

UNIONIZATION AND THE HEALTH OF CANADIANS

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Abstract

This research seeks to answer how unionization affects self-rated health of the Canadian workforce. Previous literature suggests that labour union membership leads to more positive health outcomes. The expectation is that this study will replicate those found in previous studies in the Canadian context. Despite neoliberal efforts to dismantle unions in Canada since the 1990s, the health effects of such policies have yet to be examined in the Canadian context. Fifteen cycles of the Canadian General Social Survey between 1989 and 2018 were analyzed using ordinal regression models to determine the relationship between union membership and self-rated general health and self-rated mental health, and how the relationship may change over time. Across each year, the results show that there is no consistent pattern between union membership and self-rated health outcomes in the Canadian context. No significant interaction effects were found when examining key demographic variables – age, sex, education, household income, marital status, visible minority status, and province of origin – though income remained the greatest determinant for improved health outcomes regardless of union member status. Future research is necessary to include occupational differences, as well as improve the measurement of union membership and its various forms, which are critical to assess how they may produce unequal impacts on health outcomes.

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Chapter One - Introduction

In Canadian society, health is commonly understood in individual terms as an absence of illness (Fries, 2020). However, this understanding fails to grasp the complexity of what it means to “be healthy” and how ‘healthiness’ changes over the course of one’s life. This understanding also ignores the psychological, social, and environmental factors that affect both individual and population health (Fries, 2020; Jones et al., 2014). In other words, it ignores the non-medical factors that influence health outcomes. Part of these factors include the social determinants of health (SDH), which consider the health impacts of social factors such as income and job security. Since unionization positively contributes to higher wages and stable work (Braakmann & Hirsch, 2024; Brown & Das, 2023; Han et al., 2024; Thomas et al., 2025; Muller et al., 2022; Raphael, 2013), this raises the potential connections between unionization and health. Thus, this research is guided by the following question; how does unionization affect the general health of the Canadian workforce? I hypothesize that union members are healthier than their non-unionized counterparts.

This thesis is organized into several sections. First, the remainder of this chapter includes a theoretical background, which explains the key basis to the hypotheses and research methods, answering why I think union membership affects self-rated health outcomes. Here, I discuss key concepts including unionization and neoliberalism, how they are related, and how it has changed the Canadian wage structure. Then I discuss the social determinants of health (SDH), explaining what they are, and how they relate to unionization and neoliberalism. Lastly, I discuss salutogenic wellness models, its similarities to the SDH, and the principles that aim to address health disparities. Chapter 2, The Union Impact on General Health, discusses the previous literature on the relationship between union membership and general health, outlines how I

analyzed the relationship between self-rated general health and union membership, first showing the descriptive patterns, followed by the results of the regression models, and provides a conclusion for the findings. Chapter 3, The Union Impact on Mental Health, follows the same format, instead addressing the relationship between union membership and self-rated mental health outcomes. Chapter 4, Income as a Moderator, further examines these relationships, looking at how the top and bottom 20 percent of income earners are affected by their union member status. Finally, Chapter 5 provides a conclusion where I summarize the results, discuss their implications, and create suggestions for further avenues of research.

Union members are workers who have organized into a group – a union – to improve their work conditions, pay, benefits, or raise other important concerns to their employers. However, union membership can vary across sectors, where certain industries have higher unionization rates, have different union goals, and have different standards to qualify for union status. Since the 1990s, governments across Canada have been implementing neoliberal policies, resulting in greater income inequality and a decline in unionization (Brown & Das, 2023; Camfield, 2007; Curry-Stevens, 2025; Morissette, 2022). However, this continued decline had yet to be investigated in terms of its impact on the health of Canadian workforce. While there have been studies that have shown the positive effects of unions in Canada – such as their ability to compress wage distributions, achieve higher wages and greater employer-provided benefits –, there is a distinct lack of multi-year, cross-sectional studies linking labour union status to general and mental health outcomes. By examining the General Social Survey (GSS) over several decades, I have mapped how the introduction of neoliberal policies, the rise of income inequality, and the diminution of unions has impacted the health of workers over time.

The focus on Canada specifically relates to the popular understanding of the quality and accessibility of the Canadian health care system, particularly in countries that do not have any sort of universal medicare, such as the United States (Martin et al., 2018). Healthcare being accessible to those who need it is considered a key national value, and more than 90% of Canadians view our healthcare system as a source of collective pride (Martin et al., 2018, p. 1718). Martin et al. (2018, p.1718) argue that “[t]his pride points to an implicit social contract between governments, health-care providers, and the public—one that demands a shared and ongoing commitment to equity and solidarity”. While Canada scores highly on global scales and is widely recognized as ideal, our healthcare system remains inequitable, particularly for Indigenous and vulnerable populations (Martin et al., 2018; McAlister et al., 2018). In Canada, health services are estimated to impact only 25 percent of one’s health, meaning that other determinants, such as poverty, are considerable (Martin et al., 2018, p.1724). Raphael (2013, p.3) notes that “Canada lags behind other jurisdictions in having these health equity concepts implemented through public policy activity such that Canada’s distribution of the social determinants of health is among the most unequal of wealthy developed nations”. If Canada is to continue being cited as a model in healthcare system creation and execution, it must re-commit to the values of equity and solidarity, addressing the inequalities that impact health outcomes within the country.

Key concepts that are necessary to define for this research include unionization, neoliberalism, health outcomes, social determinants of health (SDH), fundamental cause theory, salutogenesis, and sense of coherence (SOC). These concepts will be defined in the sections that follow. Unionization and neoliberalism are related through economic and labour relations, where the increase of neoliberal policies leads to a decline in unionization in areas that adopt such

policies (Brown & Das, 2023; Camfield, 2007; Han et al., 2024; Sran, 2013). Since these policies affect income, they affect one's socioeconomic status (SES), which refers to the combination of one's level of income, wealth, education, and prestige (Boyce, 2008, para. 1). SES is important to SDH research as it serves as a foundation that enables access to a plethora of resources, which in turn affect other social determinants that lead to health disparities (Phelan et al., 2010).

Salutogenic principles help address the SDHs, with both frameworks critiquing the sole use of medical intervention in addressing health disparities, as well as the individualization of such interventions (Fries, 2020; Phelan et al., 2010). Fundamental cause theory, which comes from SDH research, shows how health inequalities persist despite direct health interventions, highlighting that SES as a fundamental cause of health inequalities must be addressed in order to ameliorate health disparities (Phelan et al., 2010). Similarly, salutogenic principles aim at fostering resources and conditions that create health and prevent illness (Fries, 2020).

Unionization and neoliberalism

Generally speaking, “[u]nions are collections of workers that join together to defend their common interests as employees. In unionized workplaces, employers’ authority over the workplace is qualified by collective bargaining agreements (or contracts) which codify the terms and conditions of the labor process” (Ritzer & Ryan, 2011, Union section, para. 1). Unions emerged “in response to the alienation and exploitation inherent to the class relations of capitalism”, addressing the power imbalance between workers and employers by recognizing the power of a united front (Thomas et al., 2025, p.202). Without unions, workers would have to negotiate the conditions of their employment as individuals and thus would only have protections as legislated by employment standards, which may not be adequately enforced or followed by

their employers (Bennett, 2011; Chen & Islam, 2023; Thomas et al., 2025; Verra et al., 2019). In addition, unions provide a vehicle for workers to defend and advocate their interests, not only in the workplace but in broader society, often promoting social and economic equality (Thomas et al., 2025). However, unions can differ in their extent and range of representation, interest, stance towards social reform, and involvement of members, as well as differ in their methods in achieving their goals (Camfield, 2007).

In Canada, union membership declined 9% between 1981 and 2022 across all sectors, starting at 38% in 1981 and dropping to 29% in 2022, with the majority of the decline taking place between 1981 and 1997 (Morissette, 2022). This decrease was particularly noticeable in the commercial sector (i.e. all industries outside educational services, healthcare, social assistance, and public administration), where the unionization rate declined 14.5% during this period (Morissette, 2022). In contrast, the non-commercial sector saw only a 0.9% decrease in unionization (Morissette, 2022). In addition, men saw a greater decrease in union membership, with a 22% decrease in commercial industries and a 15.9% decrease overall, compared to women whose unionization rates remained stable (Morissette, 2022). However, when factoring in education, women with bachelor's degrees saw an 11.7% decrease, similar to men with bachelor's degrees (12.8% decrease) (Morissette, 2022). Women without bachelor's degrees saw only a 2% decrease, whereas men without bachelor's degrees unionization rate decreased by 15.7% (Morissette, 2022). Morissette (2022) suspects the greater decline in men's unionization rates is partially due to the shifts away from manufacturing jobs and partially due to declines of unionization within such industries. Regarding the provinces, the percentage of unionized employees saw the greatest declines in British Columbia, New Brunswick, and Ontario (14.7%, 10.5%, and 9.1% respectively) and the smallest declines in Nova Scotia, Manitoba, and

Saskatchewan (3.7%, 4.5%, and 5.3% respectively) (Morissette, 2022). Since unionized jobs tend to have higher wages, Morissette (2022) suspects that their continued diminishment likely affected the Canadian wage structure, both directly and indirectly by affecting the bargaining power and retirement coverage of Canadian workers.

The change in wage structure during this same period can be illustrated through the increasing gap between the mean (average) and median (exact middle) Canadian incomes. In 2021 constant dollars (i.e. adjusted to account for inflation and the cost of living), the difference between the mean and median income of Canadians widened from \$5,000 in 1980 to \$24,350 in 2021 (Curry-Stevens, 2025). This increasing gap is due to a dramatic rise of the mean income, which – unlike the median – is affected by very high incomes. As the bottom 60% of the population’s earnings have stalled or shrunk, the most affluent have seen steady and rapid growth to their market incomes (Curry-Stevens, 2025). According to Thomas et al. (2025), most workers between 1981 and 2004 did not see real wage growth, with median workers seeing less than a 10% increase on average. However, those who were at the high end of the wage distribution experienced the greatest gain, such as those in managerial positions, as well as those in the business and finance sectors. These “[s]taggating real wages for most workers have been matched by cuts in benefits coverage, and by an erosion of the union wage and benefit advantage” (Thomas et al., 2025, p.31).

This change in unionization rates can partially be explained by the diminution of manufacturing jobs that led to greater employment in the service sector – work that is often considered “low-skilled” and is thus underpaid, undervalued, and precarious (Thomas et al., 2025; Morissette, 2022; Subedi & Rosenberg, 2017). However, this change can also be attributed to neoliberal domination, which has continuously transformed economic, political, and social

spheres since its creation and initial implementation in 1970s America (Peck & Tickell, 2002). It is important to define neoliberalism as it has highly influenced Canadian governments and policy since the 1990s (Camfield, 2007). Briefly explained,

[N]eoliberalism is a political project that is justified on philosophical grounds and seeks to extend competitive market forces, consolidate a market-friendly constitution, and promote individual freedom. The specific content and overall weight of these three desiderata vary, as do the motives of those who promote them. In addition, its overall economic, juridico-political, and sociocultural significance differs by spatiotemporal context and changes in the balance of forces, and the unfolding of its multiple effects over different periods (Jessop, 2012, p.1).

I will use this definition provided by Jessop (2012) as most definitions of neoliberalism are not dramatically different, but do not specify the three desiderata in a concise way that also ensures that one individual version of neoliberalism is not favoured over others. O'Connor (2010) adds that neoliberalism can be conceptualized as ideology, policy, and as governance. As ideology, neoliberalism promotes competition, choice, entrepreneurship, and individualism, justifying inequalities on the grounds of merit, where "winners" should be rewarded and where "losers" are left behind (Connell, 2010, p.27). They advertise "the market" as the desirable form of social organization on the basis that it is "fair" and "efficient", and where participation is a social good, while simultaneously attacking public enterprise, bureaucrats, red tape, regulation, unions, co-ops, welfare dependency, and so on (Connell, 2010, p.27). Neoliberalism also provides a framework for competitive globalization that is committed to the extension of markets and the logic of competitiveness (Peck & Tickell, 2002). This ties into how neoliberalism can be understood as policy. Neoliberal ideology is married to aggressive forms of state rationalization (i.e. governmental downsizing and the removal or state mediation), austerity financing, and public service "reform", which manifests as low public investment and decreased social entitlements, privatization and commodification – including the delegation of responsibilities to

non-government and local administrations for social goods such as utilities and welfare –, deregulation and market flexibility, regressive taxation policy, and regressive labour policy, all in the name of economic profitability (Connell, 2010; Peck & Tickell, 2002; O'Connor, 2010). In the 1980s, popular neoliberal ideology assumed that markets would be sufficient at regulating the economy so long as governments did not interfere (Peck & Tickell, 2002, p.390). However, the economic crises of the 1990s clearly demonstrated how this ideology fails, which then called for changes to the neoliberal repertoire in the form of non-market governance and regulation (Peck & Tickell, 2002). Under neoliberal regimes, more and more spheres of social life are colonized by “the market”, including – but not limited to – education, prisons, housing, healthcare, and communities (Connell, 2010; Peck & Tickell, 2002). Neoliberalism’s foundation of competition creates a culture of rugged individualism that forces lasting behavioural change on governments, corporations, and workers, pitting them against each other and others like them, thus – in essence – creating an economic and cultural “free-for-all” that undermines social cohesion and co-operation (Connell, 2010; O'Connor, 2010). As a result, the commodification of services and privatization of the public sectors demanded institutional and cultural change, where the profit-seeking corporation became the admired model for the public sector and civil society to follow. It was at this time that public institutions began to borrow schemes of organization and control from the business sector, shifting governance from representative bureaucracy and industrial democracy to managerialism (Connell, 2010, p.25). This can be seen in the incorporation and partnership-based modes of policy development and program delivery in areas of social welfare, as well as the consistent pressure on cities to prioritize economic growth paths of urban development, where non-compliance is met with neglect and exclusion from funding (Peck & Tickell, 2002). In addition, this can be seen in the introduction and justification of increased

government spending on prisons and workfare policy, where large-scale incarceration, social surveillance, and microregulatory interventions – such as active employment policies – are ever-present to ensure individuals are always “job ready” and not seeking “handouts” through welfare, while simultaneously reinforcing the cycle of poverty by forcing poor people to hold onto precarious, low-wage employment (Peck & Tickell, 2002, p.392).

Health outcomes

A health outcome is defined as the health events that occur resulting from an intervention, including those that are medical and non-medical, and can be measured clinically, through self reporting, or observation (Oleske & Islam, 2019, p.83; World Health Organization, n.d.). In terms of this research, the health events are the self-rated mental and general well-being of survey respondents, and unionization is the intervention.

The social determinants of health and fundamental cause theory

The social determinants of health (SDH) as defined by the World Health Organization (WHO) are the wider set of forces and systems that shape conditions of everyday life in which people are born, grow, work, live, and age (World Health Organization, n.d., para. 1). These forces and systems influence health inequities, leading to differentiation in health status amongst societies, groups, and individuals (World Health Organization, n.d., para. 2). The SDH approach solidifies that non-medical interventions are critical in achieving health equality.

Understanding the social determinants of health (SDH) is essential in understanding health disparities across and within societies that cannot be explained by pathogens alone, moving beyond the conceptualization of health solely as an absence of illness. In addition, Banks et al. (2006) found that these health disparities also cannot be explained through individual behaviour risks. These differences in health status follow a social gradient, where lower socioeconomic status (SES) is associated with worse health outcomes (Banks et al., 2006; World Health Organization n.d.). The slope and dispersion of these gradients vary across populations and over time (Banks et al., 2006; Phelan et al., 2010).

The cornerstone of SDH research originates in the Whitehall study of British civil servants in the 1960s (Marmot et al., 1991). The study conducted found a steep inverse association between social class – by grade of employment – and morbidity for a wide range of diseases, such as heart problems and chronic bronchitis. The study was then repeated 20 years later, where they found no change to the relationship between social class and morbidity (Marmot et al., 1991). Phelan et al. (2010) explain this consistent relationship through fundamental cause theory. Since SES embodies an array of resources, such as money, knowledge, prestige, power, and beneficial social connections, it provides a layer of protection for health that are relevant at any given time, and remains consistent even with advances in technology and/or scientific knowledge (Phelan et al., 2010, p. S28). To be a fundamental cause of health inequalities, one must: influence multiple disease outcomes; affect disease outcomes through multiple risk factors; involve access to resources that can be used to avoid risks or minimize consequences of the disease once it occurs; and have an association between the fundamental cause and health that is reproduced over time via the replacement of intervening mechanisms (i.e. changes in lifestyle, medical practice, education, etc., due to the advancement

of scientific knowledge and/or technology) (Phelan et al., 2010, p. S29). Here, SES fits all 4 factors and is thus considered a fundamental cause of health inequalities which must be addressed before medical interventions can be considered universally successful (Phelan et al., 2010).

Marmot (2005) and Raphael (2013) agree that the best way to reduce health inequalities is to take action to address the SDHs. This includes – but is not limited to – relieving poverty and improving the circumstances in which people live and work. This will address not only physical and communicable disease, but also those that are mental and non-communicable (Marmot, 2005). In other words, the SDH approach argues that policies relevant to health include those related to labour markets and income distributions. Therefore, policies regarding the formation of labour unions are relevant to health policies, with unionization potentially addressing the social gradient of health based on SES by compressing gaps in income that create such persistent health disparities.

Salutogenic models

Salutogenesis is “defined as the process of healing and health creation” where healing is “the process of recovery, repair, renewal, and reintegration that contribute to a whole person’s (physical, mental, social, and spiritual) health and well-being”, and healing processes are “preventative (help retain health and build resilience), restorative (accelerate and facilitate recovery), and palliative (maximize function and well-being) even when recovery and cure are not possible” (Jonas et al., 2014, p.82). This is in opposition to pathogenesis, which is focused on understanding health and illness solely from the origins and treatments of disease (Fries, 2020;

Jonas et al. 2014). Salutogenic, or wellness-based, models aim to incorporate healing and health creation into health care systems and health policy (Fries, 2020).

Sense of coherence (SOC) is an attitudinal disposition that sees coping with stressors and life as understandable, manageable, and meaningful (Fries, 2020, p.24). SOC is a major determinant in maintaining and improving one's health, aiding in one's adaptability in face of obstacles, and fosters a feeling of confidence that one's internal and external environments are predictable so that things will work out as reasonably expected (Fries, 2020, p.24). The origins of SOC are rooted in "generalized resistance resources" (GRRs) that can be used to avoid and/or reduce harm caused by stressful life events that can potentially damage one's health (Fries, 2020, p.24). GRRs with greater ability and efficacy foster greater SOC (Fries, 2020). GRRs can be "any characteristic of the person, group, or environment that can facilitate effective tension management" (Fries, 2020, p.24). SOC is an important component in salutogenic healthcare models (Fries, 2020).

In addition, salutogenic models do not view people as either "sick" or "healthy" (Fries, 2020). Rather, they view health as a continuum, where people are continuously moving from between the "sick" and "healthy" sides of the spectrum. Therefore, instead of asking if individuals are either "sick" or "healthy", salutogenic models aim to examine the factors that push people towards one side or the other (Fries, 2020). These factors can be biological, but they also include the strength of one's SOC and the efficacy of their GRRs. Like the SDHs, GRRs are distributed unequally throughout society and account for observed disparities in health (Fries, 2020).

Similar to the SDH model, salutogenic or wellness-based models argue against seeing health only in terms of physiological illness (Fries, 2020; Jonas et al., 2014). The current

Canadian health care system is pathogenic, meaning it focuses on how individuals can avoid, manage, and/or eliminate disease, and focuses on the causes and consequences of illness rather than factors that promote health and healing (Fries, 2020). This biomedical understanding prioritizes interventions at the clinical level, treating individuals with pharmaceutical, surgical, or technological interventions (Fries, 2020). Salutogenic approaches argue that treating illness in this way is not the most effective means of producing a healthy population as it: individualizes health in a way that removes individuals from their systemic contexts, holding them individually responsible for their health status; ignores the complexities of humans and their health that goes beyond their biology; ignores the origins of health and is thus unable to instruct how to create it; overburdens the health care system; and is reactionary rather than preventative (Fries, 2020; Jonas et al., 2014).

In contrast, a salutogenic model is oriented towards illness prevention and the production of both individual and population health and wellness (Fries, 2020; Jonas et al., 2014). Part of this includes health promotion policies that not only inform and enable individuals to make healthy choices, but also cultivate conditions that foster healthy populations (Fries, 2020; Jonas et al., 2014; Verra et al., 2019). In terms of workplaces, this can entail the cooperation between employers, employees, and even society to improve the health and wellbeing of people at work. This can include promoting strategies such as physical activity and healthy eating alongside implementing practices like flexible time policies or stress reduction strategies (Verra et al., 2019). Oftentimes, non-unionized workplaces lack the means to achieve large-scale changes such as these. In contrast, unions provide an outlet for greater cooperation between workers, employers, and their community, granting members the ability to promote healthy lifestyle changes and advocate for flexible time policies or stress reduction strategies. They also provide

leverage to workers to improve conditions in situations where employers are resistant to implement change. If union members are shown to have better mental (and general) health outcomes than their non-unionized counterparts, there would be evidentiary support that unions are an effective GRR that help develop a SOC.

The next three chapters entail the analysis of several cycles of the General Social Survey (GSS) between the years 1989 and 2018. The second chapter of this thesis focuses on general health, with a particular focus on how union membership can address the social determinants of health, most notably its potential to address income inequality as a fundamental cause of health disparities. Chapter 3 explores unionization's impact on mental health, addressing the potential of unions to act as effective GRRs, and thus potentially being an essential component of salutogenic health care models. The last chapter of analysis examines whether the relationships analyzed in the previous two chapters are mediated by income.

Chapter Two - The Union Impact on General Health

This chapter examines the impact of labour union membership on general health. The first section defines self-rated general health and provides a literature review of union membership and self-rated general health. The next section outlines my hypotheses. Next, I describe data and methods. I report my findings in two sections: the first section discusses the descriptive patterns within the data; the second section outlines the results of the ordinal regressions and linear models. I then provide a conclusion that summarizes the findings.

While there has not been research that ties unions to fundamental cause theory, unions have been found to have direct impacts on the health of their members (Chen & Islam, 2023; Han et al., 2024; Muller et al., 2022). Unions are known for their ability to garner favourable contracts, better wages, proper working conditions, and increased job security, in addition to providing education about on-the-job hazards, private health insurance, and retirement plans (Braakman & Hirsch, 2024; Chen & Islam, 2023; Han et al., 2024; Muller et al., 2022). These positive abilities not only help prevent physical harm, but also provide members with greater protection against personal stress and environmental shocks – such as the COVID-19 pandemic and/or unstable economic conditions (Braakman & Hirsch, 2024; Chen & Islam, 2023; Han et al., 2024; Muller et al., 2022).

Using the life-course perspective, Han et al. (2024) found that persons with consistent union attachment over their career have a cumulative advantage over their non-unionized counterparts. Unionized folks accumulated health benefits during their working years – as they were less exposed to hazards, burnout, and workplace stress – but also had stability in their lives that enabled them to plan for their futures, including retirement plans and occupational security (Han et al., 2024). Another important finding includes the timing of unionization in career stages

and their strong implications on health outcomes. In later stages of life, negative labour market experiences are associated with downward mobility and health after age 50, and precarious work during ages 50-65 strongly predict health and mortality after age 65 (Han et al., 2024). They also found that unionization at younger ages is more predictive of older adult health, as early adulthood and adolescence are “impressionable years” (p.165) in human development, with those unionized for 100% of their careers having the best overall health compared to their 40% unionized and non-unionized peers (Han et al., 2024).

Regarding workplace safety, Amick et al., (2015) discovered that unionized construction firms filed 28% more no-lost-time claims to the Ontario Workplace Safety and Insurance Board, but filed 14% less lost-time claims. Of the lost-time claims filed, rates of musculoskeletal and critical illness claims were significantly (over 20%) lower than non-unionized workplaces (Amick et al., 2015). These findings show the effects of unionization on worker safety and health, as injuries and illnesses that occurred on the job did not prevent unionized workers from returning to work after the day of incidence. This also shows the ability of unions to protect against personal stressors, as returning to work means no lost wages or permanent disablement which could have lasting damage outside of the workplace. Similarly, Bodin et al.’s (2022) cross-sectional study found that precarious employment is associated with a higher burden of disease, including various mental disorders, cardiovascular disorders, increased musculoskeletal pain, respiratory problems, and infectious diseases. Further, Zoorob (2018) found that American states with high levels of unionization saw a greater decrease in workplace fatalities than states that have adopted right-to-work (RTW) legislation. His study also found that the implementation of RTW laws, through a decrease in unionization, have led to a 14.2% increase in occupational mortality (Zoorob, 2018). These findings show how unions are critical in preventing on-the-job

fatalities. Here, RTW legislation is impeding the ability of unions to protect workers and maintain occupational health and safety by undermining their contracts, returning more power to employers who may overlook and/or avoid such necessities.

Despite previous attempts by conservative politicians, Canada has not implemented any RTW legislation (Sran, 2013). However, governments on both provincial and federal levels have passed back-to-work legislation, which forces workers to go back to work after taking legal strike action, on top of arbitrarily imposing settlements on striking workers regardless if key union demands have been met (Sran, 2013). Both Zoorob (2018) and Sran (2013) emphasize the importance of maintaining strong unions – not only for health reasons, but for democracy – and for governments to seriously consider the impacts of such legislation on their citizens and societies.

Unionization's positive impact on health outcomes can extend beyond union membership (Canadian Labour Congress, 2025; Chen & Islam, 2023; Darrah, 2021; Marchildon, 2024; Muller et al., 2022; Sran, 2013). Throughout modern history – though particularly distinct in the 1950s to the 1980s –, labour unions have been important actors in (re)forming Canada's healthcare system(s) and achieving a myriad of social rights through effective campaigns, the mobilization of workers, and solidarity with various partners (Canadian Labour Congress, 2025; Darrah, 2021; Marchildon, 2024; Sran, 2013). A prime example would be the creation of medicare. In the 1940s, the Premier of Saskatchewan, Thomas Clement Douglas, took initiative to establish a universal health care system – not just for residents of Saskatchewan, but for all Canadians – transitioning away from commodified healthcare towards a public service based on medical need (Marchildon, 2024). Part of his success can be credited to his ability to gain the co-operation and support of various labour unions. Douglas received a lot of resistance from the

College of Physicians and Surgeons of Saskatchewan (CPS), private insurance carriers, businesses, and conservative politicians who aimed to defeat the Douglas government and his medicare project – many of whom were worried about “individual choice”, lower incomes, and higher taxes (Marchildon, 2024). It was here where union support became crucial, supporting Douglas and his party while openly attacking the CPS’s support of physician-based insurance carriers, which led to local motions being passed in support of the government’s proposed healthcare plans (Marchildon, 2024, p.287). Though an important victory, this was one of only many steps that allowed for federal expansion of medicare for all within Canada – including through the formation of the federal New Democratic Party (NDP) –, where union support remained critical (Marchildon, 2024; Savage, 2021).

Another important example includes the 1981 expansion of paid maternity leave made possible by the Canadian Union of Postal Workers (CUPW) (Canadian Labour Congress, 2025; Darrah, 2021). At the time of the strike, the only guaranteed maternity leave was provided by federal Unemployment Insurance (UI, now known as Employment Insurance or EI), which would cover only 66% of a mother’s previous salary and would only provide coverage for a maximum of 15 weeks (Canadian Labour Congress, 2025). When Canada Post workers were due to renegotiate their contracts, “paid maternity leave emerged as a key union demand” (Darrah, 2021, p.34). The union recognized the shortcomings of the current maternity leave system and how it failed to meet the needs of new parents in the workforce. Children are expensive, and leaving work for an extended period of time led to job insecurity and financial stress, which in turn would affect the household environment (Darrah, 2021). After 42 days, the CUPW won the fight, and Canada Post agreed to pay the employee’s full wages for the first two weeks of the leave, and agreed to top-up the UI benefits by an additional 27% of their salary, leading to 17

weeks of paid maternity leave (Darrah, 2021). These changes to maternity leave became more widespread, not only in different branches of the civil service, but throughout the private sector (Canadian Labour Congress, 2025; Darrah, 2021). By 1992, half of all union members across Canada gained employer-based maternity benefits, and by 2004 almost two thirds of mothers with new infants received paid benefits for a median of 11 months – regardless of their union members status (Darrah, 2021). This strike marks a significant change in health outcomes, not only for new parents, but for the future generation they are/were raising. Longer maternity leave has shown to have significant benefits, including decreased rates of maternal mental and physical health complaints – such as decreased re-hospitalization rates, decreased depression, better sleep, and greater engagement in exercise –, more positive mother-child interactions – including higher rates of secure attachment styles, higher empathy, better academic success, and longer periods of breastfeeding –, decreased rates of late immunizations, as well as decreased infant mortality rates (Whitney et al., 2023).

