be 1 percent or higher, that it could be measured with a good instrument, and that it was responsive to intervention (Gravel and Béland 2005). The selected mental disorders are major depression, mania, panic disorder, social phobia, and agoraphobia.

2. The CCHS 1.2 does not support the ICD-10 diagnostic algorithms. In the survey, all mental disorders are coded to DSM-IV criteria for positive diagnosis.

3. The National Population Health Survey (NPHS) has used the CIDI-Short Form for Major Depression (CIDI-SFMD) since the 1990s, but this measure is vulnerable to false positive assessments (overestimates) of depression (Patten 2009).

4. About 19 percent of Canadians resided in rural areas in 2001 (Martel and Chagnon 2012).

5. A Mixed Episode refers to the co-occurrence of symptoms of mania and depression.

6. Lowest income = <$15,000 if 1-2 people in the household, <$20,000 if 3-4 people, and <$30,000 if 5+ people. Lower middle income = $15,000-29,999 if 1-2 people, $20,000-39,999 if 3-4 people, and $30,000-59,999 if 5+ people. Upper middle income = $30,000-59,999 if 1-2 people, $40,000-79,999 if 3-4 people, and $60,000-79,999 if 5+ people. Highest income = > $60,000 if 1-2 people and > $80,000 if 3+ people.

7. Mean substitution can be a problem when adding cases substantially changes the changes the sample size, which is the denominator used to calculate the standard error. Besides education, mean substitution is used for cases with missing values on the social

support variables, network size, and positive social interaction. For these variables, the number of missing cases is small, and their inclusion is unlikely to substantially reduce the standard error.

8. Statistics Canada (2009) defines the low-income cut-off as the threshold when a household is expected to spend a larger share (20 percentage points more) of its after-tax income on food, clothing, and shelter than the average household. The low-income cut-offs are calculated according to household size, rural/urban location, and urban population size. See Statistics Canada (2009, p. 112) for details on the dollar amounts of these cut-offs.

Table 5.1 Variable Definitions and Descriptive Statistics for Variables Used in the Study

	Women		Men	
Variable	Mean or %	SD	Mean or %	SD
Psychological distress	5.60	5.41	5.08	5.45
Psychological well-being	80.93	14.09	82.16	14.38
Self-perceived mental health	3.82	0.90	3.92	0.95
12-month MDE	6.8%	–	4.5%	–
Racial status				
East Asian	3.9%	–	4.1%	–
South Asian	2.7%	–	3.9%	–
Blacks	2.1%	–	2.0%	–
Aboriginal	1.1%	–	1.0%	–
Mixed Race	1.3%	–	1.2%	–
Others	4.7%	–	4.3%	–
White (reference)	84.2%	–	83.5%	–
Age	44.61	17.56	43.28	18.18
Marital status				
Separated or divorced	8.6%	–	6.1%	–
Never married	23.0%	–	28.2%	–
Widowed	8.5%	–	2.3%	–
Married or cohabiting (reference)	59.9%	–	63.5%	–
Chronic illness (1 = yes)	59.2%	–	53.2%	–
Immigrant status (1 = yes)	22.1%	–	21.9%	–
Income in quartile				
1st quartile (lowest)	11.1%	–	7.4%	–
2nd quartile	20.4%	–	17.4%	–
3rd quartile	31.5%	–	33.4%	–
Income missing	10.6%	–	8.3%	–
4th quartile (reference)	26.5%	–	33.5%	–
Work status				
Not working	27.1%	–	18.3%	–
Retired	12.5%	–	9.4%	–
Working (reference)	60.4%	–	72.4%	–
Homeownership (1 = yes)	71.6%	–	74.7%	–
Education in 10 levels	6.35	2.39	6.53	2.49
Tangible social support	13.30	3.21	13.76	3.31
Affection	10.70	2.05	10.49	2.50
Emotional/informational support	27.19	5.62	26.66	6.55
Social network	7.34	6.87	8.45	10.01
Positive social interaction	13.68	2.91	13.73	3.17
Sense of belonging	3.21	1.34	3.20	1.45
Perceived stress	2.82	0.97	2.71	1.08

% of low income	0.17	0.12	0.17	0.13
% Have university degrees	0.18	0.12	0.18	0.12
Median household income	54093	20368	54532	21508
% of movers	0.44	0.13	0.44	0.14
% of renters	0.32	0.25	0.31	0.26
% of never married	0.42	0.05	0.42	0.06
% of own racial/ethnic group	0.20	0.20	0.20	0.22
Problem-solving	4.66	0.70	4.65	0.78
Talking to others	4.23	1.10	3.80	1.38
Turning to religion	3.13	1.62	2.33	1.66
Doing something enjoyable	4.17	1.04	4.05	1.21
Looking on bright side	4.52	0.79	4.48	0.92
Drinking	1.38	0.85	1.61	1.15
Using drugs	1.21	0.72	1.23	0.80
Eating	2.48	1.45	1.86	1.31
N	20,211		16,773	

Note: Weighted means or percentages, unweighted *N*.
Source: The 2002 CCHS 1.2 and the 2001 Canadian Census.

Table 5.2 Zero-order Correlations of Response Variables Used in the Study

Variable	(1)	(2)	(3)
(1) Psychological distress			
(2) Psychological well-being	-0.638		
(3) Self-Rated mental health	-0.475	0.499	
(4) 12-month MDE	0.416	-0.334	-0.295

Note: All zero-order correlation coefficients are signficant at the 0.001 level.

Source: The 2002 CCHS 1.2.

Table 5.3 Zero-order Correlations of Neighbourhood-level Variables Used in the Study

Variable	(1)	(2)	(3)	(4)	(5)	(6)
(1) % of low income						
(2) % Have university degrees	-0.128					
(3) Median household income	-0.782	0.377				
(4) % of movers	0.531	0.199	-0.390			
(5) % of renters	0.839	0.083	-0.736	0.666		
(6) % of never married	0.488	0.122	-0.167	0.428	0.402	
(7) % of own racial/ethnic group	-0.096	0.015	0.033	-0.097	-0.090	-0.142

Note: All zero-order correlation coefficients are signficant at the 0.05 level.

Chapter 6

RESULTS: CANADIAN WOMEN

6.1 INTRODUCTION

This chapter presents the findings for our examination of racial differences in mental health, focusing on patterns among Canadian women. The regression analysis considers 4 mental health outcomes: psychological distress, psychological well-being, self-rated mental health, and major depressive disorder. This covers the negative, positive, and subjective dimensions of mental health. The analysis compares 5 racial minority groups to Whites on these mental health outcomes. Theses racial groups include East Asians, South Asians, Blacks, Aboriginals, and mixed race persons. The tables also present the findings for "other" racial groups, but the results are not interpreted since this category is far too diverse to make meaningful comparisons with Whites.

6.2 MODELING STRATEGY

For each dependent variable, the regression analysis follows the same modeling strategy. First, the study examines the bivariate relationship between race and mental health. Second, the analysis re-examines this relationship, net of demographics (age, marital status, and immigrant status) and chronic illness. This is our preferred baseline model, and all subsequent models include controls for demographics and chronic health. Third, the analysis estimates models for the explanatory influence of (a) stress exposure, (b) socioeconomic status, (c) social support, and (d) social embeddedness on the racial pattern of mental health. The analysis also presents a full model that includes all of our

selected variables. However, we do not interpret the results of the full model, since our interest is on the separate influences of the aforementioned explanatory variables. Where pertinent, we also present the interaction effects of race and low-income status on mental health. Fourth, the regression analysis examines several ecological effects on racial differences in mental health, including (a) neighborhood socioeconomic conditions, (b) neighborhood population stability, (c) and neighborhood co-ethnic density. The models for these neighborhood effects control for individual-level demographics, chronic illness, and socioeconomic status. Fifth, the study examines the influence of coping behaviors on racial differences in mental health, considering (a) problem-focused, (b) help-seeking, (c) emotion-focused, and (d) maladaptive coping strategies. See Chapter 5 for the definitions and descriptive statistics of the outcome variables and the selected independent variables.

6.3 PSYCHOLOGICAL DISTRESS

Table 6.1 presents the OLS regressions for psychological distress (distress) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and distress among Canadian women and then introduces controls for demographic characteristics and chronic illness. The bivariate analysis illustrates that East Asians have lower and Aboriginal and mixed race persons have higher levels of distress than Whites. There is a non-significant difference in distress between Whites and the other racial groups considered. When demographics and chronic illness are controlled, the gap in distress between mixed race persons and Whites attenuates to non-significant levels, which demonstrates that the comparatively higher levels of distress

among the former are attributable to these factors. The difference between Aboriginals and Whites also decreases, but a disadvantage for Aboriginals remains after controlling for demographics and chronic illness. Otherwise, the racial patterns of distress remain similar as the bivariate estimates.

Table 6.1 About Here

The general influence of the selected demographic variables and chronic illness are in the expected directions. Age has a linear influence on distress. Levels of distress tends to decrease with age. All non-married groups have significantly higher levels of distress than married or cohabiting people. Being separated or divorced represents the largest disadvantage in comparison to the married or cohabiting. Having a chronic illness increases the level of distress. There is a non-significant relationship between immigrant status and distress, which suggests that the healthy migrant effect is not germane to this dimension of mental health. For interpreting the effects of perceived stress, socioeconomic status, social support, and social embeddedness, the model that controls for demographics and chronic illness is our preferred baseline model. For distress and all other independent variables, we examine whether the racial pattern of mental health changes when our selected explanatory variables are introduced into the model.

Does stress exposure influence the relationship between race and distress among Canadian women? Our findings demonstrate that perceived stress has a strong health-damaging effect on distress. With each unit increase in perceived stress, a person's distress score increases over two points (on a 40-point scale), controlling for demographics and chronic illness. However, differences in perceived stress do not appear to be a robust explanation for racial differences in distress. Compared to the preferred

baseline model (Model 2), the introduction of perceived stress has a limited effect on racial differences in distress. In this model, the difference between East Asians and Whites attenuates to non-significant levels. This demonstrates that lower levels of perceived stress among East Asians is responsible for their comparatively lower levels of distress. For all other comparisons, differences in perceived stress have non-significant influence on the relationship between race and distress among Canadian women.

Our next objective is to examine whether SES mediates the relationship between race and distress. The model considers the influence of income, work status, homeownership, and education. Each of these variables has a significant effect on distress. The level of distress increases at lower levels of income. In comparison to the employed, people who are not working (e.g., the unemployed, students) have higher levels of distress and retired people have lower levels of distress. Homeowners have lower levels of distress than renters. Higher levels of education associate with lower levels of distress.

For Blacks and Aboriginals, SES mediates the relationship between race and distress, but has a non-significant effect on the difference in distress between Whites and all other selected racial groups. When SES is controlled, a significant difference emerges between Blacks and Whites. In this model, Blacks have lower levels distress than Whites, whereas there is a non-significant difference between Blacks and Whites in the baseline model. This finding demonstrates that low SES among Black women is indeed influencing their levels of distress in comparison to Whites. This disadvantage is concealed in the baseline model, which suggests that Black and White women are similar with regard to levels of distress. For Aboriginal women, the introduction of SES into the

model also demonstrates the health-damaging influence of economic hardship. When SES is controlled, the difference in distress between Aboriginals and Whites attenuates to non-significant levels.

To some extent, social support mediates the relationship between race and distress. This includes the influence of tangible, affectionate, emotional, and informational support. Each of these social support variables has significant influence, confirming that social support has a protective effect, and functions to decrease levels of distress. When social support is controlled, the magnitude (coefficient size) of the difference in distress between East Asians and Whites increases. In addition, a significant difference in distress emerges between Blacks and Whites. Hence, a lack of social support among East Asians and Blacks appears to increase their level of distress in comparison to Whites. When social support is considered, the levels of distress among East Asians and Blacks improves in comparison to Whites. To a moderate degree, this is also the case for Aboriginal women. Social support has a non-significant effect on the difference in distress between Whites and South Asians and mixed race persons.

Our analysis also aims to determine whether social embeddedness is an important factor in the relationship between race and distress. Our measure of social embeddedness includes social network size, positive social interaction, and sense of belonging to the local community. Each of these variables has a significant effect on distress, and demonstrates that social embeddedness protects women from distress. Although these variables have some influence on the size of the difference in distress between Whites and racial minorities, the racial pattern of distress remains similar to the results presented in the baseline model, when social embeddedness is controlled. This finding suggests that

social embeddedness is not a promising explanation for racial differences in distress, at least Canadian among women.

Table 6.2 examines the influence of three sets of neighborhood-level variables (ecological effects) on racial differences in distress, controlling for individual-level SES, demographics, and chronic illness. These neighborhood effects include: (a) neighborhood socioeconomic conditions (percentage of low-income households, median household income, and percentage of residents with a university degree), (b) neighborhood stability (percent of residents that have moved in the past year, percent of renters, and percent of never married residents), and (c) neighborhood co-ethnic density. However, none of these neighborhood-level variables has a significant influence on the relationship between race and distress. In general, neighborhoods with higher proportions of low income households associate with higher levels of distress among individuals, regardless of individual-level socioeconomic status. The same is true for individuals living in neighborhoods with a high percentage of never married persons. A higher percentage of co-ethnics in the neighborhood has a protective effect, decreasing the level of distress among individuals.

Table 6.2 About Here

Table 6.3 presents the OLS regressions of distress on coping behaviors and other selected variables. The models in this table control for socioeconomic status, demographics, and chronic illness, and are thus comparable to the findings presented in Model 3 of Table 6.1. Our analysis considers 4 sets of coping variables: (a) problem-focused coping, (b) help-seeking coping (talking to others, turning to religion), (c) emotion-focused coping (doing something enjoyable, looking on the bright side), and (d)

maladaptive coping (drinking, using drugs, over eating). These sets of coping variables are also considered in our examination of racial differences in psychological well-being, self-rated mental health, and major depressive episode. For distress, our selected coping variables generally have expected influence on distress. Engaging in problem-solving coping decreases vulnerably to distress. Talking to others reduces vulnerability to distress. However, turning to religion increases vulnerability to distress, which is a surprising finding. Previous research suggests that seeking spiritual help or religious involvement has beneficial influence for people's mental health, although there is some skepticism about its salutogenic effects as well (Koenig 2001). Coping strategies aimed at transforming a person's emotional response to social stress have a salutogenic effect with regard to distress. Factors such as doing something enjoyable (emotional distraction) or looking on the bright side of things (positive reevaluation) decreases levels of distress. In contrast, maladaptive coping strategies associate with higher levels of distress. This demonstrates that maladaptive coping strategies are counterproductive for reducing vulnerability to distress among Canadian women.

Table 6.3 About Here

The coping models presented in Table 6.3 are comparable to the model that controls for socioeconomic status, demographics, and chronic illness in Table 6.1. The introduction of problem-solving coping into this model does not change the racial pattern of distress. The introduction of help-seeking coping (talking to others, turning to religion) has a significant influence on the difference in distress between South Asians and Whites, but does not otherwise influence the relationship between race and distress. In this model, South Asians have lower levels of distress than Whites. Emotion-focused coping also

contributes to a difference between South Asians and Whites. When controlling for coping strategies that distract from distress or focus on positive things, South Asians also have lower levels of distress than Whites. These findings suggest that a difference in coping between Whites and South Asians is concealing a distress advantage among the latter. When controlling for maladaptive coping, the difference in distress between East Asians and Blacks and Whites attenuates to non-significant levels. Since our selected maladaptive coping variables (drinking, using drugs, over eating) all increase distress, it appears that maladaptive coping among White women explains the difference in distress between them and East Asians and Blacks.

6.4 PSYCHOLOGICAL WELL-BEING

Table 6.4 presents the OLS regressions for psychological well-being (PWB) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and PWB among Canadian women and then proceeds to introduce controls for demographics and chronic illness. In the bivariate model, East Asians and Aboriginals have much lower (worse) levels of PWB than Whites. There are non-significant differences in PWB between Whites and the other selected racial groups.

Table 6.4 About Here

Model 2 demonstrates that demographics have a significant influence on PWB, but chronic illness has a non-significant effect. In comparison to the married and cohabiting, all other marital status groups have lower levels of PWB. Immigrants have lower PWB than non-immigrants. This is a further challenge to the relevance of the

healthy migrant effect to mental health. Age has a linear effect on PWB, which increases with age. Controlling for demographics and chronic illness changes the relationship between race and PWB in several ways. First, these factors decrease the magnitude of the difference (the coefficient size) between East Asians and Whites. Second, Blacks have better PWB than Whites, controlling for demographics and chronic illness. Third, the PWB disadvantage among Aboriginals disappears. This model demonstrates that demographic characteristics place East Asians, Blacks, and Aboriginals at a comparative disadvantage. These characteristics either contribute to comparatively lower levels of PWB among racial minorities (for East Asians and Aboriginals) or suppress an advantage among them (for Blacks).

Table 6.4 demonstrates that perceived stress has a strong negative effect on PWB. For racial differences in PWB, perceived stress has two notable influences, but otherwise has non-significant influence. When perceived stress is controlled, the difference in PWB between Blacks and Whites attenuates to non-significant levels. This suggests that lower levels of perceived stress is an explanation for the comparatively higher levels of PWB among Blacks. Perceived stress also appears to influence the gap between East Asians and Whites. The gap between these groups appears to enlarge when perceived stress is controlled.

Our next objective is to examine whether SES mediates the relationship between race and PWB. We compare the estimates in this model to the model that controls for demographics and chronic illness to examine if SES changes the relationship between race and PWB. The model considers the influence of income, work status, homeownership, and education. Except for education, each of these variables has a

significant effect on PWB. The level of PWB decreases at lower levels of income. In comparison to the employed, people who are not working have lower levels of PWB and retired people have higher levels of PWB. Homeowners have higher levels of PWB than renters. However, these variables do not mediate the relationship between race and PWB to a large extent. That is, controlling for SES does not change the pattern of PWB observed in the model that controls only for demographic characteristics and chronic illness. However, SES appears to change the size of the racial difference. When SES is controlled, the gap between East Asians and Whites is reduced, albeit to a small amount. The comparative advantage among Blacks increases when SES is controlled.

The analysis also considers whether social support mediates the relationship between race and PWB. This includes the influence of tangible, affectionate, emotional, and informational support. Except for tangible support, higher levels of social support associate with higher levels of PWB. The gap between East Asians and Whites disappears when social support is controlled. This suggests that a deficit of social support among East Asians helps explain their comparative disadvantage in PWB. The gap between Blacks and Whites becomes stronger in this model. When social support is controlled, the PWB advantage of Blacks over Whites increases. For South Asians, Aboriginals, and mixed race women, social support does not influence PWB much in comparison to Whites.

Our analysis also considers whether social embeddedness is an important factor in the relationship between race and PWB. Our measure of social embeddedness includes social network size, positive social interaction, and sense of belonging to the local community. Each of these variables has a positive effect on PWB, illustrating that PWB

improves with social embeddedness. The influence of social embeddedness on racial differences in PWB are similar to those of social support. A lack of social embeddedness appears to account for the difference in PWB between East Asians and Whites. When social embeddedness is controlled, East Asians have a similar level of PWB as Whites, in contrast to a disadvantage when only demographics and chronic illness is controlled. The inclusion of social embeddedness in the model also increases the advantage Blacks have over Whites. Otherwise, social embeddedness does not influence the relationship between race and PWB.

Table 6.5 presents the OLS regressions of PWB on neighborhood-level variables and other selected variables. The models in this table control for individual-level socioeconomic status, demographics, and chronic illness, making them comparable to the findings presented in the model of Table 6.4 that controls for these variables. Among the neighborhood socioeconomic variables, the percentage of low income households and median household income in the neighborhood have significant influence on PWB. The percentage of low income households has a very strong negative effect on PWB and PWB also decreases as the median household income in the neighborhood decreases. Of the neighborhood stability variables, only the percentage of never married persons has a significant effect. Living among a higher percentage of never married persons decreases PWB, controlling for marital status and other individual-level variables. The co-ethnic environment has a significant effect on PWB. A person's PWB improves as the concentration of co-ethnics increases. Neighborhood socioeconomic conditions influence the difference in PWB between East Asians and Whites, but the selected neighborhood effects otherwise do not change the relationship between race and PWB. When

neighborhood SES is controlled, the difference in PWB between East Asians and Whites disappears. This finding suggests that the comparative PWB disadvantage East Asian women experience comes from residing in poorer neighborhoods.