Furthermore, the existence of unions compresses income distributions within a society, which has wide-rippling effects on the social gradient of health (Banks et al., 2006; Brown & Das, 2023; Kuhling & Keohane, 2009; Muller et al., 2022; Sran, 2013; Wilkinson, 2005). In societies with a more compressed, egalitarian distribution of income, all members have greater health outcomes – regardless of socioeconomic status (SES) – than societies with larger income disparities (Banks et al., 2006; Kuhling & Keohane, 2009; Wilkinson, 2005). Banks et al. (2006) looked at the differences in health outcomes between Americans and the English, noting that even when controlling for race, behaviour risks, and access to health insurance, the English have better health outcomes, including amongst Americans in the top socioeconomic tiers. Similarly, Kuhling & Keohane (2009) compared Irish health outcomes with those of France, Britain,

Germany, and Scandinavia, where – unlike Ireland – income redistribution and recognition of its importance are integrated into fiscal policy. As Ireland follows a neoliberal social model (i.e. is characterized by low public spending on healthcare and other services, and lacks progressive taxation), and is amongst the most unequal OECD countries – such as the United States –, it is unsurprising that “Ireland has also the worst morbidity in the developed world”, such as heart diseases, depression – including suicide and self-harm –, several cancers, stress-related illnesses, adult and childhood obesity, alcohol and substance abuse, and interpersonal violence (Kuhling & Keohane, 2009, p.29).

In addition, Wilkinson (2005) combined data from the US and Canada, noting that it is “the most egalitarian states and provinces, rather than the richest, that are healthiest” (p.72). Though the relationship between inequality and health is visible at all ages, the largest gaps in health inequalities are found amongst men of working age (Wilkinson, 2005). This finding not only highlights how intertwined SES and health outcomes are, but also shows the importance of addressing health through a labour-oriented lens. Brown & Das (2023) analyzed 50 years of Canadian economic data – from 1969 to 2019 – from several sources, including the OECD, the World Inequality Database, and the World Bank. Their research provides evidence that the decline in unions widens the income divide between the rich and the poor, where – after controlling for macroeconomic factors – a 1% increase in collective bargaining reduces the income share of the top 10% by 0.34% (Brown & Das, 2023). Despite this, unionization and the importance of collective bargaining are yet to be mentioned in Canadian health promotion information (Muller et al., 2022).

In research, self-rated health is often used as a replacement to clinical assessments, as it is both a simple and reliable form of gathering health assessments from survey participants

(Bombak, 2013; Levinson & Kaplan, 2014; Sordo Vieira et al., 2022). Self-rated health is a subjective measure of health, but has been found to be a moderate to strong predictor of objective health measures (Bombak, 2013; Levinson & Kaplan, 2014; Sordo Vieira et al., 2022). Though this measure is often interpreted as encompassing all aspects of health – including psychological, social, and spiritual outcomes - asking “in general, how would you rate your health?” has been shown to be a robust predictor of physical health outcomes, including mortality (Bombak, 2013; Levinson & Kaplan, 2014).

The goal of this research is to answer the following question: how does unionization affect the general health of the Canadian workforce? In this chapter, I specifically focus on how union membership affects general health outcomes. Answering this will then answer whether union membership addresses SES as a fundamental cause of health disparities. The main hypotheses of this chapter are as follows:

Hypothesis 1: union members have higher self-rated general health than non-union members.

Hypothesis 2: the effect of unionization on general health increases over time.

To answer my research questions, I used quantitative methods. Since I wanted to examine health outcomes and unionization on such a large-scale and across multiple decades, this allowed for me to map the relationship between multiple measures of self-rated health and unionization. Taking a quantitative approach also allowed for greater generalizability in the results, which is key in determining whether changes to Canadian health and labour policy will be successful across the country. It is also necessary in determining whether unions are a sufficient generalized resistance resource for members across the country and over time.

The data I analyzed is from various cycles of the General Social Survey conducted by Statistics Canada: Cycle 4, conducted in 1989, Education and Work; Cycle 6, conducted in 1991, Health; Cycle 9, conducted in 1994, Education, Work and Retirement; Cycle 12, conducted in 1998, Time Use; Cycle 17, conducted in 2003, Social Engagement; Cycle 19, conducted in 2005, Time Use Survey; Cycle 22, conducted in 2008, Social Networks; Cycle 23, conducted in 2009, Victimization; Cycle 24, conducted in 2010, Time-Stress and Well-Being; Cycle 25, conducted in 2011, Family; Cycle 26, conducted in 2012, Caregiving and Care Receiving; Cycle 27, conducted in 2013, Social Identity; Cycle 29, conducted in 2015, Time Use; Cycle 30, conducted in 2016, Canadians at Work and Home; and Cycle 32, conducted in 2018, Caregiving and Care Receiving. This comes to a total of 15 cycles.

While the datasets have different sample sizes, ranging from 9,000 and 35,000 responses, the sampling population stayed consistent, focusing on collecting data from Canadians over 15 years of age from the 10 provinces, excluding those who are institutionalized on a full-time basis.

In earlier cycles, cases were selected through Random Digit Dialing (RDD), with some using Non-Working Banks and Waksberg methods. By Cycle 4, the samples were also stratified, typically involving 27 strata across the 10 provinces, grouped according to geographical location. These strata consisted of Census Metropolitan Areas (CMAs) and non-CMAs across the 10 provinces. By Cycle 27, RDD was no longer in use, and surveys were now conducted using Electronic Questionnaires (EQs) and Computer Assisted Telephone Interviews (CATI). Depending on the cycle, respondents were first contacted by mail or by telephone to complete the survey.

To analyze the data, I used R statistical software (Fox & Weisberg, 2002; Hlavac, 2022; Lüdecke, 2024; Posit Team, 2025; R Core Team, 2025; Venables & Ripley, 2002; Wickham,

2021; Wickham, 2022; Wickham et al., 2025). General health outcomes are the dependent variables, while union member status is the independent variable. Measures of general health outcomes are self-rated. Union membership is measured by respondents reporting their union status. Key control variables include age, sex, education, household income, marital status, and visible minority status. Age is measured by respondent age group. Sex has been grouped into two categories of male and female. Education is measured by the highest obtained degree of respondents. Household income is measured in income categories. Marital status is grouped into categories of married, common-law, single, widowed, divorced, or separated. Visible minority status is grouped into two categories of visible minority and non-visible minority.

These variables are noted in the literature as important factors to consider when analyzing differences in health outcomes, but are also tied to labour union membership (Han et al., 2024; Phelan et al., 2010; Sran, 2013; Thomas et al., 2025). Union members are more likely to be married and obtain higher education (Han et al., 2024; Thomas et al., 2025). In addition, unions advocate for equal pay, reducing pay gaps between people of different genders, racial identities, and other equity-seeking groups (Sran, 2013; Thomas et al., 2025). While the data uses “sex” rather than “gender”, it is important to note that though they are not the same category, they are closely related. Surveys did not account for transgender, non-binary, or gender-nonconforming individuals until very recently. In addition, recent iterations of the GSS group gender into two categories of men+ and women+ to protect the confidentiality of non-binary survey respondents, distributing them into the other two gender categories prior to the publication of the data (Statistics Canada, 2023).

The cycles conducted in 1991, 1994, 1998, 2003, and 2005, lacked a visible minority variable. In these cases, I used data collected regarding birthplaces of the respondents’ parents

and the respondents to create a derived variable. In addition, 1994 was the only cycle to separate union member status and collective agreement coverage into two questions. In this case, I created a derived variable to merge these two questions, where the respondents who answered “yes” to “Are you normally covered by a contract or a collective agreement?” were added to the union-member category. Though the merge was necessary in order to maintain consistency across cycles, it is important to note that union membership and collective agreement coverage are not synonymous, as it is possible to be covered under a collective agreement without being a union member. However, in Canada, this is extremely rare, and those who are not union members benefit from said union-negotiated agreements (Akyeampong, 2000). Therefore, answering “yes” to either question is considered an indicator of union membership.

For each cycle, I reduced my sample to only include respondents who are employed as this research focuses specifically on the workforce. I further reduced each sample to only include respondents aged 25-64. For those aged 25-64, work is likely a more significant part of their lives, and will therefore be more likely to impact their health than younger or older people who may be in school or retired. In addition, those aged 25-64 are more likely to be unionized in their workplaces, and thus the omission of respondents 15-24 and 65+ offers a more meaningful comparison.

The first step of analysis was to examine the descriptive patterns in the data. I created tables to display the summary statistics that show said descriptive patterns between union membership, self-rated general health, and the key variables used in this analysis for each cycle. These tables help establish the general union-health relationship patterns and show the general demographics of the samples.

Next, to calculate the effects of union membership on self-rated general health, I used ordinal regression models for the base relationship (i.e. the direct relationship between union membership and health without any controls) and the relationship with the control variables (i.e. factoring in age, sex, education, household income, marital status, and visible minority status). The results are discussed in the form of odds ratios, which clearly demonstrate the differences in self-rated general health between the unionized and non-unionized groups.

Following this, I created additional ordinal regression models to examine the interaction effects of each key control variable – age, sex, education, household income, marital status, and visible minority status – as well as the interaction effect of province of origin. This helped to establish whether the relationship between union membership and the specified health outcome are due to the existence of a third variable. Taken in aggregate, the results from these regressions address hypothesis 1, but also address hypothesis 2 by examining the general gaps between unionized and non-unionized workers over time.

Table 1 shows the descriptive patterns between union membership, self-rated general health, and the other remaining key variables used in this analysis for each included cycle of the GSS. In all the included cycles, the majority of participants, including both union and non-union members, were married (48–69%) and were not visible minorities (0.76–0.95). The average age of respondents was between 35 and 54 years old, with the exception of non-union members in 1989 (30–39 years old). The proportion of male to female participants was similar throughout, with no greater than a 9% deviation towards either sex (0.41–0.59). The education levels of union and non-union members for each year were also similar, with both categories' average scores corresponding to at least some higher education, though a greater proportion of union members attended educational institutions beyond high school (by 2%-18%). Both union and

non-union members' average household income is found within the same income category for most cycles, except for 2003, 2008, 2009, and 2013 where unionized participants had slightly higher household incomes. In addition, union members and non-union members rated their general health similarly, both between groups and across each year, with the average self-rated general health score corresponding with "Good" health.

These descriptive patterns show that the unionized and non-unionized groups in this analysis have similar demographics, thus offering meaningful insight into the true impact of labour union membership on self-rated health outcomes. When taking the average scores into consideration, unionized and non-unionized workers have identical general health outcomes. These identical general health outcomes are unexpected as per hypothesis 1; however, it is important to further analyze the data to determine if there are any significant differences among unionized and non-unionized groups.

Table 1: Summary statistics of key variables in analysis by union member status by year																
Year	1989		1991		1994		1998		2003		2005		2008		2009	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Self-Rated General Health (1=poor, 4=very good)	3.51	3.53	3.54	3.43	3.20	3.59	3.54	3.53	3.65	3.57	3.46	3.44	3.45	3.46	3.59	3.58
Age Group	35-44	30-39	35-44	35-44	35-44	35-44	35-44	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54
Sex (0=Male, 1=Female)	0.41	0.53	0.45	0.51	0.45	0.45	0.50	0.51	0.48	0.48	0.56	0.53	0.57	0.50	0.54	0.50
Education (percentage with at least some higher education)	48%	46%	64%	59%	68%	59%	73%	66%	84%	68%	78%	72%	82%	76%	80%	75%
Household Income	\$30,000-\$59,999	\$30,000-\$59,999	\$30,000-\$59,999	\$30,000-\$59,999	\$40,000-\$59,999	\$40,000-\$59,999	\$40,000-\$59,999	\$40,000-\$59,999	\$50,000-\$79,999	\$40,000-\$59,999	\$50,000-\$79,999	\$50,000-\$79,999	\$60,000-\$99,999	\$50,000-\$79,999	\$60,000-\$99,999	\$50,000-\$79,999
Marital Status (percentage married)	68%	69%	68%	66%	67%	68%	55%	54%	53%	53%	51%	52%	51%	53%	53%	52%
Visible minority Status (0=visible minority, 1=not a visible minority)	0.80	0.76	0.93	0.90	0.95	0.94	0.95	0.92	0.93	0.89	0.93	0.90	0.93	0.89	0.91	0.89

Table 1: Summary statistics of key variables in analysis by union member status by year														
Year	2010		2011		2012		2013		2015		2016		2018	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Self-Rated General Health (1=poor, 4=very good)	3.40	3.40	3.52	3.48	3.54	3.52	3.62	3.55	3.46	3.39	3.45	3.39	3.45	3.46
Age Group	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54
Sex (0=Male, 1=Female)	0.56	0.52	0.57	0.50	0.58	0.53	0.50	0.46	0.56	0.50	0.55	0.50	0.59	0.50
Education (percentage with at least some higher education)	82%	78%	81%	74%	72%	64%	84%	66%	81%	75%	79%	72%	80%	72%
Household Income	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$50,000-\$79,999	\$80,000-\$119,999	\$80,000-\$119,999	\$75,000-\$124,999	\$75,000-\$124,999	\$80,000-\$119,999	\$80,000-\$119,999
Marital Status (percentage married)	54%	56%	53%	55%	55%	57%	59%	55%	49%	50%	51%	52%	48%	53%
Visible minority Status (0=visible minority, 1=not a visible minority)	0.90	0.88	0.92	0.88	0.84	0.81	0.78	0.72	0.89	0.84	0.88	0.83	0.86	0.82

Table 2 shows the results from the ordinal regressions, comparing the base regression – which examines the direct relationship between union membership and self-rated health outcomes – with the regression that examines this relationship with added controls (see Appendix A for the full results).

Table 2: Results from general health ordinal regression models by year							
Year	odds ratio for base regression	confidence interval	p-value	odds ratio with added controls	confidence interval	p-value	
1989	0.98	0.86–1.11	0.737	1.02	0.89–1.17	0.758	
1991	0.89	0.79–1.00	0.043	0.85	0.75–0.97	0.014	
1994	1.03	0.93–1.14	0.612	0.90	0.79–1.02	0.088	
1998	1.01	0.90–1.13	0.896	0.97	0.85–1.10	0.641	
2003	1.21	1.13–1.29	<0.001	0.97	0.90–1.04	0.36	
2005	1.01	0.93–1.09	0.893	0.99	0.90–1.08	0.816	
2008	1.02	0.94–1.11	0.606	0.98	0.90–1.07	0.697	
2009	1.04	0.95–1.12	0.406	0.98	0.90–1.07	0.666	
2010	1.01	0.92–1.11	0.816	0.99	0.89–1.10	0.812	
2011	1.08	1.00–1.17	0.06	0.98	0.90–1.07	0.611	
2012	1.03	0.95–1.12	0.445	0.96	0.88–1.05	0.365	
2013	1.24	1.17–1.33	<0.001	1.04	0.97–1.13	0.255	
2015	1.19	1.08–1.30	<0.001	1.11	1.01–1.22	0.028	
2016	1.17	1.08–1.28	<0.001	1.11	1.02–1.21	0.014	
2018	0.93	0.86–1.02	0.109	0.88	0.81–0.96	0.003	

Out of fifteen total GSS cycles, nine of them (1989, 1994, 1998, 2005, 2008, 2009, 2010, 2011, and 2012) yielded statistically insignificant results from both the base and controlled regressions at $\alpha=0.05$. In 1989, the base regression results show that union members are less healthy, with an odds ratio of 0.98 (CI 95% 0.86–1.11). However, with the added controls the odds ratio increases to 1.02 (CI 95% 0.89–1.17). The remaining statistically insignificant cycles followed a different pattern, where the base regression is higher than the regression with added controls. In these cycles, the base regressions' odds ratios are slightly greater than one (1.03, CI 95% 0.93–1.14; 1.01, CI 95% 0.90–1.13; 1.01, CI 95% 0.93–1.09; 1.02, CI 95% 0.94–1.11; 1.04, CI 95% 0.95–1.12; 1.01, CI 95% 0.92–1.11; 1.08, CI 95% 1.00–1.17; 1.03, CI 95% 0.95–1.12), while the second regressions' odds ratios are slightly less than one (0.90, CI 95% 0.79–1.02; 0.97, CI 95% 0.85–1.10; 0.99, CI 95% 0.90–1.08; 0.98, CI 95% 0.90–1.07; 0.98, CI 95% 0.90–1.07; 0.99, CI 95% 0.89–1.10; 0.98, CI 95% 0.90–1.07; 0.96, CI 95% 0.88–1.05). This decrease typically suggests that the effect of union membership on self-rated general health was partially due to key control variables rather than a direct correlation. In addition, the results from the regressions in 1989 would typically suggest that union members rated themselves as generally healthier than their non-unionized counterparts by two percent. However, as these values are not statistically significant, this change is inconsequential and suggests that there is no meaningful difference between how union and non-union members self-rated their general health in these nine GSS cycles.

The GSS cycles conducted in 2003, 2013, and 2018 were only statistically significant for one regression model. In both 2003 and 2013, the base regressions (1.21, CI 95% 1.13–1.29; 1.24, CI 95% 1.17–1.33) showed union members to rate themselves as generally healthier at a highly statistically significant level, where $p<0.001$. However, when adding in control variables,

these results became insignificant (0.97, CI 95% 0.90–1.04; 1.04, CI 95% 0.97–1.13). This suggests that unionization's positive impact on self-rated general health in these years is spurious, and is due to the presence of one or more key control variables rather than a direct correlation.

2018 is notable as it is the only cycle where the base regression recorded union members reporting themselves as less generally healthy (0.93, 95% CI 0.86–1.02) and becoming even less likely to rate themselves as healthy (0.88, CI 95% 0.81–0.96) than their non-unionized counterparts when including other key factors, with only the result from the control regression proving statistically significant – where $p=0.109$ and $p=0.003$ respectively. This suggests that the key control variables suppressed the true relationship between union membership and self-rated health, which shows that union workers in 2018 would rate themselves as 12% less generally healthy than non-unionized workers.

Cycles that were statistically significant across regression models were those conducted in 1991, 2015, and 2016. In 1991, the odds ratio decreased between the base (0.89, CI 95% 0.79–1.00) and control (0.85, CI 95% 0.75–0.97) regressions. This relationship is stable and robust, meaning it is not due to the influence of the key control variables. Hence, union members in 1991 would rate themselves as 15% less generally healthy than their non-unionized counterparts, with unionization being an important predictor in self-rated general health outcomes. However, results from both 2015 and 2016 show the opposite. While the base regressions' odds ratios in 2015 (1.19, CI 95% 1.08–1.30) and in 2016 (1.17, CI 95% 1.08–1.28) decreased by 8% and 6% respectively, the odds ratios remained above one (1.11, CI 95% 1.01–1.22; 1.11, CI 95% 1.02–1.21). Therefore, union members in 2015 and 2016 were 11% more likely to rate their general health better than their non-unionized counterparts. While there was a decrease in the odds ratios,

unionization proved to have a significant impact on general health that could not be fully explained by other key variables included in the latter regression model.

These results were unexpected, and do not sufficiently support my hypothesis 1, that union members are more likely to rate their general health positively than non-union members. To further investigate these results, I used linear models to examine this relationship, factoring in respondents' weight to see whether it would influence the results, found in table 3 (see Appendix A for the full results).

Year	β for base regression	confidence interval	p-value	β with added controls	confidence interval	p-value
1989	0.01	-0.03–0.06	0.602	0.00	-0.05–0.05	0.907
1991	0.06	0.00–0.12	0.040	0.08	0.02–0.15	0.011
1994	-0.01	-0.06–0.05	0.810	0.03	-0.04–0.09	0.414
1998	0.00	-0.06–0.06	0.938	0.00	-0.07–0.06	0.886
2003	-0.10	-0.13–0.06	<0.001	0.01	-0.02–0.05	0.422
2005	0.02	-0.03–0.06	0.449	0.00	-0.05–0.05	0.947
2008	-0.02	-0.06–0.03	0.446	0.00	-0.05–0.04	0.859
2009	-0.02	-0.06–0.03	0.43	-0.02	-0.07–0.02	0.303
2010	-0.02	-0.07–0.03	0.341	-0.03	-0.08–0.02	0.304
2011	-0.01	-0.05–0.03	0.51	0.04	-0.01–0.08	0.084
2012	-0.02	-0.06–0.02	0.323	0.00	-0.04–0.05	0.841
2013	-0.09	-0.13–0.06	<0.001	0.00	-0.04–0.03	0.866
2015	-0.08	-0.13–0.04	<0.001	-0.06	-0.11–0.02	0.009
2016	-0.09	0.13–0.05	<0.001	-0.07	-0.11–0.02	0.002
2018	0.05	0.00–0.09	0.040	0.09	0.04–0.13	<0.001

Consistent with the results from the ordinal regression models, 1989, 1994, 1998, 2005, 2008, 2009, 2010, 2011, and 2012 remain insignificant, as well as 2003 and 2013 remaining insignificant with added control variables. Both 2015 and 2016 remain significant across linear regressions, maintaining the results that union members rate their general health better for those years ($\beta=-0.06$, CI 95% -0.11–0.02; $\beta=-0.07$, CI 95% -0.011–0.02). In addition, 1991 remains significant across linear regressions, and maintains that union members rated their general health more poorly than their non-unionized counterparts, where $\beta=0.08$ (CI 95% 0.02–0.15). However, 2018 now shows a statistically significant base regression ($\alpha=0.05$), although maintains that

union members rated their general health more poorly when considering key controls, where $\beta=0.09$ (CI 95% 0.04–0.13).

The consistency across ordinal and linear regression models confirms that the respondents' weight does not impact the findings. These models show an inconsistent pattern of association, with the majority of results showing no difference between unionized and non-unionized workers' self-rated general health. The inconsistent patterns of association in both the ordinal and linear regression models mean that there is no evidentiary support for hypothesis 2, that the relationship between union membership and general health outcomes remains stable or increases over time.

To further understand the relationship between union membership and self-rated general health, I examined the interaction effects of province of origin, sex, visible minority status, and the household income of the survey respondents (Tables 4a-d, see Appendix A for full results).

Table 4a shows the results of the interaction effect of province of origin for each cycle. For all cycles, province of origin hardly effects general health outcomes. Even where significant, there is at most a 1% change in self-rated general health. The statistically significant cycles for province of origin are 2005, 2009, and 2015, with 2015 showing a 1% decrease in self-rated general health based on province of residence (1.00, CI 95% 0.99-1.00; 0.99, CI 95% 0.99-1.00).

For the years 1989, 1991, 1994, 1998, 2003, 2005, 2008, 2009, and 2018, union members rate themselves 2%-19% less generally healthy (0.98, CI 95% 0.73-1.33; 0.83, CI 95% 0.62-1.12; 0.93, 0.69-1.25; 0.86, CI 95% 0.63-1.15; 0.89, CI 95% 0.74-1.07; 0.94, CI 95% 0.76-1.18; 0.98, CI 95% 0.80-1.21; 0.89, CI 95% 0.72-1.10; 0.81, CI 95% 0.66-0.99). Though, 2018 is the only cycle that shows this negative difference as statistically significant. In these cycles, the

interaction with province of origin has no effect on this relationship, except for 1989 where the odds ratio for the interaction effect has a minimally positive impact (1.01, CI 95% 0.96-1.06). However, it is important to note that the interaction effects are not statistically significant.

For cycles conducted in 2010, 2011, 2013, and 2015, union members and non-union members rate their health exactly the same, with no differences detected based on province of origin (1.00, CI 95% 0.99-1.00; 1.00, CI 95% 1.00-1.01). Cycles conducted in 2012 and 2016 show union members as rating themselves 4%-27% generally healthier than their non-unionized counterparts (1.04, CI 95% 0.84-1.28; 1.27, CI 95% 1.04-1.54). From these two cycles, only 2016 is statistically significant. Neither cycle is affected by the interaction with province of origin (1.00, CI 95% 0.99-1.00).

Table 4a: Results from general health provincial interaction effect									
Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for province of origin	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	0.98	0.73-1.33	0.910	1.01	0.98-1.05	0.412	1.01	0.96-1.06	0.748
1991	0.83	0.62-1.12	0.225	1.00	0.96-1.03	0.863	1.00	0.95-1.06	0.861
1994	0.93	0.69-1.25	0.621	1.00	0.99-1.00	0.371	1.00	0.99-1.02	0.778
1998	0.86	0.63-1.15	0.305	1.00	0.99-1.00	0.377	1.00	1.00-1.01	0.377
2003	0.89	0.74-1.07	0.217	1.00	0.99-1.00	0.121	1.00	1.00-1.01	0.347
2005	0.94	0.76-1.18	0.602	1.00	0.99-1.00	0.035	1.00	1.00-1.01	0.661
2008	0.98	0.80-1.21	0.851	1.00	0.99-1.00	0.176	1.00	0.99-1.01	1.000
2009	0.89	0.72-1.10	0.290	1.00	0.99-1.00	0.048	1.00	1.00-1.01	0.360
2010	1.00	0.78-1.28	0.988	1.00	0.99-1.00	0.870	1.00	0.99-1.01	0.870
2011	1.00	0.82-1.23	0.978	1.00	1.00-1.00	0.497	1.00	0.99-1.00	0.769
2012	1.04	0.84-1.28	0.731	1.00	1.00-1.00	0.770	1.00	0.99-1.00	0.404
2013	1.00	0.83-1.20	0.989	1.00	0.99-1.00	0.075	1.00	1.00-1.01	0.615
2015	1.00	0.80-1.25	0.977	0.99	0.99-1.00	0.002	1.00	1.00-1.01	0.323
2016	1.27	1.04-1.54	0.018	1.00	1.00-1.00	0.721	1.00	0.99-1.00	0.147
2018	0.81	0.66-0.99	0.044	1.00	0.99-1.00	0.242	1.00	1.00-1.01	0.420

Table 4b: Results from general health sex interaction effect									
Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for sex	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	1.04	0.87-1.24	0.692	1.07	0.92-1.25	0.397	0.97	0.73-1.28	0.803
1991	0.86	0.72-1.02	0.080	1.22	1.03-1.43	0.018	0.99	0.77-1.27	0.930
1994	0.88	0.74-1.04	0.139	1.15	0.98-1.35	0.095	1.04	0.81-1.34	0.753
1998	0.92	0.77-1.09	0.328	1.02	0.87-1.19	0.328	1.13	0.88-1.45	0.355
2003	0.96	0.87-1.06	0.419	1.14	1.04-1.25	0.005	1.01	0.88-1.17	0.851
2005	0.96	0.84-1.10	0.528	0.98	0.88-1.10	0.779	1.06	0.88-1.28	0.518
2008	1.03	0.91-1.17	0.640	1.04	0.93-1.15	0.510	0.92	0.77-1.09	0.313
2009	1.07	0.94-1.22	0.290	1.15	1.03-1.29	0.010	0.84	0.71-1.01	0.058
2010	1.01	0.86-1.17	0.945	1.08	0.95-1.23	0.233	0.97	0.79-1.19	0.751
2011	1.02	0.90-1.16	0.708	1.08	0.97-1.19	0.162	0.92	0.77-1.09	0.321
2012	1.04	0.91-1.19	0.540	1.07	0.96-1.20	0.214	0.86	0.72-1.03	0.099
2013	1.02	0.92-1.13	0.663	0.96	0.88-1.06	0.424	1.05	0.91-1.21	0.543
2015	1.11	0.96-1.27	0.148	1.10	0.98-1.23	0.096	1.01	0.84-1.22	0.931
2016	1.15	1.02-1.30	0.028	1.17	1.05-1.30	0.003	0.94	0.79-1.12	0.492
2018	0.92	0.81-1.05	0.215	0.93	0.84-1.02	0.120	0.92	0.77-1.09	0.323

Table 4b shows the results from the interaction effect of sex. In 1991, 1994, 1998, 2003, 2005, and 2018 shows male union members rated themselves as 4%-14% less generally healthy than their non-union counterparts, but not at statistically significant levels (0.86, CI 95% 0.72-1.02; 0.88, CI 95% 0.74-1.04; 0.92, CI 95% 0.77-1.09; 0.96, CI 95% 0.87-1.06; 0.96, CI 95% 0.84-1.10; 0.92, CI 95% 0.81-1.05). For 1991 and 2018, this negative effect is compounded for female unionized workers, where female unionized workers rated themselves as 15% less healthy –rather than 14% and 8% less generally healthy–, though not at statistically significant levels (0.99, CI 95% 0.77-1.27; 0.92, CI 95% 0.77-1.09). 1994, 1998, 2003, and 2005 show this interaction having the opposite effect, where female union members rated their general health higher than their male counterparts (1.04, CI 95% 0.81-1.34; 1.13, CI 95% 0.88-1.45; 1.01, CI 95% 0.88-1.17; 1.06, CI 95% 0.88-1.28). This increases their respective self-rated general health between 8% worse than their non-unionized counterparts ($0.88 \times 1.04 = 0.92$) to 4% better ($0.92 \times 1.13 = 1.04$), though not at statistically significant levels.