Table 6.5 About Here

Table 6.6 considers the influence of coping behaviors on racial differences in PWB. These coping models control for socioeconomic status, demographics, and chronic illness and are thus comparable to the estimates presented in Model 3 of Table 6.4. The general influence of the selected coping variables are similar to their influence on distress. Coping involving problem-solving, doing something enjoyable, and looking on the bright side all improve PWB. Maladaptive coping reduces PWB. Coping influences the difference in PWB between East Asians and Whites, but has more limited (non-significant) influence on the difference in PWB between Whites and the other selected racial groups. The PWB disadvantage among East Asians disappears when problem-solving coping is controlled. This disadvantage also disappears when emotion-focused coping is controlled. These results suggest that these coping strategies are important resources East Asian women can employ to overcome their PWB disadvantage, which is attributable to living in poor neighborhoods. Similar to our findings for distress, maladaptive coping among White women appears to damage their PWB. When maladaptive coping is controlled, the East Asian disadvantage increases and the Black advantage disappears. In addition, the coefficient sizes for other racial minorities diminishes.

Table 6.6 About Here

6.5 SELF-RATED MENTAL HEALTH

Table 6.7 presents the OLS regressions for self-rated mental health (SRMH) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and SRMH among Canadian women and then introduces controls for demographic characteristics and chronic illness. The model with controls for these variables is our preferred based line model. The bivariate results demonstrate that East Asians and South Asians have lower levels of SRMH than Whites. There is a non-significant difference in SRMH between Whites and all other selected racial groups. This racial pattern of SRMH does not change when demographics and chronic illness are controlled. Age has a non-linear (u-shaped) effect on SRMH. In comparison to the married and cohabiting, all people from all other marital statuses have lower SRMH. Chronic illness and immigrant status have non-significant influence on SRMH.

Table 6.7 About Here

In general, there is a negative relationship between perceive stress and SRMH. Increases in perceived stress decrease SRMH. Perceived stress does not, however, appear to influence the relationship between race and SRMH. There are no significant changes in the racial patterns of SRMH observed in the baseline model when perceived stress is controlled.

Our next objective is to examine whether SES mediates the relationship between race and SRMH. The model considers the influence of income, work status, homeownership, and education. Each of these variables has a significant effect on SRMH, and each functions in the expected directions, similar to that reported for distress

and PWB. Controlling for SES changes the difference in SRMH between Blacks and Whites, but otherwise does not change the racial pattern of SRMH. In this model, Blacks have higher SRMH than Whites. Thus, similar to the results reported for distress, low SES suppresses a comparative SRMH advantage for Blacks.

The analysis also considers whether social support mediates the relationship between race and SRMH. In general, tangible support has a non-significant effect on SRMH. Having affectionate and emotional/informational support increases SRMH. The effect of social support on racial differences in SRMH is modest. Except for East Asians and Blacks, social support does not influence how racial minorities compare to Whites on SRMH. When social support is controlled, East Asians are similar to Whites in SRMH Blacks have comparatively better SRMH than Whites. A similar effect of social embeddedness is observed. The findings demonstrate that social embeddedness is also a mental health asset with regard to SRMH. When social embeddedness is controlled, East Asians are similar to Whites in SRMH and Blacks have comparatively better SRMH than Whites. These findings point to a possible deficit of social support and a lack of social embeddedness among East Asian and Black women.

Table 6.8 presents the OLS regressions of SRMH on neighborhood-level variables and other selected variables. The models in this table control for individual-level socioeconomic status, demographics, and chronic illness, making them comparable to the findings presented in the model of Table 6.7 that controls for these variables. None of the models of neighborhood effects changes the relationship between race and SRMH. The general influence of the selected neighborhood variables on SRMH are as follows. The percent of low income households in the neighborhood has a non-significant effect.

SRMH is higher in neighborhoods with a higher percentage of people with a university degree. Lower neighborhood median income associates with lower SRMH. Neighborhood instability decreases SRMH. Although percentage of never married persons has a non-significant effect, the percentage of movers and renters have significant influence. These findings suggest that neighborhood turnover has a health-damaging effect on SRMH.

Table 6.8 About Here

Table 6.9 considers the influence of coping behaviors on racial differences in SRMH. These coping models control for socioeconomic status, demographics, and chronic illness and are thus comparable to the estimates presented in Model 3 of Table 6.7. Only maladaptive coping influences the relationship between race and SRMH. When maladaptive coping is controlled, the difference in SRMH between Blacks and Whites attenuates to non-significant levels. Again, this suggests that maladaptive coping among White women is harming their mental health. In general, the selected coping variables have similar influence on SRMH as reported for distress and PWB. Self-rated health increases with coping that involves problem-solving, talking to others, doing something enjoyable, and looking on the bright side of things. In contrast, turning to religion and maladaptive coping behaviors have negative influence on SRMH.

Table 6.9 About Here

6.6 MAJOR DEPRESSIVE EPISODE

Table 6.10 presents the logistic regressions for major depressive episode (MDE) on stress exposure, socioeconomic status, social support, social embeddedness, and other

selected variables. The analysis begins with an examination of the bivariate relationship between race and MDE among Canadian women and then proceeds to introduce controls for demographics and chronic illness. In the bivariate model, East Asians have a lower and mixed race persons have a higher risk of MDE than Whites. The risk of MDE is similar between Whites and all other racial groups considered in the model. When demographics and chronic illness are controlled, the difference in the risk of MDE between mixed race women and Whites disappears. Otherwise, the relationship between race and MDE remains unchanged. Age has a non-linear (inverted u-shaped) effect on the risk of MDE. In comparison to the married and cohabiting, all other marital statuses associate with a higher risk of MDE. Chronic illness and immigrant status have non-significant influence on the risk of MDE. The model the controls for demographics and chronic illness is our preferred baseline model.

Table 6.10 About Here

Does stress exposure influence the relationship between race and MDE among Canadian women? Our findings demonstrate that perceived stress has a health-damaging effect on the risk of MDE. When perceived stress is controlled, the difference in the risk of MDE between East Asians and Whites disappears. This suggests that lower levels of perceived stress among East Asians contributes to their MDE advantage over Whites. Perceived stress does not otherwise change the racial pattern of MDE.

Our next objective is to examine whether SES mediates the relationship between race and MDE. The model considers the influence of income, work status, homeownership, and education. The risk of MDE increases at lower levels of income. In comparison to the working, people who are not working have a higher and retired people

have a lower risk of MDE. Homeownership and education have non-significant influence on the risk of MDE among Canadian women. However, SES has a non-significant influence on the racial pattern of the risk of MDE.

The analysis also considers whether social support mediates the relationship between race and the risk of MDE. All of our selected social support variables decrease the risk of MDE. When social support is controlled, there is one notable change in the relationship between race and the risk of MDE. In this model, Blacks have a lower risk of MDE, which suggests that low social support among them is suppressing an MDE advantage over Whites. Our analysis also considers whether social embeddedness is an important factor in the relationship between race and MDE. The inclusion of our selected embeddedness variables does not change the racial pattern of the risk of MDE observed in the baseline model. However, our results demonstrate that social embeddedness decreases the risk of MDE, even though it is not an important factor in the relationship between race and MDE.

Table 6.11 presents the logistic regressions of MDE on neighborhood-level variables and other selected variables. The models in this table control for individual-level socioeconomic status, demographics, and chronic illness, making them comparable to the findings presented in the model of Table 6.10 that controls for these variables. In general, none of our selected neighborhood-level variables has a significant effect on the risk of MDE among Canadian women. However, when co-ethnic environment is controlled, South Asians, Blacks, and Aboriginals have a lower risk of MDE than Whites. This compares to a non-significant difference in the risk of MDE between these racial groups and Whites when only socioeconomic status, demographics, and chronic illness

are controlled. This demonstrates that residence among co-ethnics decreases the risk of MDE among South Asians, Blacks, and Aboriginals.

Table 6.11 About Here

Table 6.12 considers the influence of coping behaviors on racial differences in the risk of MDE. These coping models control for socioeconomic status, demographics, and chronic illness and are thus comparable to the estimates presented in Model 3 of Table 6.10. In general, our selected coping variables have a similar effect on the risk of MDE as reported for all other outcome variables. Problem-solving coping does not influence the relationship between race and MDE. When help-seeking coping is controlled, the racial pattern of MDE changes. In this model, South Asians, Blacks, and Aboriginals have a lower risk of MDE than Whites. This suggests that a deficit of social support is suppressing an MDE advantage among South Asians, Blacks, and Aboriginals. Emotion-focused coping (doing something enjoyable, looking on the bright side) does not change the racial pattern of MDE. When maladaptive coping is controlled, the MDE advantage East Asians have over Whites disappears. This provides further evidence that maladaptive coping is harming the mental health of White Canadian women.

Table 6.12 About Here

6.7 INTERACTIONS

Table 6.13 presents the interaction models of selected mental health indicators on race and low-income status. The tables demonstrates that there is an interaction effect between race and low-income for psychological well-being and self-reported mental health. For ease of interpretation, the results are presented in Figures 6.1 and 6.2. As

Figure 6.1 illustrates, the influence of low-income on PWB for Blacks, Aboriginals, and mixed race persons are much stronger than for Whites. This suggests that these racial minorities are more vulnerable to the health-damaging influence of low-income, at least with regard to PWB. The influence of low-income on PWB for East and South Asians are similar to Whites. Figure 6.2 presents the interaction effects of race and low-income status on self-reported mental health. In comparison to Whites, East Asians appear to be more vulnerable to the negative influence of low-income on SRMH. Mixed race persons appear to be somewhat less vulnerable to the negative influence of low-income on SRMH. Low-income has similar influence on SRMH for South Asians, Blacks, and Aboriginals in comparison to Whites.

Table 6.13 and Figure 1 and 2 About Here

Table 6.1 Ordinary Least Squares Regression of Psychological Distress on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Racial status							
East Asian	-1.064 ***	-1.142 ***	-1.350 ***	-2.064 ***	-2.202 ***	-0.550	-1.627 ***
South Asian	-0.110	-0.209	-0.444	-0.649	-0.452	0.288	-0.148
Blacks	-0.120	-0.686	-1.037 *	-1.088 *	-0.865	-0.433	-0.838
Aboriginal	2.028 ***	1.500 **	0.371	1.176 *	1.356 **	1.399 **	0.422
Mixed Race	1.148 *	0.641	0.275	0.546	0.419	0.296	0.018
Others	0.116	-0.195	-0.401	-0.430	-0.391	-0.133	-0.386
White (reference)							
Age		-0.060 **	-0.014	-0.119 ***	-0.116 ***	-0.133 ***	-0.143 ***
Age square (/100)		0.021	-0.018	0.069 ***	0.071 ***	0.123 ***	0.123 ***
Marital status							
Separated or divorced		1.904 ***	1.091 ***	0.912 ***	0.907 ***	1.313 ***	0.097
Never married		1.214 ***	1.008 ***	0.437 *	0.583 **	1.096 ***	0.385 *
Widowed		0.999 ***	0.305	0.190	0.122	0.799 ***	-0.248
Married or cohabiting (reference)							
Chronic illness (1 = yes)		0.244 *	0.236 *	0.337 **	0.314 **	0.009	0.106
Immigrant status (1 = yes)		0.010	0.009	-0.174	-0.232	0.025	-0.119
Income in quartile							
1st quartile (lowest)			1.696 ***				1.033 ***
2nd quartile			0.793 ***				0.483 **
3rd quartile			0.621 ***				0.479 ***
Income missing			0.988 ***				0.916 ***
4th quartile (reference)							
Work status							
Not working			1.184 ***				1.410 ***
Retired			-0.703 ***				0.375 *
Working (reference)							
Homeownership (1 = yes)			-0.787 ***				-0.416 **
Education in 10 levels			-0.153 ***				-0.150 ***
Tangible social support				-0.069 **			0.001
Affection				-0.319 ***			-0.157 **
Emotional/informational support				-0.176 ***			-0.078 ***
Social network					-0.057 ***		-0.044 ***
Positive social interaction					-0.527 ***		-0.186 ***
Sense of belonging					-0.369 ***		-0.279 ***
Perceived stress						2.092 ***	1.870 ***
Intercept	5.607 ***	7.146 ***	6.903785 ***	18.184 ***	17.675 ***	2.349 ***	11.754 ***
R square	0.004	0.038	0.074	0.129	0.141	0.168	0.265

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.2 Ordinary Least Squares Regression of Psychological Distress on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-1.604	***	-1.563	***	-1.515	***	-1.613	***
South Asian	-0.733		-0.681		-0.674		-0.805	
Blacks	-1.273	*	-1.247	*	-1.196	*	-1.433	**
Aboriginal	0.491		0.531		0.053		-0.054	
Mixed Race	0.080		0.095		-0.074		-0.051	
Others	-0.501		-0.479		-0.580		-0.679	
White (reference)								
Age	-0.022		-0.024		-0.030		-0.030	
Age square (/100)	-0.012		-0.009		-0.003		0.000	
Marital status								
Separated or divorced	1.226	***	1.223	***	1.002	**	1.013	**
Never married	0.996	***	0.956	***	0.902	***	0.910	***
Widowed	0.603		0.588		0.315		0.299	
Married or cohabiting (reference)								
Chronic illness (1 = yes)	0.197		0.202		0.119		0.118	
Immigrant status (1 = yes)	-0.040		-0.039		-0.022		-0.030	
Income in quartile								
1st quartile (lowest)	1.920	***	1.931	***	2.129	***	2.055	***
2nd quartile	0.913	***	0.911	***	1.045	***	1.011	***
3rd quartile	0.671	***	0.660	***	0.737	***	0.726	***
Income missing	1.255	***	1.274	***	1.258	***	1.248	***
4th quartile (reference)								
Work status								
Not working	0.944	***	0.942	***	0.749	***	0.737	***
Retired	-0.842	***	-0.835	***	-0.759	**	-0.756	**
Working (reference)								
Homeownership (1 = yes)	-0.485	*	-0.407	*	-0.510	*	-0.455	*
Education in 10 levels	-0.114	**	-0.126	***	-0.128	***	-0.113	**
% of low income	2.911	**					2.070	
% Have university degrees	-0.984						-1.332	
Median household income (/1000)	0.012						0.012	
% of movers			-0.384				-0.685	
% of renters			0.534				0.387	
% of never married			3.512	*			2.647	
% of own racial/ethnic group					-0.821	*	-0.743	
Intercept	5.776	***	5.349	***	7.246	***	5.445	***
R square	0.075		0.075		0.070		0.072	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.3 Ordinary Least Squares Regression of Psychological Distress on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-1.554	***	-1.244	***	-1.662	***	-0.601		-0.841	**
South Asian	-0.552		-0.886	*	-0.845	*	-0.161		-0.937	*
Blacks	-1.159	*	-1.449	**	-0.964	*	-0.321		-0.747	
Aboriginal	0.343		0.172		0.242		0.124		-0.114	
Mixed Race	0.263		0.127		0.185		0.227		0.025	
Others	-0.428		-0.652		-0.509		-0.055		-0.452	
White (reference)										
Age	-0.003		-0.022		0.008		-0.067	***	-0.055	**
Age square (/100)	-0.032		-0.024		-0.036	*	0.041	*	0.020	
Marital status										
Separated or divorced	1.143	***	1.103	***	1.189	***	0.754	***	0.866	***
Never married	0.975	***	0.969	***	0.934	***	0.628	***	0.586	**
Widowed	0.344		0.324		0.361		0.182		0.239	
Married or cohabiting (reference)										
Chronic illness (1 = yes)	0.249	*	0.233	*	0.231	*	0.284	**	0.274	**
Immigrant status (1 = yes)	-0.038		-0.096		-0.061		0.083		-0.061	
Income in quartile										
1st quartile (lowest)	1.661	***	1.549	***	1.508	***	1.657	***	1.377	***
2nd quartile	0.792	***	0.670	***	0.782	***	0.842	***	0.720	***
3rd quartile	0.599	***	0.511	***	0.547	***	0.645	***	0.496	***
Income missing	0.930	***	0.764	**	0.785	**	1.071	***	0.723	***
4th quartile (reference)										
Work status										
Not working	1.129	***	1.127	***	1.122	***	0.975	***	0.899	***
Retired	-0.732	***	-0.747	***	-0.683	***	-0.560	***	-0.579	***
Working (reference)										
Homeownership (1 = yes)	-0.744	***	-0.734	***	-0.758	***	-0.624	***	-0.580	***
Education in 10 levels	-0.133	***	-0.134	***	-0.132	***	-0.163	***	-0.132	***
Problem-solving	-0.798	***							-0.104	
Talking to others			-0.657	***					-0.393	***
Turning to religion			0.279	***					0.309	***
Doing something enjoyable					-0.288	***			-0.284	***
Looking on bright side					-1.628	***			-1.288	***
Drinking							0.469	***	0.487	***
Using drugs							1.695	***	1.493	***
Eating							0.728	***	0.633	***
Intercept	10.352	***	9.308	***	14.873	***	3.371	***	11.989	
R square	0.084		0.096		0.141		0.183		0.242	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.4 Ordinary Least Squares Regression of Psychological Well-Being on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Racial status														
East Asian	-4.333	***	-2.879	**	-2.392	**	0.359		0.697		-4.182	***	-0.057	
South Asian	-1.623		0.142		0.589		1.669		0.850		-0.971		0.299	
Blacks	0.289		2.796	*	3.593	**	4.199	**	3.370	**	2.172		3.296	**
Aboriginal	-3.435	**	-2.035		0.000		-0.973		-1.457		-1.816		-0.299	
Mixed Race	-2.447		-0.771		-0.025		-0.463		0.050		0.080		0.643	
Others	0.293		2.453	*	2.910	**	3.163	***	3.069	***	2.281	*	2.950	***
White (reference)														
Age			0.114	*	0.029		0.296	***	0.306	***	0.281	***	0.377	***
Age square (/100)			0.020		0.074		-0.124	**	-0.155	**	-0.211	***	-0.283	***
Marital status														
Separated or divorced			-4.601	***	-2.988	***	-1.459	**	-1.134	*	-3.270	***	-0.026	
Never married			-2.471	***	-2.159	***	0.050		-0.268		-2.212	***	-0.018	
Widowed			-2.664	***	-1.388	*	-0.130		0.362		-2.237	***	0.529	
Married or cohabiting (reference)														
Chronic illness (1 = yes)			0.046		0.050		-0.261		-0.193		0.588	*	0.176	
Immigrant status (1 = yes)			-1.434	**	-1.306	*	-0.805		-0.595		-1.419	**	-0.655	
Income in quartile														
1st quartile (lowest)					-3.243	***							-0.956	
2nd quartile					-1.435	**							-0.275	
3rd quartile					-1.289	**							-0.695	*
Income missing					-1.252	*							-0.872	
4th quartile (reference)														
Work status														
Not working					-1.818	***							-2.191	***
Retired					2.734	***							0.049	
Working (reference)														
Homeownership (1 = yes)					1.947	***							0.725	*
Education in 10 levels					0.107								0.051	
Tangible social support							0.025						-0.215	***
Affection							1.145	***					0.516	***
Emotional/informational support							0.635	***					0.247	***
Social network									0.158	***			0.128	***
Positive social interaction									1.822	***			1.082	***
Sense of belonging									1.454	***			1.282	***
Perceived stress											-4.678	***	-3.621	***
Intercept	81.191	***	76.862	***	78.190	***	40.937	***	40.257	***	87.532	***	51.696	
R square	0.004		0.043		0.061		0.188		0.224		0.138		0.290	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.5 Ordinary Least Squares Regression of Psychological Well-Being on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-1.873		-2.217	*	-2.226	*	-1.464	
South Asian	1.181		1.026		0.998		1.744	
Blacks	3.864	**	3.686	**	3.865	**	4.389	**
Aboriginal	-0.148		-0.053		0.229		0.582	
Mixed Race	0.579		0.524		1.097		1.177	
Others	2.872	**	2.701	**	3.377	**	3.684	***
White (reference)								
Age	0.021		0.029		0.034		0.040	
Age square (/100)	0.086		0.069		0.077		0.070	
Marital status								
Separated or divorced	-2.797	***	-2.823	***	-2.316	**	-2.261	**
Never married	-1.992	***	-2.091	***	-1.723	**	-1.613	**
Widowed	-1.759	*	-1.754	*	-1.188		-1.157	
Married or cohabiting (reference)								
Chronic illness (1 = yes)	-0.111		-0.120		0.145		0.149	
Immigrant status (1 = yes)	-0.231		-0.453		-0.763		-0.571	
Income in quartile								
1st quartile (lowest)	-4.392	***	-4.049	***	-4.755	***	-4.916	***
2nd quartile	-2.187	***	-1.766	**	-2.252	**	-2.482	***
3rd quartile	-1.727	***	-1.406	**	-1.519	**	-1.763	**
Income missing	-2.188	**	-1.954	*	-1.763	*	-1.924	*
4th quartile (reference)								
Work status								
Not working	-1.072	*	-1.159	*	-0.406		-0.374	
Retired	3.397	***	3.191	***	3.143	***	3.161	***
Working (reference)								
Homeownership (1 = yes)	1.143	*	1.246	*	0.983		0.930	
Education in 10 levels	0.188	*	0.121		0.136		0.187	
% of low income	-13.598	***					-12.948	**
% Have university degrees	-1.928						-1.660	
Median household income (/100)	-0.008	***					-0.007	**
% of movers			-3.460				-2.432	
% of renters			1.567				1.986	
% of never married			-16.060	***			-4.816	
% of own racial/ethnic group					2.597	*	2.346	*
Intercept	85.061	***	85.901	***	76.926	***	85.326	***
R square	0.065		0.063		0.058		0.064	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.6 Ordinary Least Squares Regression of Psychological Well-Being on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-1.674		-2.506	**	-1.438		-4.095	***	-2.914	***
South Asian	1.103		1.233		2.052		-0.279		1.892	
Blacks	4.148	**	4.150	**	3.323	**	1.902		2.736	*
Aboriginal	0.086		0.467		0.515		0.607		1.264	
Mixed Race	0.030		0.199		0.288		0.049		0.503	
Others	3.021	**	3.019	**	3.258	***	2.099	*	2.911	***
White (reference)										
Age	-0.022		0.019		-0.046		0.153	**	0.063	
Age square (/100)	0.137	**	0.109	*	0.132	**	-0.068		0.032	
Marital status										
Separated or divorced	-3.196	***	-3.084	***	-3.344	***	-2.217	***	-2.731	***
Never married	-2.034	***	-2.024	***	-1.945	***	-1.299	**	-1.165	**
Widowed	-1.548	*	-1.520	*	-1.562	**	-1.093		-1.357	*
Married or cohabiting (reference)										
Chronic illness (1 = yes)	-0.017		0.046		0.077		-0.018		0.009	
Immigrant status (1 = yes)	-1.107	*	-1.075	*	-1.000	*	-1.468	**	-0.980	*
Income in quartile										
1st quartile (lowest)	-3.105	***	-3.044	***	-2.589	***	-3.221	***	-2.468	***
2nd quartile	-1.443	**	-1.255	**	-1.417	**	-1.593	**	-1.409	**
3rd quartile	-1.199	**	-1.103	**	-1.026	**	-1.390	***	-1.002	**
Income missing	-1.067		-0.821		-0.557		-1.454	*	-0.508	
4th quartile (reference)										
Work status										
Not working	-1.578	***	-1.725	***	-1.599	***	-1.440	***	-1.194	***
Retired	2.889	***	2.889	***	2.672	***	2.407	***	2.519	***
Working (reference)										
Homeownership (1 = yes)	1.797	***	1.808	***	1.870	***	1.605	***	1.488	***
Education in 10 levels	0.016		0.039		0.012		0.138	*	-0.006	
Problem-solving	3.503	***							1.249	***
Talking to others			1.931	***					0.883	***
Turning to religion			-0.166						-0.396	***
Doing something enjoyable					1.355	***			1.232	***
Looking on bright side					5.817	***			4.898	***
Drinking							-1.333	***	-1.293	***
Using drugs							-3.242	***	-2.473	***
Eating							-1.755	***	-1.462	***
Intercept	63.149	***	70.389	***	48.407	***	86.081	***	50.741	
R square	0.089		0.082		0.194		0.139		0.258	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.7 Ordinary Least Squares Regression of Self-Rated Mental Health on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Racial status														
East Asian	-0.204	***	-0.205	***	-0.188	**	-0.082		-0.061		-0.284	***	-0.143	*
South Asian	0.016		-0.001		0.020		0.055		0.012		-0.078		-0.044	
Blacks	0.094		0.151		0.202	*	0.206	*	0.168	*	0.118		0.169	*
Aboriginal	-0.503	***	-0.474	***	-0.325	***	-0.431	***	-0.454	***	-0.460	***	-0.330	***
Mixed Race	-0.143		-0.112		-0.061		-0.101		-0.084		-0.066		-0.027	
Others	0.036		0.056		0.083		0.086		0.078		0.046		0.077	
White (reference)														
Age			-0.008	**	-0.015	***	-0.002		-0.001		0.001		0.001	
Age square (/100)			0.010	**	0.016	***	0.004		0.003		-0.004		-0.002	
Marital status														
Separated or divorced			-0.309	***	-0.195	***	-0.189	***	-0.174	***	-0.230	***	-0.071	*
Never married			-0.154	***	-0.127	***	-0.060	*	-0.072	**	-0.139	***	-0.052	
Widowed			-0.170	***	-0.065		-0.073		-0.054		-0.142	***	0.002	
Married or cohabiting (reference)														
Chronic illness (1 = yes)			-0.023		-0.021		-0.035		-0.033		0.008		-0.005	
Immigrant status (1 = yes)			-0.010		-0.016		0.014		0.023		-0.013		0.001	
Income in quartile													-0.167	***
1st quartile (lowest)					-0.246	***							-0.070	*
2nd quartile					-0.106	**							-0.064	**
3rd quartile					-0.080	**							-0.124	***
Income missing					-0.130	**								
4th quartile (reference)														
Work status														
Not working					-0.104	***							-0.135	***
Retired					0.116	***							-0.027	
Working (reference)														
Homeownership (1 = yes)					0.084	***							0.031	
Education in 10 levels					0.030	***							0.029	***
Tangible social support							0.000						-0.010	**
Affection							0.041	***					0.016	*
Emotional/informational support							0.027	***					0.011	***
Social network									0.006	***			0.004	**
Positive social interaction									0.069	***			0.032	***
Sense of belonging									0.070	***			0.058	***
Perceived stress											-0.280	***	-0.249	***
Intercept	3.830	***	4.074	***	4.040	***	2.686	***	2.646	***	4.717	***	3.443	***
R square	0.006		0.017		0.040		0.071		0.087		0.101		0.166	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.8 Ordinary Least Squares Regression of Self-Rated Mental Health on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-0.194	**	-0.183	**	-0.174	**	-0.180	**
South Asian	0.049		0.044		0.053		0.074	
Blacks	0.217	**	0.197	*	0.237	**	0.241	**
Aboriginal	-0.294	**	-0.290	**	-0.302	**	-0.285	**
Mixed Race	-0.080		-0.077		-0.039		-0.041	
Others	0.089		0.082		0.139		0.133	
White (reference)								
Age	-0.015	***	-0.015	***	-0.013	**	-0.013	**
Age square (/100)	0.000	***	0.000	***	0.000	**	0.000	**
Marital status								
Separated or divorced	-0.223	***	-0.219	***	-0.224	***	-0.226	***
Never married	-0.140	***	-0.131	***	-0.098	**	-0.113	**
Widowed	-0.112	*	-0.108		-0.072		-0.074	
Married or cohabiting (reference)								
Chronic illness (1 = yes)	-0.026		-0.028		-0.015		-0.013	
Immigrant status (1 = yes)	-0.004		-0.003		-0.022		-0.024	
Income in quartile								
1st quartile (lowest)	-0.285	***	-0.287	***	-0.320	***	-0.314	***
2nd quartile	-0.131	**	-0.129	**	-0.135	**	-0.125	**
3rd quartile	-0.108	***	-0.105	***	-0.112	**	-0.107	**
Income missing	-0.149	**	-0.147	**	-0.157	**	-0.149	**
4th quartile (reference)								
Work status								
Not working	-0.085	**	-0.087	**	-0.059		-0.064	
Retired	0.127	**	0.122	**	0.116	**	0.107	**
Working (reference)								
Homeownership (1 = yes)	0.076	*	0.066	*	0.034		0.066	
Education in 10 levels	0.025	***	0.028	***	0.027	***	0.022	**
% of low income	-0.281						-0.041	
% Have university degrees	0.344	**					0.404	*
Median household income (/1000)	-0.003	*					-0.001	
% of movers			-0.291	*			-0.304	*
% of renters			0.171	*			0.139	
% of never married			-0.336				-0.473	
% of own racial/ethnic group					0.215	**	0.198	**
Intercept	4.231	***	4.272	***	3.991	***	4.320	***
R square	0.043		0.042		0.042		0.045	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.9 Ordinary Least Squares Regression of Self-Rated Mental Health on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-0.148	**	-0.197	**	-0.145	**	-0.279	***	-0.229	***
South Asian	0.041		0.061		0.071		-0.016		0.076	
Blacks	0.226	**	0.240	**	0.191	*	0.115		0.165	*
Aboriginal	-0.319	***	-0.302	***	-0.307	***	-0.295	***	-0.267	***
Mixed Race	-0.059		-0.046		-0.049		-0.049		-0.027	
Others	0.089		0.104		0.098		0.039		0.083	
White (reference)										
Age	-0.017	***	-0.015	***	-0.018	***	-0.008	**	-0.011	***
Age square (/100)	0.018	***	0.017	***	0.018	***	0.009	**	0.012	***
Marital status										
Separated or divorced	-0.205	***	-0.197	***	-0.209	***	-0.152	***	-0.171	***
Never married	-0.120	***	-0.122	***	-0.117	***	-0.078	**	-0.072	**
Widowed	-0.073		-0.069		-0.073		-0.051		-0.062	
Married or cohabiting (reference)										
Chronic illness (1 = yes)	-0.024		-0.021		-0.020		-0.031		-0.030	
Immigrant status (1 = yes)	-0.006		-0.004		-0.006		-0.027		-0.006	
Income in quartile										
1st quartile (lowest)	-0.239	***	-0.231	***	-0.219	***	-0.237	***	-0.202	***
2nd quartile	-0.105	**	-0.094	**	-0.104	**	-0.110	***	-0.098	**
3rd quartile	-0.076	**	-0.069	**	-0.070	**	-0.081	**	-0.063	**
Income missing	-0.118	**	-0.106	**	-0.102	**	-0.137	***	-0.094	**
4th quartile (reference)										
Work status										
Not working	-0.093	***	-0.098	***	-0.094	***	-0.073	**	-0.061	**
Retired	0.121	***	0.121	***	0.113	***	0.097	***	0.101	***
Working (reference)										
Homeownership (1 = yes)	0.076	**	0.078	**	0.080	***	0.062	**	0.054	*
Education in 10 levels	0.026	***	0.027	***	0.027	***	0.031	***	0.026	***
Problem-solving	0.159	***							0.068	***
Talking to others			0.081	***					0.039	***
Turning to religion			-0.023	***					-0.029	***
Doing something enjoyable					0.044	***			0.040	***
Looking on bright side					0.222	***			0.167	***
Drinking							-0.055	***	-0.056	***
Using drugs							-0.252	***	-0.223	***
Eating							-0.078	***	-0.066	***
Intercept	3.355	***	3.730	***	2.933	***	4.491	***	3.156	***
R square	0.054		0.050		0.086		0.107		0.147	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.10 Logistic Regression of 12-month MDE on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Racial status														
East Asian	-0.635	*	-0.729	*	-0.861	**	-1.006	**	-1.037	**	-0.560		-0.954	**
South Asian	-0.325		-0.378		-0.512		-0.543		-0.479		-0.206		-0.435	
Blacks	-0.245		-0.557		-0.668		-0.776	*	-0.710		-0.469		-0.759	
Aboriginal	0.162		-0.117		-0.459		-0.243		-0.201		-0.158		-0.457	
Mixed Race	0.566	*	0.317		0.216		0.292		0.246		0.228		0.125	
Others	-0.311		-0.536		-0.616		-0.593		-0.615		-0.548		-0.680	
White (reference)														
Age			0.082	***	0.089	***	0.058	***	0.056	**	0.044	**	0.038	*
Age square (/100)			-0.119	***	-0.119	***	-0.099	***	-0.095	***	-0.069	***	-0.065	***
Marital status														
Separated or divorced			1.085	***	0.853	***	0.807	***	0.795	***	0.858	***	0.529	***
Never married			0.697	***	0.593	***	0.434	**	0.470	***	0.636	***	0.387	**
Widowed			1.333	***	1.163	***	1.114	***	1.069	***	1.177	***	0.916	***
Married or cohabiting (reference)														
Chronic illness (1 = yes)			-0.129		-0.135		-0.110		-0.119		-0.214	*	-0.185	*
Immigrant status (1 = yes)			0.021		-0.002		-0.080		-0.109		-0.001		-0.098	
Income in quartile														
1st quartile (lowest)					0.761	***							0.543	**
2nd quartile					0.420	**							0.353	*
3rd quartile					0.341	*							0.320	*
Income missing					0.623	***							0.612	**
4th quartile (reference)														
Work status														
Not working					0.428	***							0.476	***
Retired					-0.560	**							-0.207	
Working (reference)														
Homeownership (1 = yes)					-0.126								0.004	
Education in 10 levels					-0.003								0.006	
Tangible social support							-0.036	*					-0.013	
Affection							-0.077	**					-0.019	
Emotional/informational support							-0.040	***					0.002	
Social network									-0.034	**			-0.030	**
Positive social interaction									-0.144	***			-0.086	***
Sense of belonging									-0.109	**			-0.079	*
Perceived stress											0.818	***	0.738	***
Intercept	-2.593	***	-3.958	***	-4.483	***	-0.899	*	-0.753		-5.846	***	-3.896	***
Log Likelihood	-4606		-4400		-4316		-4252		-4200		-4095		-3912	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.11 Logistic Regression of 12-month MDE on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-0.932	**	-0.948	**	-1.006	**	-1.000	**
South Asian	-0.672		-0.675		-0.766	*	-0.770	*
Blacks	-0.722		-0.686		-0.864	*	-0.805	*
Aboriginal	-0.597		-0.610		-0.959	**	-0.916	**
Mixed Race	-0.114		-0.115		-0.125		-0.124	
Others	-0.654		-0.644		-0.827	*	-0.801	*
White (reference)								
Age	0.091	***	0.090	***	0.077	***	0.078	***
Age square (/100)	-0.126	***	-0.126	***	-0.116	***	-0.001	***
Marital status								
Separated or divorced	0.857	***	0.846	***	0.787	***	0.772	***
Never married	0.611	***	0.605	***	0.352	**	0.346	**
Widowed	1.361	***	1.357	***	1.128	***	1.126	***
Married or cohabiting (reference)								
Chronic illness (1 = yes)	-0.155		-0.150		-0.285	*	-0.283	*
Immigrant status (1 = yes)	-0.041		-0.043		0.160		0.143	
Income in quartile								
1st quartile (lowest)	1.052	***	1.033	***	0.949	***	0.988	***
2nd quartile	0.519	**	0.500	**	0.284		0.315	
3rd quartile	0.434	**	0.419	*	0.321		0.341	*
Income missing	0.912	***	0.895	***	0.725	**	0.744	**
4th quartile (reference)								
Work status								
Not working	0.329	**	0.337	**	0.263		0.273	
Retired	-0.477	*	-0.470	*	-0.549	*	-0.550	*
Working (reference)								
Homeownership (1 = yes)	-0.001		0.038		-0.043		-0.039	
Education in 10 levels	-0.004		-0.002		-0.038		-0.042	
% of low income	0.016						-0.049	
% Have university degrees	0.091						0.002	
Median household income (/1000)	0.002						0.004	
% of movers			0.901				0.591	
% of renters			-0.156				0.158	
% of never married			-0.538				-1.084	
% of own racial/ethnic group					-0.118		-0.108	
Intercept	-4.656	***	-4.672	***	-3.642	***	-3.735	***
Log Likelihood	-3108		-3106		-2436		-2433	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.12 Logistic Regression Regression of 12-month MDE on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Women (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-0.916	**	-0.793	**	-0.990	**	-0.594		-0.610	
South Asian	-0.542		-0.690	*	-0.646		-0.469		-0.762	*
Blacks	-0.706		-0.835	*	-0.647		-0.419		-0.577	
Aboriginal	-0.462		-0.556	*	-0.514		-0.564		-0.676	*
Mixed Race	0.214		0.151		0.189		0.231		0.166	
Others	-0.616		-0.704		-0.642		-0.473		-0.629	
White (reference)										
Age	0.093	***	0.085	***	0.098	***	0.074	***	0.076	***
Age square (/100)	-0.125	***	-0.121	***	-0.129	***	-0.105	***	-0.111	***
Marital status										
Separated or divorced	0.868	***	0.860	***	0.917	***	0.768	***	0.820	***
Never married	0.581	***	0.591	***	0.582	***	0.472	**	0.489	**
Widowed	1.178	***	1.157	***	1.197	***	1.189	***	1.172	***
Married or cohabiting (reference)										
Chronic illness (1 = yes)	-0.130		-0.138		-0.128		-0.085		-0.081	
Immigrant status (1 = yes)	-0.014		-0.070		-0.064		0.036		-0.070	
Income in quartile										
1st quartile (lowest)	0.759	***	0.696	***	0.707	***	0.731	***	0.646	***
2nd quartile	0.422	**	0.370	*	0.432	**	0.435	**	0.405	**
3rd quartile	0.338	*	0.300	*	0.303	*	0.336	*	0.269	
Income missing	0.609	***	0.531	**	0.548	**	0.638	***	0.487	**
4th quartile (reference)										
Work status										
Not working	0.410	***	0.407	***	0.410	***	0.333	**	0.307	**
Retired	-0.571	**	-0.580	**	-0.560	**	-0.512	**	-0.488	**
Working (reference)										
Homeownership (1 = yes)	-0.117		-0.111		-0.120		-0.059		-0.049	
Education in 10 levels	0.004		0.003		0.013		0.001		0.016	
Problem-solving	-0.206	***							0.051	
Talking to others			-0.215	***					-0.124	**
Turning to religion			0.134	***					0.154	***
Doing something enjoyable					-0.157	***			-0.166	**
Looking on bright side					-0.447	***			-0.380	***
Drinking							0.066		0.080	*
Using drugs							0.517	***	0.471	***
Eating							0.232	***	0.196	***
Intercept	-3.628	***	-3.797	***	-2.170	***	-5.670	***	-3.377	***
Log Likelihood	-4303		-4261		-4152		-4035		-3887	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 6.13 Interaction Models of Selected Mental Health Indicators on Race/Ethnicity and Low Income Status (with Robust Standard Errors): Canadian Women (Age 15+), 2002