For the cycles conducted in 1989, 2008, 2009, 2010, 2011, 2012, 2013, 2015, and 2016, male union workers rate their general health as 1%-15% healthier than their non-union counterparts (1.04, CI 95% 0.87-1.24; 1.03, CI 95% 0.91-1.17; 1.07, CI 95% 0.94-1.22; 1.01, CI 95% 0.86-1.17; 1.02, CI 95% 0.90-1.16; 1.04, CI 95% 0.91-1.19; 1.02, CI 95% 0.92-1.13; 1.11, CI 95% 0.96-1.27; 1.15, CI 95% 1.02-1.30). However, only 2016 produced statistically significant results for union membership.

2008, 2009, 2010, 2011, 2012, and 2016 show female union workers as rating themselves 4%-23% less healthy than their male counterparts, though not at statistically significant levels (0.92, CI 95% 0.77-1.09; 0.84, CI 95% 0.71-1.01; 0.97, CI 95% 0.79-1.19; 0.92, CI 95% 0.77-1.09; 0.86, CI 95% 0.72-1.03; 0.94, CI 95% 0.79-1.12). This decreases their respective self-rated

general health between 11% worse in 2012 ($1.04 \times 0.86 = 0.89$), to 8% better in 2016 ($1.15 \times 0.94 = 1.08$) than their unionized counterparts.

2013 and 2015's results show female union members at an advantage, though the results lack statistical significance. In 2013, female unionized workers rate themselves 1%-5% generally healthier than male union workers (1.05, CI 95% 0.91-1.21; 1.01, CI 95% 0.84-1.22), and 7-12% healthier than their non-unionized counterparts ($1.02 \times 1.05 = 1.07$; $1.11 \times 1.01 = 1.12$).

Though, it is important to note where sex on its own had an effect on self-rated general health. 2005, 2013, and 2015 show that males are 2%-7% less generally healthy than females, though not at statistically significant levels (0.98, CI 95% 0.88-1.10; 0.96, CI 95% 0.88-1.10; 0.93, CI 95% 0.84-1.02). The remainder of the cycles show males self-reporting better general health outcomes than female participants, though only the cycles conducted in 1991, 2003, 2009, and 2016 yield statistically significant results, reporting a general health gap of 14%-22% (1.22, CI 95% 1.03-1.43; 1.14, CI 95% 1.04-1.25; 1.15, CI 95% 1.03-1.29; 1.17, CI 95% 1.05-1.30).

Table 4c shows the results from the interaction effect based on visible minority status. No interaction results from these models are statistically significant. The cycles conducted in 1991, 1994, 1998, 2003, 2005, 2008, 2009, 2011, and 2018 show that visible minority union members rated their general health as 5%-23% worse than their non-unionized counterparts (0.78, CI 95% 0.49-1.23; 0.77, CI 95% 0.43-1.38; 0.88, CI 95% 0.51-1.55; 0.80, CI 95% 0.61-1.05; 0.92, CI 95% 0.65-1.31; 0.81, CI 95% 0.60-1.11; 0.77, CI 95% 1.50; 0.93, CI 95% 0.69-1.27; 0.95, CI 95% 0.76-1.19). These same cycles – with the exception of 2018 – show visible minority status having a compounding effect, with unionized non-visible minorities self-rating their general health as 1%-22% better than their visible minority counterparts (1.10, CI 95% 0.68-1.78; 1.17, CI 95% 0.64-2.13; 1.10, CI 95% 0.62-1.96; 1.22, CI 95% 0.93-1.61; 1.08, CI 95% 0.75-1.54;

1.23, CI 95% 0.89-1.69; 1.29, CI 95% 0.94-1.79; 1.05, CI 95% 0.77-1.45). This then raises the self-rated health of unionized non-visible minorities, thus rating their health between 1%-14% worse than their non-unionized counterparts.

The only cycle where visible minority status has a protective effect against the negative effect of unionization is 2018. Where unionized visible minorities rate their health as 5% worse, unionized non-visible minorities rate their health an additional 9% worse than their non-unionized counterparts (0.91, CI 95% 0.71-1.15). In other words, non-visible minority union members in 2018 rated their general health as 14% worse than their non-unionized counterparts ($0.95 \times 0.91 = 0.86$).

In contrast, cycles conducted in 1989, 2010, 2012, 2013, 2015, and 2016 show unionized visible minorities rating their general health as 4%-16% better than their non-unionized counterparts (1.09, CI 95% 0.80-1.48; 1.07, CI 95% 0.77-1.50; 1.05, CI 95% 0.84-1.31; 1.04, CI 95% 0.89-1.20; 1.16, CI 95% 0.89-1.51; 1.12, CI 95% 0.88-1.43). In all these cycles – with the exception of 2013 – non-visible minorities do not experience the same protective effect, rating their health as 1%-10% worse than visible minorities (0.92, CI 95% 0.65-1.30; 0.91, CI 95% 0.64-1.30; 0.90, CI 95% 0.70-1.14; 0.95, CI 95% 0.72-1.27; 0.99, CI 95% 0.76-1.28). This decreases the self-rated health of unionized non-visible minorities between 5% worse ($1.05 \times 0.90 = 0.95$) to 11% better ($1.12 \times 0.99 = 1.11$) than their non-unionized counterparts.

The only cycle where unionized visible minorities rate themselves as healthier than their non-unionized counterparts is 2013, with unionized non-visible minorities reporting 1% better self-rated general health than unionized visible minorities (1.01, CI 95% 0.85-1.20). In this cycle, unionized non-visible minorities rate their general health as 5% better than their non-unionized counterparts ($1.04 \times 1.01 = 1.05$).

Table 4c: Results from general health vismin interaction effect

Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for visible minority status	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	1.09	0.80-1.48	0.581	1.01	0.84-1.21	0.909	0.92	0.65-1.30	0.643
1991	0.78	0.49-1.23	0.285	1.10	0.82-1.46	0.536	1.10	0.68-1.78	0.688
1994	0.77	0.43-1.38	0.383	0.90	0.62-1.31	0.589	1.17	0.64-2.13	0.604
1998	0.88	0.51-1.55	0.665	0.83	0.61-1.13	0.232	1.10	0.62-1.96	0.737
2003	0.80	0.61-1.05	0.107	1.21	1.04-1.41	0.016	1.22	0.93-1.61	0.158
2005	0.92	0.65-1.31	0.655	1.28	1.05-1.55	0.014	1.08	0.75-1.54	0.689
2008	0.81	0.60-1.11	0.190	1.33	1.13-1.57	0.001	1.23	0.89-1.69	0.211
2009	0.77	0.57-1.06	0.106	1.18	0.97-1.44	0.091	1.29	0.94-1.79	0.120
2010	1.07	0.77-1.50	0.680	1.63	1.32-2.01	<0.001	0.91	0.64-1.30	0.609
2011	0.93	0.69-1.27	0.653	1.21	1.02-1.44	0.031	1.05	0.77-1.45	0.749
2012	1.05	0.84-1.31	0.650	1.37	1.18-1.58	<0.001	0.90	0.70-1.14	0.374
2013	1.04	0.89-1.20	0.644	1.23	1.11-1.37	<0.001	1.01	0.85-1.20	0.901
2015	1.16	0.89-1.51	0.275	1.41	1.20-1.64	<0.001	0.95	0.72-1.27	0.739
2016	1.12	0.88-1.43	0.347	0.94	0.82-1.08	0.385	0.99	0.76-1.28	0.940
2018	0.95	0.76-1.19	0.681	1.57	1.39-1.78	<0.001	0.91	0.71-1.15	0.426

However, on its own, visible minority status affected general health outcomes in various ways. For the years 1994, 1998, and 2016, visible minorities rated their general health as 6%-17% worse than non-visible minorities, though not at statistically significant levels (0.90, CI 95% 0.62-1.31; 0.83, CI 95% 0.61-1.13; 0.94, CI 95% 0.82-1.08). The remainder of the cycles show non-visible minorities rating their general health higher than non-visible minorities by 1% to 63%. Though, as 1989, 1991, and 2009 lack statistical significance, the statistically significant cycles show evidence of a 21%-63% gap between visible minorities and non-visible minorities (1.21, CI 95% 1.04-1.41; 1.28, CI 95% 1.05-1.55; 1.33, CI 95% 1.13-1.57; 1.63, CI 95% 1.32-2.01; 1.21, CI 95% 1.02-1.44; 1.37, CI 95% 1.18-1.58; 1.23, CI 95% 1.11-1.37; 1.41, CI 95% 1.20-1.64; 1.57, CI 95% 1.39-1.78).

Table 4d shows the interaction effect of income. None of the interaction results carry statistical significance. The results in 1989, 1991, 1994, 1998, 2003, 2005, 2010, and 2015 show union members at low income levels as rating their general health as 1%-50% worse than their non-unionized counterparts (0.50, CI 95% 0.12-2.09; 0.53, CI 95% 0.26-1.05; 0.73, CI 95% 0.44-1.20; 0.86, CI 95% 0.49-1.52; 0.88, CI 95% 0.62-1.23; 0.68, CI 95% 0.44-1.04; 0.99, CI 95% 0.59-1.67; 0.95, CI 95% 0.74-1.24). With the exception of 2010, these cycles show income as having a protective effect, with high income union members reporting 1%-4% better self-rated health than those at lower income levels (1.05, CI 95% 0.95-1.15; 1.07, CI 95% 0.98-1.16; 1.03, CI 95% 0.96-1.10; 1.01, CI 95% 0.95-1.08; 1.01, CI 95% 0.98-1.05; 1.04, CI 95% 1.00-1.09; 1.03, CI 95% 0.98-1.08). This then raises the self-rated general health of unionized workers with greater earnings to only 2%-47% worse than their non-unionized counterparts ($0.5 \times 1.05 = 0.53$; $0.95 \times 1.03 = 0.98$). The 2010 cycle reports no difference between income categories, maintaining

Table 4d: Results from general health income interaction effect									
Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for household income	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	0.50	0.12-2.09	0.341	1.04	0.99-1.09	0.121	1.05	0.95-1.15	0.325
1991	0.53	0.26-1.05	0.067	1.10	1.04-1.16	<0.001	1.07	0.98-1.16	0.162
1994	0.73	0.44-1.20	0.214	1.11	1.07-1.16	<0.001	1.03	0.96-1.10	0.400
1998	0.86	0.49-1.52	0.609	1.03	0.99-1.07	0.110	1.01	0.95-1.08	0.676
2003	0.88	0.62-1.23	0.448	1.12	1.10-1.14	<0.001	1.01	0.98-1.05	0.568
2005	0.68	0.44-1.04	0.077	1.08	1.05-1.11	<0.001	1.04	1.00-1.09	0.079
2008	1.01	0.91-1.12	0.854	1.00	1.00-1.00	0.513	1.00	1.00-1.00	0.379
2009	1.36	0.88-2.10	0.172	1.11	1.08-1.14	<0.001	0.97	0.93-1.01	0.137
2010	0.99	0.59-1.67	0.980	1.11	1.08-1.15	<0.001	1.00	0.95-1.05	0.982
2011	1.29	0.83-1.99	0.259	1.14	1.11-1.17	<0.001	0.97	0.93-1.01	0.211
2012	1.04	0.66-1.63	0.874	1.12	1.09-1.15	<0.001	0.99	0.95-1.04	0.733
2013	1.12	0.79-1.59	0.534	1.08	1.06-1.10	<0.001	0.99	0.96-1.03	0.698
2015	0.95	0.74-1.24	0.723	1.05	1.02-1.08	<0.001	1.03	0.98-1.08	0.216
2016	1.12	0.86-1.45	0.394	1.09	1.05-1.13	<0.001	1.00	0.94-1.06	0.971
2018	1.08	0.85-1.37	0.527	1.10	1.08-1.13	<0.001	0.96	0.92-1.00	0.068

that union members rate their general health as 1% worse than their non-unionized counterparts (1.00, CI 95% 0.95-1.05).

The cycles conducted in 2008, 2009, 2011, 2012, 2013, 2016, and 2018 report that unionized low-income workers rate their health 1%-36% better than their non-unionized counterparts (1.01, CI 95% 0.91-1.12; 1.36, CI 95% 0.88-2.10; 1.29, CI 95% 0.83-1.99; 1.04, CI 95% 0.66-1.63; 1.12, CI 95% 0.79-1.59; 1.12, CI 95% 0.86-1.45; 1.08, CI 95% 0.85-1.37). Both 2008 and 2016 report no differences between income levels, maintaining 1% and 12% self-rated general health improvement based on union status respectively (1.00, CI 95% 1.00-1.00; 1.00, CI 95% 0.94-1.06). The remainder of the cycles (2009, 2011, 2012, 2013, and 2018) show that those in higher income levels rate their general health as 1%-4% worse than their low-income counterparts (0.97, CI 95% 0.93-1.01; 0.97, CI 95% 0.93-1.01; 0.99, CI 95% 0.95-1.04; 0.99, CI 95% 0.96-1.03; 0.96, CI 95% 0.92-1.00). However, union membership still provides a protective effect, with union members in high income categories rating their general health 3%-32% better than their non-unionized counterparts ($1.04 \times 0.99 = 1.03$; $1.36 \times 0.97 = 1.32$).

Yet, the effect of household income by itself remains fairly consistent with each cycle. With the exception of 2008 – where no difference can be found among income categories – greater household income leads to better self-rated general health outcomes. All but three cycles (1989, 1998, and 2008) show statistical significance where $p < 0.001$. These cycles results' show a 5% to 14% health gap between lower income and higher income levels, with higher income respondents reporting better general health (1.10, CI 95% 1.04-1.16; 1.11, CI 95% 1.07-1.16; 1.12, CI 95% 1.10-1.14; 1.11, CI 95% 1.08-1.14; 1.11, CI 95% 1.08-1.15; 1.14, CI 95% 1.11-1.17; 1.12, CI 95% 1.09-1.15; 1.08 CI 95% 1.06-1.10; 1.05, CI 95% 1.02-1.08; 1.09, CI 95% 1.05-1.13; 1.10, CI 95% 1.08-1.13).

The continued inconsistency of the various interaction results suggests that the effect of union membership on self-rated general health does not differ from province to province, nor by sex, or visible minority status. As the vast majority of the results are statistically insignificant, there is no strong evidence that the patterns noted – or lack thereof – can be treated as empirically true. However, the effect of income by itself is consistent, providing a pattern that higher-income participants self-reported better general health than their low-income counterparts. Though there was a lack of statistical significance in the interaction effect, it is possible that the lowest and highest income groups will experience the effects of unionization differently, and thus further investigation will be conducted in chapter 4.

In short, to understand the relationship between union membership and self-rated general health in Canada, I conducted several ordinal and linear regression models. The first two regression models – which examined the direct relationship and the relationship with key control variables – showed inconsistent patterns in the union-general-health relationship, and had few instances of statistical significance. I then used a linear model to address the potential effects of the participant's statistical weight, which corroborated the original findings, meaning that statistical weight did not influence the results. Following this, I then created four more ordinal regression models to examine the interaction effects of sex, province, visible minority status, and household income. With the exception of household income, these interactions were largely statistically insignificant and had no consistent pattern that would suggest that differences in these categories affect the relationship between union member status and self-rated general health.

Based on the results of all the regressions, this study finds that union membership has no known association with self-rated general health in the Canadian context. Differences in province

of origin, sex, and visible minority status does not affect these findings. Further investigation is needed to understand the full effects of income in conjunction with union membership. As there is no known association, this study also finds that union membership does not sufficiently address the social determinant of socio-economic status such that it helps address a fundamental cause of health inequalities in Canada. It is possible that this conclusion may change upon further examining the effects of income in chapter 4.

Though, based on the current findings, this then begs the question, why do these results differ from the established literature that show union members are healthier than non-union members? Several possibilities arise, the first being that the health outcome of focus can change the results. In this case, focusing on self-rated general health outcomes shows no difference, whereas focusing on health care access, for example, could show a gap between unionized and non-unionized workers.

The second possibility is that each occupation benefits from unionization in different ways and to different degrees. While this research confirms that labour unionization is not a blanket solution to addressing health disparities, it is likely that occupations that deal with greater on-the-job hazards benefit from having labour unions as an avenue for safety advocacy, thus positively impacting the general health of union workers. For example, construction workers make up the majority of workplace fatalities, with manufacturing falling close behind (Thomas et al., 2025). Workplace health and safety standards are taken more seriously in larger workplaces, generally because they are often unionized and have formal procedures and rules in place, and are most likely to have training and government inspections take place in their facilities (Thomas et al., 2025). Non-unionized workplaces, which are often small and use precarious employment tactics such as labeling employees as “sub-contractors” who are not

covered by government legislation, pose great risk to workers, who are likely unable to refuse unsafe work (Thomas et al, 2025). In contrast, those who work in less risky environments, such as those who work in an office, are less exposed to potential hazards, like toxic fumes or dangerous machinery. While these workers face issues of chronic stress and its related illnesses, soft tissue injuries, and musculoskeletal problems, said health problems are more complicated to advocate against due to their uncertain causes and slow onset, and thus may not be the focus of labour unions in these environments (Thomas et al., 2025). These possibilities could potentially be addressed in future research, but were unable to be accounted for in this project due to the inconsistency of questions in the GSS regarding occupation.

Controlling for occupation would also help mitigate any selection effects that are potentially affecting the current results. It is possible that workers who are union members specifically sought out their occupation because it is a heavily unionized industry.

Another data limitation includes the inconsistency in non-response rates, as early cycles of the GSS had greater response rates than later cycles. For example, the cycles conducted in 1991 and 1994 had response rates of 80% and 82% respectively (Statistics Canada, 1992; Statistics Canada, 1995). By 2005, response rates dropped to just over half (58.6%), and remained around two thirds (55%-65.8%) until 2013, at which point response rates dropped to roughly half of all contacted households (38.2%-52.8%) (Statistics Canada, 2006; Statistics Canada, 2010; Statistics Canada, 2009; Statistics Canada, 2011; Statistics Canada, 2014; Statistics Canada, 2015a; Statistics Canada, 2015b; Statistics Canada, 2017; Statistics Canada, 2018; Statistics Canada, 2020). There are several possible reasons for this decline. To start, the widespread use of cellphones made Random Digit Dialing (RDD) for households more difficult and less effective (Bladon, 2010). In the early 2000s, Canadians who only opted to rely on

cellphones rather than landlines were more likely to be lower-income and/or live in urban areas, potentially creating bias in the results (Bladon, 2010). By the 2010s, the culture around cellphones and answering phone calls from unknown numbers had changed. With concerns of identity theft, scams, and robocalls becoming more common, most people ignore phone calls or send them to voicemail. More recently, generative AI voice cloning has proliferated these concerns, further hindering the efficacy of phone surveys (Cerullo, 2024; Collier, 2025). Though Statistics Canada began to slowly integrate online survey options around the turn of the century, this did not improve response rates. Wu et al., (2022) note that online surveys tend to yield lower response rates compared to other modes. When taking online surveys, respondents are not only impacted by the length of the survey, but are now also impacted by their internet coverage and stability, as well as the visual presentation of the website (Wu et al., 2022). Wu et al., (2022) also note social factors such as survey fatigue, public attitudes, and social cohesion as reasons for a decline in response rates. Leeper (2019) explains this phenomenon as a “common-pool resource dilemma”, using fisheries as an example (p. 281). While fish are abundant, they are a finite resource. Anyone can harvest fish, but acting independently reduces the potential benefits when compared to coordinating with others whose goal it is to gather fish. If everyone tries to catch fish at the same time, there may not be enough fish left to fill the needs of others. When applied to surveys, contacting respondents for one survey can negatively impact other surveys (Leeper, 2019, p. 281). In other words, respondents who are contacted for one survey may not have the time, energy, or desire to fill out another, leading to a deficit in survey responses. In an era of hyperconsumerism, where people are constantly bombarded to provide reviews and/or feedback for products and places in order for companies to sell more, it has become difficult for researchers and governments to compete for respondents’ time, energy, and desire.

In addition to these factors, those who chose not to participate could differ from the samples collected by Statistics Canada. Non-response was a consistent issue at the level of individual questions, with observations becoming unusable when factoring in control variables – though the sample size (N) consistently remained high. This elimination of observations could also have contributed to bias in the results.

The use of quantitative survey data must also be noted as a limitation, as it does not capture the qualitative side on how union members feel their union affects their health. It is possible that while the results of this study show there is no difference in the self-rated general health of unionized from non-unionized workers, union members may provide different insight into their health that cannot be captured by a closed-ended survey. This should be explored in future research.

Another data limitation relates to the individual level of analysis that the self-rated general health measure provides. It is possible that while the individual union member does not necessarily see a greater health benefit compared to their non-unionized counterparts, it is possible that there is a difference on the population level of analysis. For example, countries with greater union presence and a strong working-class have a healthier population than those that do not, with potentially noticeable differences in social gradients of health. This again offers another avenue of investigation into the importance of union membership on health outcomes.

In addition to these limitations, it is possible that the shifting of Canadian unions towards “middle-class unionism” since the 1990s (Walchuk, 2010) with inconsistent mobilization efforts and industry-specific goals could be affecting the strength of these and other unions’ ability to foster improved health outcomes in a consistent manner. In other words, unions industry-specific goals could be propelling or hindering workers throughout their industry regardless of union

status, potentially creating different patterns of health outcomes surrounding their own occupation or workplace.

Other possible explanations include social desirability bias and acquiescence response bias. Social desirability bias occurs when respondents fear judgement or want to look good to others, meaning they do not respond honestly or provide answers that do not match with their true experience. Acquiescence response bias refers to when respondents are more likely to positively respond to questions and research statements while ignoring their content, often to appease the researcher. It is possible that while taking the surveys, respondents felt as though answering self-rated health questions honestly would negatively reflect on their person, and thus rated their health higher than they would have otherwise.

Chapter 3 focuses on the impact of labour union membership on mental health outcomes, following the procedure used to examine general health.

Chapter Three - The Union Impact on Mental Health

This chapter examines the impact of labour union membership on general health. The first section defines self-rated mental health and provides a literature review of union membership and self-rated mental health. The next section outlines my hypotheses. Next, I describe data and methods. I report my findings in two sections: the first section discusses the descriptive patterns within the data; the second section outlines the results of the ordinal regressions and linear models. I then provide a conclusion that summarizes the findings.

As mentioned in the previous chapter, unions' ability to garner favourable contracts, better wages, proper working conditions, and increased job security, in addition to providing education about on-the-job hazards, private health insurance, and retirement plans not only helps prevent physical harm, but also provides members with greater protection against personal stress and environmental shocks – such as the COVID-19 pandemic and/or unstable economic conditions (Braakman & Hirsch, 2024; Chen & Islam, 2023; Han et al., 2024; Muller et al., 2022). While there has yet to be research to tie unions to salutogenic wellness models, these positive abilities could be classified as generalized resistance resources (GRRs). These resources can address the social determinants of health, mitigating the negative impacts of environmental, economic, and social impacts on health, but can also work to foster a sense of coherence (SOC) that beneficially impacts mental health.

Returning to Han et al.'s (2024) study that found that persons with consistent union attachment over their career were healthier, these accumulated benefits not only impacted their physical health, but their mental health by reducing workplace stressors, burnout, and created mental stability in their lives that enabled them to plan for their futures, including retirement plans and occupational security (Han et al., 2024).

In addition, the postal-worker strike that led to Canadians receiving longer maternity leave allowed for a decrease in mental health complaints – including decreased depression and better sleep – and secure attachment styles (Darrah, 2021; Whitney et al., 2023). Here, the Canadian Union of Postal Workers provided a way for new parents – particularly mothers – to foster strong mental health outcomes in themselves and their children. In this case, the union could be considered a GRR that helped foster a SOC, allowing for predictability and stability in their workplaces and pay that then enabled them to reliably care for their new family members.

The presence of unions continues to have other far-reaching impacts on mental health in the present-day. In their US-based study, Chen & Islam (2023) found a positive association between unionization and the overall happiness of everyone in society, not just workers. While the primary benefactors are those with low SES, subjective measures of financial situation, personal health status, and work environment are all positively tied to union density (Chen & Islam, 2023, p.304). In addition, low-SES workers benefit from union efforts that protect the well-being of socio-economically vulnerable groups such as: creating safe workplaces by advocating for regulations and enforcement through public health entities; investing in programs to educate workers about workplace hazards; working with employers to reduce worker injuries; and working with employers to reduce time lost due to injury (Chen & Islam, 2023, p. 304). This returns to the importance of unions in compressing income distributions in society, where more egalitarian distributions of income are related to greater health outcomes for all of the society's members (Banks et al., 2006; Brown & Das, 2023; Kuhling & Keohane, 2009; Muller et al., 2022; Sran, 2013; Wilkinson, 2005). This social gradient also applies to mental health outcomes, including stress, substance abuse, and depression.

Self-rated mental health focuses on the psychological, emotional, and social aspects of health (Levinson & Kaplan, 2014). Asking the question “how would you rate your mental health?” provides a subjective measure of respondents’ psychological or emotional distress, the presence of psychiatric disorders, their social role functioning, and can also include their use of mental health services (Levinson & Kaplan, 2014; Sordo Vieira et al., 2022). These measures are moderately strong and reliable measures of mental health outcomes (Levinson & Kaplan, 2014; Sordo Vieira et al., 2022). It is important to examine aspects of mental health in addition to general health as both measures have been found to be closely related to objective physical and mental health outcomes, sometimes proving as stronger predictors of overall health than objective health status indicators (Levinson & Kaplan, 2014). Union membership may affect this outcome because of their ability to enhance workers’ ability to access mental health services, as well as providing stability and protection that serves as an outlet to mitigate psychological and/or emotional distress.

Returning to the main research question – how does unionization affect the general health of the Canadian workforce? – in this chapter, I specifically focus on how union membership affects mental health outcomes. Answering this will then answer whether unions can be considered a significant generalized resistance resource to be included as necessary in the expansion of salutogenic care. The main hypotheses of this chapter are as follows:

Hypothesis 3: union members have higher self-rated mental health than non-union members.

Hypothesis 4: the effect of unionization on mental health increases over time.