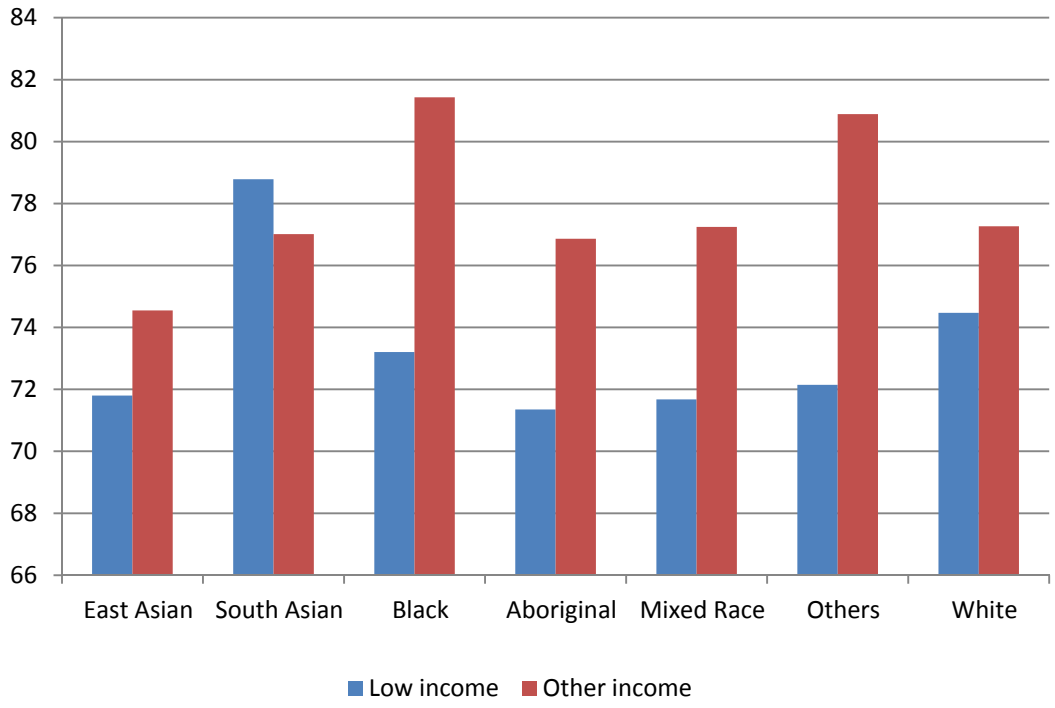
	Psychological distress		Psychological well-bing		Self-reported mental healh		MDE	
Independent variable	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Racial status								
East Asian	-1.272 ***	-1.282 ***	-2.673 **	-2.720 **	-0.187 **	-0.159 *	-0.794 **	-0.816 *
South Asian	-0.284	-0.253	0.256	-0.256	0.009	-0.044	-0.428	-0.406
Blacks	-0.854	-0.873	3.109 *	4.162 **	0.175 *	0.174 *	-0.656	-0.620
Aboriginal	1.047 *	0.760	-1.193	-0.405	-0.409 ***	-0.438 ***	-0.303	0.112
Mixed Race	0.476	0.260	-0.475	-0.025	-0.089	-0.124	0.252	0.211
Others	-0.309	-0.384	2.687 **	3.620 ***	0.072	0.065	-0.597	-1.161 **
White (reference)								
Age	-0.049 *	-0.049 *	0.103 *	0.101 *	-0.010 **	-0.010 **	0.090 ***	0.091 ***
Age square (/100)	0.009	0.009	0.033	0.034	0.011 ***	0.011 ***	-0.128 ***	-0.128 ***
Marital status								
Separated or divorced	1.516 ***	1.518 ***	-3.911 ***	-3.861 ***	-0.253 ***	-0.252 ***	0.957 ***	0.949 ***
Never married	1.022 ***	1.024 ***	-2.180 ***	-2.213 ***	-0.128 ***	-0.127 ***	0.612 ***	0.624 ***
Widowed	0.601 **	0.614 **	-1.951 **	-2.079 **	-0.113 **	-0.114 **	1.206 ***	1.225 ***
Married or cohabiting (reference)								
Chronic illness (1 = yes)	0.240 *	0.243 *	0.056	0.019	-0.022	-0.023	-0.137	-0.129
Immigrant status (1 = yes)	-0.001	-0.002	-1.416 **	-1.410 **	-0.008	-0.008	0.016	0.008
Low income status (1 = yes)	1.922 ***	1.834 ***	-3.416 ***	-2.799 ***	-0.272 ***	-0.286 ***	0.644 ***	0.572 ***
Interaction								
East Asian x low income		0.112		0.052		-0.194		0.138
South Asian x low income		-0.259		4.574		0.507 *		-0.072
Blacks x low income		0.145		-5.426		0.009		-0.041
Aboriginal x low income		0.886		-2.712		0.091		-0.960 *
Mixed Race x low income		1.212		-2.766		0.196		0.181
Others x low income		0.500		-5.944 *		0.047		1.391
Intercept	6.810 ***	6.809 ***	77.228 ***	77.267 ***	4.119 ***	4.125 ***	-4.171 ***	-4.183 ***
R square/Log Likelihood	0.049	0.049	0.048	0.050	0.025	0.026	-4368	-4357
∆ in R square/Log Likelihood		0.000		0.002 ***		0.001 ***		10.907

Note: All models include a dummy indicator for missing income.

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

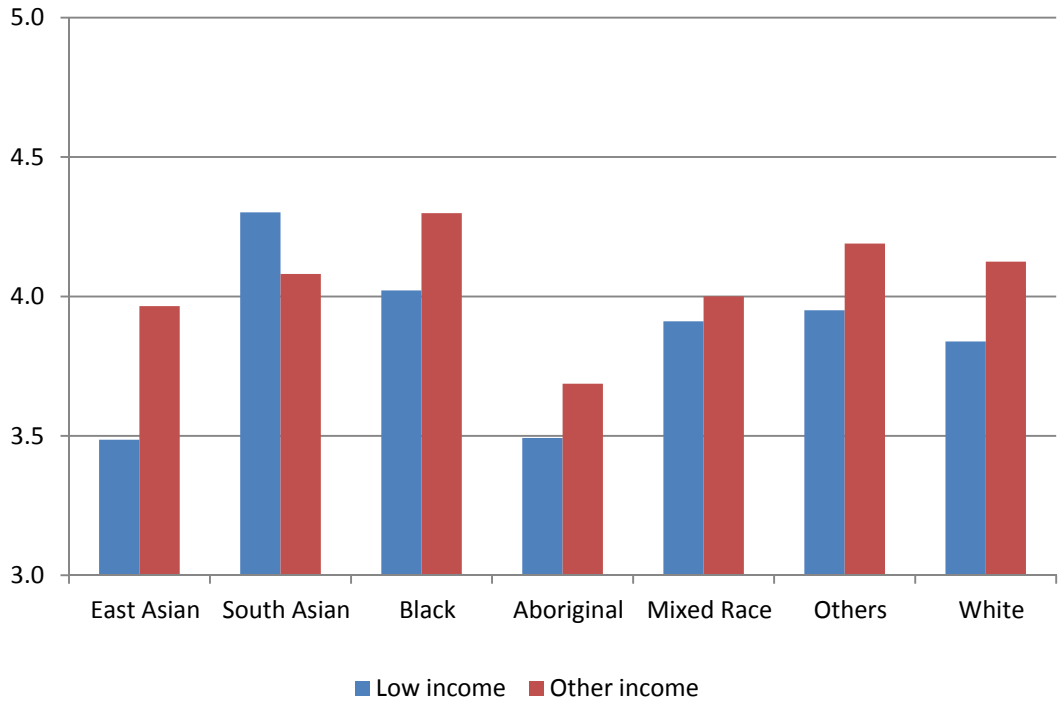
* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Figure 6.1 Interaction Effects of Race and Low-income Status on Psychological Well-being: Canadian Women (Age 15+), 2002



Source: Table 6.25.

Figure 6.2 Interaction Effects of Race and Low-income Status on Self-reported Mental Health: Canadian Women (Age 15+), 2002



Source: Table 6.25.

Chapter 7

RESULTS: CANADIAN MEN

7.1 INTRODUCTION

This chapter presents the findings for our examination of racial differences in mental health, focusing on patterns among Canadian men. The regression analysis considers 4 mental health outcomes: psychological distress, psychological well-being, self-rated mental health, and major depressive disorder. This covers the negative, positive, and subjective dimensions of mental health. The analysis compares 5 racial minority groups to Whites on these selected dependent variables. The racial groups include East Asians, South Asians, Blacks, Aboriginals, and mixed race males. The tables also present the findings for "other" racial groups, but the results are not interpreted since this category is far too diverse to offer meaningful comparisons to Whites. See Chapter 5 for details about the definition and measurement of the dependent variables and race used in this study.

7.2 MODELING STRATEGY

For each dependent variable, the regression analysis follows the same modeling strategy. First, the study examines the bivariate relationship between race and mental health. Second, the analysis re-examines this relationship, net of demographics (age, marital status, and immigrant status) and chronic illness. This is our preferred baseline model, and all subsequent models include controls for demographics and chronic illness. Third, the analysis estimates models for the explanatory influence of (a) stress exposure,

(b) socioeconomic status, (c) social support, and (d) social embeddedness on the racial pattern of mental health. The analysis also presents a full model that includes all of our selected variables. However, we do not interpret the results of the full model, since our interest is on the separate influence of the aforementioned explanatory variables. Where pertinent, we also present the interaction effects of race and low-income status on mental health. Fourth, the study examines several ecological effects on racial differences in mental health, including (a) neighborhood socioeconomic conditions, (b) neighborhood population stability, (c) and neighborhood co-ethnic density. Fifth, the study examines the influence of coping behaviors on racial differences in mental health, considering (a) problem-focused, (b) help-seeking, (c) emotion-focused, and (d) maladaptive coping strategies. See Chapter 5 for the definitions and descriptive statistics of the selected independent variables.

7.3 PSYCHOLOGICAL DISTRESS

Table 7.1 presents the OLS regressions for psychological distress (distress) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and distress among Canadian men and then introduces controls for demographic characteristics and chronic illness. In the bivariate model, Black men have lower levels of distress than White men. Mixed race males have higher levels of distress. Other racial groups are similar to Whites on distress. The difference in distress between Black and White men attenuates to non-significant levels when demographics and chronic illness are controlled. The comparative disadvantage in distress among mixed

race males remains, although the gap decreases somewhat. In general, age has non-significant influence on distress among Canadian men. In comparison to the married and cohabiting, all people from all other marital statuses have higher levels of distress. The presence of a chronic illness increases distress. Among men, immigrants have lower levels of distress than non-immigrants.

Table 7.1 About Here

Does stress exposure influence the relationship between race and distress among Canadian men? Our findings demonstrate that perceived stress has a strong health-damaging effect on distress. However, controlling for perceived stress does not change the racial pattern of distress observed in the model that controls for demographics and chronic illness only. This suggests that perceived stress is not a robust explanation for racial differences in distress among Canadian men.

Our next objective is to examine whether SES mediates the relationship between race and distress. The model considers the influence of income, work status, homeownership, and education. Each of these variables has a significant effect on distress. Individuals in the 1st (lowest) and 2nd income quartiles have higher levels of distress than those in the 4th quartile (highest). Men in the 3rd income quartile and respondents with missing data on income are similar to the reference group in distress. In comparison to the working, individuals not working (e.g., the unemployed, students) have higher and the retired have lower levels of distress. Distress is lower among homeowners than renters. Distress decreases with education. When SES is controlled, an advantage for Blacks emerges, suggesting that low SES is indeed harmful for them, although this

disadvantage is concealed in the baseline model. Controlling for SES does not change the racial pattern of distress among Canadian men in other respects.

Our findings demonstrate that social support mediates the relationship between race and distress to a limited extent. This includes the influence of tangible, affectionate, emotional, and informational support. Each of these social support variables has a significant effect, confirming that social support has a protective effect, and functions to decrease levels distress among men. When social support is controlled, East Asian men have lower levels of distress than White men. In this model, Black men also have lower levels of distress than White men. This suggests that a lack of social support is harmful to the mental health of East Asian and Black men, at least with regard to distress. The inclusion of our selected social support variables to the baseline model does not change the difference in distress between White men and all other selected racial groups.

Our analysis also aims to determine whether social embeddedness is an important factor in the relationship between race and distress. Our measure of social embeddedness includes social network size, positive social interaction, and sense of belonging to the local community. Each of these variables has a significant effect on distress, and demonstrates that social embeddedness protects men from distress. The influence of social embeddedness on distress are similar to the influence of social support. In this model, the level of distress among East Asians improves. When social embeddedness is controlled, East Asian men have lower levels of distress than White men. In addition, a health advantage emerges among Black men. This suggests that a lack of social embeddedness is harmful for East Asian and Black men. The inclusion of our selected

social embeddedness variables to the baseline model does not otherwise change the racial pattern of distress.

Table 7.2 examines the influence of three sets of neighborhood-level variables (ecological effects) on racial differences in distress, controlling for individual-level SES, demographics, and chronic illness. These neighborhood effects include: (a) neighborhood socioeconomic conditions (percentage of low-income households, median household income, and percentage of residents with a university degree), (b) neighborhood stability (percent of residents that have moved in the past year, percent of renters, and percent of never married residents), and (c) neighborhood co-ethnic density. In general, none of the selected neighborhood variables have a significant effect on distress among men. The lone exception is co-ethnic density, which has a protective effect. Given these non-significant influences, it is unsurprising that the inclusion of neighborhood-level variables does little to change the relationship between race and distress. When neighborhood social economic conditions are controlled, the difference in distress between mixed race males and White males attenuates to non-significant levels. This suggests that living in poor neighborhoods is harmful to the mental health of mixed race persons. The inclusion of the neighborhood-level variables does not otherwise change the racial pattern of distress.

Table 7.2 About Here

Table 7.3 presents the OLS regressions of distress on coping behaviors and other selected variables. The models in this table control for socioeconomic status, demographics, and chronic illness, and are thus comparable to the findings presented in Model 3 of Table 7.1. Our analysis considers 4 sets of coping variables: (a) problem-

focused coping, (b) help-seeking coping (talking to others, turning to religion), (c) emotion-focused coping (doing something enjoyable, looking on the bright side), and (d) maladaptive coping (drinking, using drugs, over eating). These sets of coping variables are also considered in our examination of racial differences in psychological well-being, self-rated mental health, and major depressive episode. For distress, our selected coping variables generally have expected influence on distress. Engaging in problem-solving coping decreases vulnerably to distress. Coping that involves talking to others reduces vulnerability to distress. However, turning to religion increases vulnerability to distress, which is a somewhat surprising finding. Previous research suggests that seeking spiritual help or religious involvement has beneficial influence for people's mental health, although there is some skepticism about its salutogenic influence as well (see Koenig 2001). Coping strategies aimed at transforming a person's emotional response to social stress have a salutogenic effect with regard to distress. Looking on the bright side of things (positive reevaluation) decreases levels of distress. Doing something enjoyable has a non-significant effect on distress. In contrast, maladaptive coping strategies associate with higher levels of distress. This demonstrates that maladaptive coping strategies are counterproductive for reducing vulnerability to distress among Canadian men.

Table 7.3 About Here

When problem-solving coping is controlled, East Asian men have lower levels of distress that White men. When help-seeking coping is controlled, the difference in distress between mixed race persons and Whites attenuates to non-significant levels. When emotion-focused coping is controlled, East Asian men have lower levels of distress

than White men. When maladaptive coping is controlled, the difference in distress between mixed race males and Whites attenuates to non-significant levels.

7.4 PSYCHOLOGICAL WELL-BEING

Table 7.4 presents the OLS regressions for psychological well-being (PWB) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and PWB among Canadian men and then proceeds to introduce controls for demographics and chronic illness. In the bivariate model, there is a significant difference in PWB between East Asians, but a non-significant difference between Whites and all other racial groups. This pattern remains unchanged in the model that controls for demographics and chronic illness. In general, age has a non-linear (u-shaped) effect on PWB among men. In comparison to the married and cohabiting, individuals of all other marital statuses have lower levels of PWB. The presence of chronic illness decreases PWB. There is a non-significant difference in PWB between immigrants and non-immigrants.

Table 7.4 About Here

Does stress exposure influence the relationship between race and PWB among Canadian men? Our findings demonstrate that perceived stress has a strong health-damaging effect on PWB. However, controlling for perceived stress does not change the racial pattern of PWB observed in the model that controls for demographics and chronic illness only. This suggests that perceived stress is not a robust explanation for racial differences in PWB among Canadian men.

Our next objective is to examine whether SES mediates the relationship between race and PWB. The model considers the influence of income, work status, homeownership, and education. Individuals in the 1st (lowest) and 2nd income quartiles have lower levels of PWB than those in the 4th quartile (highest). Men in the 3rd income quartile and respondents with missing data on income are similar to the reference group in PWB. In comparison to the working, individuals not working (e.g., the unemployed, students) have lower and the retired have higher levels of PWB. PWB is higher among homeowners than renters. Education has a non-significant effect on PWB. Controlling for SES does not change the pattern of PWB observed in the baseline model, with one exception. The racial group "others," which consists of a jumble of small racial groups (e.g., Hispanics, Arabic), have better PWB than Whites when SES is controlled. However, controlling for SES does not change the racial pattern of PWB with regard to how East Asian, South Asian, Black, Aboriginal, and mixed race males compare to Whites.

Does social support mediate the relationship between race and PWB? To answer this question, we examine the influence of tangible, affectionate, emotional, and informational support. In general, tangible support has non-significant influence on the PWB of Canadian men, controlling for affectionate and emotional/informational support. Both of the latter social support variables associate with higher PWB. When social support is controlled, South Asian men have better PWB than Whites. This compares to a non-significant difference in PWB between South Asian and White men observed in the baseline model. Controlling for social support does not change how East Asians, South Asians, Blacks, Aboriginals, and mixed race males compare to White males. But the gap

in PWB between East Asian and White men declines when social support is controlled. This suggests that racial differences in social support contribute to the PWB disadvantage among East Asian men.

Our analysis also examines whether social embeddedness is an important factor in the relationship between race and PWB. Our measure of social embeddedness includes social network size, positive social interaction, and sense of belonging to the local community. Each of these variables has a significant effect on PWB, and demonstrates that social embeddedness enhances PWB. When social embeddedness is controlled, the difference in PWB between East Asians and Whites attenuates to non-significant levels. In addition, South Asians have better PWB than Whites in this model. This suggests that a lack of social embeddedness accounts for the comparative PWB disadvantage among East Asian men and suppresses a comparative advantage among South Asian men. Controlling for social embeddedness does not change how Black, Aboriginal, and mixed race males compare to Whites on PWB.

Table 7.5 examines the influence of three sets of neighborhood-level variables (ecological effects) on racial differences in PWB, controlling for individual-level SES, demographics, and chronic illness. These neighborhood effects include: (a) neighborhood socioeconomic conditions (b) neighborhood stability, and (c) neighborhood co-ethnic density. The percent of low income households and median household income have a negative influence on PWB. The percent of people with a university degree has a non-significant effect. A larger percentage of never married persons in the neighborhood associates with lower levels of PWB. The other selected neighborhood stability variables

have non-significant influence on PWB. There is a non-significant relationship between co-ethnic density and PWB among Canadian men.

Table 7.5 About Here

When neighborhood SES is controlled, South Asian and Black men have better PWB that Whites. The gap between East Asians and Whites decreases. This suggests that living in poor neighborhoods is detrimental for the PWB of East Asian, South Asian, and Black men. Neighborhood stability and co-ethnic density have similar influence on racial differences in PWB. Living in unstable neighborhoods and isolation from co-ethnics is detrimental for the PWB of East Asian, South Asian, and Black men.

Table 7.6 presents the OLS regressions of PWB on coping behaviors and other selected variables. The models in this table control for socioeconomic status, demographics, and chronic illness, and are thus comparable to the findings presented in Model 3 of Table 7.4. In general, problem-solving coping increases PWB among Canadian men. Talking to others increases PWB, but turning to religion reduces it. Both emotion-focused coping variables (doing something enjoyable, looking on the bright side) increase PWB. Maladaptive coping behaviors are harmful for PWB among men.

Table 7.6 About Here

When problem-solving coping is controlled, South Asian, Black, and Aboriginal men have higher PWB than Whites. Help-seeking coping also changes the racial pattern of PWB. In the help-seeking model, South Asian and Black men have better PWB than Whites. Emotion-focused coping has similar influence on the racial pattern of PWB as does problem-solving coping. In this model, East Asian, Black and Aboriginal men have better PWB than Whites. When maladaptive coping is controlled, Aboriginal men have

better PWB than Whites. These results demonstrate that a lack of good coping practices among South Asian, Black, and Aboriginal men and also maladaptive coping among Aboriginal men suppresses a PWB advantage.

7.5 SELF-RATED MENTAL HEALTH

Table 7.7 presents the OLS regressions for self-rated mental health (SRMH) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and SRMH among Canadian men and then proceeds to introduce controls for demographics and chronic illness. In the bivariate model, Blacks have better and Aboriginals have worse SRMH than Whites. There are no other racial differences in SRMH in the bivariate model. When demographics and chronic illness are controlled, the difference between Blacks and Whites and Aboriginals and Whites disappears. In this model, East Asians have worse SRMH than Whites. In general, age has a negative, non-linear effect on SRMH. In comparison to the married and cohabiting, the separated/divorced and the never married have lower SRMH. There is a non-significant difference between the widowed and the married and cohabiting. Chronic illness reduces SRMH. Immigrants have better SRMH than non-immigrants.