The data I analyzed is similar to the data used in Chapter 2. I included these cycles of the General Social Survey conducted by Statistics Canada: Cycle 4, conducted in 1989, Education and Work; Cycle 6, conducted in 1991, Health; Cycle 12, conducted in 1998, Time Use; Cycle 17, conducted in 2003, Social Engagement; Cycle 19, conducted in 2005, Time Use Survey; Cycle 22, conducted in 2008, Social Networks; Cycle 23, conducted in 2009, Victimization; Cycle 24, conducted in 2010, Time-Stress and Well-Being; Cycle 25, conducted in 2011, Family; Cycle 26, conducted in 2012, Caregiving and Care Receiving; Cycle 27, conducted in 2013, Social Identity; Cycle 29, conducted in 2015, Time Use; Cycle 30, conducted in 2016, Canadians at Work and Home; and Cycle 32, conducted in 2018, Caregiving and Care Receiving. This comes to a total of 14 cycles. It is important to note that 1994 is not included in the analysis of the relationship between union membership and self-rated mental health outcomes as the survey lacked relevant questions regarding different aspects of mental health that would have enabled its inclusion through the creation of a derived variable.

I again used R statistical software to analyze the data (Fox & Weisberg, 2002; Hlavac, 2022; Lüdecke, 2024; Posit Team, 2025; R Core Team, 2025; Venables & Ripley, 2002; Wickham, 2021; Wickham, 2022; Wickham et al., 2025). Mental health outcomes are the dependent variables, while union member status is the independent variable. Measures of mental health outcomes are self-rated. As mentioned in Chapter 2, union membership is measured by respondents reporting their union status. The key control variables - including age, sex, education, household income, marital status, and visible minority status – are the same variables used in chapter 2. Using the same method as in Chapter 2, I reduced my sample to only include respondents who are employed and aged 25-64 to best capture the health of the workforce.

In order to examine mental health for each cycle, I had to create derived variables in 1989, 1991, 1998, 2003, and 2005, combining responses to questions regarding happiness and life satisfaction. Cycle 9 conducted in 1994 did not include questions regarding self-rated mental health, happiness, nor life satisfaction, and therefore was not included in the examinations of mental health outcomes. I followed the same procedure as Chapter 2 to analyze the data, first examining the descriptive patterns, calculating the effects using ordinal regression models to understand the base relationship and the relationship with added controls, and created further ordinal regression models to examine the interaction effect of each key control variable. In total, these results help address hypothesis 3 and 4 by examining the difference in self-rated mental health outcomes between unionized and non-unionized workers in each cycle and over time.

Table 5 shows the descriptive patterns between union membership, self-rated mental health, and the other key variables used in this analysis for each cycle of the GSS. This table includes much of same information as Table 1 in the previous chapter, but is necessary to re-examine for this chapter as they relate to respondents' mental health. As previously mentioned, the majority of participants were married (48–69%), were not visible minorities (0.76–0.95), were between 30 and 54 years old, had at least some higher education – though union members attended at higher rates –, and had similar household incomes. All cycles had similar proportions of male and female participants (0.41–0.59). Unionized and non-unionized workers rated their mental health similarly, with their average scores corresponding with “Good” mental health. As previously mentioned, the similar demographics of the unionized and non-unionized groups in this analysis – as seen in the descriptive statistics in Table 5 – offers meaningful insight into the true impact of labour union membership on self-rated health outcomes, including self-rated mental health outcomes.

Table 5: summary statistics of key variables in analysis by union member status by year														
Year	1989		1991		1998		2003		2005		2008		2009	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Self-Rated Mental Health (1=poor, 4=very good)	3.59	3.57	3.83	3.8	3.15	3.13	3.19	3.16	3.11	3.09	3.55	3.57	3.72	3.70
Age Group	35-44	30-39	35-44	35-44	35-44	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54
Sex (0=Male, 1=Female)	0.41	0.53	0.45	0.51	0.50	0.51	0.48	0.48	0.56	0.53	0.57	0.50	0.54	0.50
Education (percentage with at least some higher education)	48%	46%	64%	59%	73%	66%	84%	68%	78%	72%	82%	76%	80%	75%
Household Income	\$30,000-\$59,999	\$30,000-\$59,999	\$30,000-\$59,999	\$30,000-\$59,999	\$40,000-\$59,999	\$40,000-\$59,999	\$50,000-\$79,999	\$40,000-\$59,999	\$50,000-\$79,999	\$50,000-\$79,999	\$60,000-\$99,999	\$50,000-\$79,999	\$60,000-\$99,999	\$50,000-\$79,999
Marital Status (percentage married)	68%	69%	68%	66%	55%	54%	53%	53%	51%	52%	51%	53%	53%	52%
Visible minority Status (0=visible minority, 1=not a visible minority)	0.80	0.76	0.93	0.90	0.95	0.92	0.93	0.89	0.93	0.90	0.93	0.89	0.91	0.89

Table 5: summary statistics of key variables in analysis by union member status by year														
Year	2010		2011		2012		2013		2015		2016		2018	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Self-Rated Mental Health (1=poor, 4=very good)	3.52	3.54	3.64	3.64	3.62	3.63	3.72	3.69	3.50	3.47	3.54	3.55	3.44	3.49
Age Group	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54	35-54
Sex (0=Male, 1=Female)	0.56	0.52	0.57	0.50	0.58	0.53	0.50	0.46	0.56	0.50	0.55	0.50	0.59	0.50
Education (percentage with at least some higher education)	82%	78%	81%	74%	72%	64%	84%	66%	81%	75%	79%	72%	80%	72%
Household Income	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$60,000-\$99,999	\$50,000-\$79,999	\$80,000-\$119,999	\$80,000-\$119,999	\$75,000-\$124,999	\$75,000-\$124,999	\$80,000-\$119,999	\$80,000-\$119,999
Marital Status (percentage married)	54%	56%	53%	55%	55%	57%	59%	55%	49%	50%	51%	52%	48%	53%
Visible minority Status (0=visible minority, 1=not a visible minority)	0.90	0.88	0.92	0.88	0.84	0.81	0.78	0.72	0.89	0.84	0.88	0.83	0.86	0.82

Table 6 shows the results from the ordinal regression models, comparing the base regression (i.e. the direct relationship) with the regression that includes the key control variables highlighted for analysis (see Appendix B for full results).

Year	odds ratio for base regression	confidence interval	p-value	odds ratio w/ added controls	confidence interval	p-value
1989	0.96	0.84–1.09	0.500	0.97	0.84–1.11	0.647
1991	1.13	0.94–1.36	0.183	1.09	0.90–1.34	0.38
1998	1.06	0.93–1.21	0.346	0.96	0.83–1.11	0.555
2003	1.10	1.02–1.19	0.011	0.98	0.90–1.06	0.603
2005	1.06	0.97–1.17	0.210	1.07	0.96–1.19	0.195
2008	0.93	0.85–1.01	0.080	0.91	0.84–1.00	0.041
2009	1.04	0.96–1.13	0.383	0.99	0.90–1.08	0.783
2010	0.95	0.86–1.05	0.299	0.95	0.86–1.06	0.359
2011	0.96	0.89–1.04	0.346	0.92	0.85–1.01	0.073
2012	0.95	0.88–1.03	0.208	0.92	0.84–1.01	0.073
2013	1.09	1.02–1.17	0.008	0.96	0.89–1.04	0.296
2015	1.08	0.98–1.18	0.103	1.08	0.98–1.19	0.107
2016	0.97	0.89–1.06	0.519	0.96	0.88–1.05	0.351
2018	0.84	0.77–0.91	<0.001	0.84	0.77–0.91	<0.001

Out of the fourteen cycles analyzed, ten cycles (1989, 1991, 1998, 2005, 2009, 2010, 2011, 2012, 2015, and 2016) yielded statistically insignificant results for both the base and controlled regressions at $\alpha=0.05$. For cycles conducted in 1989, 2010, 2011, 2012, and 2016, the base regressions show that union members rate their mental health more poorly than their non-unionized counterparts, with odds ratios slightly less than one (0.96, CI 95% 0.84-1.09; 0.95, CI 95% 0.86-1.05; 0.96, CI 95% 0.89-1.04; 0.95, CI 95% 0.88-1.03; 0.97, CI 95% 0.89-1.06). For 1989, including the key control variables marginally increases the odds ratio, from 0.96 to 0.97 (CI 95% 0.84-1.11). Had the results been statistically significant, this would suggest that the key control variables were slightly suppressing the true relationship between union membership and self-rated mental health outcomes. The 2010 cycle remained at an odds ratio of 0.95 (CI 95% 0.86-1.05) when accounting for key control variables, suggesting the control variables in this cycle to not affect the relationship of focus. Both 2011 and 2012 saw a decrease in the odds ratio

with added controls, with both years resulting in an odds ratio of 0.92 (CI 95% 0.85-1.01; CI 95% 0.84-1.01). Similarly, adding control variables to the 2016 ordinal regression model decreases the odds ratio from 0.97 to 0.96 (CI 95% 0.88-1.05). These results would typically suggest that the effect of union membership's impact was partially due to key control variables rather than a direct correlation. However, since these results are statistically insignificant, this change is inconsequential.

The cycles in 1991, 1998, 2005, 2009, and 2015 show a different pattern in the base regression, suggesting that union members rate their mental health better than their non-unionized counterparts (1.13, CI 95% 0.94-1.36; 1.06, CI 95% 0.93-1.21; 1.06, CI 96% 0.97-1.17; 1.04, CI 95% 0.96-1.13; 1.08, CI 95% 0.98-1.18). For 1991, 1998, and 2009, the addition of control variables decreased the odds ratios, suggesting that the effect of unionization was partially due to key control variables. However, in the case of 1991, this change did not affect the union advantage, maintaining that union members rated their mental health better than their non-unionized counterparts, with an odds ratio of 1.09 (CI 95% 0.90-1.34). Though, the statistical insignificance of these results means this change remains inconsequential. In contrast, 1998 and 2009 results show what would be a detrimental decrease if they were statistically significant, with union membership's positive impact disappearing when accounting for the key control variables, with odds ratios below one (0.96, CI 95% 0.83-1.11; 0.99, CI 95% 0.90-1.08). In 2005, the odds ratio increased to 1.07 (CI 95% 0.96-1.19), which would typically suggest (i.e. if it were statistically significant) that the true relationship between union membership and self-rated mental health was suppressed by one or more key control variables. In 2015, the odds ratio remained the same across regressions at 1.08 (CI 95% 0.98-1.19), suggesting the key controls

have no impact on the relationship between self-rated mental health outcomes and labour union membership.

Three of the GSS cycles examined had statistically significant results for one regression. In 2008, the base regression did not produce statistically significant results (0.93, CI 95% 0.85-1.01). However, the second regression yielded statistically significant results, where $p=0.041$, with an odds ratio of 0.91 (CI 95% 0.84-1.00). Here, the base regression recorded union members as rating their mental health 7% more poorly than non-union members, and becoming an additional 2% less likely to positively rate their mental health when factoring in key control variables. This suggests that the key controls suppressed the true relationship between union membership and self-rated mental health, where union members rate themselves as 9% less mentally healthy than non-unionized workers.

In the opposite direction, 2003 and 2013 yielded statistically significant results for the base regression, but did not produce statistically significant results in the second regression. In both cycles, the base regressions (1.10, CI 95% 1.02-1.19; 1.09, CI 95% 1.02-1.17) showed union members rated themselves as mentally healthier by 9-10%, where $p=0.011$ and $p=0.008$ respectively. However, the presence of control variables reduced this mental health advantage to odds ratios of less than one (0.98, CI 95% 0.90-1.06; 0.96, CI 95% 0.89-1.04), and eliminates the statistical significance. This suggests that unionization's positive impact on self-rated mental health in both 2003 and 2013 is spurious, and is due to the presence of one or more key control variables rather than a direct correlation.

2018 is the only cycle examined that yielded significant results for both the base regression and the regression with added controls, where $p<0.001$. The odds ratios remain stable across regressions, with odds ratios of 0.84 (CI 95% 0.77-0.91). This suggests that union

members rate their mental health as 16% worse than non-union members, and that the inclusion of key control variables has no effect on this relationship.

The results of these regressions were unexpected, and do not sufficiently support my hypothesis 3, that union members are more likely to rate their mental health positively compared to non-union members. Similarly to the previous chapter, I used linear models to further examine this relationship, factoring in respondents' statistical weight. Results from the linear regressions can be found in Table 7 (see Appendix B for full results).

year	beta for base regression	confidence interval	p-value	beta w/ added controls	confidence interval	p-value
1989	0.00	-0.04–0.03	0.887	0.00	-0.04–0.03	0.798
1991	-0.02	-0.05–0.01	0.191	-0.02	-0.05–0.02	0.356
1998	-0.02	-0.06–0.02	0.247	0.01	-0.04–0.05	0.804
2003	-0.03	-0.06–0.01	0.002	0.00	-0.02–0.02	0.898
2005	-0.03	-0.05–0.00	0.054	-0.02	-0.05–0.01	0.111
2008	0.03	-0.02–0.07	0.240	0.03	-0.01–0.07	0.165
2009	-0.01	0.05–0.03	0.477	-0.01	-0.05–0.04	0.778
2010	0.01	-0.04–0.06	0.603	0.00	-0.05–0.05	0.942
2011	0.03	-0.01–0.07	0.108	0.06	0.02–0.10	0.003
2012	0.01	-0.03–0.05	0.697	0.03	-0.01–0.07	0.194
2013	-0.04	-0.07–0.01	0.013	0.03	0.00–0.07	0.051
2015	-0.04	-0.08–0.01	0.143	-0.05	-0.10–0.00	0.053
2016	0.01	-0.04–0.05	0.793	0.01	-0.03–0.06	0.591
2018	0.09	0.04–0.13	<0.001	0.09	0.04–0.14	<0.001

The linear model results from Table 7 show a different patterns than the base and secondary ordinal regression models (see Table 6). In terms of statistical significance, the cycles conducted in 2003, 2011, 2013, and 2018 yielding statistically significant results. Here, 2003 and 2013 are only significant for the base regression, which shows union members rating their mental health more positively than their non-unionized counterparts, matching the patterns observed in the ordinal regressions models. The patterns also match in 2018, where both the base and the secondary regressions show union members rating themselves as less mentally healthy at

statistically significant levels. However, the linear models show no statistical significance for 2008 and shows a statistically significant secondary regression for 2011.

While these results do not perfectly align with those found in the ordinal regression models, the overall pattern remains consistent – the results are inconsistent. The mental health of union members compared to their non-unionized counterparts cannot be summarized into a simple pattern, and provides no clear understanding as to whether union members or non-union members have better self-rated mental health. Therefore, the statistical weight of the participants does not impact the findings, maintaining the inconsistent pattern of association, with the majority of results showing no difference in the mental health ratings of unionized and non-unionized survey participants. This means that there is no evidentiary support for hypothesis 4, that the relationship between union membership and mental health outcomes are stable or increasing over time.

With this in mind, I will be continuing to use the ordinal regression results. Using ordinal regression models maintains the ordinal structure of the survey questions, which in turn maintains the ordinal scale participants used to situate their self-perceptions of their own mental health. In addition, using ordinal regression means that I do not have to collapse categories in order to better fit linear models, thus providing more in-depth information on the mental health ratings of participants.

To provide further nuance to the relationship between labour union membership and self-rated mental health, I analyzed the interaction effects of province of origin, sex, visible minority status, and household income (Tables 8a-d, see Appendix B for full results).

Table 8a shows the results of the interaction effect of province of origin for each GSS cycle. For the cycles conducted in 1989, 1998, 2003, 2008, 2009, 2010, 2011, 2013, and 2018, union members rate their mental health as 5%-26% worse than their non-unionized counterparts (0.83, CI 95% 0.61-1.12; 0.74, CI 95% 0.53-1.68; 0.94, CI 95% 0.76-1.15; 0.88, CI 95% 0.71-1.08; 0.91, CI 95% 0.73-1.12; 0.89, CI 95% 0.70-1.14; 0.94, CI 95% 0.77-1.16; 0.95, CI 95% 0.79-1.15; 0.79, CI 95% 0.65-0.96). From these, only 2018 is statistically significant, where union members rated themselves as 21% less mentally healthy than non-union members, and where $p=0.020$. With the exception of 1989, these nine cycles see no difference in their odds ratios based on province of origin. Though 1989 shows a 3% improvement when changing provinces, this change is statistically insignificant and is thus inconsequential.

The results from cycles conducted in 1991, 2005, 2012, 2015, and 2016 show union members as rating themselves 2%-24% mentally healthier than their non-unionized counterparts (1.04, CI 95% 0.65-1.68; 1.24, CI 95% 0.97-1.60; 1.02, CI 95% 0.82-1.25; 1.12, CI 95% 0.89-1.40; 1.16, CI 95% 0.95-1.41). However, none of these cycles are statistically significant. When considering province of origin, 2005, 2012, and 2015 show no difference in self-rated mental health. Both 1991 and 2016 show a 1% difference in either direction (1.01, CI 95% 0.93-1.09; 0.99, CI 95% 0.99-1.00), though only 2016 shows statistically significant results, where $p=0.031$.

On its own, province of origin does not have a significant impact on self-rated mental health, with the odds ratios remaining between 0.98 and 1.00, even where there is statistical significance (0.98, CI 95% 0.95-1.01; 1.00, CI 95% 0.99-1.00). Therefore, the mental health effects of living in certain Canadian provinces compared to others are minimal or non-existent.

Table 8a: Results from mental health provincial interaction effect									
Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for province or origin	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	0.83	0.61-1.12	0.217	0.98	0.95-1.01	0.214	1.03	0.98-1.09	0.258
1991	1.04	0.65-1.68	0.876	0.99	0.94-1.04	0.621	1.01	0.93-1.09	0.822
1998	0.74	0.53-1.05	0.089	0.99	0.99-1.00	0.050	1.01	1.00-1.02	0.117
2003	0.94	0.76-1.15	0.527	0.99	0.99-1.00	<0.001	1.00	1.00-1.01	0.632
2005	1.24	0.97-1.60	0.091	1.00	0.99-1.00	0.171	1.00	0.99-1.00	0.197
2008	0.88	0.71-1.08	0.212	0.99	0.99-1.00	<0.001	1.00	1.00-1.01	0.712
2009	0.91	0.73-1.12	0.367	0.99	0.99-1.00	0.459	1.00	1.00-1.01	0.459
2010	0.89	0.70-1.14	0.356	1.00	0.99-1.00	0.030	1.00	1.00-1.01	0.583
2011	0.94	0.77-1.16	0.586	0.99	0.99-1.00	0.005	1.00	0.99-1.00	0.748
2012	1.02	0.82-1.25	0.888	1.00	1.00-1.00	0.938	1.00	0.99-1.00	0.309
2013	0.95	0.79-1.15	0.623	1.00	0.99-1.00	0.030	1.00	1.00-1.01	0.945
2015	1.12	0.89-1.40	0.330	1.00	0.99-1.00	0.016	1.00	0.99-1.00	0.696
2016	1.16	0.95-1.41	0.142	1.00	0.99-1.00	0.085	0.99	0.99-1.00	0.031
2018	0.79	0.65-0.96	0.020	0.99	0.99-1.00	<0.001	1.00	1.00-1.01	0.555

Table 8b shows the results from the interaction effect of sex. In the years 1998, 2003, 2008, 2011, and 2018, the results show male union members rated their mental health as 2%-16% worse than their non-union counterparts (0.97, CI 95% 0.80-1.19; 0.98, CI 95% 0.87-1.10; 0.95, CI 95% 0.84-1.07; 0.84, CI 95% 0.74-0.95). From these cycles, only 2018 yielded statistically significant results, with male union members rating themselves as 16% less mentally healthy, where $p=0.007$. In 1998, 2008, and 2011, the negative union effect further impacts female union workers, where they rate themselves as an additional 3% to 10% worse than their male union members (0.97, CI 95% 0.73-1.29; 0.90, CI 95% 0.76-1.09; 0.96, CI 95% 0.81-1.13). This decreases their self-rated mental health to 6% ($0.97 \times 0.97 = 0.94$), 13% ($0.97 \times 0.90 = 0.87$), and 9% ($0.95 \times 0.96 = 0.91$) worse than their respective non-unionized counterparts, though not at statistically significant levels. 2003 shows no difference between male and female union members, hence females have the same 2% mental health gap as males (1.00, CI 95% 0.85-1.18).

In 2013, male union members rated their mental health as exactly the same when compared to male non-union members (1.00, CI 95% 0.91-1.11). However, female union members are negatively affected, rating their mental health as 9% worse than their male counterparts, as well as 9% worse than their unionized counterparts, though not at statistically significant levels (0.91, CI 95% 0.79-1.05).

The remainder of the cycles (i.e. 1989, 1991, 2005, 2009, 2010, 2012, 2015, and 2016) show male union members rating themselves as 1% to 9% mentally healthier than their non-unionized counterparts (1.02, CI 95% 0.85-1.22; 1.03, CI 95% 0.78-1.36; 1.09, CI 95% 0.93-1.27; 1.04, CI 95% 0.91-1.18; 1.02, CI 95% 0.88-1.19; 1.02, CI 95% 0.88-1.15; 1.07, CI 95% 0.93-1.23; 1.04, CI 95% 0.92-1.18). From these cycles, 1989, 2005, 2009, 2010, 2012, and 2016

show that female union members rank their mental health more poorly than their male counterparts by 3% to 14% (0.89, CI 95% 0.67-1.18; 0.97, CI 95% 0.78-1.20; 0.91, CI 95% 0.76-1.09; 0.88, CI 95% 0.71-1.08; 0.86, CI 95% 0.71-1.02; 0.86, CI 95% 0.73-1.02). This then decreases their respective mental health ratings to between 14% worse ($1.01 \times 0.85 = 0.86$) and 6% better ($1.09 \times 0.97 = 1.06$) than their non-unionized counterparts. In contrast, 1991 and 2015 show female union members ranking their mental health more positively than their male counterparts by an additional 2% to 13% (1.13, CI 95% 0.76-1.70; 1.02, CI 95% 0.84-1.23). Therefore, female union members rate their mental health as 16% ($1.03 \times 1.13 = 1.16$) and 9% ($1.07 \times 1.02 = 1.09$) better than their respective non-unionized counterparts. However, none of these cycles produced statistically significant results.

On its own, the effects of sex on mental health outcomes is inconsistent. For 1991, 2009, 2010, and 2016, male participants self-reported worse mental health outcomes than female participants, though not at statistically significant levels (0.98, CI 95% 0.77-1.26; 0.97, CI 95% 0.87-1.08; 0.84, CI 95% 0.73-0.95; 0.93, CI 95% 0.84-1.03). 2008, 2011, 2012, 2013, 2015, and 2018 show males rating their mental health as 10%-25% worse than females at statistically significant levels (0.86, CI 95% 0.77-0.95; 0.90, CI 95% 0.81-0.99; 0.89, CI 95% 0.79-0.99; 0.88, CI 95% 0.80-0.97; 0.85, CI 95% 0.76-0.95; 0.75, CI 95% 0.68-0.82). In contrast, 1989, 1998, 2003, and 2005 show males reporting much better mental health than female participants, – though 1998 lacks statistical significance – the data shows a 15%-25% gap in statistically significant cycles (1.25, CI 95% 1.07-1.47; 1.21, CI 95% 1.09-1.34; 1.15, CI 95% 1.01-1.31).

Table 8b: Results from mental health sex interaction effect									
Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for sex	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	1.02	0.85-1.22	0.851	1.25	1.07-1.47	0.005	0.89	0.67-1.18	0.404
1991	1.03	0.78-1.36	0.823	0.98	0.77-1.26	0.904	1.13	0.76-1.70	0.541
1998	0.97	0.80-1.19	0.785	1.11	0.93-1.32	0.264	0.97	0.73-1.29	0.827
2003	0.98	0.87-1.10	0.71	1.21	1.09-1.34	<0.001	1.00	0.85-1.18	0.983
2005	1.09	0.93-1.27	0.272	1.15	1.01-1.31	0.033	0.97	0.78-1.20	0.770
2008	0.97	0.85-1.09	0.578	0.86	0.77-0.95	0.004	0.90	0.76-1.07	0.242
2009	1.04	0.91-1.18	0.595	0.97	0.87-1.08	0.595	0.91	0.76-1.09	0.314
2010	1.02	0.88-1.19	0.784	0.84	0.73-0.95	0.928	0.88	0.71-1.08	0.224
2011	0.95	0.84-1.07	0.400	0.90	0.81-0.99	0.040	0.96	0.81-1.13	0.607
2012	1.01	0.88-1.15	0.896	0.89	0.79-0.99	0.031	0.85	0.71-1.02	0.076
2013	1.00	0.91-1.11	0.939	0.88	0.80-0.97	0.008	0.91	0.79-1.05	0.215
2015	1.07	0.93-1.23	0.329	0.85	0.76-0.95	0.004	1.02	0.84-1.23	0.862
2016	1.04	0.92-1.18	0.553	0.93	0.84-1.03	0.171	0.86	0.73-1.02	0.089
2018	0.84	0.74-0.95	0.007	0.75	0.68-0.82	<0.001	1.02	0.86-1.21	0.818

Table 8c: Results from mental health vismin interaction effect									
Year	Odds ratio for union membership	confidence interval	p-value	Odds ratio for visible minority status	confidence interval	p-value	Odds ratio for interaction effect	confidence interval	p-value
1989	1.29	0.95-1.76	0.104	1.18	0.98-1.41	0.084	0.70	0.49-0.98	0.040
1991	1.06	0.52-2.26	0.882	0.94	0.59-1.45	0.794	1.04	0.47-2.19	0.923
1998	1.00	0.54-1.85	0.994	1.64	1.16-2.33	0.006	0.96	0.51-1.80	0.893
2003	1.05	0.77-1.44	0.751	1.81	1.51-2.16	<0.001	0.92	0.67-1.28	0.634
2005	0.80	0.54-1.19	0.269	1.34	1.07-1.69	0.012	1.37	0.91-2.08	0.133
2008	0.94	0.69-1.28	0.684	1.12	0.95-1.33	0.184	0.97	0.71-1.34	0.865
2009	0.95	0.69-1.31	0.775	1.00	0.82-1.22	0.974	1.04	0.74-1.44	0.828
2010	1.41	1.00-1.98	0.049	1.26	1.02-1.56	0.03	0.65	0.45-0.93	0.018
2011	0.95	0.69-1.30	0.743	0.95	0.80-1.13	0.546	0.97	0.70-1.34	0.865
2012	0.98	0.78-1.22	0.830	1.09	0.94-1.26	0.250	0.93	0.73-1.19	0.588
2013	1.07	0.92-1.24	0.395	0.99	0.89-1.11	0.922	0.87	0.74-1.03	0.115
2015	1.11	0.85-1.46	0.437	0.91	0.78-1.06	0.235	0.97	0.72-1.29	0.815
2016	1.08	0.85-1.38	0.534	0.72	0.62-0.83	<0.001	0.87	0.68-1.13	0.308
2018	0.87	0.70-1.09	0.223	0.91	0.80-1.03	0.152	0.97	0.76-1.23	0.777

Table 8c shows the results from the interaction effect of visible minority status. Only two cycles produced statistically significant results. In 2010, visible minorities rated their mental health as 41% better than their non-unionized counterparts, where $p=0.049$ (1.41, CI 95% 1.00-1.98). However, non-visible minority union members experienced much worse mental health than their visible minority counterparts, with an odds ratio of 0.65 (CI 95% 0.45-0.93), where $p=0.018$. This then reverses the effect of unionization for non-visible minorities, where union members rated their mental health as 8% worse ($1.41 \times 0.65 = 0.92$) than non-union members. In 1989, unionized visible minorities rated their mental health as 29% better than their non-unionized counterparts, though not at statistically significant levels (1.29, CI 95% 0.95-1.76). Similar to 2010, unionized non-visible minorities experienced much worse mental health at statistically significant levels, with an odds ratio of 0.70 (CI 95% 0.49-0.98), where $p=0.040$. Following the same pattern as 2010, this then reverses the protective effect of unionization, negatively impacting the mental health of unionized non-visible minorities who rated their mental health as 10% worse ($1.29 \times 0.70 = 0.90$) than their non-unionized counterparts.

In terms of statistically insignificant cycles, 2005, 2008, 2009, 2011, 2012, and 2018 show visible minority union members as rating themselves as 2% to 20% less mentally healthy than their non-unionized counterparts (0.80, CI 95% 0.54-1.19; 0.94, CI 95% 0.69-1.28; 0.95, CI 95% 0.69-1.31; 0.95, CI 95% 0.69-1.30; 0.98, CI 95% 0.78-1.22; 0.87, CI 95% 0.70-1.09). Non-visible minorities experienced even worse mental health in 2008, 2011, 2012, and 2018 by an additional 3% to 7% (0.97, CI 95% 0.71-1.34; 0.97, CI 95% 0.70-1.34; 0.93, CI 95% 0.73-1.19; 0.97, CI 95% 0.76-1.23). This then decreases the self-rated mental health of non-visible minority union members, who rate themselves as 8% ($0.95 \times 0.97 = 0.92$) to 16% ($0.87 \times 0.97 = 0.84$) worse than non-unionized, non-visible minority workers. For 2005 and 2009, non-visible

minorities rate their mental health much more positively than their visible minority counterparts, with the effect of union membership producing odds ratios at 1.37 (CI 95% 0.91-2.08) and 1.04 (CI 95% 0.74-1.44) respectively. This then increases the mental health ratings of unionized non-visible minorities to 1% worse ($0.95 \times 1.04 = 0.99$) and 10% better ($0.80 \times 1.37 = 1.10$) than their non-unionized counterparts.

The cycle conducted in 1998 shows no difference between the mental health ratings of unionized and non-unionized visible minorities (1.00, CI 95% 0.54-1.85). However, non-visible minorities in both groups rate their mental health as 4% worse (0.96, CI 95% 0.51-1.80), though not at statistically significant levels.

The remaining statistically insignificant cycles are 1991, 2003, 2013, 2015, and 2016. These cycles show visible minority union members rating themselves as 5% to 29% mentally healthier than their non-unionized counterparts (1.29, CI 95% 0.95-1.76; 1.06, CI 95% 0.52-2.26; 1.05, CI 95% 0.77-1.44; 1.07, CI 95% 0.69-1.30; 1.11, CI 95% 0.85-1.46; 1.08, CI 95% 0.85-1.38). Of these cycles, only 1991 shows increased self-rated mental health improvement for non-visible minorities (1.04, CI 95% 0.47-2.19). This 4% improvement means that unionized non-visible minorities rated their mental health as 10% better ($1.06 \times 1.04 = 1.10$) than their non-unionized counterparts. In contrast, 2003, 2013, 2015, and 2016 show the opposite pattern, with union membership negatively impacting non-visible minority mental health by 3%-13% (0.92, CI 95% 0.67-1.28; 0.87, CI 95% 0.74-1.03; 0.97, CI 95% 0.72-1.29; 0.87, CI 95% 0.68-1.13). This negative impact means that unionized non-visible minorities experience between 7% worse ($1.07 \times 0.87 = 0.93$) and 8% better ($1.11 \times 0.97 = 1.08$) mental health than their non-unionized counterparts, though not at statistically significant levels.

Visible minority status on its own presents no clear mental health patterns. 1989, 1998, 2003, 2005, 2008, 2010, and 2012 show visible minorities as rating their mental health better than non-visible minorities, though 1989, 2008, and 2012 lack statistical significance (1.18, CI 95% 0.98-1.41; 1.64, CI 95% 1.16-2.33; 1.81, CI 95% 1.51-2.16; 1.34, CI 95% 1.07-1.69; 1.12, CI 95% 0.95-1.33; 1.26, CI 95% 1.02-1.56; 1.09, CI 95% 0.94-1.26). 2009 shows no difference (1.00, CI 95% 0.82-1.22), while the remaining cycles show a decrease in mental health ratings for visible minorities, with 2016 being the only cycle to produce statistically significant results (0.94, CI 95% 0.59-1.45; 0.95, CI 95% 0.80-1.13; 0.99, CI 95% 0.89-1.11; 0.91, CI 95% 0.78-1.06; 0.91, CI 95% 0.80-1.03).

Table 8d shows the results from the interaction effect based on household income. Here, only one cycle is statistically significant. In 2009, unionization positively impacted the mental health of lower income workers, where they rated their mental health as 58% better (1.58, CI 95% 1.01-2.46) than their non-unionized counterparts, where $p=0.043$. As household income increases, this protective effect decreases by 5% (0.95, CI 95% 0.92-1.00). However, this decrease is not detrimental, and maintains that union membership has a protective effect, with high-earning union members rating their mental health as 50% better ($1.58 \times 0.95 = 1.50$) than their non-unionized counterparts, where $p=0.034$.

In terms of statistically insignificant years, 1991, 2005, 2008, 2013, and 2016 show lower-income union members as rating their mental health as 2%-22% worse than their non-unionized counterparts (0.98, CI 95% 0.36-2.69; 0.78, CI 95% 0.47-1.30; 0.95, CI 95% 0.85-1.05; 0.98, CI 95% 0.69-1.39; 0.85, CI 95% 0.66-1.10). On the one hand, 2008 and 2013 show no differences between high-earning and low-income union members, maintaining the mental

Table 8d: Results from mental health income interaction effect														
Year	Odds ratio for union membership		confidence interval	p-value	Odds ratio for household income		confidence interval	p-value	Odds ratio for interaction effect		confidence interval	p-value		
1989	1.31		0.31-5.52	0.711	1.18		1.13-1.25	<0.001	0.98		0.89-1.08	0.677		
1991	0.98		0.36-2.69	0.975	1.17		1.09-1.27	<0.001	1.01		0.89-1.16	0.831		
1998	1.11		0.58-2.13	0.744	1.10		1.05-1.14	<0.001	0.98		0.92-1.06	0.639		
2003	1.03		0.69-1.53	0.882	1.13		1.10-1.16	<0.001	0.99		0.96-1.04	0.790		
2005	0.78		0.47-1.30	0.339	1.06		1.02-1.09	0.001	1.03		0.98-1.09	0.209		
2008	0.95		0.85-1.05	0.298	1.00		1.00-1.00	0.201	1.00		1.00-1.00	0.267		
2009	1.58		1.01-2.46	0.043	1.10		1.07-1.13	<0.001	0.95		0.92-1.00	0.034		
2010	1.00		0.60-1.68	0.997	1.09		1.06-1.13	<0.001	1.00		0.95-1.05	0.854		
2011	1.04		0.67-1.62	0.853	1.09		1.06-1.12	<0.001	0.99		0.95-1.03	0.586		
2012	1.02		0.65-1.61	0.917	1.08		1.05-1.11	<0.001	0.99		0.95-1.03	0.642		
2013	0.98		0.69-1.39	0.909	1.05		1.03-1.07	<0.001	1.00		0.97-1.03	0.912		
2015	1.00		0.78-1.30	0.974	0.90		0.79-1.03	0.121	1.01		0.97-1.06	0.554		
2016	0.85		0.66-1.10	0.225	1.06		1.02-1.10	0.001	1.03		0.97-1.09	0.338		
2018	1.03		0.81-1.30	0.833	1.07		1.05-1.10	<0.001	0.97		0.93-1.01	0.088		

health gap between union and non-union workers as 5% and 2% respectively (1.00, CI 95% 1.00-1.00; 1.00, CI 95% 0.97-1.03). On the other hand, 1991, 2005, and 2016 show the effect of unionization improving mental health by 1% to 3% (1.01, CI 95% 0.89-1.16; 1.03, CI 95% 0.98-1.09; 1.03, CI 95% 0.97-1.09). This then increases the mental health ratings of high-earning union members, establishing their self-rated mental health as 1% ($0.98 \times 1.01 = 0.99$) to 20% ($0.78 \times 1.03 = 0.80$) worse than their non-unionized counterparts, though not at statistically significant levels.

For cycles conducted in 2010 and 2015, no mental health gap was found between low-income groups, with odds ratios of 1.00 (CI 95% 0.60-1.68; CI 95% 0.78-1.30). For 2010, this remains consistent for the high-earning groups as well, with an odds ratio of 1.00 (CI 95% 0.95-1.05). However, the results from 2015 show a 1% increase in self-rated mental health for higher income earners, with an odds ratio of 1.01 (CI 95% 0.97-1.06)

The results for 1989, 1998, 2003, 2011, 2012, and 2018 show low-income union members as rating their mental health more positively than their non-unionized counterparts by 2% to 31% (1.31, CI 95% 0.31-5.52; 1.11, CI 95% 0.58-2.13; 1.03, CI 95% 0.69-1.53; 1.04, CI 95% 0.67-1.62; 1.02, CI 95% 0.65-1.61; 1.03, CI 95% 0.81-1.30). All of these cycles yielded results that show high-earning union members as rating their mental health more poorly than their low-income counterparts by 1% to 3% (0.98, CI 95% 0.89-1.08; 0.98, CI 95% 0.92-1.06; 0.99, CI 95% 0.96-1.04; 0.99, CI 95% 0.95-1.03; 0.99, CI 95% 0.95-1.03; 0.99, CI 95% 0.95-1.03; 0.97, CI 95% 0.93-1.01). For 2018, this small change results in high-income union members rating their mental health the same as non-unionized, high-income workers, with an odds ratio of 1.00 (1.03×0.97). The remainder of the cycles maintain better mental health, with high-income union members rating their mental health 1% ($1.02 \times 0.99 = 1.01$) to 28%

($1.31 \times 0.98 = 1.28$) more positively than their non-unionized counterparts, though not at statistically significant levels.

However, it is important to note that the effect of income on its own shows a consistent pattern of mental health improvements with greater household income. Though 2008 shows no difference (1.00, CI 95% 1.00-1.00) and 2015 shows worse mental health outcomes at statistically insignificant levels (0.90, CI 95% 0.79-1.03), the remaining cycles show high-income groups reporting 5% to 18% better mental health than their low-income counterparts at highly significant levels, where $p \leq 0.001$ (1.18, CI 95% 1.13-1.25; 1.17, CI 95% 1.09-1.27; 1.10, CI 95% 1.05-1.14; 1.13, CI 95% 1.10-1.16; 1.06, CI 95% 1.02-1.09; 1.10, CI 95% 1.07-1.13; 1.09, CI 95% 1.06-1.13; 1.09, CI 95% 1.06-1.12; 1.08, CI 95% 1.05-1.11; 1.05, CI 95% 1.03-1.07; 1.06, CI 95% 1.02-1.10; 1.07, CI 95% 1.05-1.10).

Similar to the findings on self-rated general health, the persistent lack of consistency throughout the results of the selected interaction effects suggest that the effect of union membership on self-rated mental health does not differ from province to province, nor by sex, or visible minority status. The majority of the results obtained did not yield statistically significant results, and therefore these patterns noted in this chapter can be treated as empirically true. Yet, as income shows consistent effects on self-reported mental health, further investigation is needed to understand the full effects of income in conjunction with union membership, as it is possible that the effects of union membership may be stronger for the lowest and highest income earners.

In summary, to understand the relationship between union membership and self-rated mental health in Canada, I conducted several ordinal and linear regression models, following the same pattern as those used to analyze self-rated general health in the previous chapter. The first regression models examined the direct relationship between union membership and self-rated

mental health, with the second regression factoring in key control variables. These regressions showed inconsistent patterns in the union-mental-health relationship, and had very few instances of statistical significance. Therefore, I used a linear model to address the potential effects of the statistical weight of survey participants, which provided similar results to those produced by the ordinal regression models. To provide further understanding in potential underlying patterns, I then created four additional regression models to examine the interaction effects of province of origin, sex, visible minority status, and household income. The majority of the interaction effects carried no statistical significance and did not show a consistent pattern that would suggest differences in these categories affect the union-mental-health relationship.

Based on the information collected, this study finds that union membership has no known association with self-rated mental health in the Canadian context. Differences in province of origin, sex, visible minority status, and income do not affect these findings. As there is no known association between labour union membership and self-rated mental health outcomes, this study also finds that unionization does not sufficiently and/or consistently provide members with a generalized resistance resource to develop a strong sense of coherence that would enable better mental health outcomes. However, further investigation into different income categories and mental health in chapter 4 may change this outcome.

These results differ from the established literature, with several explanations possibly causing this difference. The first and most important comes with the lack of occupational variables in the GSS. It is possible that comparing unionized and non-unionized workers while considering the impact of their occupation would yield more definitive results. For example, teachers, nurses, police officers, and air traffic controllers are considered to have highly stressful jobs, often leading to burnout, depression, post-traumatic stress disorder, and other negative

mental health outcomes. However, these occupations are unionized in Canada, with most being in the public sector. It is possible that other jobs where union membership is not a guarantee, such as construction, manufacturing, office-based jobs, and service sector jobs, would see mental health differences between unionized and non-unionized workers.

It is also possible that the negative aspects of unions have a greater impact on certain members, creating a counterbalance that led to inconclusive results. While I have spoken about the many positives of unions, there are some negatives to consider. Some unionized workers dislike paying union dues, and associate union membership with restrictions to their autonomy and individuality (Kourtis, 2024). This includes following union rules and abiding by union decisions, even when they disagree. For example, union rules may favour seniority, meaning newer employees will be slower to advance their careers and will be more likely to be laid off (Kourtis, 2024). Future studies should include occupation-related survey questions which could then provide a more precise analysis on how unionization affects mental health outcomes.

The second possible explanation for this difference is the attitudes surrounding mental health, particularly before the turn of the century. Discussions of mental health have become more common in recent years, but prior to the year 2000, poor mental health was heavily stigmatized and was thus potentially more difficult for survey respondents to answer honestly. In other words, social desirability bias and acquiescence response bias could have potentially affected the responses of survey participants.

In addition, the data surrounding mental health prior to the turn of the century was derived from happiness and life satisfaction questions to create a mental health index variable as direct mental health questions were not yet asked on the General Social Survey (GSS). It is possible

that the use of the index variable coupled with the use of direct self-rated mental provides different insight into the mental health patterns of working Canadians across time.

As mentioned in the previous chapter focused on general health, other data limitations include the inconsistency in response rates – which decreased from around 80% in the 1990s to around 50% by 2005 –, the use of quantitative data – which does not capture the qualitative side on how union members feel about how their union status affects their mental health –, the individual level of analysis – which does not capture population-level differences or contextual differences in health outcomes –, the rise of middle class unionism leading to inconsistent mobilization efforts and thus inconsistent mental health patterns across industry types, as well as social desirability bias and acquiescence response bias potentially skewing the answers of participants.

Chapter 4 investigates income as a potential moderator for the relationship between labour union membership and both general and mental health outcomes.

Chapter Four - Income as a Moderator

This chapter examines the impact of income on the relationships between labour union membership and self-rated general and self-rated mental health with income as a moderator. As I did not find an association between union membership and general or mental health outcomes but found that income was significantly impacting both, it became important to examine whether the relationship between unionization and health was moderated by income. To analyze said impact, I will be calculating the interaction effect of union membership on the health outcomes for the top 20% and bottom 20% of income earners for each included cycle of the General Social Survey (GSS). First, I provide a short literature review on how income may moderate the relationship between union membership and health. Next, I outline my hypotheses, and describe the data and methods. I then report the findings and provide a conclusion. The first section of results will focus on self-rated general health, while the second section will focus on self-rated mental health.

Returning to Chen & Islam's (2023) study, the primary beneficiaries of union membership were those with lower socioeconomic status. Since their creation, labour union efforts aim to protect the well-being of socio-economically vulnerable groups rather than those in managerial positions or those who own the means of production (Thomas et al., 2025). Moreover, Reynolds & Brady (2012) conducted a study in the United States where they analyzed the General Social Survey from 1973 to 2006. While their initial bivariate analyses showed union membership was associated with worse health outcomes, the addition of control variables reverses this relationship, further becoming statistically significant when controlling for relevant labour market characteristics. Their model found that union membership increases the odds of reporting better health by a factor of 1.14 (where $p < 0.01$), remaining stable over time (Reynolds

& Brady, 2012, p. 1032). However, in their final model, they found that the majority of this effect was mediated by income. Reynolds & Brady (2012) note that though income can encapsulate “a broad set of job characteristics in addition to more money” (p. 1037), the mediating factor of income is worth exploring given the non-wage related benefits associated with union membership and those associations with favourable health outcomes. Based on this, it is possible that those with lower incomes will receive more general and mental health benefits when they work in unionized environments.

Returning to the main research question – how does unionization affect the general health of the Canadian workforce? – in this chapter, I specifically focus on how the relationship between union membership and mental and physical health outcomes are impacted by income as an interaction variable. The main hypotheses of this chapter are as follows:

Hypothesis 5: low-income workers benefit more from unionization than high-income workers.

Hypothesis 6: the effect of unionization on low-income individuals increases over time.

For this chapter, I continued to use R statistical software to calculate the results (Fox & Weisberg, 2002; Hlavac, 2022; Lüdtke, 2024; Posit Team, 2025; R Core Team, 2025; Venables & Ripley, 2002; Wickham, 2021; Wickham, 2022; Wickham et al., 2025). General and mental health outcomes remain the dependent variables, while union member status remains the independent variable. The measurements of each variable are the same as those outlined in chapters 2 and 3.

As in chapters 2 and 3, I reduced each sample to only include employed respondents and those aged 25-64. However, in this chapter, I further reduce my sample to only include

respondents in the top 20% and bottom 20% of income categories. Examining the highest and lowest earners will show whether union membership's impact is stronger for low-income individuals in the Canadian context. This procedure helps address hypothesis 5, and when examining the results together, addresses hypothesis 6.

The first step in analysis is to show the interaction effect of income on the union-health relationship for general health outcomes, followed by visualizations to help establish whether there is a clear pattern in the results. This procedure is then repeated for mental health outcomes.

Table 9 shows the interaction effect of income on union membership and general health. Here, non-unionized low-income workers provide a basis to compare the health outcomes of unionized low-income, unionized high-income, and non-unionized high-income participants. In all cases, high-income workers rated their general health as higher than their low-income counterparts regardless of union status. However, the gaps in health status vary across years and union status.

Table 9: Interaction effect of union membership and income on top and bottom 20% of income earners' general health by year										
Year	1989		1991		1994		1998		2003	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Low-income	1.07	1.00	0.73*	1.00	0.83	1.00	1.13	1.00	0.96	1.00
High-income	1.37	1.16	1.27	1.25	1.45	1.48***	1.32	1.16	1.69	1.69***
*p < 0.05, ** p<0.01, *** p < 0.001.										
Year	2005		2008		2009		2010		2011	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Low-income	1.00	1.00	0.85	1.00	1.13	1.00	1.00	1.00	1.07	1.00
High-income	1.63	1.47***	1.35	1.36***	1.55	1.71***	1.50	1.61***	1.68	1.87***
*p < 0.05, ** p<0.01, *** p < 0.001.										
Year	2012		2013		2015		2016		2018	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Low-income	1.04	1.00	1.07	1.00	1.11	1.00	1.17*	1.00	0.99	1.00
High-income	1.63	1.74***	1.53	1.54***	1.75	1.36***	1.54	1.36**	1.26	1.67***
*p < 0.05, ** p<0.01, *** p < 0.001.										

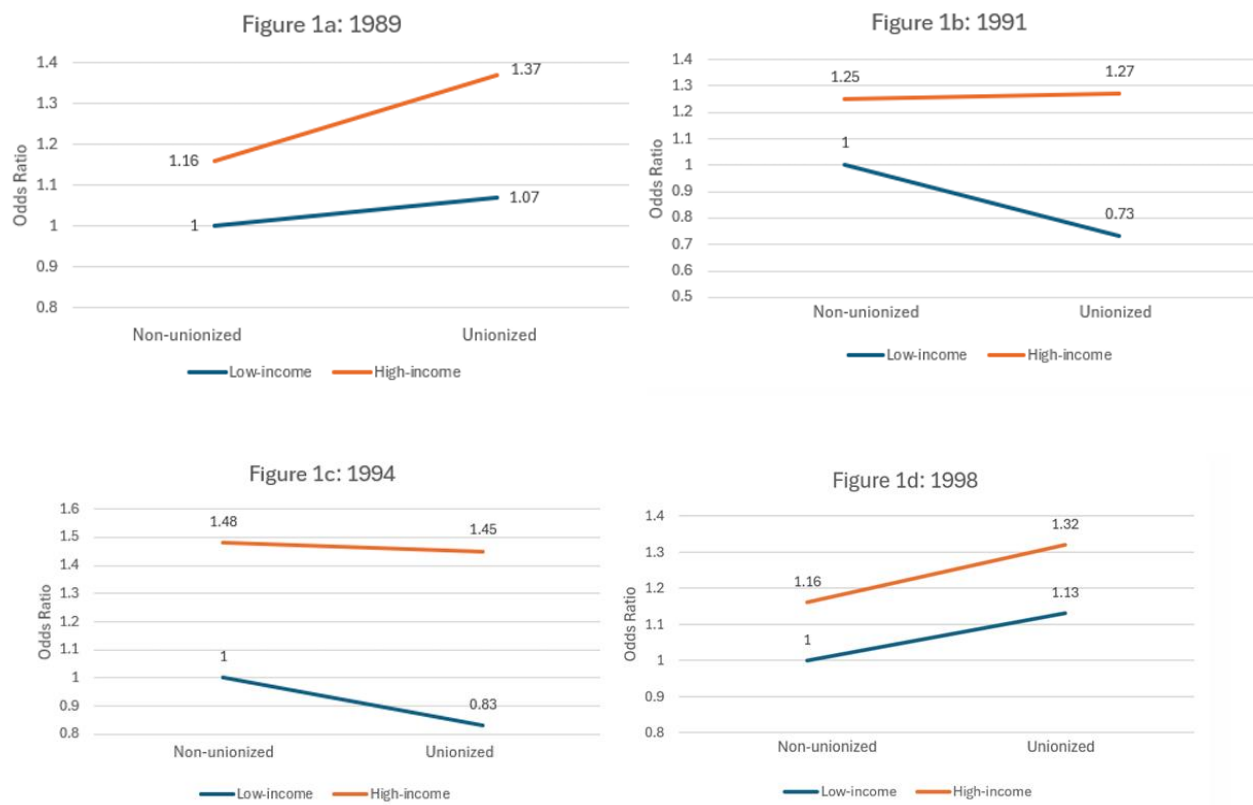
For the years 1989, 1998, 2009, 2011, 2012, 2013, 2015, and 2016, low-income workers benefit from unionization, rating their general health as 7%-17% better than their non-unionized counterparts (1.07, CI 95% 0.82-1.39; 1.13, CI 95% 0.89-1.43; 1.13, CI 95% 0.93-1.36; 1.07, CI 95% 0.88-1.30; 1.07, CI 95% 0.90-1.28; 1.11, CI 95% 0.91-1.35; 1.17, CI 95% 1.01-1.36). In 1989, 1998, 2015, and 2016, the positive effects of union membership continued for high-income earners, who rated their general health as 37%-75% ($1.07 \times 1.16 \times 1.10 = 1.37$; $1.11 \times 1.36 \times 1.16 = 1.75$) better than low-income non-unionized workers, rather than 16%-36% in the case of high-income non-union members (1.16, CI 95% 0.91-1.47; 1.36, CI 95% 1.13-1.63; 1.36, CI 95% 1.18-1.56). Though 2009, 2011, 2012, and 2013 show a different pattern, with high-income non-unionized workers rating their general health higher than their unionized counterparts by an additional 1-19%, therefore ranking their general health as 54%-87% better than their low-income counterparts (1.71, CI 95% 1.45-2.02; 1.87, CI 95% 1.59-2.19; 1.74, CI 95% 1.47-2.05; 1.54, CI 95% 1.35-1.75).

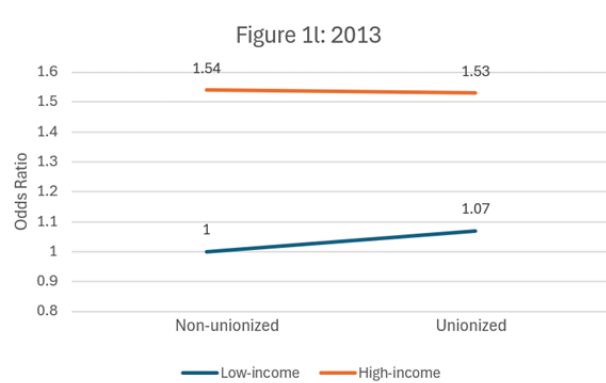
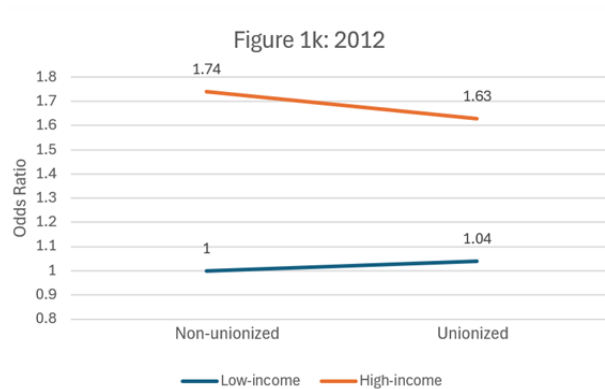
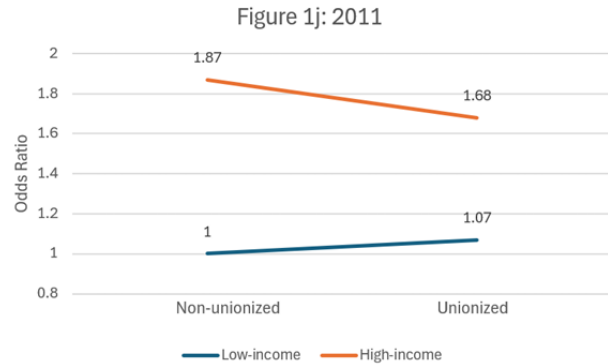
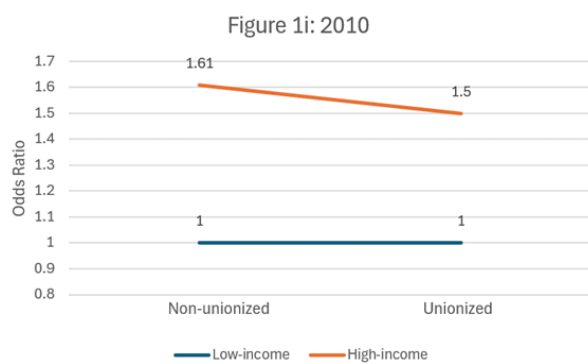
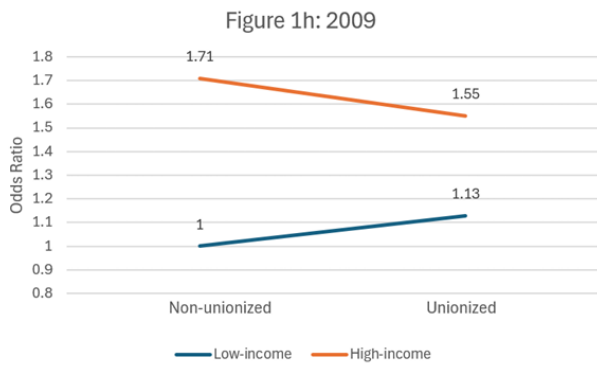
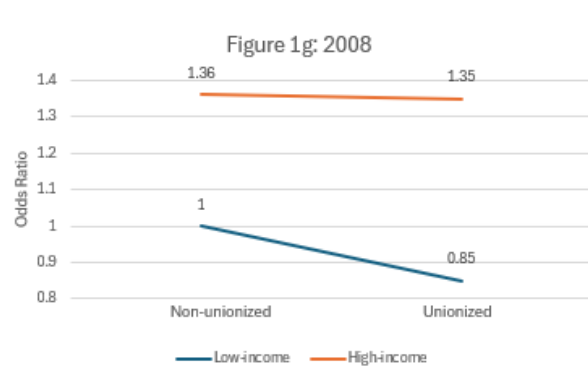
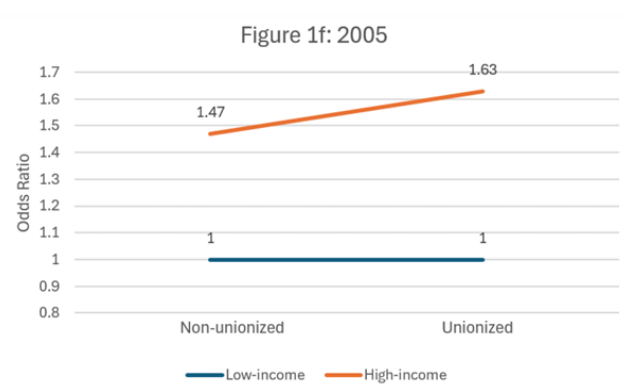
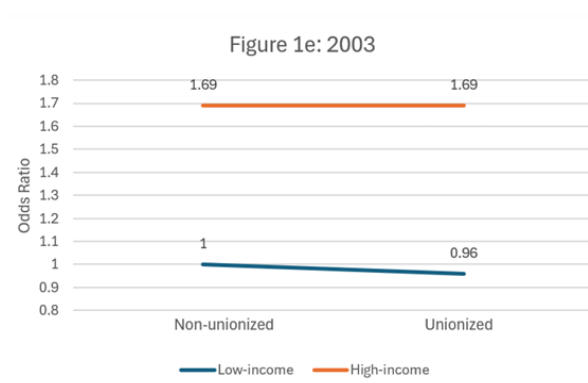
For the 1991, 1994, 2003, 2008, and 2018 cycles, low-income union members rated their general health as 1%-27% worse than their non-unionized counterparts (0.73, CI 95% 0.55-0.97; 0.83, CI 95% 0.66-1.04; 0.96, CI 95% 0.81-1.13; 0.85, CI 95% 0.71-1.03; 0.99, CI 95% 0.82-1.19). Of these cycles, only 1991 showed high-income union members rating their general health higher than all groups, with an odds ratio of 1.27 ($0.73 \times 1.25 \times 1.39 = 1.27$). The cycles conducted in 1994, 2008, and 2018 showed high-income non-union members as healthiest, rating their general health an additional 1%-41% higher than their unionized counterparts, therefore ranking their general health as 36%-67% better than their low-income counterparts (1.48, CI 95% 1.20-1.83; 1.36, CI 95% 1.17-1.57; 1.67, CI 95% 1.43-1.96). No difference between high-income