Table 7.7 About Here

Does stress exposure influence the relationship between race and SRMH among Canadian men? In general, perceived stress has a strong health-damaging effect on SRMH. When perceived stress is controlled, Aboriginals have worse SRMH than Whites.

The inclusion of perceived stress in the model does not otherwise alter the racial pattern of SRMH.

Our next objective is to examine whether SES mediates the relationship between race and SRMH. The model considers the influence of income, work status, homeownership, and education. Individuals in the 1st (lowest) and 2nd income quartiles have lower levels of SRMH than those in the 4th quartile (highest). Men in the 3rd income quartile and respondents with missing data on income are similar to the reference group in SRMH. In comparison to the working, individuals not working (e.g., the unemployed, students) have lower and the retired have higher levels of SRMH. There is a non-significant difference in SRMH between homeowners and renters. Higher education has a positive effect on SRMH. When SES is controlled, Blacks have better SRMH than Whites. This suggests that low SES is health-damaging for Blacks. SES does not otherwise mediate the relationship between race and SRMH.

Our analysis also examines if social support mediates the relationship between race and SRMH. This includes the influence of tangible, affectionate, emotional, and informational support. Affectionate support and emotional support associate with better SRMH. Tangible support has a non-significant effect. Considering that social support does not change the racial pattern of SRMH observed in the baseline model, social support does not mediate the relationship between race and SRMH.

Our analysis also examines if social embeddedness is an important factor in the relationship between race and SRMH. Our measure of social embeddedness includes social network size, positive social interaction, and sense of belonging to the local community. Each of these variables has a significant effect on distress, and demonstrates

that social embeddedness improves SRMH. When social embeddedness is controlled, the East Asian disadvantage disappears. This suggests that a lack of social embeddedness explains their comparatively lower SRMH. Social embeddedness does not change how the other selected racial groups compare to Whites on SRMH.

Table 7.8 examines the influence of three sets of neighborhood-level variables (ecological effects) on racial differences in PWB, controlling for individual-level SES, demographics, and chronic illness. These neighborhood effects include: (a) neighborhood socioeconomic conditions, (b) neighborhood stability, and (c) neighborhood co-ethnic density. The percentage of university graduates in the neighborhood associates with lower levels of SRMH, but the percentage of low-income households and median household income have non-significant influence. The percentage of renters has a significant (positive) effect on SRMH, but percentage of movers and never married persons have non-significant influence. The effect of co-ethnic density is also non-significant. These neighborhood influence have little influence on the relationship between race and SRMH. When neighborhood SES is controlled, the difference in SRMH between Blacks and Whites becomes non-significant. Before controlling for neighborhood SES, Blacks had a SRMH advantage over Whites. The models of neighborhood effects otherwise do not change the racial pattern of SRMH.

Table 7.8 About Here

Table 7.9 presents the OLS regressions of SRMH on coping behaviors and other selected variables. The models in this table control for socioeconomic status, demographics, and chronic illness, and are thus comparable to the findings presented in Model 3 of Table 7.7. In general, problem-solving coping increases PWB among

Canadian men. Talking to others increases SRMH, but turning to religion reduces it. Among the emotion-focused coping variables, looking on the bright side increases SRMH, but doing something enjoyable has a non-significant effect. All of the maladaptive coping variables have health-damaging influence. These coping variables, however, do no contribute much to the relationship between race and SRMH. When maladaptive coping is controlled, there is a non-significant difference between Blacks and Whites. This suggests that less maladaptive coping among Blacks is contributing to their SRMH advantage. Otherwise, controlling for our selected coping variables does not change the relationship between race and SRMH.

Table 7.9 About Here

7.6 MAJOR DEPRESSIVE EPISODE

Table 7.10 presents the OLS regressions for major depressive episode (MDE) on stress exposure, socioeconomic status, social support, social embeddedness, and other selected variables. The analysis begins with an examination of the bivariate relationship between race and MDE among Canadian men and then proceeds to introduce controls for demographics and chronic illness. In the bivariate model, there are no significant differences in the risk of MDE between Whites and all selected racial groups. This racial pattern of MDE does not change when demographics and chronic illness are included in the model. In general, age has a non-linear (u-shaped) effect on MDE. In comparison to the married and cohabiting, males of all other marital statuses have a higher risk of MDE. Chronic illness has a non-significant effect. There is a non-significant difference between immigrants and non-immigrants.

Table 7.10 About Here

None of the explanatory variables modeled in Table 7.10 change the relationship between race and MDE. This includes the influence of perceived stress, SES, social support, and social embeddedness. In general, the risk of MDE increases with perceived stress. Income has a non-significant effect. In comparison to the working, individuals not working have a higher and retired individuals have a lower risk of MDE. Homeownership decreases the risk of MDE. Education has a non-significant effect. Among the social support variables, affectionate and emotional/informational support have significant influence, reducing the risk of MDE. Tangible support has a non-significant effect. All of the social embeddedness variables decrease the risk of MDE.

Table 7.11 examines the influence of three sets of neighborhood-level variables (ecological effects) on racial differences in MDE, controlling for individual-level SES, demographics, and chronic illness. These neighborhood effects include: (a) neighborhood socioeconomic conditions, (b) neighborhood stability, and (c) neighborhood co-ethnic density. None of these neighborhood level variables changes the relationship between race and MDE. In general, these neighborhood level variables have non-significant influence on the risk of MDE.

Table 7.11 About Here

Table 7.12 presents the OLS regressions of MDE on coping behaviors and other selected variables. The models in this table control for socioeconomic status, demographics, and chronic illness, and are thus comparable to the findings presented in Model 3 of Table 7.10. Table 7.12 demonstrates that coping does not influence the

relationship between race and MDE. In general, our selected coping variables have similar influence on MDE as for the other mental health outcomes.

7.7 INTERACTION EFFECTS

Table 7.13 presents the interaction models of selected mental health indicators on race and low-income status. The tables demonstrates that there is an interaction effect between race and low-income for psychological distress, psychological well-being, and self-reported mental health. For ease of interpretation, the results are presented in Figures 7.1-7.3. As Figure 7.1 illustrates, the negative influence of low-income on distress are stronger for South Asians, Aboriginals, and mixed race males than for Whites. The effect of low-income on distress is also somewhat stronger for Blacks. Figure 7.1 demonstrates that negative influence of low-income on PWB are stronger for East Asians, South Asians, and Aboriginals in comparison to Whites. The effect is weaker for Blacks and mixed race persons. Figure 7.3 shows that the negative influence of low-income on MDE is worse for South Asians and mixed race males, but better for all other racial groups in comparison to Whites.

Table 7.13 and Figures 7.1-7.3 About Here

Table 7.1 Ordinary Least Squares Regression of Psychological Distress on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Racial status														
East Asian	-0.496		-0.289		-0.490		-1.038	***	-1.142	***	-0.247		-1.103	***
South Asian	0.266		0.526		0.399		0.150		0.340		0.788		0.521	
Blacks	-0.922	*	-0.785		-1.261	**	-0.854	*	-0.910	*	-0.589		-0.951	*
Aboriginal	0.715		0.241		-0.679		0.130		0.250		0.626		-0.141	
Mixed Race	1.520	**	1.116	*	0.935	*	1.237	**	1.251	**	0.975	*	0.970	**
Others	-0.263		-0.160		-0.358		-0.264		-0.171		-0.162		-0.256	
White (reference)														
Age			-0.014		0.006		-0.094	***	-0.095	***	-0.104	***	-0.142	***
Age square (/100)			-0.021		-0.034		0.049	**	0.051	**	0.097	***	0.122	***
Marital status														
Separated or divorced			1.811	***	1.231	***	0.392		0.440		1.698	***	0.152	
Never married			1.087	***	0.711	***	-0.171		-0.073		1.289	***	-0.008	
Widowed			0.845	*	0.460		-0.422		-0.333		0.637		-0.491	
Married or cohabiting (reference)														
Chronic illness (1 = yes)			0.541	***	0.496	***	0.475	***	0.483	***	0.363	**	0.273	**
Immigrant status (1 = yes)			-0.439	*	-0.495	**	-0.573	**	-0.680	***	-0.484	**	-0.649	***
Income in quartile														
1st quartile (lowest)					1.411	***							0.812	**
2nd quartile					0.876	***							0.701	***
3rd quartile					0.224								0.267	*
Income missing					-0.053								-0.019	
4th quartile (reference)														
Work status														
Not working					1.732	***							1.684	***
Retired					-0.829	***							0.407	*
Working (reference)														
Homeownership (1 = yes)					-0.640	***							-0.309	*
Education in 10 levels					-0.077	**							-0.106	***
Tangible social support							-0.060	*					-0.010	
Affection							-0.161	**					0.005	
Emotional/informational support							-0.177	***					-0.091	***
Social network									-0.028	***			-0.019	***
Positive social interaction									-0.486	***			-0.223	***
Sense of belonging									-0.293	***			-0.225	***
Perceived stress											1.792	***	1.636	***
Intercept	5.089	***	5.518	***	5.593	***	15.265	***	15.854	***	1.999	***	10.928	***
R square	0.0024		0.0384		0.0761		0.1175		0.1274		0.1545		0.2475	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.2 Ordinary Least Squares Regression of Psychological Distress on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-0.614		-0.624		-0.586		-0.518	
South Asian	0.044		0.059		0.146		0.045	
Blacks	-1.330	*	-1.325	**	-1.404	**	-1.455	**
Aboriginal	0.298		0.325		0.185		0.188	
Mixed Race	0.480		0.463		0.148		0.161	
Others	-0.454		-0.472		-0.680		-0.713	
White (reference)								
Age	0.005		0.002		0.014		0.014	
Age square (/100)	-0.034		-0.032		-0.044		-0.043	
Marital status								
Separated or divorced	1.074	***	1.053	***	1.050	***	1.029	***
Never married	0.864	***	0.796	***	0.782	**	0.769	**
Widowed	0.645		0.618		0.610		0.592	
Married or cohabiting (reference)								
Chronic illness (1 = yes)	0.451	**	0.449	**	0.400	*	0.401	*
Immigrant status (1 = yes)	-0.572	**	-0.569	**	-0.678	**	-0.680	**
Income in quartile								
1st quartile (lowest)	1.202	**	1.187	**	1.433	***	1.509	***
2nd quartile	1.031	***	1.015	***	0.918	***	0.968	***
3rd quartile	0.284		0.281		0.395	*	0.429	*
Income missing	-0.079		-0.053		0.096		0.151	
4th quartile (reference)								
Work status								
Not working	1.669	***	1.665	***	1.608	***	1.633	***
Retired	-0.733	*	-0.736	**	-0.591	*	-0.606	*
Working (reference)								
Homeownership (1 = yes)	-0.543	**	-0.376		-0.488	*	-0.358	
Education in 10 levels	-0.073	*	-0.082	*	-0.069		-0.067	
% of low income	1.639						-2.002	
% Have university degrees	-0.936						-2.158	*
Median household income (/1000)	0.010						0.020	*
% of movers			0.378				0.560	
% of renters			0.386				2.413	**
% of never married			1.997				0.940	
% of own racial/ethnic group					-1.688	***	-1.562	***
Intercept	4.908	***	4.510	***	5.745		3.845	***
R square	0.076		0.077		0.077		0.079	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.3 Ordinary Least Squares Regression of Psychological Distress on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-0.615	*	-0.438		-0.676	*	-0.003		-0.194	
South Asian	0.282		0.016		0.165		0.386		-0.178	
Blacks	-1.377	**	-1.593	***	-1.319	**	-0.772	*	-1.185	**
Aboriginal	-0.781		-0.781		-0.691		-0.840		-1.009	*
Mixed Race	0.934	*	0.818		0.995	*	0.563		0.549	
Others	-0.411		-0.585		-0.362		-0.127		-0.384	
White (reference)										
Age	0.015		0.002		0.019		-0.054	**	-0.039	*
Age square (/100)	-0.045	*	-0.039	*	-0.047	**	0.033		0.012	
Marital status										
Separated or divorced	1.226	***	1.222	***	1.220	***	0.885	***	0.899	***
Never married	0.632	***	0.641	***	0.638	***	0.270		0.173	
Widowed	0.427		0.489		0.521		0.350		0.400	
Married or cohabiting (reference)										
Chronic illness (1 = yes)	0.482	***	0.481	***	0.473	***	0.305	**	0.279	**
Immigrant status (1 = yes)	-0.513	**	-0.545	**	-0.510	**	-0.415	*	-0.482	**
Income in quartile										
1st quartile (lowest)	1.309	***	1.304	***	1.251	***	1.305	***	1.051	***
2nd quartile	0.827	***	0.780	***	0.848	***	0.897	***	0.765	***
3rd quartile	0.213		0.182		0.250		0.300	*	0.266	*
Income missing	-0.113		-0.124		-0.099		0.116		-0.021	
4th quartile (reference)										
Work status										
Not working	1.703	***	1.641	***	1.660	***	1.453	***	1.354	***
Retired	-0.872	***	-0.817	***	-0.854	***	-0.691	***	-0.726	***
Working (reference)										
Homeownership (1 = yes)	-0.647	***	-0.633	***	-0.678	***	-0.424	**	-0.470	**
Education in 10 levels	-0.043		-0.072	**	-0.069	**	-0.080	**	-0.057	*
Problem-solving	-1.022	***							-0.554	***
Talking to others			-0.446	***					-0.223	***
Turning to religion			0.304	***					0.273	***
Doing something enjoyable					0.050				0.021	
Looking on bright side					-1.216	***			-0.873	***
Drinking							0.628	***	0.589	***
Using drugs							1.192	***	1.072	***
Eating							0.920	***	0.848	***
Intercept	10.040	***	6.930	***	10.579	***	2.574	***	9.444	***
R square	0.097		0.095		0.116		0.195		0.237	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.4 Ordinary Least Squares Regression of Psychological Well-Being on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Racial status														
East Asian	-5.062	***	-4.491	***	-4.053	***	-1.829	*	-1.417		-4.620	***	-1.416	
South Asian	0.740		1.252		1.565		2.496	**	1.738	*	0.620		1.475	
Blacks	1.468		2.211		3.087		2.439		2.670		1.774		2.404	
Aboriginal	-0.259		0.721		2.340		1.112		0.733		-0.167		0.916	
Mixed Race	-0.800		0.257		0.537		-0.161		-0.225		0.577		0.222	
Others	0.756		1.684		2.182	*	2.010	*	1.710	*	1.740		1.908	*
White (reference)														
Age			-0.120	**	-0.153	**	0.152	**	0.169	***	0.090	*	0.277	***
Age square (/100)			0.192	***	0.195	***	-0.046		-0.068		-0.084		-0.238	***
Marital status														
Separated or divorced			-4.976	***	-4.071	***	-0.356		-0.017		-4.732	***	-0.139	
Never married			-3.691	***	-3.157	***	0.667		0.545		-4.138	***	0.053	
Widowed			-3.485	**	-2.875	**	0.951		0.747		-3.070	**	0.636	
Married or cohabiting (reference)														
Chronic illness (1 = yes)			-0.886	**	-0.818	**	-0.676	*	-0.702	*	-0.482		-0.290	
Immigrant status (1 = yes)			-0.534		-0.268		-0.027		0.348		-0.473		0.401	
Income in quartile														
1st quartile (lowest)					-2.529	**							-0.645	
2nd quartile					-1.611	**							-0.979	*
3rd quartile					-0.411								-0.404	
Income missing					0.471								0.469	
4th quartile (reference)														
Work status														
Not working					-3.433	***							-3.076	***
Retired					2.707	***							-0.301	
Working (reference)														
Homeownership (1 = yes)					1.289	**							0.141	
Education in 10 levels					-0.050								-0.036	
Tangible social support							-0.096						-0.259	***
Affection							0.813	***					0.165	
Emotional/informational support							0.659	***					0.302	***
Social network									0.074	***			0.054	***
Positive social interaction									1.762	***			1.151	***
Sense of belonging									1.351	***			1.203	***
Perceived stress											-4.072	***	-3.322	***
Intercept	82.286	***	85.183	***	86.435	***	51.828	***	47.187	***	93.064	***	58.979	***
R square	0.006		0.035		0.055		0.176		0.208		0.121		0.278	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.5 Ordinary Least Squares Regression of Psychological Well-Being on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-3.455	***	-3.596	***	-3.726	***	-3.501	***
South Asian	2.047	*	2.032	*	1.879	*	2.141	*
Blacks	3.803	*	3.890	*	3.866	*	4.100	*
Aboriginal	0.129		0.168		-0.265		-0.124	
Mixed Race	1.162		1.133		1.269		1.389	
Others	2.672	**	2.721	**	2.963	**	3.088	**
White (reference)								
Age	-0.181	**	-0.172	**	-0.206	**	-0.202	**
Age square (/100)	0.226	***	0.211	**	0.246	***	0.242	***
Marital status								
Separated or divorced	-3.739	***	-3.767	***	-3.716	***	-3.615	***
Never married	-3.514	***	-3.477	***	-3.565	***	-3.409	***
Widowed	-2.773	*	-2.751		-2.050		-2.011	
Married or cohabiting (reference)								
Chronic illness (1 = yes)	-0.801	*	-0.780	*	-0.758		-0.759	
Immigrant status (1 = yes)	0.133		-0.022		-0.439		-0.308	
Income in quartile								
1st quartile (lowest)	-2.339	*	-2.212	*	-2.416	*	-2.495	*
2nd quartile	-2.457	***	-2.277	**	-2.057	**	-2.200	**
3rd quartile	-0.701		-0.548		-0.475		-0.622	
Income missing	0.392		0.444		0.241		0.077	
4th quartile (reference)								
Work status								
Not working	-3.430	***	-3.444	***	-2.858	***	-2.911	***
Retired	2.746	***	2.753	***	2.931	***	2.922	***
Working (reference)								
Homeownership (1 = yes)	0.358		0.297		0.456		0.156	
Education in 10 levels	0.139		0.102		0.143		0.180	
% of low income	-8.917	**					-1.383	
% Have university degrees	-0.756						-0.128	
Median household income (/100)	-0.050	*					-0.044	
% of movers			-0.434				-0.410	
% of renters			-0.012				-2.608	
% of never married			-13.719	***			-5.578	
% of own racial/ethnic group					1.877		1.576	
Intercept	90.381	***	92.070	***	86.118	***	91.985	***
R square	0.061		0.061		0.057		0.059	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.6 Ordinary Least Squares Regression of Psychological Well-Being on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-3.588	***	-4.013	***	-3.419	***	-5.101	***	-4.212	***
South Asian	1.936	*	1.740	*	2.410	**	1.533		2.616	**
Blacks	3.534	*	3.388	*	3.228	*	1.978		2.728	*
Aboriginal	2.741	*	2.060		2.251	*	2.726	*	2.725	**
Mixed Race	0.552		0.685		0.314		1.327		1.152	
Others	2.355	*	2.186	*	2.146	*	1.620		1.856	*
White (reference)										
Age	-0.186	***	-0.165	***	-0.193	***	-0.023		-0.093	*
Age square (/100)	0.233	***	0.221	***	0.234	***	0.046		0.129	**
Marital status										
Separated or divorced	-4.070	***	-4.041	***	-4.067	***	-3.264	***	-3.356	***
Never married	-2.858	***	-2.920	***	-2.914	***	-2.206	***	-1.853	***
Widowed	-2.806	**	-3.043	**	-3.245	**	-2.603	**	-2.983	**
Married or cohabiting (reference)										
Chronic illness (1 = yes)	-0.775	*	-0.861	**	-0.765	**	-0.407		-0.406	
Immigrant status (1 = yes)	-0.211		-0.206		-0.153		-0.452		-0.256	
Income in quartile										
1st quartile (lowest)	-2.178	**	-2.522	**	-1.897	**	-2.307	**	-1.617	*
2nd quartile	-1.439	**	-1.600	**	-1.484	**	-1.676	**	-1.436	**
3rd quartile	-0.371		-0.442		-0.479		-0.598		-0.604	
Income missing	0.683		0.524		0.689		0.088		0.466	
4th quartile (reference)										
Work status										
Not working	-3.335	***	-3.194	***	-3.167	***	-2.897	***	-2.566	***
Retired	2.866	***	2.759	***	2.834	***	2.442	***	2.682	***
Working (reference)										
Homeownership (1 = yes)	1.343	***	1.267	**	1.444	***	0.818	*	1.026	**
Education in 10 levels	-0.170	*	-0.112		-0.101		-0.048		-0.180	**
Problem-solving	3.713	***							2.007	***
Talking to others			1.709	***					0.895	***
Turning to religion			-0.027						-0.112	
Doing something enjoyable					0.500	**			0.372	*
Looking on bright side					4.545	***			3.578	***
Drinking							-1.563	***	-1.342	***
Using drugs							-2.647	***	-2.227	***
Eating							-1.772	***	-1.593	***
Intercept	70.214	***	80.297	***	64.802	***	93.047	***	63.293	***
R square	0.094		0.081		0.146		0.134		0.230	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.7 Ordinary Least Squares Regression of Self-Rated Mental Health on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Racial status														
East Asian	-0.092		-0.214	***	-0.199	***	-0.108	*	-0.091		-0.217	***	-0.105	
South Asian	0.063		-0.072		-0.072		-0.019		-0.055		-0.106		-0.095	
Blacks	0.222	**	0.119		0.173	*	0.128		0.135		0.093		0.129	
Aboriginal	-0.222	*	-0.181		-0.074		-0.166		-0.184		-0.232	*	-0.151	
Mixed Race	0.086		0.067		0.088		0.051		0.047		0.086		0.082	
Others	0.068		-0.049		-0.037		-0.035		-0.047		-0.047		-0.051	
White (reference)	3.915													
Age			-0.014	***	-0.017	***	-0.003		-0.002		-0.002		0.003	
Age square (/100)			0.012	***	0.014	***	0.002		0.001		-0.005		-0.007	*
Marital status														
Separated or divorced			-0.356	***	-0.281	***	-0.160	***	-0.158	***	-0.340	***	-0.126	**
Never married			-0.165	***	-0.122	***	0.016		0.000		-0.192	***	-0.013	
Widowed			-0.105		-0.040		0.075		0.058		-0.077		0.094	
Married or cohabiting (reference)														
Chronic illness (1 = yes)			-0.094	***	-0.088	***	-0.085	***	-0.086	***	-0.069	**	-0.059	**
Immigrant status (1 = yes)			0.135	***	0.118	***	0.155	***	0.171	***	0.139	***	0.143	***
Income in quartile														
1st quartile (lowest)					-0.176	***							-0.092	*
2nd quartile					-0.107	**							-0.082	*
3rd quartile					-0.036								-0.041	
Income missing					-0.051								-0.052	
4th quartile (reference)														
Work status														
Not working					-0.160	***							-0.151	***
Retired					0.190	***							0.020	
Working (reference)														
Homeownership (1 = yes)					0.010								-0.041	
Education in 10 levels					0.033	***							0.037	***
Tangible social support							0.000						-0.005	
Affection							0.034	***					0.009	
Emotional/informational support							0.024	***					0.011	***
Social network									0.004	***			0.003	***
Positive social interaction									0.067	***			0.034	***
Sense of belonging									0.061	***			0.054	***
Perceived stress											-0.243	***	-0.221	***
Intercept	3.915	***	4.379	***	4.275	***	3.017	***	2.871	***	4.856	***	3.435	***
R square	0.003		0.020		0.042		0.071		0.084		0.090		0.155	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.8 Ordinary Least Squares Regression of Self-Rated Mental Health on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-0.221	***	-0.203	**	-0.188	**	-0.210	***
South Asian	0.004		0.006		0.012		0.030	
Blacks	0.184		0.182	*	0.205	*	0.212	*
Aboriginal	-0.148		-0.158		-0.133		-0.132	
Mixed Race	0.161		0.173		0.189		0.183	
Others	-0.040		-0.041		-0.007		-0.012	
White (reference)								
Age	-0.014	***	-0.014	***	-0.017	***	-0.017	***
Age square (/100)	0.011	**	0.011	**	0.014	**	0.014	**
Marital status								
Separated or divorced	-0.284	***	-0.280	***	-0.269	***	-0.276	***
Never married	-0.172	***	-0.159	***	-0.169	***	-0.184	***
Widowed	-0.052		-0.046		-0.057		-0.056	
Married or cohabiting (reference)								
Chronic illness (1 = yes)	-0.067	**	-0.066	**	-0.064	*	-0.062	*
Immigrant status (1 = yes)	0.117	**	0.123	**	0.115	**	0.101	*
Income in quartile								
1st quartile (lowest)	-0.201	**	-0.201	**	-0.234	***	-0.235	***
2nd quartile	-0.130	**	-0.137	**	-0.125	**	-0.123	**
3rd quartile	-0.038		-0.047		-0.064		-0.059	
Income missing	-0.022		-0.032		-0.027		-0.022	
4th quartile (reference)								
Work status								
Not working	-0.115	**	-0.115	**	-0.101	*	-0.105	**
Retired	0.161	***	0.158	***	0.156	**	0.156	**
Working (reference)								
Homeownership (1 = yes)	0.029		0.012		-0.008		0.021	
Education in 10 levels	0.028	***	0.033	***	0.034	***	0.029	***
% of low income	0.049						0.463	
% Have university degrees	0.435	**					0.466	**
Median household income (/1000)	-0.001						0.000	
% of movers			-0.243				-0.293	
% of renters			0.171	*			0.006	
% of never married			-0.195				-0.484	
% of own racial/ethnic group					0.074		0.060	
Intercept	4.219	***	4.329	***	4.260	***	4.468	***
R square	0.043		0.042		0.042		0.046	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.9 Ordinary Least Squares Regression of Self-Rated Mental Health on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-0.181	**	-0.201	***	-0.174	***	-0.258	***	-0.229	***
South Asian	-0.055		-0.043		-0.041		-0.078		-0.020	
Blacks	0.190	*	0.202	*	0.179	*	0.107		0.149	
Aboriginal	-0.060		-0.075		-0.076		-0.047		-0.036	
Mixed Race	0.088		0.099		0.080		0.139		0.136	
Others	-0.029		-0.022		-0.037		-0.080		-0.057	
White (reference)										
Age	-0.019	***	-0.017	***	-0.019	***	-0.010	***	-0.013	***
Age square (/100)	0.016	***	0.015	***	0.016	***	0.007	*	0.010	**
Marital status										
Separated or divorced	-0.280	***	-0.279	***	-0.281	***	-0.233	***	-0.235	***
Never married	-0.110	***	-0.112	***	-0.113	***	-0.064	*	-0.050	
Widowed	-0.035		-0.045		-0.050		-0.022		-0.029	
Married or cohabiting (reference)										
Chronic illness (1 = yes)	-0.087	***	-0.088	***	-0.086	***	-0.067	**	-0.066	**
Immigrant status (1 = yes)	0.122	***	0.123	***	0.122	***	0.103	**	0.112	***
Income in quartile										
1st quartile (lowest)	-0.160	**	-0.169	***	-0.153	**	-0.160	**	-0.129	**
2nd quartile	-0.099	**	-0.100	**	-0.103	**	-0.111	**	-0.098	**
3rd quartile	-0.034		-0.034		-0.040		-0.048		-0.046	
Income missing	-0.040		-0.044		-0.043		-0.066		-0.048	
4th quartile (reference)										
Work status										
Not working	-0.155	***	-0.148	***	-0.150	***	-0.129	***	-0.116	***
Retired	0.196	***	0.190	***	0.193	***	0.172	***	0.179	***
Working (reference)										
Homeownership (1 = yes)	0.011		0.009		0.014		-0.021		-0.015	
Education in 10 levels	0.028	***	0.031	***	0.031	***	0.033	***	0.028	***
Problem-solving	0.157	***							0.088	***
Talking to others			0.069	***					0.036	***
Turning to religion			-0.021	**					-0.020	**
Doing something enjoyable					0.003				0.001	
Looking on bright side					0.169	***			0.119	***
Drinking							-0.094	***	-0.086	***
Using drugs							-0.194	***	-0.178	***
Eating							-0.076	***	-0.068	***
Intercept	3.592	***	4.046	***	3.542	***	4.682	***	3.637	***
R square	0.058		0.052		0.069		0.105		0.133	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.10 Logistic Regression of 12-month MDE on Social Resources and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Racial status							
East Asian	-0.343	-0.266	-0.355	-0.550	-0.600	-0.209	-0.519
South Asian	0.179	0.281	0.201	0.164	0.230	0.450	0.293
Blacks	-0.299	-0.301	-0.437	-0.328	-0.362	-0.246	-0.425
Aboriginal	-0.136	-0.386	-0.733	-0.433	-0.417	-0.405	-0.662
Mixed Race	0.548	0.405	0.345	0.417	0.413	0.340	0.239
Others	-0.555	-0.580	-0.660 *	-0.613	-0.588	-0.543	-0.519
White (reference)							
Age		0.062 **	0.061 **	0.028	0.019	0.010	-0.011
Age square (/100)		-0.076 **	-0.068 **	-0.048 *	-0.039	-0.010	0.006
Marital status							
Separated or divorced		1.360 ***	1.165 ***	0.818 ***	0.807 ***	1.383 ***	0.897 ***
Never married		0.779 ***	0.605 ***	0.218	0.245	0.896 ***	0.372 *
Widowed		0.951 **	0.863 **	0.495	0.499	0.933 **	0.606
Married or cohabiting (reference)							
Chronic illness (1 = yes)		0.014	0.006	0.001	-0.006	-0.066	-0.101
Immigrant status (1 = yes)		-0.085	-0.153	-0.168	-0.227	-0.170	-0.307
Income in quartile							
1st quartile (lowest)			0.176				-0.116
2nd quartile			0.242				0.147
3rd quartile			0.033				0.055
Income missing			-0.081				-0.161
4th quartile (reference)							
Work status							
Not working			0.758 ***				0.741 ***
Retired			-0.619 *				-0.010
Working (reference)							
Homeownership (1 = yes)			-0.385 **				-0.224
Education in 10 levels			0.019				0.016
Tangible social support				0.003			0.020
Affection				-0.098 **			-0.014
Emotional/informational support				-0.050 ***			-0.011
Social network					-0.039 **		-0.030 *
Positive social interaction					-0.159 ***		-0.115 ***
Sense of belonging					-0.114 **		-0.088 *
Perceived stress						0.967 ***	0.890 ***
Intercept	-3.043 ***	-4.523 ***	-4.590 ***	-1.205 *	-0.530	-6.686 ***	-3.663 ***
Log Likelihood	-3290	-3185	-3109	-3054	-2997	-2884	-2709