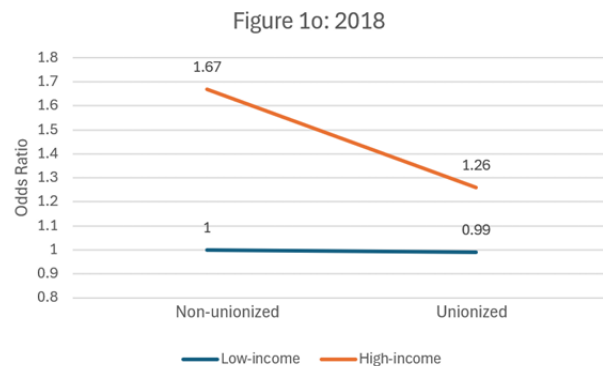
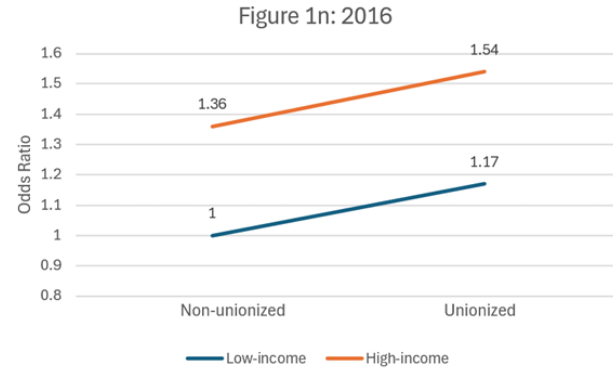
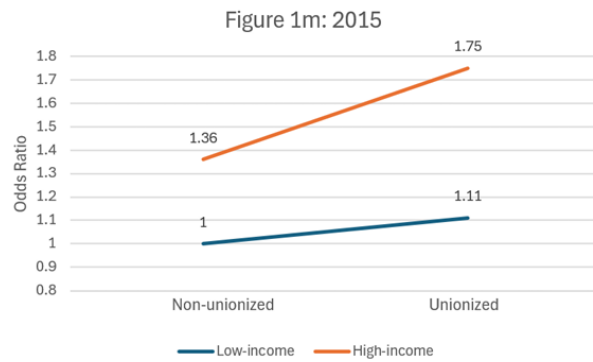
groups was shown in 2003, with both unionized and non-unionized workers at an odds ratio of 1.69 (1.69, CI 95% 1.48-1.94; $0.96 \times 1.69 \times 1.04 = 1.69$).

The remaining cycles conducted in 2005 and 2010 show no difference between unionized and non-unionized workers at lower income levels (1.00, CI 95% 0.81-1.23; 1.00, CI 95% 0.80-1.26). However, the effect of unionization is different on high-income earners in these cycles. On the one hand, 2005 shows union members as generally healthier than non-union members, with odds ratios of 1.63 and 1.47 respectfully ($1.00 \times 1.47 \times 1.11 = 1.63$; 1.47, CI 95% 1.21-1.79). On the other hand, 2010 shows union members as less generally healthy than non-union members, with odds ratios of 1.50 and 1.61 respectfully ($1.00 \times 1.61 \times 0.93 = 1.50$; 1.61, CI 95% 1.32-1.96).

To better visualize these patterns, figures 1a-o show the changes to general health status based on union membership for low-income and high-income groups.







There remains an inconsistent pattern in how unionization affects self-rated general health for different income levels, which becomes clear when examining figures 1a-o. Four of the cycles (2009 in figure 1h, 2011 in figure 1j, 2012 in figure 1k, 2013 in figure 1l) show unionization as suppressing the health gap between income groups while also showing general health improvements for low-income union members. As seen in figure 1o, 2018 also shows a suppression of the health gap. However, this cycle shows union membership as having a negative impact on self-rated general health outcomes for both low-income and high-income groups. Another four cycles (1989 in figure 1a, 1998 in figure 1d, 2015 in figure 1m, and 2016 in figure 1n) show unionization as positively contributing to the self-rated general health of both low and high-income earners, meaning the interaction effect of income in these cycles does not affect unionization's positive influence. Two cycles (1991 in figure 1b, and 1994 in figure 1c) show

major differences in low-income earners, with unionized members rating their general health as much worse. In these same cycles, the effects of unionization on high-income earners is quite minimal, only changing by 2% and -3% respectively. Two cycles (2005 in figure 1f, and 2010 in figure 1i) show no difference between low-income union members but show larger gaps in general health based on union status for high-income earners, though not in the same direction. As seen in figure 1e, 2003 shows no difference in general health based on union status for high-income earners, but shows a slightly negative change (-4%) for low-income earners when unionized. Based on this information, this study finds no known association between union membership, income, and self-rated general health in the Canadian context.

Table 10 shows the interaction effect of union membership on self-rated mental health outcomes. Following the same format as Table 9, non-unionized low-income workers provide a basis to compare the health outcomes of unionized low-income, unionized high-income, and non-unionized high-income participants. In all cases, both unionized and non-unionized workers with high income rated their mental health as higher than their low-income counterparts.

However, the difference in mental health outcomes vary across each cycle and by union status.

Table 10: Interaction effect of union membership and income on top and bottom 20% of income earners' mental health by year														
Year	1989		1991		1998		2003		2005		2008		2009	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Low-income	1.12	1.00	1.00	1.00	1.12	1.00	0.95	1.00	1.08	1.00	0.79*	1.00	1.14	1.00
High-income	2.06	2.28***	2.04	1.94***	1.56	1.83***	1.72	1.63***	1.86	1.55***	1.10	1.19*	1.37	1.56***
*p < 0.05, ** p<0.01, *** p < 0.001.														
Year	2010		2011		2012		2013		2015		2016		2018	
Union Membership	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union	union	non-union
Low-income	0.96	1.00	0.98	1.00	0.99	1.00	0.98	1.00	1.18	1.00	0.88	1.00	0.99	1.00
High-income	1.40	1.50***	1.38	1.56***	1.30	1.43***	1.23	1.27***	1.39	1.17	1.19	1.24**	1.11	1.48***
*p < 0.05, ** p<0.01, *** p < 0.001.														

For the cycles conducted in 1989, 1998, 2005, 2009, and 2015, low-income union members rate their mental health 12%-18% more positively than their non-unionized counterparts (1.12, CI 95% 0.86-1.44; 1.12, CI 95% 0.85-1.48; 1.08, CI 95% 0.85-1.37; 1.14, CI 95% 0.95-1.38; 1.18, CI 95% 0.97-1.43). Of these cycles 1989, 1998, and 2009 show non-unionized high-income earners as the most mentally healthy, rating themselves as 12%-27% higher than their unionized counterparts, and well over the rankings of their low-income counterparts (2.28, CI 95% 1.78-2.94; 1.83, CI 95% 1.40-2.40; 1.56, CI 95% 1.32-1.84). In contrast, 2005 and 2015 show high-income union members as the most mentally healthy, rating themselves 22%-31% higher than their non-unionized counterparts and 39%-86% higher than low-income non-unionized workers ($1.08 \times 1.55 \times 1.11 = 1.86$; $1.18 \times 1.17 \times 1.01 = 1.39$).

For the years 2003, 2008, 2010, 2011, 2012, 2013, 2016, and 2018, low-income union members rated their mental health as 1%-21% worse than their non-unionized counterparts (0.95, CI 95% 0.78-1.15; 0.79, CI 95% 0.65-0.96; 0.96, CI 95% 0.76-1.21; 0.98, CI 95% 0.80-1.19; 0.99, CI 95% 0.80-1.21; 0.98, CI 95% 0.82-1.16; 0.88, CI 95% 0.76-1.02; 0.99, CI 95% 0.82-1.18). However, 2003 is the only year where high-income union members rate their mental health the highest, with an odds ratio of 1.72 ($0.95 \times 1.63 \times 1.11 = 1.72$). The remainder of the cycles show high-income non-union members as having better mental health outcomes compared to their unionized counterparts by an additional 6%-37%, meaning they are 19%-56% more likely to rate their mental health in a higher category than their low-income counterparts (1.19, CI 95% 1.02-1.38; 1.50, CI 95% 1.23-1.82; 1.56, CI 95% 1.33-1.84; 1.43, CI 95% 1.21-1.69; 1.27, CI 95% 1.11-1.44; 1.24, CI 95% 1.08-1.43; 1.48, CI 95% 1.27-1.73).

The results from 1991 show no difference in mental health outcomes between low-income groups based on union status (1.00, CI 95% 0.70-1.44). However, high-income union

members are over twice as likely to rank their mental health in a high category compared to low-income workers, with an odds ratio of 2.04 ($1.00 \times 1.94 \times 1.05 = 2.04$). High-income non-union members also rank their mental health quite positively, with the odds of ranking themselves in a high mental health category being 94% higher than low-income workers (1.94, CI 95% 1.32-2.89).

Figures 2a-n below illustrate the interaction effects discussed to help analyze overall patterns across time. These figures show the change in mental health outcomes for each income group based on union member status.

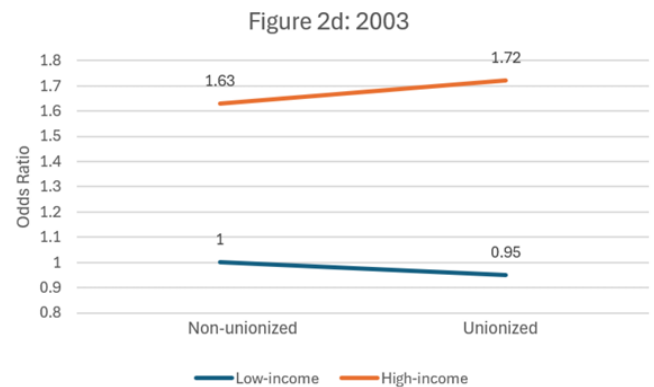
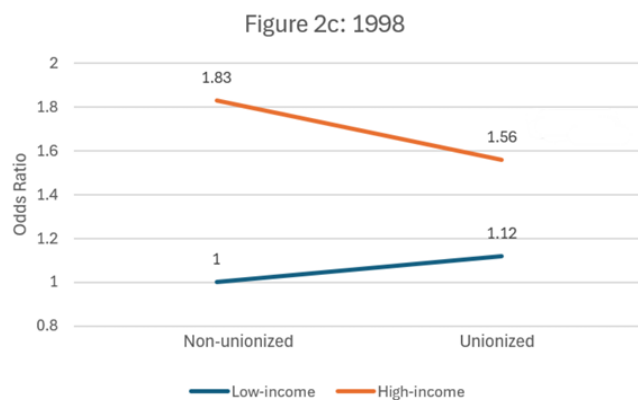
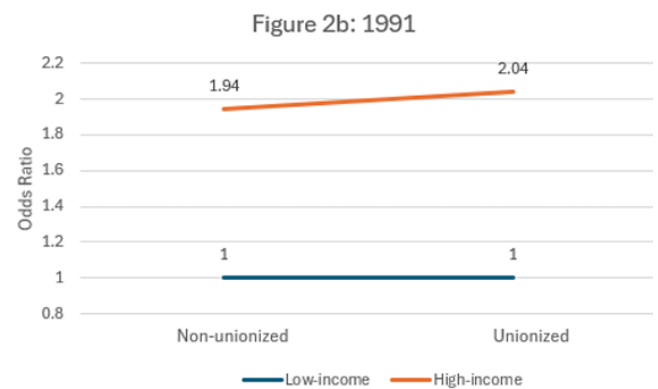
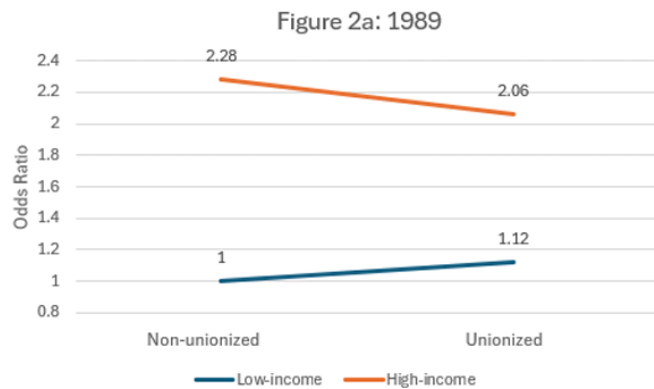


Figure 2e: 2005

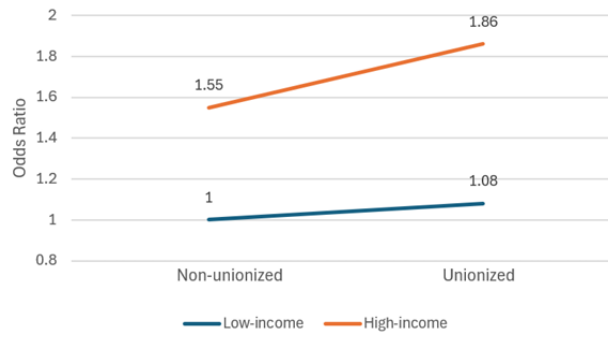


Figure 2f: 2008

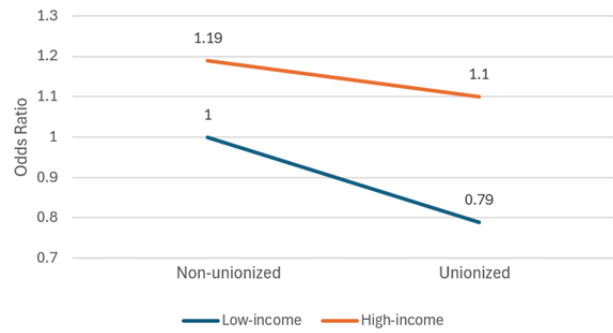


Figure 2g: 2009

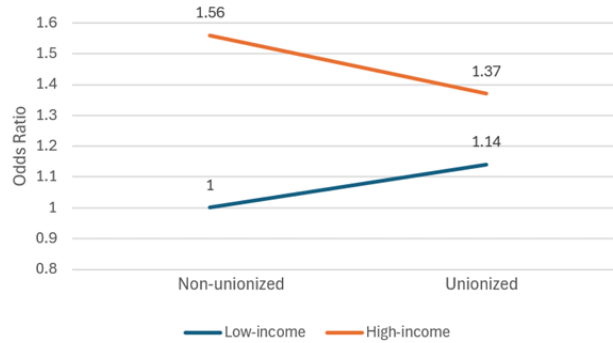


Figure 2h: 2010

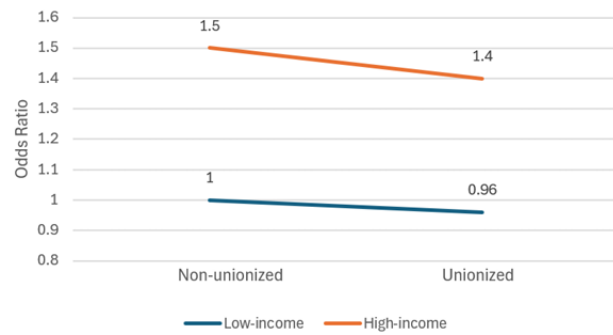


Figure 2i: 2011

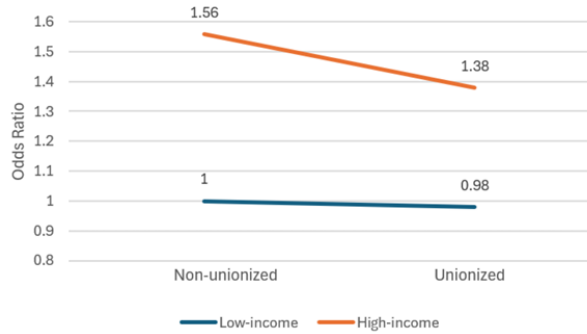


Figure 2j: 2012

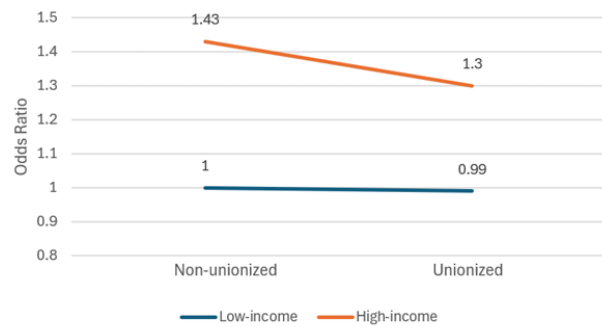


Figure 2k: 2013

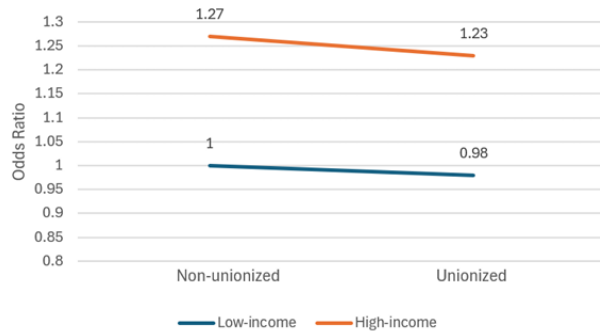
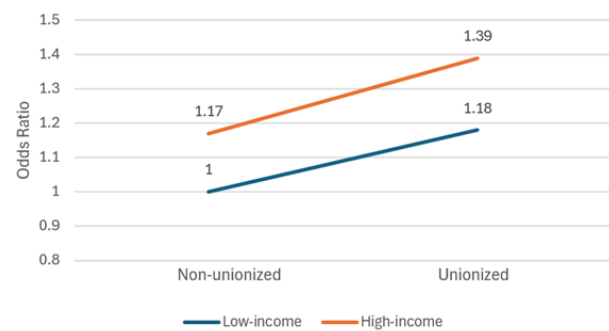
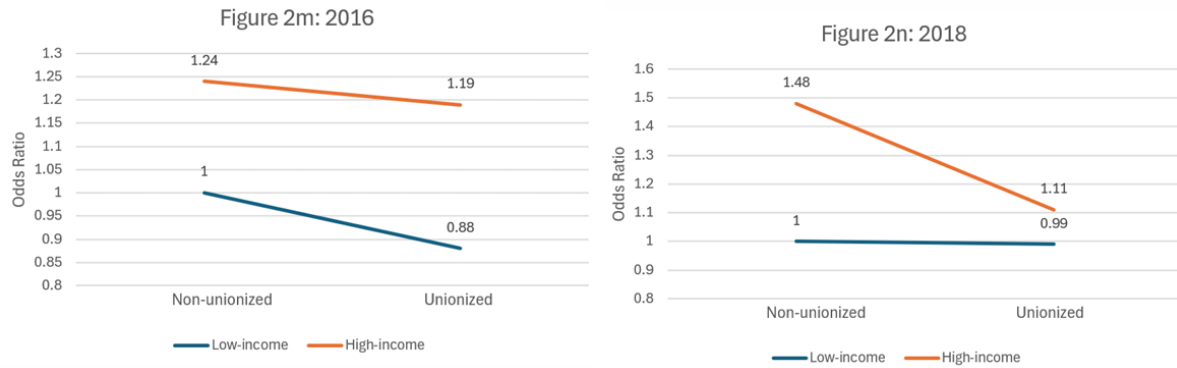


Figure 2l: 2015





Like that of general health, there is no consistent pattern in how unionization affects self-rated mental health of workers in different income brackets, which figures 2a-n make clear. Three cycles (1989 in figure 2a, 1998 in figure 2c, and 2009 in figure 2g) show union membership as compressing the mental health gap between income groups, with unionization still providing advantage to low-income workers. Six cycles (2010 in figure 2h, 2011 in figure 2i, 2012 in figure 2j, 2013 in figure 2k, and 2018 in figure 2n) also show a smaller gap between income groups when workers are unionized, though both low-income and high-income union members are at a mental health disadvantage compared to their non-unionized counterparts. Two cycles (2005 in figure 2e, and 2015 in figure 2l) show unionization as having a positive effect on mental health in both income groups, though the mental health gap becomes wider between low-income and high-income workers when unionized. Two cycles (1991 in figure 2b, and 2003 in figure 2d) also show a wider mental health gap between income groups based on union membership, though only high-income union members experience better mental health than their non-unionized counterparts. The two remaining cycles (2008 in figure 2f, and 2016 in figure 2m) show a widening health gap for union members, as well as mental health disadvantages for both income groups when unionized. Based on this information, this study finds no known association between union membership, income, and self-rated mental health in the Canadian context.

In summary, to further understand the effects of income on the relationship between union membership and self-rated general and mental health outcomes, I analyzed the interaction effect of income on the top 20% and bottom 20% of income earners in each cycle. The results of these regressions showed no consistent pattern across time, meaning that there is no known association between union membership and self-rated health outcomes in Canada. While the effects of income are important in determining the general and mental health of workers, its effects in combination with union membership are complex and are not necessarily beneficial or detrimental to workers' health status. Therefore, there is no evidentiary support for hypothesis 5, – that unionization provides greater benefits to low-income workers –, and there is no evidentiary support for hypothesis 6 – that this relationship remains stable or becomes stronger over time. As there is no known association, this study also finds that union membership does not sufficiently address the social determinant of socio-economic status such that it addresses a fundamental cause of health inequalities in Canada, nor does union membership provide a consistent and sufficient generalized resistance resource (GRR) to foster strong sense of coherence (SOC) in accordance with salutogenic healthcare models.

Previous limitations noted regarding data limitations – such as the lack of occupational data, inconsistency in response rates, the type of health measure, the use of index variables, and the lack of qualitative data –, the rise of middle-class unionism, as well as social desirability and acquiescence bias apply.

Chapter Five - Conclusion

This research aimed to address how neoliberalism, and thus the decline in unionization, has affected the mental and general health outcomes of the Canadian workforce over the course of thirty years, adding to a growing body of literature that relates labour union membership to health.

Several hypotheses were addressed. Chapter 2 focuses on hypotheses 1 and 2. First, hypothesis 1 stated that union members have higher self-rated general health than non-union members. To test this, I created a table to illustrate the descriptive patterns in the dataset. The initial patterns found in the descriptive data did not show differences in general health outcomes between unionized and non-unionized workers. Upon further investigation, this held true, as each cycle produced varied ordinal regression results. The inconsistent patterns remained even when controlling for age, sex, education level, household income, marital status, and visible minority status. These key control variables, as well as province of origin, were also found to have no consistent or significant pattern of interaction. Therefore, hypothesis 1 has been rejected. Hypothesis 2 stated that the effects of unionization on general health as seen in hypothesis 1 increased over time. Being as there is no identifiable relationship pattern amongst each cycle, hypothesis 2 has been rejected.

Chapter 3 focuses on hypotheses 3 and 4. Similar to hypothesis 1, hypothesis 3 states that union members have higher self-rated mental health than non-union members. Following the same process to test the relationship between labour union membership and general health outcomes, I created a table to illustrate the descriptive patterns in the dataset, which did not show differences in mental health outcomes between unionized and non-unionized workers. Next, the ordinal regression results confirmed that the inconsistent patterns remain even when controlling

for age, sex, education level, household income, marital status, and visible minority status. In addition, along with province of origin, they produced no significant or consistent pattern of interaction. Therefore, hypothesis 3 has been rejected. Hypothesis 4, where it states that the effects of unionization on mental health as seen in hypothesis 3 remain increased over time, has also been rejected due to the inconsistent patterns of association.

Chapter 4 addresses hypothesis 5 and 6. Hypothesis 5 states that low-income workers benefit more from unionization than high-income workers. To test this, I reduced each sample to only include the top 20% and bottom 20% of income earners, then ran an ordinal regression to examine the interaction effect of income on both mental and general health outcomes. The results showed an inconsistent pattern of association. Therefore, hypothesis 5 was rejected. Hypothesis 6 states that the effects of unionization on low-income individuals as seen in hypothesis 5 increase over time. Due to the inconsistent pattern of association, hypothesis 6 was also rejected.

A potential limitation to this research includes the use of secondary data. The cycles of the GSS that contain the necessary variables are not available on a consistent basis, meaning that some years between the first cycle of the GSS in 1985 and the most recent cycle in 2020 are unable to be included for analysis. On top of this, survey questions in the earlier cycles of the GSS are not asked in the same way as they are in the later cycles: different wording; different combinations of mental and physical well-being in survey questions; more or less detailed questions regarding union membership. Other potential problems include the inconsistency in sample size, data collection, and response rates, which can potentially affect the robustness of the combined data.

However, I believe that this was the best way to conduct this research. The GSS surveys, as conducted by Statistics Canada, are robust and thus offers the best insights into the general

population across time. The samples are weighted to more accurately represent the Canadian population, which should mean that inconsistency in sample size and response rates should not greatly affect my results. While the questions regarding mental well-being became more outright as discussions of mental health became more widespread in civil society – around the turn of the century (Public Health Agency of Canada, 2024) –, there are still questions that are relevant to mental health that enabled me to examine it in the earlier cycles. The creation of derived variables from these questions allowed for more consistency in survey results.

In addition to the previous limitation, the health impacts of unionization experienced by union members and the general public cannot be adequately detailed through the sole use of quantitative data. For example, GSS data does not provide information on union member's extended health benefits and care through insurance coverage (such as prescription drug coverage, dental care, mental health care, physiotherapy, etc.), pension plans and/or retirement age, safety committee information and enforcement of provincial health legislation, and other workplace policies or benefits (such as flexible work schedules, social event planning, etc.). In addition, it did not collect the thoughts and insights on how workers perceive their health to be impacted by their union member status. Recognizing this limitation provides an avenue for future original surveys and qualitative research. However, since these experiences have not been previously recorded, the quantitative analysis of various cycles of the GSS provides insight into the ongoing relationship between health and union membership that can serve as support for future detailed research.

Based on the results of this study, there is no association between labour union membership and greater self-rated health outcomes in the Canadian context. The data demonstrates that while unions could provide health benefits to their members, unionization is

not a blanket solution for solving health disparities. Labour union membership *alone* fails to address socioeconomic status (SES) as a fundamental cause of health inequalities, and fails to provide a *universal* generalized resistance resource (GRR) that can sufficiently build a strong sense of coherence (SOC). However, this furthers the point that the results demonstrate a need for data that facilitates comparison between occupations. The ambiguity in the health outcomes assessed could potentially be explained by differences in the types of labour respondents perform to earn their living.

These results do *not* say that unions are not important. As demonstrated in the literature, the presence of unions in a society compresses income gradients – which is important in addressing health inequalities –, as well as provide an outlet for workers to advocate for themselves and their peers. This paper does not challenge these positives. Rather, it demonstrates the complexities of unionization and its effects, and offers a starting point for where further investigation is necessary.

First, not all unions are the same. Some unions are stronger than others due to the leverage they can exercise by going on strike. For instance, postal workers have a great amount of leverage, as mail and delivery are important aspects of individual, communal, corporate, and governmental functions. To put it simply, people get upset when they cannot use the post office, putting pressure to find a resolution even prior to a potential strike. This bodes well for the Canadian Union of Postal Workers (CUPW), where management will be more likely to listen to their demands and accept negotiations in the interest of maintaining smooth operations. In contrast, a union going on strike at a small-scale, non-essential business has significantly less leverage, as there will be less public pressure if the business were to remain closed. To give a concrete example, when a humble group of workers at Celebrations Dinner Theatre in Winnipeg

voted to join their local branch of the United Food and Commercial Workers (UFCW), the owners of the theatre decided to close rather than negotiate with their workers, who subsequently lost their jobs (Buffie, 2023).

In addition, some unions are stronger than others due to specific policies surrounding their industries and their involvement. For example, after the 1995 Ontario Conservative government further stripped labour rights in favour of neoliberal, free-market policies, the proceeding Liberal government in 2003 restored some of those rights only to certain sectors, greatly favouring those in construction as they supported their election campaign (Walchuk, 2010). This ties into what Walchuk (2010) describes as the “emergence of middle-class unionism” (p.41), which is similar to “business unionism” or “Gomperism”, which ignores non-union needs (Camfield, 2007; Savage, 2021). The unions similar to those who supported the Liberal party in 2003 – such as the Working Families Coalition (WFC) and Unifor (formerly the Canadian Auto Workers Union) – have labour reform low on their priority list, as they are already comfortable with the laws and policies that directly affect their own industries. The term “middle-class” is used as unions like the WFC have now diverted attention away from traditional working-class political activism to supporting parties that will provide direct investment, regardless of how that party’s policies affect the broader union landscape (Walchuk, 2010, p.43). However, some unions are more general, having broader outreach, organizational, and reformation goals – such as the Canadian Union of Public Employees (CUPE). These types of unions focus more on large-scale changes to labour policy and worker empowerment. From this, it is clear how future research could address where this study falls short – further investigating the respondents’ union and occupational ties to see whether the type of union and/or industry affect self-rated general and mental health.

Additionally, unions have been shown to affect different types of health outcomes, such as a decrease in workplace fatalities and greater healthcare access through private insurance. However, it is possible that union membership affects stress levels, quality of sleep, rates of cancer, and so on. These health outcomes could potentially show significant differences and are worth being explored, providing a fuller picture into the health of the Canadian workforce.

An improved survey design based on these suggestions, along with the consistency accompanied by its use – either longitudinally or cross-sectionally –, would offer a more meaningful comparison across time, and would provide more nuance into how health outcomes are affected by union membership. Alongside this research, qualitative, participatory action research in workplaces – both unionized and non-unionized – that aims to capture how participants feel their workplaces affect their health and gives workers the opportunity to present solutions on how best to move forward would greatly enhance future studies, while also providing an avenue for policy reform that best fits the needs of working Canadians.

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Statistics Canada. (2006). *General Social Survey, Cycle 19, 2005 [Canada]: Time Use Survey, Main File* [Data set]. Borealis. <https://doi.org/10.5683/SP3/FF2LPF>

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Statistics Canada. (2010). *General Social Survey, Cycle 22, 2008 [Canada]: Social Networks* [Data set]. Borealis. <https://doi.org/10.5683/SP3/9T4NSK>

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statistical and research purposes. The Microdata files shall not be used for any other purposes without the prior written consent of Statistics Canada. (Appendix 1, Section 6, DLI Licence Agreement - Microdata Files)

Statistics Canada. (2015a). *General Social Survey, Cycle 24, 2010 [Canada]: Time-Stress and Well-Being, Main File (Version 5) [Data set]*. Borealis.

<https://doi.org/10.5683/SP3/6QQGPH>

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Statistics Canada. (2015b). *General Social Survey, 2013 [Canada]: Cycle 27, Social Identity (Version 2) [Data set]*. Borealis. <https://doi.org/10.5683/SP3/GKMEW6>

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Statistics Canada. (2017). *General Social Survey, Cycle 29, 2015 [Canada]: Time Use, Main File [Data set]*. Borealis. <https://doi.org/10.5683/SP3/RDS0CK>

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Statistics Canada. (2018). *General Social Survey, Cycle 30, 2016 [Canada]: Canadians at Work and Home* [Data set]. Borealis. <https://doi.org/10.5683/SP3/HDR34U>

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Statistics Canada. (2020). *General Social Survey, Cycle 32, 2018 [Canada]: Caregiving and Care Receiving* [Data set]. Borealis. <https://doi.org/10.5683/SP3/OJSEHZ>

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Appendix A

Full general health regression table results by year

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.03	<0.001	0.04	0.01 – 0.12	<0.001
2 3	0.10	0.09 – 0.11	<0.001	0.17	0.06 – 0.49	0.001
3 4	0.56	0.52 – 0.60	<0.001	0.92	0.32 – 2.64	0.884
Union membership: yes	0.98	0.86 – 1.11	0.737	1.09	0.91 – 1.31	0.361
Sex: male				1.04	0.87 – 1.23	0.682
Age				0.92	0.88 – 0.97	0.001
Education				0.99	0.95 – 1.04	0.763
Household income				1.08	1.02 – 1.15	0.010
Marital status: married or common-law				0.89	0.82 – 0.98	0.017
Visible minority status: no				0.91	0.75 – 1.11	0.347
Observations	4683			2402		
R ² Nagelkerke	0.004			0.859		

Figure A1. 1989 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.52	3.48 – 3.55	<0.001	3.45	3.15 – 3.74	<0.001
Union membership: yes	0.01	-0.03 – 0.06	0.602	0.00	-0.05 – 0.05	0.907
Sex: male				-0.01	-0.06 – 0.04	0.679
Age				-0.02	-0.03 – -0.01	<0.001
Education				-0.00	-0.00 – 0.00	0.060
Household income				0.02	0.00 – 0.03	0.030
Marital status: married or common-law				-0.02	-0.05 – 0.01	0.275
Visible minority status: no				0.01	-0.05 – 0.06	0.787
Observations	4683			4016		
R ² / R ² adjusted	0.000 / -0.000			0.008 / 0.006		

Figure A2. 1989 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.07	<0.001
2 3	0.12	0.05 – 0.28	<0.001
3 4	0.68	0.30 – 1.54	0.352
Union membership: yes	0.98	0.73 – 1.33	0.910
Province of origin	1.01	0.98 – 1.05	0.412
Sex: male	1.06	0.93 – 1.21	0.388
Age	0.93	0.90 – 0.96	<0.001
Education	1.00	0.99 – 1.00	0.267
Household income	1.05	1.00 – 1.10	0.042
Marital status	0.92	0.86 – 0.99	0.024
Visible minority status: no	1.01	0.86 – 1.18	0.895
Union x Province	1.01	0.96 – 1.06	0.748
Observations	4016		
R ² Nagelkerke	0.311		

Figure A3. 1989 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.07	<0.001
2 3	0.12	0.05 – 0.27	<0.001
3 4	0.66	0.29 – 1.49	0.319
Union membership: yes	1.04	0.87 – 1.24	0.692
Sex: male	1.07	0.92 – 1.25	0.397
Age	0.93	0.90 – 0.96	<0.001
Education	1.00	0.99 – 1.00	0.290
Household income	1.05	1.01 – 1.10	0.029
Marital status	0.93	0.86 – 0.99	0.033
Visible minority status: no	0.99	0.85 – 1.15	0.872
Union x Sex	0.97	0.73 – 1.28	0.803
Observations	4016		
R ² Nagelkerke	0.311		

Figure A4. 1989 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.07	<0.001
2 3	0.12	0.05 – 0.27	<0.001
3 4	0.67	0.29 – 1.51	0.329
Union membership: yes	1.09	0.80 – 1.48	0.581
Visible minority status: no	1.01	0.84 – 1.21	0.909
Sex: male	1.06	0.93 – 1.20	0.399
Age	0.93	0.90 – 0.96	<0.001
Education	1.00	0.99 – 1.00	0.295
Household income	1.05	1.00 – 1.10	0.030
Marital status: married or common-law	0.93	0.86 – 0.99	0.032
Union x Visible minority	0.92	0.65 – 1.30	0.643
Observations	4016		
R ² Nagelkerke	0.311		

Figure A5. 1989 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.06	<0.001
2 3	0.10	0.04 – 0.24	<0.001
3 4	0.56	0.24 – 1.34	0.195
Union membership: yes	0.50	0.12 – 2.09	0.341
Household income	1.04	0.99 – 1.09	0.121
Sex: male	1.05	0.93 – 1.20	0.425
Age	0.93	0.90 – 0.96	<0.001
Education	1.00	0.99 – 1.00	0.317
Visible minority status: no	0.93	0.86 – 0.99	0.034
Marital status	0.99	0.85 – 1.15	0.878
Union x Household income	1.05	0.95 – 1.15	0.325
Observations	4016		
R ² Nagelkerke	0.311		

Figure A6. 1989 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.02	0.01 – 0.04	<0.001
2 3	0.08	0.07 – 0.09	<0.001	0.13	0.08 – 0.23	<0.001
3 4	0.52	0.48 – 0.56	<0.001	0.90	0.53 – 1.53	0.692
4 5	2.52	2.32 – 2.74	<0.001	4.65	2.71 – 7.95	<0.001
Union membership: yes	0.89	0.79 – 1.00	0.043	0.85	0.75 – 0.97	0.014
Sex: male				1.21	1.07 – 1.37	0.003
Age				0.97	0.94 – 1.01	0.108
Education				0.95	0.93 – 0.97	<0.001
Household income				1.12	1.07 – 1.17	<0.001
Marital status: married or common-law				0.98	0.93 – 1.03	0.422
Visible minority status: no				1.14	0.90 – 1.43	0.279
Observations	3969			3320		
R ² Nagelkerke	0.462			0.728		

Figure A7. 1991 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.74	3.64 – 3.84	<0.001	3.53	3.21 – 3.84	<0.001
Union membership: yes	0.06	0.00 – 0.12	0.040	0.08	0.02 – 0.15	0.011
Sex: male				0.07	0.00 – 0.13	0.038
Age				-0.03	-0.04 – -0.01	0.001
Education				-0.03	-0.04 – -0.02	<0.001
Household income				0.06	0.04 – 0.09	<0.001
Marital status: married or common-law				-0.02	-0.05 – 0.01	0.270
Visible minority status: no				-0.06	-0.16 – 0.05	0.306
Observations	3969			3320		
R ² / R ² adjusted	0.001 / 0.001			0.030 / 0.028		

Figure A8. 1991 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.13	0.08 – 0.23	<0.001
3 4	0.88	0.50 – 1.55	0.665
4 5	4.57	2.61 – 8.03	<0.001
Union membership: yes	0.83	0.62 – 1.12	0.225
Province of origin	1.00	0.96 – 1.03	0.863
Sex: male	1.21	1.07 – 1.37	0.003
Age	0.97	0.94 – 1.01	0.108
Education	0.95	0.93 – 0.97	<0.001
Household income	1.12	1.07 – 1.17	<0.001
Marital status	0.98	0.93 – 1.03	0.428
Visible minority status: no	1.14	0.90 – 1.43	0.281
Union x Province	1.00	0.95 – 1.06	0.861
Observations	3320		
R ² Nagelkerke	0.728		

Figure A9. 1991 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.13	0.08 – 0.23	<0.001
3 4	0.90	0.53 – 1.54	0.698
4 5	4.66	2.72 – 7.98	<0.001
Union membership: yes	0.86	0.72 – 1.02	0.080
Sex: male	1.22	1.03 – 1.43	0.018
Age	0.97	0.94 – 1.01	0.107
Education	0.95	0.93 – 0.97	<0.001
Household income	1.12	1.07 – 1.17	<0.001
Marital status	0.98	0.93 – 1.03	0.424
Visible minority status: no	1.14	0.90 – 1.43	0.280
Union x Sex	0.99	0.77 – 1.27	0.930
Observations	3320		
R ² Nagelkerke	0.728		

Figure A10. 1991 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.13	0.08 – 0.23	<0.001
3 4	0.87	0.51 – 1.51	0.633
4 5	4.53	2.61 – 7.86	<0.001
Union membership: yes	0.78	0.49 – 1.23	0.285
Visible minority status: no	1.10	0.82 – 1.46	0.536
Sex: male	1.21	1.07 – 1.38	0.003
Age	0.97	0.94 – 1.01	0.111
Education	0.95	0.93 – 0.97	<0.001
Household income	1.12	1.07 – 1.18	<0.001
Marital status	0.98	0.93 – 1.03	0.423
Union x Visible minority	1.10	0.68 – 1.78	0.688
Observations	3320		
R ² Nagelkerke	0.728		

Figure A11. 1991 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.12	0.07 – 0.21	<0.001
3 4	0.79	0.45 – 1.39	0.419
4 5	4.11	2.34 – 7.22	<0.001
Union membership: yes	0.53	0.26 – 1.05	0.067
Household income	1.10	1.04 – 1.16	<0.001
Sex: male	1.21	1.07 – 1.37	0.003
Age	0.97	0.94 – 1.01	0.110
Education	0.95	0.93 – 0.97	<0.001
Marital status	0.98	0.93 – 1.03	0.451
Visible minority status: no	1.14	0.91 – 1.44	0.259
Union x Household income	1.07	0.98 – 1.16	0.162
Observations	3320		
R ² Nagelkerke	0.728		

Figure A12. 1991 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.01	0.01 – 0.02	<0.001
2 3	0.08	0.07 – 0.09	<0.001	0.10	0.06 – 0.16	<0.001
3 4	0.47	0.43 – 0.50	<0.001	0.63	0.39 – 1.02	0.058
4 5	2.19	2.03 – 2.35	<0.001	3.23	2.00 – 5.21	<0.001
Union membership: yes	1.03	0.93 – 1.14	0.612	0.90	0.79 – 1.02	0.088
Sex: male				1.17	1.03 – 1.32	0.014
Age				0.93	0.90 – 0.96	<0.001
Education				0.95	0.93 – 0.97	<0.001
Household income				1.12	1.09 – 1.16	<0.001
Marital status: married or common-law				1.20	1.11 – 1.29	<0.001
Visible minority status: no				0.96	0.71 – 1.29	0.779
Observations	4849			3452		
R ² Nagelkerke	0.215			0.774		

Figure A13. 1994 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.94	3.90 – 3.98	<0.001	3.81	3.57 – 4.05	<0.001
Union membership: yes	-0.01	-0.06 – 0.05	0.810	0.03	-0.04 – 0.09	0.414
Sex: male				0.05	-0.01 – 0.11	0.108
Age				-0.03	-0.05 – -0.01	0.001
Education				-0.03	-0.04 – -0.02	<0.001
Household income				0.05	0.03 – 0.07	<0.001
Marital status: married or common-law				0.07	0.02 – 0.11	0.003
Visible minority status: no				-0.03	-0.15 – 0.10	0.682
Observations	4849			3452		
R ² / R ² adjusted	0.000 / -0.000			0.030 / 0.028		

Figure A14. 1994 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.06 – 0.15	<0.001
3 4	0.59	0.36 – 0.97	0.039
4 5	3.02	1.82 – 5.00	<0.001
Union membership: yes	0.93	0.69 – 1.25	0.621
Province of origin	1.00	0.99 – 1.00	0.371
Sex: male	1.17	1.03 – 1.32	0.015
Age	0.93	0.91 – 0.96	<0.001
Education	0.95	0.93 – 0.97	<0.001
Household income	1.13	1.09 – 1.17	<0.001
Marital status	1.21	1.12 – 1.30	<0.001
Visible minority status: no	0.94	0.70 – 1.26	0.691
Union x Province	1.00	0.99 – 1.01	0.778
Observations	3452		
R ² Nagelkerke	0.774		

Figure A15. 1994 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.06 – 0.16	<0.001
3 4	0.63	0.39 – 1.01	0.055
4 5	3.20	1.98 – 5.18	<0.001
Union membership: yes	0.88	0.74 – 1.04	0.139
Sex: male	1.15	0.98 – 1.35	0.095
Age	0.93	0.90 – 0.96	<0.001
Education	0.95	0.93 – 0.97	<0.001
Household income	1.12	1.09 – 1.16	<0.001
Marital status	1.20	1.11 – 1.29	<0.001
Visible minority status: no	0.96	0.71 – 1.28	0.772
Union x Sex	1.04	0.81 – 1.34	0.753
Observations	3452		
R ² Nagelkerke	0.774		

Figure A16. 1994 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.05 – 0.16	<0.001
3 4	0.59	0.35 – 1.01	0.053
4 5	3.04	1.80 – 5.16	<0.001
Union membership: yes	0.77	0.43 – 1.38	0.383
Visible minority status: no	0.90	0.62 – 1.31	0.589
Sex: male	1.17	1.03 – 1.32	0.015
Age	0.93	0.90 – 0.96	<0.001
Education	0.95	0.93 – 0.97	<0.001
Household income	1.12	1.09 – 1.16	<0.001
Marital status	1.20	1.12 – 1.30	<0.001
Union x Visible minority	1.17	0.64 – 2.13	0.604
Observations	3452		
R ² Nagelkerke	0.774		

Figure A17. 1994 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.06 – 0.15	<0.001
3 4	0.59	0.36 – 0.97	0.039
4 5	3.03	1.83 – 5.00	<0.001
Union membership: yes	0.73	0.44 – 1.20	0.214
Household income	1.11	1.07 – 1.16	<0.001
Visible minority status: no	0.96	0.71 – 1.28	0.767
Sex: male	1.17	1.03 – 1.32	0.014
Age	0.93	0.90 – 0.96	<0.001
Education	0.95	0.93 – 0.97	<0.001
Marital status	1.20	1.12 – 1.30	<0.001
Union x Household income	1.03	0.96 – 1.10	0.400
Observations	3452		
R ² Nagelkerke	0.774		

Figure A18. 1994 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.09 – 0.12	<0.001	0.11	0.07 – 0.18	<0.001
3 4	0.57	0.53 – 0.62	<0.001	0.57	0.35 – 0.93	0.023
4 5	2.90	2.67 – 3.15	<0.001	2.93	1.80 – 4.77	<0.001
Union membership: yes	1.01	0.90 – 1.13	0.896	0.97	0.85 – 1.10	0.641
Sex: male				1.06	0.94 – 1.20	0.341
Age				1.06	0.99 – 1.14	0.081
Education				0.96	0.93 – 0.98	<0.001
Household income				1.03	1.00 – 1.07	0.042
Marital status				0.97	0.93 – 1.00	0.079
Visible minority status: no				0.85	0.66 – 1.10	0.229
Observations	4102			3461		
R ² Nagelkerke	0.464			0.714		

Figure A19. 1998 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.79	3.74 – 3.84	<0.001	3.86	3.60 – 4.11	<0.001
Union membership: yes	-0.00	-0.06 – 0.06	0.938	-0.00	-0.07 – 0.06	0.886
Sex: male				0.04	-0.02 – 0.11	0.183
Age				0.03	-0.01 – 0.06	0.130
Education				-0.02	-0.03 – -0.01	0.004
Household income				0.01	-0.01 – 0.03	0.264
Marital status				-0.03	-0.05 – -0.01	0.002
Visible minority status: no				-0.08	-0.19 – 0.04	0.204
Observations	4102			3461		
R ² / R ² adjusted	0.000 / -0.000			0.009 / 0.007		

Figure A20. 1998 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.06 – 0.16	<0.001
3 4	0.51	0.30 – 0.84	0.009
4 5	2.61	1.56 – 4.36	<0.001
Union membership: yes	0.86	0.63 – 1.15	0.305
Province of origin	1.00	0.99 – 1.00	0.132
Sex: male	1.06	0.94 – 1.20	0.337
Age	1.06	0.99 – 1.13	0.091
Education	0.96	0.93 – 0.98	<0.001
Household income	1.04	1.00 – 1.07	0.028
Marital status	0.97	0.93 – 1.01	0.121
Visible minority status: no	0.84	0.64 – 1.09	0.181
Union x Province	1.00	1.00 – 1.01	0.377
Observations	3461		
R ² Nagelkerke	0.715		

Figure A21. 1998 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.11	0.06 – 0.17	<0.001
3 4	0.56	0.34 – 0.91	0.019
4 5	2.86	1.75 – 4.68	<0.001
Union membership: yes	0.92	0.77 – 1.09	0.328
Sex: male	1.02	0.87 – 1.19	0.850
Age	1.06	0.99 – 1.14	0.081
Education	0.96	0.93 – 0.98	<0.001
Household income	1.03	1.00 – 1.07	0.046
Marital status	0.97	0.93 – 1.00	0.076
Visible minority status: no	0.85	0.66 – 1.10	0.229
Union x Sex	1.13	0.88 – 1.45	0.355
Observations	3461		
R ² Nagelkerke	0.714		

Figure A22. 1998 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.11	0.06 – 0.18	<0.001
3 4	0.55	0.33 – 0.92	0.023
4 5	2.86	1.72 – 4.75	<0.001
Union membership: yes	0.88	0.51 – 1.55	0.665
Visible minority status: no	0.83	0.61 – 1.13	0.232
Sex: male	1.06	0.94 – 1.20	0.340
Age	1.06	0.99 – 1.14	0.082
Education	0.96	0.93 – 0.98	<0.001
Household income	1.03	1.00 – 1.07	0.042
Marital status	0.97	0.93 – 1.00	0.080
Union x Visible minority	1.10	0.62 – 1.96	0.737
Observations	3461		
R ² Nagelkerke	0.714		

Figure A23. 1998 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.06 – 0.18	<0.001
3 4	0.55	0.33 – 0.92	0.022
4 5	2.84	1.71 – 4.73	<0.001
Union membership: yes	0.86	0.49 – 1.52	0.609
Household income	1.03	0.99 – 1.07	0.110
Visible minority status: no	0.85	0.66 – 1.10	0.230
Sex: male	1.06	0.94 – 1.20	0.349
Age	1.06	0.99 – 1.14	0.082
Education	0.96	0.93 – 0.98	<0.001
Marital status	0.97	0.93 – 1.00	0.083
Union x Household income	1.01	0.95 – 1.08	0.676
Observations	3461		
R ² Nagelkerke	0.714		

Figure A24. 1998 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.01	0.01 – 0.01	<0.001
2 3	0.08	0.07 – 0.08	<0.001	0.08	0.06 – 0.11	<0.001
3 4	0.51	0.49 – 0.53	<0.001	0.56	0.42 – 0.73	<0.001
4 5	2.61	2.49 – 2.73	<0.001	3.16	2.41 – 4.16	<0.001
Union membership: yes	1.21	1.13 – 1.29	<0.001	0.97	0.90 – 1.04	0.360
Sex: male				1.15	1.07 – 1.23	<0.001
Age				0.81	0.78 – 0.84	<0.001
Education				0.84	0.81 – 0.86	<0.001
Household income				1.12	1.10 – 1.14	<0.001
Marital status				1.00	0.98 – 1.02	0.889
Visible minority status: no				1.28	1.13 – 1.46	<0.001
Observations	12253			10509		
R ² Nagelkerke	0.009			0.421		

Figure A25. 2003 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.96	3.94 – 3.99	<0.001	3.77	3.64 – 3.91	<0.001
Union membership: yes	-0.10	-0.13 – -0.06	<0.001	0.01	-0.02 – 0.05	0.422
Sex: male				0.04	0.01 – 0.08	0.013
Age				-0.10	-0.12 – -0.09	<0.001
Education				-0.08	-0.09 – -0.07	<0.001
Household income				0.06	0.05 – 0.06	<0.001
Marital status				-0.00	-0.01 – 0.01	0.872
Visible minority status: no				0.14	0.08 – 0.19	<0.001
Observations	12253			10509		
R ² / R ² adjusted	0.003 / 0.002			0.055 / 0.055		

Figure A26. 2003 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.07	0.06 – 0.10	<0.001
3 4	0.52	0.39 – 0.69	<0.001
4 5	2.93	2.19 – 3.92	<0.001
Union membership: yes	0.89	0.74 – 1.07	0.217
Province of origin	1.00	0.99 – 1.00	0.121
Sex: male	1.14	1.07 – 1.23	<0.001
Age	0.81	0.78 – 0.84	<0.001
Education	0.84	0.82 – 0.86	<0.001
Household income	1.13	1.10 – 1.15	<0.001
Marital status	1.00	0.98 – 1.02	0.979
Visible minority status: no	1.27	1.11 – 1.44	<0.001
Union x Province	1.00	1.00 – 1.01	0.347
Observations	10509		
R ² Nagelkerke	0.421		

Figure A27. 2003 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.08	0.06 – 0.11	<0.001
3 4	0.56	0.42 – 0.73	<0.001
4 5	3.15	2.40 – 4.15	<0.001
Union membership: yes	0.96	0.87 – 1.06	0.419
Sex: male	1.14	1.04 – 1.25	0.005
Age	0.81	0.78 – 0.84	<0.001
Education	0.84	0.81 – 0.86	<0.001
Household income	1.12	1.10 – 1.14	<0.001
Marital status	1.00	0.98 – 1.02	0.884
Visible minority status: no	1.28	1.13 – 1.46	<0.001
Union x Sex	1.01	0.88 – 1.17	0.851
Observations	10509		
R ² Nagelkerke	0.421		

Figure A28. 2003 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.08	0.06 – 0.10	<0.001
3 4	0.53	0.40 – 0.70	<0.001
4 5	3.01	2.27 – 3.99	<0.001
Union membership: yes	0.80	0.61 – 1.05	0.107
Visible minority status: no	1.21	1.04 – 1.41	0.016
Sex: male	1.14	1.07 – 1.23	<0.001
Age	0.81	0.78 – 0.84	<0.001
Education	0.84	0.81 – 0.86	<0.001
Household income	1.12	1.10 – 1.15	<0.001
Marital status	1.00	0.98 – 1.02	0.905
Union x Visible minority	1.22	0.93 – 1.61	0.158
Observations	10509		
R ² Nagelkerke	0.421		

Figure A29. 2003 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.08	0.06 – 0.10	<0.001
3 4	0.54	0.41 – 0.72	<0.001
4 5	3.08	2.31 – 4.11	<0.001
Union membership: yes	0.88	0.62 – 1.23	0.448
Household income	1.12	1.10 – 1.14	<0.001
Visible minority status: no	1.28	1.13 – 1.46	<0.001
Sex: male	1.15	1.07 – 1.23	<0.001
Age	0.81	0.78 – 0.84	<0.001
Education	0.84	0.82 – 0.86	<0.001
Marital status	1.00	0.98 – 1.02	0.916
Union x Household income	1.01	0.98 – 1.05	0.568
Observations	10509		
R ² Nagelkerke	0.421		

Figure A30. 2003 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001	0.03	0.02 – 0.04	<0.001
2 3	0.12	0.11 – 0.13	<0.001	0.19	0.14 – 0.28	<0.001
3 4	0.75	0.71 – 0.79	<0.001	1.23	0.87 – 1.75	0.244
4 5	4.13	3.88 – 4.40	<0.001	7.17	5.04 – 10.22	<0.001
Union membership: yes	1.01	0.93 – 1.09	0.893	0.99	0.90 – 1.08	0.816
Sex: male				1.01	0.92 – 1.10	0.896
Age				0.95	0.91 – 1.00	0.032
Education				0.89	0.86 – 0.92	<0.001
Household income				1.09	1.06 – 1.11	<0.001
Marital status				0.98	0.96 – 1.00	0.099
Visible minority status: no				1.30	1.11 – 1.53	0.002
Observations	7968			6624		
R ² Nagelkerke	0.472			0.741		