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.11 Logistic Regression of 12-month MDE on Neighbourhood-Level Variables and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4	
Racial status								
East Asian	-0.435		-0.418		-0.411		-0.442	
South Asian	-0.403		-0.427		-0.407		-0.440	
Blacks	-0.457		-0.475		-0.507		-0.512	
Aboriginal	-0.543		-0.554		-0.521		-0.547	
Mixed Race	0.421		0.412		0.326		0.303	
Others	-0.780	*	-0.793	*	-0.896	*	-0.907	*
White (reference)								
Age	0.047	*	0.046	*	0.083	**	0.079	**
Age square (/100)	-0.051	*	-0.050		-0.096	**	-0.092	**
Marital status								
Separated or divorced	0.939	***	0.938	***	0.912	***	0.884	***
Never married	0.523	**	0.521	**	0.545	**	0.490	*
Widowed	0.816		0.808		1.160	*	1.116	*
Married or cohabiting (reference)								
Chronic illness (1 = yes)	-0.079		-0.080		-0.001		0.001	
Immigrant status (1 = yes)	-0.292		-0.284		-0.218		-0.226	
Income in quartile								
1st quartile (lowest)	0.192		0.205		0.213		0.188	
2nd quartile	0.472	*	0.475	*	0.405		0.387	
3rd quartile	0.194		0.198		0.268		0.278	
Income missing	0.168		0.175		0.288		0.308	
4th quartile (reference)								
Work status								
Not working	0.750	***	0.754	***	0.724	***	0.718	***
Retired	-0.750	*	-0.755	*	-0.360		-0.366	
Working (reference)								
Homeownership (1 = yes)	-0.262		-0.238		-0.429	**	-0.287	
Education in 10 levels	0.021		0.024		0.030		0.024	
% of low income	0.689						0.488	
% Have university degrees	0.557						0.294	
Median household income (/1000)	-0.002						-0.001	
% of movers			0.306				1.065	
% of renters			0.379				-0.019	
% of never married			0.868				-0.492	
% of own racial/ethnic group					-0.771		-0.743	
Intercept	-4.435	***	-4.991	***	-4.885	***	-5.167	***
Log Likelihood	-2236		-2235		-1784		-1779	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.12 Logistic Regression Regression of 12-month MDE on Coping Behaviours and Other Selected Variables (with Robust Standard Errors): Canadian Men (Age 15+), 2002

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
Racial status										
East Asian	-0.399		-0.284		-0.385		-0.059		-0.042	
South Asian	0.180		0.008		0.136		0.317		0.038	
Blacks	-0.487		-0.640		-0.465		-0.269		-0.520	
Aboriginal	-0.767		-0.824		-0.773		-0.898		-1.014	*
Mixed Race	0.369		0.291		0.382		0.160		0.156	
Others	-0.679	*	-0.795	*	-0.631		-0.527		-0.630	*
White (reference)										
Age	0.065	**	0.059	**	0.066	**	0.033		0.039	*
Age square (/100)	-0.072	**	-0.071	**	-0.073	**	-0.035		-0.047	*
Marital status										
Separated or divorced	1.164	***	1.166	***	1.186	***	1.096	***	1.116	***
Never married	0.577	***	0.580	***	0.589	***	0.407	**	0.391	*
Widowed	0.872	*	0.889	*	0.872	*	0.818	*	0.871	*
Married or cohabiting (reference)										
Chronic illness (1 = yes)	0.012		-0.008		0.000		-0.067		-0.075	
Immigrant status (1 = yes)	-0.163		-0.203		-0.191		-0.099		-0.186	
Income in quartile										
1st quartile (lowest)	0.137		0.130		0.088		0.080		-0.056	
2nd quartile	0.223		0.191		0.212		0.215		0.110	
3rd quartile	0.035		0.021		0.034		0.045		0.009	
Income missing	-0.107		-0.128		-0.114		-0.051		-0.153	
4th quartile (reference)										
Work status										
Not working	0.747	***	0.710	***	0.741	***	0.630	***	0.574	***
Retired	-0.658	*	-0.597	*	-0.636	*	-0.584	*	-0.570	*
Working (reference)										
Homeownership (1 = yes)	-0.392	**	-0.384	**	-0.397	**	-0.300	*	-0.314	*
Education in 10 levels	0.033		0.019		0.022		0.021		0.026	
Problem-solving	-0.325	***							-0.161	*
Talking to others			-0.197	***					-0.110	*
Turning to religion			0.183	***					0.179	***
Doing something enjoyable					-0.018				-0.022	
Looking on bright side					-0.372	***			-0.280	***
Drinking							0.170	**	0.166	**
Using drugs							0.442	***	0.405	***
Eating							0.285	***	0.253	***
Intercept	-3.230	***	-4.109	***	-2.990	***	-5.604	***	-3.404	***
Log Likelihood	-3077		-3057		-3048		-2884		-2806	

Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.

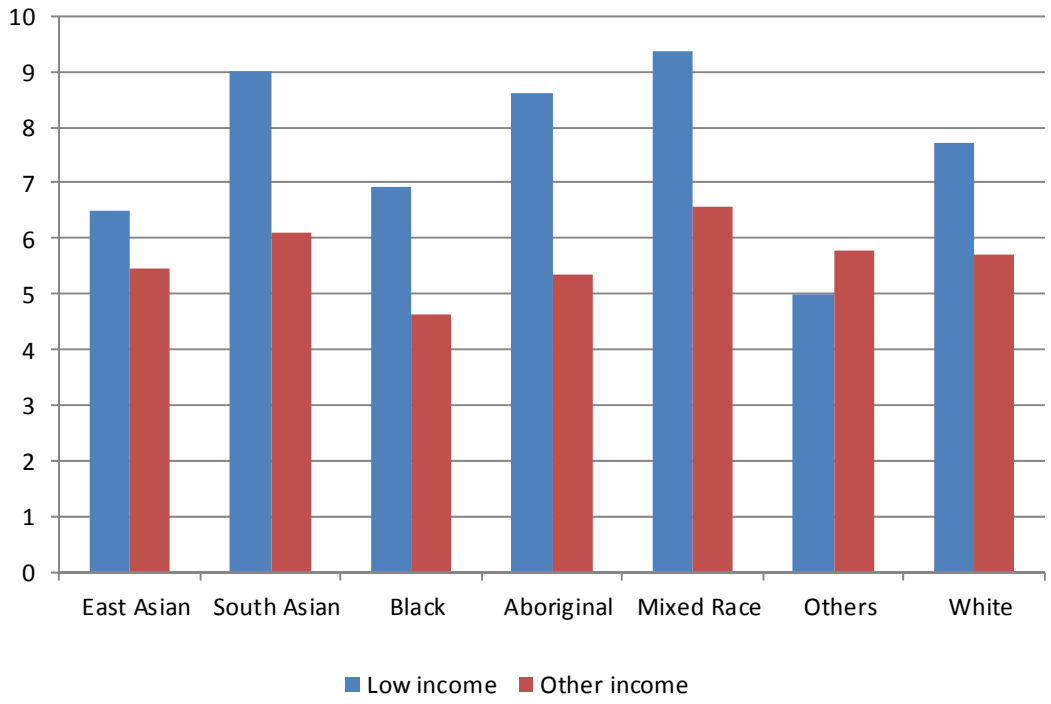
* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 7.13 Interaction Models of Selected Mental Health Indicators on Race/Ethnicity and Low Income Status (with Robust Standard Errors): Canadian Men (Age 15+), 2002

	Psychological distress		Psychological well-bing		Self-reported mental healh		MDE	
Independent variable	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Racial status								
East Asian	-0.349	-0.255	-4.408 ***	-4.178 ***	-0.204 ***	-0.211 ***	-0.276	-0.186
South Asian	0.482	0.388	1.317	1.388	-0.066	-0.041	0.273	0.381
Blacks	-0.990 *	-1.058 *	2.556	1.665	0.145	0.118	-0.355	-0.215
Aboriginal	-0.060	-0.353	1.265	2.516	-0.148	-0.182	-0.476	-0.495
Mixed Race	0.984 *	0.862	0.466	0.224	0.084	0.131	0.356	0.546
Others	-0.220	0.077	1.776	1.369	-0.041	-0.077	-0.588	-0.647
White (reference)								
Age	-0.022	-0.024	-0.101 *	-0.100 *	-0.014 ***	-0.014 ***	0.059 **	0.059 **
Age square (/100)	-0.014	-0.014	0.176 ***	0.176 ***	0.011 ***	0.011 ***	-0.074 **	-0.073 **
Marital status								
Separated or divorced	1.648 ***	1.626 ***	-4.724 ***	-4.699 ***	-0.334 ***	-0.330 ***	1.320 ***	1.323 ***
Never married	0.955 ***	0.937 ***	-3.494 ***	-3.466 ***	-0.146 ***	-0.146 ***	0.734 ***	0.720 ***
Widowed	0.655	0.645	-3.182 **	-3.167 **	-0.081	-0.080	0.909 *	0.895 *
Married or cohabiting (reference)								
Chronic illness (1 = yes)	0.542 ***	0.553 ***	-0.891 **	-0.897 **	-0.094 ***	-0.095 ***	0.017	0.016
Immigrant status (1 = yes)	-0.466 *	-0.457 *	-0.484	-0.470	0.137 ***	0.136 ***	-0.096	-0.093
Low income status (1 = yes)	1.898 ***	2.031 ***	-3.308 ***	-3.491 ***	-0.222 ***	-0.241 ***	0.477 **	0.585 ***
Interaction								
East Asian x low income		-0.988		-2.165		0.082		-0.766
South Asian x low income		0.881		-0.835		-0.255		-1.170
Blacks x low income		0.251		4.965		0.166		-0.730
Aboriginal x low income		1.221		-5.431		0.166		-0.018
Mixed Race x low income		0.786		1.836		-0.321		-1.162
Others x low income		-2.809 **		3.699		0.344 *		0.276
Intercept	5.678 ***	5.704 ***	84.786 ***	84.751 ***	4.378 ***	4.374 ***	-4.455 ***	-4.444 ***
R square/Log Likelihood	0.048	0.049	0.039	0.040	0.024	0.025	-3176	-3172
Δ in R square/Log Likelihood		0.002 ***		0.001 ***		0.001 ***		4.007

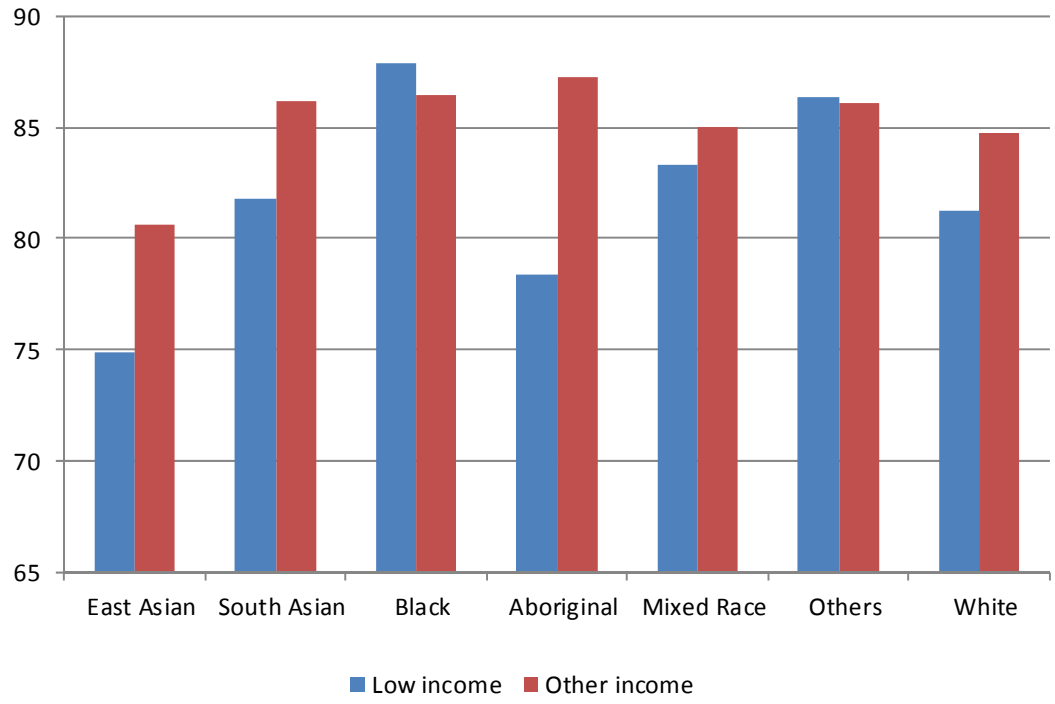
Note: All models include a dummy indicator for missing income.
Sources: The 2002 CCHS 1.2 and the 2001 Canadian Census.
* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Figure 7.1 Interation Effects of Race and Low-income Status on Psychological Distress: Canadian Men (Age 15+), 2002



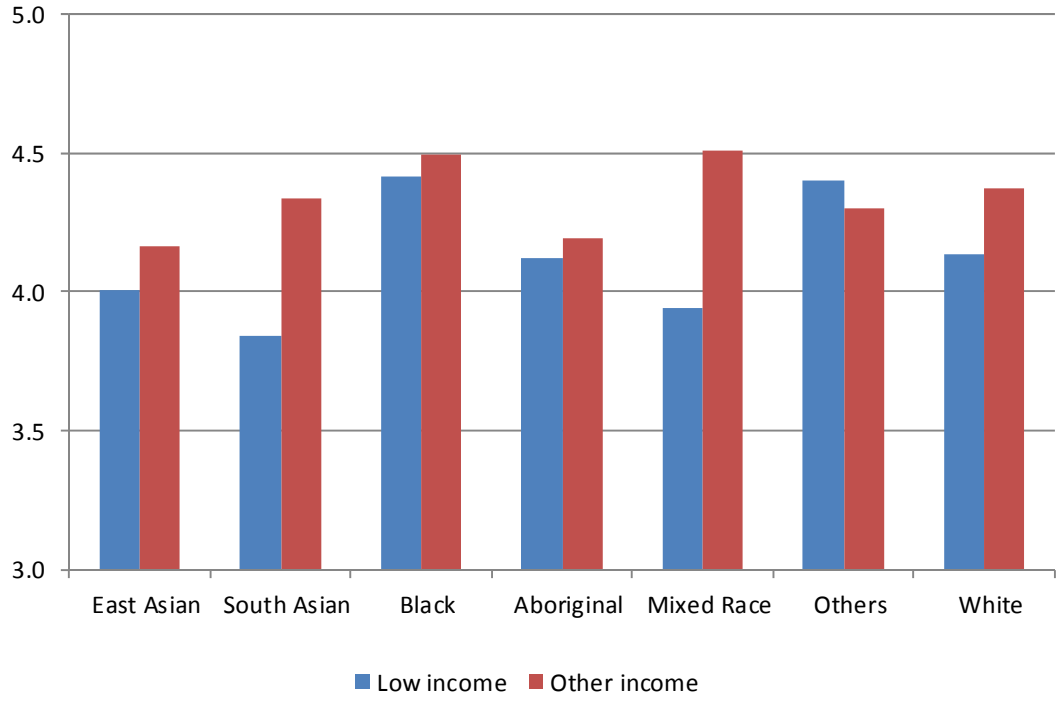
Source: Table 7.12.

Figure 7.2 Interation Effects of Race and Low-income Status on Psychological Well-being: Canadian Men (Age 15+), 2002



Source: Table 7.12.

Figure 7.3 Interation Effects of Race and Low-income Status on Self-reported Mental Health: Canadian Men (Age 15+), 2002



Source: Table 7.12.

Chapter 8

DISCUSSION AND CONCLUSION

8.1 INTRODUCTION

This study examined the relationship between race and mental health among Canadian adults. The empirical analysis compared 5 racial groups to Whites on mental health, and conducted separate analysis for women and men, considering that racial patterns of mental health could be conditional on gender. The racial groups compared to Whites included: East Asians, South Asians, Blacks, Aboriginals, and mixed race persons. These are, of course, broad analytical categories that conflate different ethnic groups, and thus the empirical analysis does not capture ethnic or cultural differences in mental health. The over-arching focus was on whether social organization influences patterns of mental health in Canada with regard to racial status. Our concern was with the implications of racism for the mental health of racial minorities. Following the stress process model, we hypothesized that differences in stress exposure, socioeconomic status, social resources, neighborhood environment, and coping behaviors could contribute to racial differences in mental health. The assumption was that higher stress exposure (e.g., racism-related stressors), economic hardship, social isolation, and disadvantaged neighborhood environments, could compromise the mental health of racial minorities. However, we also considered whether social support and coping behaviors among these groups protected them from these negative influences.

The stress process model (SPM) has moved us beyond comparing groups on single outcomes of mental health (Wheaton 1999). The consequences of stress are

conceptualized as a “generalized force” that have multiple implications. However, it is also possible the stress exposure has negative influence on some, but not all, aspects of mental health. Comparing groups on a single dimension of mental health provides an incomplete understanding of racial patterns of mental health, and can indeed lead to misinterpretations of differences between Whites and racial minorities. For example, the literature demonstrates that it is possible for racial minorities to have a similar risk of major depression as Whites, but higher levels of distress (George and Lynch 2003). Thus comparing racial groups on depression alone gives the false impression that Whites and racial minorities are no different in mental health. This is problematic because it suggests that racism-related stressors and marginalization have no adverse implications for the mental health of racial minorities. To address this issue, this study considered several mental health outcomes, including psychological distress, psychological well-being, self-rated mental health, and major depressive episode. These measures encompass the positive, negative, and subjective dimensions of mental health.

8.2 RACIAL PATTERNS OF MENTAL HEALTH

Our primary objective was to illustrate the racial pattern of mental health in Canada, with separate analysis for women and men. The main analysis examined the relationship between race and mental health, presenting the bivariate estimates and estimates that control for demographic characteristics (age, marital status, immigrant status) and chronic illness. The subsequent models examined the contribution of stress exposure, socioeconomic status, social support, and social embeddedness. The analysis of stress exposure examined if perceived stress explained (or changed) racial differences in

mental health. The analysis of SES considered household income, work status (employed, unemployed, retired), homeownership, and education. The analysis of social support included measures of tangible, affectionate, and emotional informational support. The analysis of social embeddedness included measures of social network size, positive social relations, and sense of belonging to the local community. Below we summarize the key findings for how East Asians, South Asians, Blacks, Aboriginals, and mixed race persons compare to Whites on psychological distress (distress), psychological well-being (PWB), self-rated mental health (SRMH), and major depressive episode (MDE), and how the selected explanatory variables influence these comparisons.

Table 8.1 presents a snapshot of the racial pattern of mental health among Canadian adults. This table is based on the bivariate comparisons and illustrates that there are more similarities than differences between racial minorities and Whites on mental health. Only Aboriginal women have a consistent disadvantage in mental health in comparison to Whites. South Asian women and men are similar to Whites on all measures of mental health considered. Among women, there are only two instances where racial minorities fare better than Whites: East Asian women have better outcomes on distress and MDE than Whites. There are seven instances where non-White women fare worse than White women. This includes worse outcomes for Aboriginal and mixed race women on distress, for East Asian and Aboriginal women on PWB and SRMH, and for mixed race women on MDE. Among men, Blacks have better outcomes on distress and SRMH. East Asian men have worse outcomes on PWB and Aboriginal men worse outcomes on SRMH. There are gender differences in how East Asians compare to Whites on distress, SRMH, and MDE; how Blacks compare to Whites on distress and SRMH;

how Aboriginals compare to Whites on distress and PWB; and how mixed race persons compare to Whites on MDE.

Table 8.1 About Here

8.2.1 East Asians

Our findings demonstrate that East Asian women have lower levels of distress than White women, controlling for demographics and chronic illness. Their advantage in distress disappears when perceived stress is controlled. This finding suggests that a lower level of perceived stress among East Asian women accounts for their advantage over White women. The other explanatory variables have a more limited influence. Socioeconomic status contributes little to the difference in distress between East Asian and White women. When controlling for social support and social embeddedness, the difference in distress between East Asian and White women remains significant. However, the magnitude of the gap increases. There are non-significant differences between East Asian and White men in the baseline model and also the models that control for perceived stress and SES. But East Asian men have lower levels of distress in the models that control for social support and social embeddedness. These findings suggest that East Asians suffer from a lack of social support and social embeddedness. Although East Asian women have lower and East Asian men have similar levels of distress as Whites, a comparative disadvantage in both social support and social embeddedness is harmful to their levels of distress. The reason for this finding is unclear from our analysis, but previous studies demonstrate that, for cultural reasons, East Asians are more reluctant than Whites to enlist social support out of concern that this help-

seeking behavior could jeopardize their social relationships (see Kim, Sherman, and Taylor 2008).

Both East Asian women and men have lower levels of PWB than White women and men. This is in contrast to their advantage over Whites in distress. The gap in PWB between East Asian and White women attenuates but remains significant when demographics and chronic illness are controlled. Among women, this gap widens when perceived stress is controlled, which suggests that there is lower perceived stress among East Asian women than Whites or at least that perceived stress is comparatively less harmful to their PWB. Socioeconomic status has little effect on this gap. The disadvantage in PWB among East Asian women disappears when social support is controlled and also when social embeddedness is controlled. The PWB gap between East Asian and White men changes little when either perceived stress or SES is controlled. The gap attenuates, but remains significant, when social support is controlled. When social embeddedness is controlled, there is no difference in PWB between East Asian and White men. These findings provide further evidence that a lack of social resources has a health-damaging effect among East Asian Canadians.

In addition, East Asian women and men have lower levels of SRMH than Whites. For women, the gap in SRMH is not attributable to differences in perceived stress or socioeconomic status. However, when social support and social embeddedness are controlled, this gap attenuates to non-significant levels. These mechanisms have similar influence on the SRMH gap between East Asian and White men. This gap disappears when social embeddedness is controlled, but perceived stress, SES, and social support contribute little. When these latter variables are controlled, the difference in SRMH

between East Asian and White men remains almost unchanged. However, the disadvantage in PWB and SRMH is not translating into higher levels of distress among East Asians or a higher risk of major depression. East Asian women have a lower risk of depression than White women. When perceived stress is controlled, this difference in the risk of depression attenuates to non-significant levels. The other explanatory variables do not contribute much to the difference in the risk of depression among East Asian and White women. Among men, there is no difference in the risk of depression, and none of the explanatory variables change the bivariate finding.

8.2.2 South Asians

There is a non-significant difference between South Asians and Whites on our selected measures of mental health. For both women and men, South Asians are similar to Whites on distress. The key explanatory variables (stress, SES, social support, and social embeddedness) do not change how South Asians compare to Whites on distress. Among women, a similar pattern was observed for PWB. Among men, there is no difference in PWB, except when social support and social embeddedness are controlled. In these models, South Asian men have higher PWB than Whites, which suggests that a shortage of social resources is a problem for South Asian men, with regard to their PWB. For women and men, there is also a non-significant difference in SRMH and MDE between South Asians and Whites. The explanatory variables have no significant impact on how South Asians compare to Whites on these outcomes. For the most part, it appears that South Asians are similar to Whites in terms of mental health. At least, the health-damaging influence of stress exposure, low SES, and social isolation does not appear to have an adverse effect on their distress, SRMH, and MDE. These findings are consistent

with earlier Canadian research, which observes a non-significant difference in the number of depressive symptoms and the risk of MDE between South Asian and English Canadians, controlling for SES and social support (Wu, Noh, Kaspar, and Schimmele 2003).

8.2.3 Blacks

Among women, our bivariate findings demonstrate that Blacks have similar levels of distress as Whites. In the models that control for demographics and chronic illness, perceived stress, social support, and social embeddedness, there is no change in this pattern. However, when SES is controlled, Black women have lower levels of distress than Whites. The findings for Black men are somewhat more complicated. In the bivariate model, Black men have lower levels of distress than Whites, but this advantage disappears when demographics and chronic illness are controlled. This suggests that the Black advantage could be attributable to marriage, a healthy migrant effect, or better physical health, or some combination of these factors. As for women, perceived stress does not change how Black men compare to Whites on distress, but, when SES is controlled, Black men have lower levels of distress than Whites. In addition, social support and social embeddedness contribute to a difference between Black and White men. In the models that control for these factors, Black men have lower levels of distress than Whites. Hence, for Blacks, SES has health-damaging influence on distress, even though this does not translate into Blacks having higher levels of distress than Whites. For Black men, a lack of social resources also has a negative effect on their relative levels of distress.

Among women, there are some differences in PWB between Blacks and Whites. There are no differences between Black and White men, however, and none of the explanatory variables influence this pattern. There is a non-significant difference in PWB between Black and White women in the bivariate model. When demographics and chronic illness are controlled, Black women have better PWB than Whites. This is either attributable to the influence of marital status or immigrant status. Since most Blacks are immigrants, the negative effect of being an immigrant on PWB could explain the non-significant difference between Black and White women in the bivariate model. It could also be that a higher proportion of Black women than White women are unmarried, which is also detrimental for PWB. The PWB gap between Black and White women increases in the models that control for SES, social support, and social embeddedness. Though these variables do not "explain" the difference between Black and White women, these findings suggest that Black women still suffer from low-SES and deficient social resources. What is surprising is that the gap in PWB between Black and White women disappears when perceived stress is controlled. This finding suggests that the PWB advantage among Black women is attributable to comparatively less stress among them.

There are also difference between Blacks and Whites in SRMH. Among women, these differences are not visible in the bivariate model nor the model that controls for demographics and chronic illness. Moreover, differences in perceived stress do not contribute to a difference in SRMH between Black and White women. In the models that control for SES, social support, and social embeddedness, Black women have higher SRMH than Whites. Among men, there is a difference between Blacks and Whites, but this is attributable to differences in demographic characteristics and chronic illness. In the

bivariate model, Black men have better SRMH than Whites. This suggests that marriage, being an immigrant, being in better physical health, or a combination of these factors explains the SRMH advantage of Blacks observed in the bivariate model. Similar to women, SES has health-damaging influence on the SRMH of Black men, this effect is not strong enough to give Black men a SRMH disadvantage in comparison to White men. That is, when SES is considered, Black men have better SRMH than White men, controlling for demographics and chronic illness. Our findings demonstrate that perceived stress, social support, and social embeddedness have little influence on how Black men compare to White men on SRMH.

The Black-White differences in the risk MDE are minor. Among men, there is a non-significant difference, and controlling for perceived stress, SES, social support, and social embeddedness does not change this. Except for social support, none of these variables influence the risk of MDE between Black and White women either. When social support is controlled, Black women have a lower risk of MDE than White women. This suggests that a deficit of social support is an issue for Black women.

8.2.4 Aboriginals

The differences in distress between Aboriginals and Whites are confined to women. Among men, there is a non-significant difference in the bivariate model and none of the explanatory variables change this relationship. Hence, perceived stress, SES, social support, and social embeddedness are not influential factors with regard to how Aboriginal men compare to White men on this dimension of mental health. In the bivariate model, Aboriginal women have higher levels of distress than White women. This difference is not attributable to perceived stress, social support, or social

embeddedness, even though these factors appear to contribute to the size of the effect. Differences in socioeconomic status explain this gap in the levels of distress. When SES is controlled, Aboriginal women are similar to White women in distress.

The Aboriginal-White difference in PWB is also confined to women. There are no differences in PWB between Aboriginal and White men. In the bivariate model, there is a large gap between Aboriginal and White women. However, this difference in PWB disappears when demographic characteristics and chronic illness are controlled. In this model, the most promising candidate to explain the Aboriginal disadvantage in PWB is marital status. Chronic illness has a non-significant effect on PWB among Canadian women, which suggests that this is not a good candidate for explaining this difference. Age has a weak (but significant) effect, which suggests that age differences are not the primary reason either. But there are large differences between the married and cohabiting and all other marital status groups. The most plausible reason appears to be that a larger proportion of Aboriginal women than White women are either never married, divorced/separated, or widowed. However, further research is needed to confirm this assumption. Our selected explanatory variables do not change how Aboriginal women or men compare to Whites on PWB.

Our bivariate analysis demonstrates that both Aboriginal women and men have worse SRMH than Whites. However, while our explanatory variables account for the difference between Aboriginal and White men, these cannot explain the difference between women. For Aboriginal men, the SRMH disadvantage disappears when demographics and chronic illness are controlled. This disadvantage returns in the model that controls for perceived stress as well as demographics and chronic illness. This

indicates that lower perceived stress among Aboriginal men is protecting their SRMH. In the full model, which controls for all selected variables, Aboriginal women still have a SRMH disadvantage. It is difficult to interpret this finding, considering that the model includes comprehensive measures of stress exposure, socioeconomic status, and social resources. As discussed below, this difference between Aboriginal and White women also persists when controlling for neighborhood environment and coping behaviors.

In the main analysis, there is a non-significant difference between Aboriginals and Whites in the risk of MDE. Controlling for our selected explanatory variables does not change this finding.

8.2.5 Mixed Race Persons

Among mixed race Canadians, there is a disadvantage in distress. Both mixed race women and men have higher levels of distress than Whites. When demographics and chronic illness are controlled, this disadvantage disappears for mixed race women. None of the other explanatory models change how mixed race women compare to White women on distress. The results for men are quite different. The disadvantage among mixed race men persists across all explanatory models. With one exception, there are non-significant differences between mixed race persons and Whites in PWB, SRMH, and MDE. The exception is that mixed race women have a higher risk of MDE in the bivariate model. This disadvantage disappears when demographics and chronic illness are controlled.

8.3 ASSESSING THE MECHANISMS

Following the SPM, our assumption was that racism-related stressors (perceived stress) and stressors related to economic hardship and neighborhood environment were potential sources of social stress (and illness) among racial minorities. We also considered whether social support, social embeddedness, and residing among co-ethnics are important factors in the relationship between race and mental health. Finally, we examined if coping behaviors transform the relationship between race and mental health. Below we re-cap our major findings about the influence of these mechanisms on the relationship between race and mental health among Canadian adults.

8.3.1 Perceived Stress

There is a good rationale to assume that racial minorities are exposed higher levels of stress than Whites (Brown et al. 2000; George and Lynch 2003; Williams and Harris-Reid 1999). This is attributable to the experience of overt racism (prejudice) as well as the covert, but more pervasive, forms of racism that exist in Canada. To capture this experience, we focused on how perceived stress influences how racial minorities compare to Whites on mental health. The results are quite surprising. The consistent finding is that, for the most part, perceived stress is not health-damaging for the mental well-being of racial minorities. While it is possible (and likely) that racial minorities encounter more stressors (e.g., chronic strains) than Whites, this is either not translating into higher perceived stress or perceived stress is not as health-damaging for them. Perceived stress has a strong general effect. For both women and men, higher perceived stress harms all dimensions of mental health considered. This confirms that perceived stress is an important risk factor. However, perceived stress contributes to a disadvantage

in SRMH among Aboriginal men, but otherwise does not harm the mental health of racial minorities. Moreover, perceived stress accounts for the advantages East Asian women have in distress, PWB, and MDE and the advantage Black women have in PWB. This suggests either that White women have a higher burden of perceived stress than East Asian women or that perceived stress has a more negative effect on their mental health.

8.3.2 Socioeconomic Status

A key finding is the literature is that racial disparities in health are largely attributable to low SES of racial minorities (Bratter and Eschbach 2005; Williams et al. 1997; Wu et al. 2003). Our findings show that controlling for SES does not influence differences between Whites and racial minorities with regard to PWB or MDE. However, low SES has health-damaging influence for racial minorities in several respects. First, a Black advantage (among women and men alike) in distress and SRMH emerges when SES is controlled. This advantage is concealed in the baseline model, which suggests that Blacks are similar to Whites on these outcomes. But Blacks have lower levels of distress and better SRMH when SES is controlled. This is evidence for a within-group difference that requires further exploration. That is, the group average for Blacks conceals a difference among those who compare well to Whites and those who do not (i.e., poor Blacks) on these measures of mental health. Second, the disadvantage in distress among Aboriginal women is attributable to SES. Third, the influence of low-income appear be more health-damaging for racial minorities in some respects. For example, the gap in PWB between low-income persons and non-low-income persons is wider for Black, Aboriginal, and mixed race women than it is for White women. Among men, East Asian, South Asian, and Aboriginal men are more vulnerable than White men to the negative

influence of low-income on PWB. Aboriginal men also are more vulnerable to the negative influence of low-income on distress.

8.3.3 Social Resources

Few studies examine whether social support mediates the relationship between race and mental health, but this is potentially a coping resource that helps racial minorities manage the negative influence of discrimination and economic hardship. How does social support influence the relationship between race and mental health? Social support has several notable influences. First, social support changes how East Asians compare to Whites on distress and PWB. Controlling for demographics and chronic illness, East Asian women have lower levels of distress and East Asian men have similar levels of distress as their White counterparts. The advantage among East Asian women increases and an advantage among East Asian men emerges when social support is controlled. In addition, the East Asian disadvantage in PWB disappears for women and attenuates for men in the models that consider the influence of social support. Second, for South Asian men, a PWB advantage emerges when racial differences in social support are adjusted. Third, Blacks have lower levels of distress and better SRMH when social support is controlled. Black women also have a lower risk of MDE. Social support does not change how mixed race persons compare to Whites on mental health. These findings demonstrate that some racial minorities appear to suffer from a sheer lack of social support or a reluctance to use it.

Our analysis also examined if social embeddedness is an important factor in the relationship between race and mental health. Social embeddedness reflects the social acceptance of racial minorities into the host population and their opportunities for

positive social interactions within their communities. The influence of social embeddedness on racial differences in mental health are similar to the influence of social support, and it could be that these two sets of variables are tapping similar resources or experiences. However, our results also suggest that some racial minorities face a disadvantage in social embeddedness. Our findings show that East Asians appear to suffer from a lack of social embeddedness. When social embeddedness is controlled, the advantage in distress East Asian women have over Whites increases. This variable also explains their disadvantage in PWB and SRMH. An advantage (i.e., a change from a non-significant difference) emerges among East Asian men in the model. Differences in social embeddedness also account for the comparatively lower PWB and SRMH among them. Among Blacks, an advantage in SRMH emerges for women and an advantage in distress emerges for men when social embeddedness is controlled. Finally, South Asian men have better PWB than Whites when social embeddedness is controlled. But social embeddedness does not translate into a mental health disadvantage in other respects. Our findings demonstrate that social embeddedness has a non-significant effect on how Aboriginals or mixed race people compare to Whites.

8.3.4 Neighborhood Environment

This study considered whether the social environment influences racial differences in mental health. This included several ecological-level effects: neighborhood socioeconomic conditions, neighborhood stability, and neighborhood co-ethnic density. To be sure, the residential segregation of racial minorities is lower in Canada than the US (Fong 1996). There is higher discrimination in housing markets in the US (especially for Blacks), which explains their spatial concentration. To some extent, however, racial

minorities in Canada concentrate in certain neighborhoods because of factors related to the immigrant experience or socioeconomic constraints. Throughout the 1980s and 1990s, residential dissimilarity between racial minorities and Whites increased in Canada, reflecting the settlement patterns of recent immigrants and the structural forces (e.g., socioeconomic discrimination) that limit the opportunities for the spatial assimilation of recent immigrants (Hou 2006). Our expectation was that these processes could contribute to the stress exposure of racial minorities. This included the negative influence of living in neighborhoods with poor or below average socioeconomic conditions and also neighborhoods with more transient (instable) populations. However, we also hypothesized that living among co-ethnics (a group density effect) could provide resources that assist immigrants in the settlement process and also help racial minorities deal with economic hardship.

For the most part, the influence of the selected neighborhood-level variables are generally weak or non-significant. Hence, neighborhood effects are not a robust explanation for the racial pattern of mental health in Canada. This reflects the spatial integration of racial minorities in Canada. Our main observations are as follows. First, the selected neighborhood-level variables have a negligible impact on racial differences in distress and SRMH among women and on racial difference in MDE among men. Second, neighborhood socioeconomic conditions have a few negative influences. These conditions explain the disadvantage in PWB among East Asian women. This factor also explains the distress disadvantage among mixed race males. In addition, an advantage in PWB emerges for South Asian and Black men, controlling for neighborhood socioeconomic conditions. Third, the selected measures of neighborhood stability

(percent of movers, renters, and never married) do not appear to be particularly useful variables for explaining racial differences in mental health. Fourth, residing among co-ethnics has some protective influence for racial minorities, but the effect is inconsistent across gender and the dependent variables. Among women, there is a non-significant ethnic density effect on the relationship between race and distress, PWB, and SRMH, but this factor decreases the comparative risk of MDE for South Asian, Black, and Aboriginal women. Among men, co-ethnic density contributes to an advantage in PWB among South Asian and Black men and also explains the disadvantage in distress among mixed race males. Ethnic density has a non-significant effect on the relationship between race and SRMH and MDE among Canadian men.

8.3.5 Coping Behaviors

To our knowledge, no previous studies have examined how coping influences the relationship between race and mental health in Canada. Our main results demonstrate that racial minorities do not always have worse mental health than Whites, and their coping behaviors is a potential explanation for this finding. Lazarus and Folkman (1984) propose two broad categories of coping behaviors: problem-solving and emotion-focused. Problem-solving coping behaviors refer to direct actions to resolve or decrease the source of stress or extract oneself from the stressful situation. Emotion-focused coping refers to actions that transform the meaning of the event, and consists of strategies such seeking help (e.g., talking to others), distracting (e.g. doing something enjoyable), selective attention (e.g., looking on the bright side of life) and other behaviors that regulate emotional responses to stress (Joseph and Kuo 2009). In addition, we included an examination of the influence of maladaptive coping (drinking, overeating, and using

drugs) based on previous studies that suggest that some racial minorities engage in these risky behaviors in response to social stress (Keyes, Barnes, and Bates 2011; Martin, Tuch, and Roman 2003).

Do the coping repertoires of racial minorities transform the relationship between race and mental health among Canadians? The answer to this question is not straightforward, but coping does indeed contribute to our understanding about the relationship between race and mental health. Our results indicate that problem-solving coping does not change the relationship between race and SRMH or the risk of MDE. For other aspects of mental health, our findings demonstrate that some racial minorities tend to engage in problem-solving coping strategies less often than Whites. This either contributes to a mental health disadvantage or suppresses an advantage among them. Differences in this type of coping behavior explains some of gap in mental health between East Asians and Whites. When problem-solving coping is controlled, the PWB disadvantage of East Asian women disappears. Moreover, while East Asian men are similar to White men in distress (controlling for demographics, chronic illness, and socioeconomic status), when problem-solving coping is added to the model, this group has comparatively lower levels of distress. Problem-solving coping also contributes to an advantage in PWB among South Asian, Black, and Aboriginal men. When these racial minorities use problem-solving coping strategies, their PWB is higher compared to Whites, whereas it was similar before.

The insidious nature of racism-related stressors could prevent racial minorities from turning to problem-solving coping strategies. For racial minorities, problem-solving coping cannot resolve the chronic strains associated with structural discrimination, and

thus emotion-focused strategies are more relevant for managing racism-related stress (Joseph and Kuo 2009; Kuo 1995). Among women and men, emotion-focused coping does not change the relationship between race and SRMH. Among men, this is also the case for MDE. But emotion-focused coping matters in several other respects. The disadvantage in PWB among East Asian women disappears after considering coping strategies that distract attention from stressful circumstances, including doing enjoyable things and focusing on the positive aspects of life. There is also evidence that demonstrates a lack of emotion-focused coping behaviors suppresses the mental health of some racial minorities. South Asian women have lower levels of distress, controlling for factors such as talking to others, doing something enjoyable, and looking on the bright side of things. The risk of MDE among South Asian, Black, and Aboriginal women is lower than for Whites, controlling for factors such as talking to others and turning to religion. When help-seeking variables are controlled, PWB among South Asian changes from a non-significant difference from Whites to an advantage over Whites. A similar change occurs for the PWB of South Asian, Black, and Aboriginal men, controlling for coping strategies that distract attention from stressful circumstances.

Our results for maladaptive coping contradict the assumptions in the literature. Our findings demonstrate that maladaptive coping is risk factor for poor mental health. This finding is consistent across the outcome variables and gender. What contradicts our assumption is that some racial minorities (including Blacks) appear to engage in these risky coping behaviors *less* often than Whites, and this accounts for some of their mental health advantages. When maladaptive coping is controlled, the advantage in distress and MDE that East Asian women have over Whites disappears. In addition, the PWB

disadvantage in PWB these women have increases. Refraining from maladaptive coping also explains the advantage that Black women have in distress, PWB, and SRMH. We observed a similar effect for the SRMH advantage among Black men. There are, however, two instances where maladaptive coping does appear to damage or suppress the mental health of racial minorities in comparison to Whites. When this type of coping is controlled, the distress disadvantage among mixed race males disappears and Aboriginal males have better PWB than Whites.

8.4 STUDY LIMITATIONS, FUTURE DIRECTIONS

There are several methodological and data limitations that warrant further discussion. The first limitation is the cross-section research design of this study. This presents at least two issues that temper our conclusions about racial patterns of mental health. First, it is not possible to establish causal relationships using cross-sectional data. Our analysis was based on the stress process, which implies a temporal sequence of exposure to stressors, reactions to stress, and stress outcomes. However, our analysis measures the sources of stress, mediating resources, and coping behaviors, and stress outcomes at the same time. With cross-sectional data, the main question left unanswered is how stress exposure at Time 1 influences stress outcomes at Time 2, and how social resources and coping behaviors intervene in this process. This question cannot be answered with certainty without longitudinal data, which is needed to observe the onset of illness and its determinants. Future research should also investigate how the timing of stressful experiences contributes to racial differences in mental health. The “critical period model” suggests that there is an interaction between an undesirable experience and

life-stage (Ben-Shlomo and Kuh 2002). That is, stressful experiences (e.g., poverty) that occur during critical periods such as childhood or adolescence have greater health-damaging effects than at later stages in the life course. This is a potential source of differentiation both between and within racial groups.

Second, cross-sectional data limits us to comparing racial minorities and Whites on mental health outcomes at a moment in time. This blinds us to potential racial differences in mental health in the onset of illness (e.g., age effects), the duration of illness, and the chronicity of illness. As Chapter 3 indicates, these are potentially important sources of racial inequalities in mental health, and this remains a topic of future research for evaluating racial patterns of mental health in Canada and elsewhere. The age of onset of illness is an important issue because early onset (a critical period) can cause serious life-course disruptions and have lifelong consequences, and is thus a potential source of cumulative disadvantage. In general, there is little or no difference between racial minorities and Whites in the annual prevalence of MDE. This finding is consistent for both Canada and the US, and is an epidemiological paradox, considering the comparatively higher levels of stress exposure and hardship that racial minorities tend to experience. However, there could be racial differences in the age of onset of illness (and thus lifetime prevalence rates) that are concealed in comparisons of annual prevalence. Moreover, exposure to stress and responses to stress could be conditional on age, since life transitions and coping abilities are often age-graded. This implies a need to examine racial differences in mental illness among specific age groups, such as in adolescence or later life, to build a more nuanced understanding of the racial distribution of mental illness in the population.

The second limitation concerns our measurement of stress exposure. In our analysis, stress exposure is measured using a perceived (self-rated) stress and is a measure of current stress loads. As discussed in Chapter 4, there is a good rationale for using this measure. In brief, this is a global measure that (presumably) captures a comprehensive range of different stressors, including racism-related stressors, chronic strains, and negative life events. The limitation of the CCHS 1.2 is that it does not contain an index of negative life events, an index or race-related stressors or another suitable measure of the experience of racism, a measure of chronic strains, or a measure of lifetime stress. It is impractical to measure all possible stressors, and thus a global measure is an efficient alternative. However, we cannot be sure that this global measure is an accurate measure of exposure to stressors, which, as discussed in Chapter 4, is distinct from the experience of stress. This is a concern because the results suggest that perceived stress contributes little to the relationship between race and mental health in Canada. In unreported analysis, we observed that the mean levels of perceived stress among racial minorities are similar or higher than among Whites. This implies that (a) racial minorities are less reactive than Whites to stress or (b) that there is a weaker than expected association between exposure to stressors and perceived stress. The former suggests a need for research that focuses on racial differences in the cognitive appraisal of stressful situations and how this accounts for racial patterns of illness. For example, it is possible that cognitive appraisal could explain the non-significant difference in MDE between Blacks and Whites.

Third, the measurement of mental health is also a concern. Chapter 2 discusses this matter at length, but it is important to revisit this issue. The problem is that our

selected outcome variables could be insensitive to cultural differences in the report of symptoms of illness or positive emotions. To some extent, our measure of MDE could underestimate the prevalence of this illness if there are inter-racial differences in the endorsement of key screening questions, such as anhedonia and dysphoria. In addition, prior research demonstrates that East Asians are more reluctant than Whites to CES-D endorse items that tap positive emotions (Noh, Kaspar, and Chen 1998). Little is known about whether this reluctance also compromises our instrument for measuring PWB, but it is plausible. Our results indicate that East Asian women and men both report lower psychological well-being than Whites. East Asian women also report lower levels of self-reported mental health. In contrast, East Asian women report lower levels of distress and MDE than Whites. East Asian men report similar levels of distress, SRMH, and MDE as Whites. At least for East Asians, it appears that our findings for positive affect and subjective mental health could reflect a cultural bias. Hence, the difference in PWB East Asians and Whites needs to be interpreted with caution, considering that further research is needed to examine the cross-cultural validity of instrument used to measure this outcome. That said, our findings also demonstrate that the differences in PWB between East Asians and Whites is attributable to disparities in social resources, which implies that the gap in PWB is not just a methodological artifact.

As noted throughout this thesis, our comparison groups represent analytical categories that conflate people with diverse ethnic backgrounds. There are good reasons to group people under our selected racial categories, but there are also limitations (and caveats) that come with placing different ethnic groups under these broad umbrellas. Our expectation is that the demographic and cultural heterogeneity within these categories

could be concealing important sources of variation, especially factors such as stress-reactivity, which are undoubtedly sensitive to cultural attitudes. Small sample sizes of racial minorities in the CCHC 1.2 prevented a more refined disaggregation of our selected racial categories. This limitation aside, an important conceptual problem remains: how far should we disaggregate these categories. Some scholars such as Cooper (1994) suggest replacing race with ethnicity, given the limitations of employing racial categories in comparative research. To be sure, ethnic groups are more homogenous variables for comparative purposes and lack much of the thorniness of assigning individuals into "racial" groups. But how is it possible to discuss the effects of racism on health in context of ethnic groups? To some extent, it is possible to compare sub-groups (e.g., Chinese, Korean, Japanese) to Whites while retaining the over-arching concept of race, which would keep the discussion focused on racism-related issues and also allow for the observation of intra-racial differences. There are some groups, however, such as Aboriginals, that consist of too numerous groups for this approach to be practical.

The goal of this study was to compare racial groups, and it provided a broad-based description of the racial distribution of mental health. While useful, comparing groups averages is insensitive to intra-racial vulnerabilities. More attention is needed on within groups comparisons. This calls for a shift of attention from the racial differences in mental health that are based on group averages (still a desirable goal) toward a group-centered approach. There is no reason that Whites need to be the reference group against which all other racial groups are compared to assess racial differences well-being (Neighbors 1984). Most comparative health research – the present study is no exception – makes the implicit assumption that the White population represents the gold standard of

healthiness, but our empirical findings (as well as findings from other studies) suggest that the White average is not the paragon of mental health. The broad inter-racial comparisons presented in this study need to be supplemented with more fine-grained intra-racial comparisons. Neighbors (1984) observes that within-group studies are needed to overcome a one-dimensional understanding of mental health among racial minorities. Toward this end, it would be useful to compare differences in the prevalence of illness among specific ethnic or ethno-racial groups to examine the individual characteristics and processes that contribute to vulnerabilities and resilience.

8.6 CONCLUSION

The present study is the first comprehensive examination of racial patterns of mental health in Canada. The findings do not present a straightforward or a consistent set of conclusions. However, several general observations can be made. Although there is a good rational to believe that racial minorities should have worse mental health than Whites, this is not always or even mostly the case. Only Aboriginal women have a consistent disadvantage. For the most part, racial minorities have similar mental health as Whites, and even have an advantage in a few instances. Since our examination covered the negative, positive, and subjective dimensions of mental health, it provides fairly robust evidence to support this conclusion. That said, we cannot conclude that racial minorities do not encounter disadvantages that compromise their mental health. Our results also indicate that low socioeconomic status and insufficient social resources can indeed have health-damaging influence. These factors explain some of the observed disadvantages in mental health that racial minorities experience or suppress an advantage

among them. Thus racism is a factor in the mental well-being of racial minorities in Canada.

Table 8.1 The Racial Pattern of Mental Health in Canada, Canadian Adults

	Distress	PWB	SRMH	MDE
Women				
East Asian	Better	Worse	Worse	Better
South Asian	Similar	Similar	Similar	Similar
Blacks	Similar	Similar	Similar	Similar
Aboriginal	Worse	Worse	Worse	Similar
Mixed Race	Worse	Similar	Similar	Worse
Men				
East Asian	Similar	Worse	Similar	Similar
South Asian	Similar	Similar	Similar	Similar
Black	Better	Similar	Better	Similar
Aboriginal	Similar	Similar	Worse	Similar
Mixed Race	Worse	Similar	Similar	Similar
Gender Difference				
East Asian	Yes	No	Yes	Yes
South Asian	No	No	No	No
Black	Yes	No	Yes	No
Aboriginal	Yes	Yes	No	No
Mixed Race	No	No	No	Yes

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