Figure A31. 2005 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.65	3.61 – 3.68	<0.001	3.41	3.23 – 3.59	<0.001
Union membership: yes	0.02	-0.03 – 0.06	0.449	0.00	-0.05 – 0.05	0.947
Sex: male				-0.03	-0.08 – 0.01	0.157
Age				-0.03	-0.06 – -0.01	0.007
Education				-0.06	-0.08 – -0.04	<0.001
Household income				0.05	0.03 – 0.06	<0.001
Marital status				-0.02	-0.03 – -0.01	0.001
Visible minority status: no				0.13	0.06 – 0.20	0.001
Observations	7968			6624		
R ² / R ² adjusted	0.000 / -0.000			0.028 / 0.027		

Figure A32. 2005 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.04	<0.001
2 3	0.17	0.12 – 0.25	<0.001
3 4	1.09	0.75 – 1.57	0.653
4 5	6.35	4.38 – 9.20	<0.001
Union membership: yes	0.94	0.76 – 1.18	0.602
Province of origin	1.00	0.99 – 1.00	0.035
Sex: male	1.00	0.92 – 1.10	0.918
Age	0.95	0.91 – 1.00	0.030
Education	0.89	0.86 – 0.92	<0.001
Household income	1.09	1.07 – 1.12	<0.001
Marital status	0.98	0.96 – 1.01	0.138
Visible minority status: no	1.27	1.08 – 1.50	0.005
Union x Province	1.00	1.00 – 1.01	0.661
Observations	6624		
R ² Nagelkerke	0.741		

Figure A33. 2005 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.19	0.14 – 0.28	<0.001
3 4	1.22	0.86 – 1.73	0.267
4 5	7.11	4.99 – 10.14	<0.001
Union membership: yes	0.96	0.84 – 1.10	0.528
Sex: male	0.98	0.88 – 1.10	0.779
Age	0.95	0.91 – 1.00	0.034
Education	0.89	0.86 – 0.92	<0.001
Household income	1.09	1.06 – 1.11	<0.001
Marital status	0.98	0.96 – 1.00	0.098
Visible minority status: no	1.30	1.11 – 1.54	0.002
Union x Sex	1.06	0.88 – 1.28	0.518
Observations	6624		
R ² Nagelkerke	0.741		

Figure A34. 2005 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.19	0.13 – 0.28	<0.001
3 4	1.21	0.84 – 1.74	0.301
4 5	7.05	4.90 – 10.15	<0.001
Union membership: yes	0.92	0.65 – 1.31	0.655
Visible minority status: no	1.28	1.05 – 1.55	0.014
Sex: male	1.01	0.92 – 1.10	0.893
Age	0.95	0.91 – 1.00	0.033
Education	0.89	0.86 – 0.92	<0.001
Household income	1.09	1.06 – 1.11	<0.001
Marital status	0.98	0.96 – 1.00	0.100
Union x Visible minority	1.08	0.75 – 1.54	0.689
Observations	6624		
R ² Nagelkerke	0.741		

Figure A35. 2005 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.04	<0.001
2 3	0.18	0.12 – 0.26	<0.001
3 4	1.12	0.77 – 1.61	0.557
4 5	6.51	4.49 – 9.42	<0.001
Union membership: yes	0.68	0.44 – 1.04	0.077
Household income	1.08	1.05 – 1.11	<0.001
Visible minority status: no	1.30	1.10 – 1.53	0.002
Sex: male	1.00	0.92 – 1.10	0.924
Age	0.95	0.91 – 1.00	0.038
Education	0.89	0.85 – 0.92	<0.001
Marital status	0.98	0.96 – 1.01	0.127
Union x Household income	1.04	1.00 – 1.09	0.079
Observations	6624		
R ² Nagelkerke	0.741		

Figure A36. 2005 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.01	0.01 – 0.01	<0.001
2 3	0.12	0.11 – 0.13	<0.001	0.06	0.05 – 0.07	<0.001
3 4	0.75	0.71 – 0.80	<0.001	0.39	0.31 – 0.48	<0.001
4 5	3.62	3.40 – 3.85	<0.001	1.93	1.57 – 2.38	<0.001
Union membership: yes	1.02	0.94 – 1.11	0.606	0.98	0.90 – 1.07	0.697
Sex: male				1.00	0.92 – 1.09	0.947
Age				0.91	0.88 – 0.95	<0.001
Education				0.81	0.78 – 0.84	<0.001
Household income				1.00	1.00 – 1.00	0.852
Marital status				0.95	0.93 – 0.97	<0.001
Visible minority status: no				1.40	1.22 – 1.62	<0.001
Observations	7770			7637		
R ² Nagelkerke	0.551			0.593		

Figure A37. 2008 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.70	3.67 – 3.74	<0.001	4.09	3.98 – 4.20	<0.001
Union membership: yes	-0.02	-0.06 – 0.03	0.446	-0.00	-0.05 – 0.04	0.859
Sex: male				-0.00	-0.04 – 0.04	0.922
Age				-0.06	-0.08 – -0.04	<0.001
Education				-0.11	-0.13 – -0.10	<0.001
Household income				0.00	-0.00 – 0.00	0.914
Marital status				-0.03	-0.04 – -0.02	<0.001
Visible minority status: no				0.17	0.11 – 0.23	<0.001
Observations	7770			7637		
R ² / R ² adjusted	0.000 / -0.000			0.034 / 0.033		

Figure A38. 2008 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.04 – 0.07	<0.001
3 4	0.35	0.27 – 0.45	<0.001
4 5	1.75	1.36 – 2.25	<0.001
Union membership: yes	0.98	0.80 – 1.21	0.851
Province of origin	1.00	0.99 – 1.00	0.176
Sex: male	1.00	0.92 – 1.09	0.964
Age	0.91	0.88 – 0.95	<0.001
Education	0.81	0.78 – 0.84	<0.001
Household income	1.00	1.00 – 1.00	0.833
Marital status	0.95	0.93 – 0.97	<0.001
Visible minority status: no	1.38	1.19 – 1.59	<0.001
Union x Province	1.00	0.99 – 1.01	1.000
Observations	7637		
R ² Nagelkerke	0.593		

Figure A39. 2008 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.06	0.05 – 0.07	<0.001
3 4	0.39	0.32 – 0.48	<0.001
4 5	1.95	1.58 – 2.41	<0.001
Union membership: yes	1.03	0.91 – 1.17	0.640
Sex: male	1.04	0.93 – 1.15	0.510
Age	0.91	0.87 – 0.95	<0.001
Education	0.81	0.78 – 0.84	<0.001
Household income	1.00	1.00 – 1.00	0.848
Marital status	0.95	0.93 – 0.97	<0.001
Visible minority status: no	1.40	1.22 – 1.62	<0.001
Union x Sex	0.92	0.77 – 1.09	0.313
Observations	7637		
R ² Nagelkerke	0.593		

Figure A40. 2008 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.06	0.04 – 0.07	<0.001
3 4	0.37	0.30 – 0.46	<0.001
4 5	1.84	1.48 – 2.30	<0.001
Union membership: yes	0.81	0.60 – 1.11	0.190
Visible minority status: no	1.33	1.13 – 1.57	0.001
Sex: male	1.00	0.92 – 1.09	0.938
Age	0.91	0.88 – 0.95	<0.001
Education	0.81	0.78 – 0.84	<0.001
Household income	1.00	1.00 – 1.00	0.843
Marital status	0.95	0.93 – 0.97	<0.001
Union x Visible minority	1.23	0.89 – 1.69	0.211
Observations	7637		
R ² Nagelkerke	0.593		

Figure A41. 2008 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.06	0.05 – 0.07	<0.001
3 4	0.39	0.32 – 0.48	<0.001
4 5	1.95	1.58 – 2.40	<0.001
Union membership: yes	1.01	0.91 – 1.12	0.854
Household income	1.00	1.00 – 1.00	0.513
Visible minority status: no	1.40	1.22 – 1.62	<0.001
Sex: male	1.00	0.92 – 1.09	0.943
Age	0.91	0.88 – 0.95	<0.001
Education	0.81	0.78 – 0.84	<0.001
Marital status	0.95	0.93 – 0.97	<0.001
Union x Household income	1.00	1.00 – 1.00	0.379
Observations	7637		
R ² Nagelkerke	0.593		

Figure A42. 2008 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.02	0.01 – 0.02	<0.001
2 3	0.08	0.08 – 0.09	<0.001	0.11	0.08 – 0.16	<0.001
3 4	0.49	0.47 – 0.52	<0.001	0.70	0.49 – 1.00	0.049
4 5	2.61	2.47 – 2.77	<0.001	4.01	2.81 – 5.73	<0.001
Union membership: yes	1.04	0.95 – 1.12	0.406	0.98	0.90 – 1.07	0.666
Sex: male				1.08	0.99 – 1.18	0.075
Age				0.89	0.85 – 0.93	<0.001
Education				0.85	0.82 – 0.88	<0.001
Household income				1.10	1.07 – 1.12	<0.001
Marital status				0.99	0.97 – 1.01	0.369
Visible minority status: no				1.30	1.11 – 1.51	0.001
Observations	8145			7072		
R ² Nagelkerke	0.429			0.671		

Figure A43. 2009 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.91	3.87 – 3.94	<0.001	3.96	3.79 – 4.13	<0.001
Union membership: yes	-0.02	-0.06 – 0.03	0.430	-0.02	-0.07 – 0.02	0.303
Sex: male				0.02	-0.02 – 0.06	0.406
Age				-0.07	-0.09 – -0.05	<0.001
Education				-0.09	-0.11 – -0.07	<0.001
Household income				0.03	0.02 – 0.04	<0.001
Marital status				-0.02	-0.04 – -0.01	<0.001
Visible minority status: no				0.12	0.05 – 0.18	<0.001
Observations	8145			7072		
R ² / R ² adjusted	0.000 / -0.000			0.036 / 0.035		

Figure A44. 2009 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.07 – 0.15	<0.001
3 4	0.63	0.43 – 0.91	0.014
4 5	3.61	2.49 – 5.24	<0.001
Union membership: yes	0.89	0.72 – 1.10	0.290
Province of origin	1.00	0.99 – 1.00	0.048
Sex: male	1.08	0.99 – 1.18	0.078
Age	0.89	0.86 – 0.93	<0.001
Education	0.85	0.82 – 0.88	<0.001
Household income	1.10	1.08 – 1.13	<0.001
Marital status	0.99	0.97 – 1.01	0.446
Visible minority status: no	1.27	1.09 – 1.49	0.003
Union x Province	1.00	1.00 – 1.01	0.360
Observations	7072		
R ² Nagelkerke	0.671		

Figure A45. 2009 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.12	0.08 – 0.17	<0.001
3 4	0.72	0.50 – 1.03	0.069
4 5	4.12	2.88 – 5.90	<0.001
Union membership: yes	1.07	0.94 – 1.22	0.290
Sex: male	1.15	1.03 – 1.29	0.010
Age	0.89	0.85 – 0.93	<0.001
Education	0.85	0.82 – 0.88	<0.001
Household income	1.10	1.07 – 1.12	<0.001
Marital status	0.99	0.97 – 1.01	0.376
Visible minority status: no	1.29	1.11 – 1.51	0.001
Union x Sex	0.84	0.71 – 1.01	0.058
Observations	7072		
R ² Nagelkerke	0.671		

Figure A46. 2009 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.10	0.07 – 0.15	<0.001
3 4	0.65	0.45 – 0.94	0.021
4 5	3.71	2.56 – 5.38	<0.001
Union membership: yes	0.77	0.57 – 1.06	0.106
Visible minority status: no	1.18	0.97 – 1.44	0.091
Sex: male	1.08	0.99 – 1.18	0.070
Age	0.89	0.85 – 0.93	<0.001
Education	0.85	0.82 – 0.89	<0.001
Household income	1.10	1.07 – 1.12	<0.001
Marital status	0.99	0.97 – 1.01	0.389
Union x Visible minority	1.29	0.94 – 1.79	0.120
Observations	7072		
R ² Nagelkerke	0.671		

Figure A47. 2009 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.12	0.08 – 0.18	<0.001
3 4	0.77	0.53 – 1.12	0.172
4 5	4.41	3.02 – 6.44	<0.001
Union membership: yes	1.36	0.88 – 2.10	0.172
Household income	1.11	1.08 – 1.14	<0.001
Visible minority status: no	1.30	1.11 – 1.52	0.001
Sex: male	1.08	0.99 – 1.18	0.071
Age	0.89	0.85 – 0.93	<0.001
Education	0.85	0.82 – 0.88	<0.001
Marital status	0.99	0.97 – 1.01	0.329
Union x Household income	0.97	0.93 – 1.01	0.137
Observations	7072		
R ² Nagelkerke	0.671		

Figure A48. 2009 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001	0.05	0.03 – 0.08	<0.001
2 3	0.14	0.13 – 0.15	<0.001	0.39	0.26 – 0.59	<0.001
3 4	0.85	0.80 – 0.91	<0.001	2.46	1.63 – 3.72	<0.001
4 5	5.35	4.95 – 5.79	<0.001	16.51	10.84 – 25.14	<0.001
Union membership: yes	1.01	0.92 – 1.11	0.816	0.99	0.89 – 1.10	0.812
Sex: male				1.07	0.96 – 1.18	0.208
Age				0.96	0.91 – 1.01	0.096
Education				0.90	0.86 – 0.94	<0.001
Household income				1.11	1.08 – 1.14	<0.001
Marital status				0.98	0.95 – 1.01	0.179
Visible minority status: no				1.58	1.33 – 1.87	<0.001
Observations	5880			5155		
R ² Nagelkerke	0.453			0.672		

Figure A49. 2010 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.60	3.56 – 3.64	<0.001	3.13	2.93 – 3.33	<0.001
Union membership: yes	-0.02	-0.07 – 0.03	0.341	-0.03	-0.08 – 0.02	0.304
Sex: male				-0.01	-0.06 – 0.04	0.802
Age				-0.04	-0.06 – -0.01	0.003
Education				-0.04	-0.06 – -0.02	<0.001
Household income				0.05	0.03 – 0.06	<0.001
Marital status				-0.01	-0.03 – -0.00	0.043
Visible minority status: no				0.26	0.18 – 0.33	<0.001
Observations	5880			5155		
R ² / R ² adjusted	0.000 / -0.000			0.031 / 0.030		

Figure A50. 2010 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.05	0.03 – 0.07	<0.001
2 3	0.36	0.23 – 0.55	<0.001
3 4	2.27	1.47 – 3.49	<0.001
4 5	15.26	9.85 – 23.63	<0.001
Union membership: yes	1.00	0.78 – 1.28	0.988
Province of origin	1.00	0.99 – 1.00	0.134
Sex: male	1.07	0.96 – 1.18	0.215
Age	0.96	0.92 – 1.01	0.116
Education	0.91	0.87 – 0.95	<0.001
Household income	1.11	1.08 – 1.15	<0.001
Marital status	0.98	0.96 – 1.01	0.220
Visible minority status: no	1.54	1.30 – 1.83	<0.001
Union x Province	1.00	0.99 – 1.01	0.870
Observations	5155		
R ² Nagelkerke	0.672		

Figure A51. 2010 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.05	0.03 – 0.08	<0.001
2 3	0.39	0.26 – 0.59	<0.001
3 4	2.48	1.63 – 3.76	<0.001
4 5	16.64	10.90 – 25.41	<0.001
Union membership: yes	1.01	0.86 – 1.17	0.945
Sex: male	1.08	0.95 – 1.23	0.233
Age	0.96	0.91 – 1.01	0.095
Education	0.90	0.86 – 0.94	<0.001
Household income	1.11	1.08 – 1.14	<0.001
Marital status	0.98	0.95 – 1.01	0.182
Visible minority status: no	1.58	1.33 – 1.87	<0.001
Union x Sex	0.97	0.79 – 1.19	0.751
Observations	5155		
R ² Nagelkerke	0.672		

Figure A52. 2010 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.05	0.03 – 0.08	<0.001
2 3	0.40	0.26 – 0.61	<0.001
3 4	2.53	1.65 – 3.89	<0.001
4 5	17.00	11.00 – 26.28	<0.001
Union membership: yes	1.07	0.77 – 1.50	0.680
Visible minority status: no	1.63	1.32 – 2.01	<0.001
Sex: male	1.07	0.96 – 1.18	0.208
Age	0.96	0.91 – 1.01	0.096
Education	0.90	0.86 – 0.94	<0.001
Household income	1.11	1.08 – 1.14	<0.001
Marital status	0.98	0.95 – 1.01	0.175
Union x Visible minority	0.91	0.64 – 1.30	0.609
Observations	5155		
R ² Nagelkerke	0.672		

Figure A53. 2010 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.05	0.03 – 0.08	<0.001
2 3	0.39	0.25 – 0.60	<0.001
3 4	2.46	1.59 – 3.82	<0.001
4 5	16.54	10.59 – 25.83	<0.001
Union membership: yes	0.99	0.59 – 1.67	0.980
Household income	1.11	1.08 – 1.15	<0.001
Visible minority status: no	1.58	1.33 – 1.87	<0.001
Sex: male	1.07	0.96 – 1.18	0.209
Age	0.96	0.91 – 1.01	0.096
Education	0.90	0.86 – 0.94	<0.001
Marital status	0.98	0.95 – 1.01	0.179
Union x Household income	1.00	0.95 – 1.05	0.982
Observations	5155		
R ² Nagelkerke	0.672		

Figure A54. 2010 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001	0.03	0.02 – 0.04	<0.001
2 3	0.10	0.09 – 0.11	<0.001	0.17	0.12 – 0.24	<0.001
3 4	0.68	0.64 – 0.71	<0.001	1.17	0.83 – 1.66	0.360
4 5	3.63	3.42 – 3.84	<0.001	6.90	4.88 – 9.77	<0.001
Union membership: yes	1.08	1.00 – 1.17	0.060	0.98	0.90 – 1.07	0.611
Sex: male				1.04	0.96 – 1.13	0.315
Age				0.88	0.85 – 0.92	<0.001
Education				0.86	0.83 – 0.89	<0.001
Household income				1.13	1.10 – 1.15	<0.001
Marital status				1.00	0.98 – 1.02	0.842
Visible minority status: no				1.23	1.06 – 1.42	0.006
Observations	8898			7800		
R ² Nagelkerke	0.440			0.671		

Figure A55. 2011 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.76	3.73 – 3.79	<0.001	3.46	3.29 – 3.63	<0.001
Union membership: yes	-0.01	-0.05 – 0.03	0.510	0.04	-0.01 – 0.08	0.084
Sex: male				0.01	-0.03 – 0.05	0.559
Age				-0.07	-0.09 – -0.05	<0.001
Education				-0.08	-0.09 – -0.06	<0.001
Household income				0.05	0.04 – 0.07	<0.001
Marital status				-0.01	-0.02 – 0.00	0.246
Visible minority status: no				0.15	0.09 – 0.21	<0.001
Observations	8898			7800		
R ² / R ² adjusted	0.000 / -0.000			0.042 / 0.041		

Figure A56. 2011 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.16	0.11 – 0.24	<0.001
3 4	1.14	0.79 – 1.63	0.489
4 5	6.68	4.65 – 9.60	<0.001
Union membership: yes	1.00	0.82 – 1.23	0.978
Province of origin	1.00	1.00 – 1.00	0.497
Sex: male	1.04	0.96 – 1.13	0.312
Age	0.88	0.85 – 0.92	<0.001
Education	0.86	0.83 – 0.90	<0.001
Household income	1.13	1.10 – 1.16	<0.001
Marital status	1.00	0.98 – 1.02	0.882
Visible minority status: no	1.22	1.05 – 1.41	0.009
Union x Province	1.00	0.99 – 1.00	0.769
Observations	7800		
R ² Nagelkerke	0.671		

Figure A57. 2011 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.17	0.12 – 0.25	<0.001
3 4	1.19	0.84 – 1.68	0.318
4 5	7.01	4.95 – 9.93	<0.001
Union membership: yes	1.02	0.90 – 1.16	0.708
Sex: male	1.08	0.97 – 1.19	0.162
Age	0.88	0.85 – 0.92	<0.001
Education	0.86	0.83 – 0.89	<0.001
Household income	1.13	1.10 – 1.15	<0.001
Marital status	1.00	0.97 – 1.02	0.834
Visible minority status: no	1.23	1.06 – 1.42	0.006
Union x Sex	0.92	0.77 – 1.09	0.321
Observations	7800		
R ² Nagelkerke	0.671		

Figure A58. 2011 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.17	0.12 – 0.24	<0.001
3 4	1.16	0.81 – 1.65	0.415
4 5	6.81	4.77 – 9.73	<0.001
Union membership: yes	0.93	0.69 – 1.27	0.653
Visible minority status: no	1.21	1.02 – 1.44	0.031
Sex: male	1.04	0.96 – 1.13	0.315
Age	0.88	0.85 – 0.92	<0.001
Education	0.86	0.83 – 0.89	<0.001
Household income	1.13	1.10 – 1.15	<0.001
Marital status	1.00	0.97 – 1.02	0.839
Union x Visible minority	1.05	0.77 – 1.45	0.749
Observations	7800		
R ² Nagelkerke	0.671		

Figure A59. 2011 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.18	0.13 – 0.26	<0.001
3 4	1.26	0.88 – 1.82	0.206
4 5	7.43	5.16 – 10.72	<0.001
Union membership: yes	1.29	0.83 – 1.99	0.259
Household income	1.14	1.11 – 1.17	<0.001
Visible minority status: no	1.23	1.06 – 1.42	0.006
Sex: male	1.04	0.96 – 1.13	0.304
Age	0.88	0.85 – 0.92	<0.001
Education	0.86	0.83 – 0.89	<0.001
Marital status	1.00	0.97 – 1.02	0.797
Union x Household income	0.97	0.93 – 1.01	0.211
Observations	7800		
R ² Nagelkerke	0.671		

Figure A60. 2011 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.04	0.03 – 0.06	<0.001
2 3	0.09	0.08 – 0.10	<0.001	0.27	0.19 – 0.37	<0.001
3 4	0.62	0.59 – 0.65	<0.001	2.00	1.44 – 2.77	<0.001
4 5	3.03	2.87 – 3.21	<0.001	10.52	7.56 – 14.64	<0.001
Union membership: yes	1.03	0.95 – 1.12	0.445	0.96	0.88 – 1.05	0.365
Sex: male				1.01	0.93 – 1.11	0.761
Age				0.87	0.83 – 0.91	<0.001
Education				1.11	1.08 – 1.13	<0.001
Household income				1.11	1.09 – 1.14	<0.001
Marital status				1.00	0.97 – 1.02	0.818
Visible minority status: no				1.32	1.17 – 1.48	<0.001
Observations	8634			7069		
R ² Nagelkerke	0.415			0.732		

Figure A61. 2012 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.85	3.81 – 3.88	<0.001	3.28	3.12 – 3.44	<0.001
Union membership: yes	-0.02	-0.06 – 0.02	0.323	0.00	-0.04 – 0.05	0.841
Sex: male				-0.01	-0.05 – 0.03	0.576
Age				-0.08	-0.10 – -0.06	<0.001
Education				0.05	0.04 – 0.06	<0.001
Household income				0.05	0.04 – 0.06	<0.001
Marital status				0.00	-0.01 – 0.02	0.573
Visible minority status: no				0.14	0.09 – 0.20	<0.001
Observations	8634			7069		
R ² / R ² adjusted	0.000 / -0.000			0.044 / 0.043		

Figure A62. 2012 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.26	0.18 – 0.37	<0.001
3 4	1.97	1.39 – 2.78	<0.001
4 5	10.36	7.31 – 14.69	<0.001
Union membership: yes	1.04	0.84 – 1.28	0.731
Province of origin	1.00	1.00 – 1.00	0.770
Sex: male	1.01	0.93 – 1.11	0.737
Age	0.87	0.83 – 0.91	<0.001
Education	1.10	1.08 – 1.13	<0.001
Household income	1.12	1.09 – 1.14	<0.001
Marital status	1.00	0.97 – 1.02	0.847
Visible minority status: no	1.30	1.16 – 1.47	<0.001
Union x Province	1.00	0.99 – 1.00	0.404
Observations	7069		
R ² Nagelkerke	0.732		

Figure A63. 2012 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.27	0.20 – 0.38	<0.001
3 4	2.05	1.48 – 2.85	<0.001
4 5	10.83	7.77 – 15.11	<0.001
Union membership: yes	1.04	0.91 – 1.19	0.540
Sex: male	1.07	0.96 – 1.20	0.214
Age	0.87	0.83 – 0.91	<0.001
Education	1.11	1.08 – 1.14	<0.001
Household income	1.11	1.09 – 1.14	<0.001
Marital status	1.00	0.97 – 1.02	0.799
Visible minority status: no	1.32	1.17 – 1.48	<0.001
Union x Sex	0.86	0.72 – 1.03	0.099
Observations	7069		
R ² Nagelkerke	0.732		

Figure A64. 2012 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.27	0.20 – 0.38	<0.001
3 4	2.05	1.47 – 2.86	<0.001
4 5	10.82	7.73 – 15.15	<0.001
Union membership: yes	1.05	0.84 – 1.31	0.650
Visible minority status: no	1.37	1.18 – 1.58	<0.001
Sex: male	1.01	0.93 – 1.11	0.760
Age	0.87	0.83 – 0.91	<0.001
Education	1.11	1.08 – 1.13	<0.001
Household income	1.11	1.09 – 1.14	<0.001
Marital status	1.00	0.97 – 1.02	0.811
Union x Visible minority	0.90	0.70 – 1.14	0.374
Observations	7069		
R ² Nagelkerke	0.732		

Figure A65. 2012 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.27	0.19 – 0.38	<0.001
3 4	2.04	1.44 – 2.88	<0.001
4 5	10.73	7.56 – 15.22	<0.001
Union membership: yes	1.04	0.66 – 1.63	0.874
Household income	1.12	1.09 – 1.15	<0.001
Sex: male	1.01	0.93 – 1.11	0.760
Visible minority status: no	0.87	0.83 – 0.91	<0.001
Age	1.11	1.08 – 1.13	<0.001
Education	1.00	0.97 – 1.02	0.798
Marital status	1.32	1.17 – 1.48	<0.001
Union x Household income	0.99	0.95 – 1.04	0.733
Observations	7069		
R ² Nagelkerke	0.732		

Figure A66. 2012 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.02	0.01 – 0.03	<0.001
2 3	0.08	0.08 – 0.09	<0.001	0.15	0.12 – 0.20	<0.001
3 4	0.57	0.54 – 0.60	<0.001	1.12	0.88 – 1.42	0.371
4 5	3.35	3.19 – 3.52	<0.001	6.98	5.46 – 8.93	<0.001
Union membership: yes	1.24	1.17 – 1.33	<0.001	1.04	0.97 – 1.13	0.255
Sex: male				0.98	0.91 – 1.05	0.594
Age				0.87	0.84 – 0.90	<0.001
Education				1.11	1.09 – 1.13	<0.001
Household income				1.08	1.06 – 1.10	<0.001
Marital status				0.97	0.95 – 0.99	0.001
Visible minority status: no				1.24	1.14 – 1.35	<0.001
Observations	12735			10603		
R ² Nagelkerke	0.008			0.453		

Figure A67. 2013 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.91	3.89 – 3.94	<0.001	3.43	3.30 – 3.55	<0.001
Union membership: yes	-0.09	-0.13 – -0.06	<0.001	-0.00	-0.04 – 0.03	0.866
Sex: male				-0.00	-0.03 – 0.03	0.973
Age				-0.07	-0.09 – -0.06	<0.001
Education				0.05	0.05 – 0.06	<0.001
Household income				0.04	0.03 – 0.05	<0.001
Marital status				-0.02	-0.02 – -0.01	0.001
Visible minority status: no				0.10	0.05 – 0.14	<0.001
Observations	12735			10603		
R ² / R ² adjusted	0.003 / 0.003			0.040 / 0.040		

Figure A68. 2013 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.14	0.11 – 0.18	<0.001
3 4	1.02	0.78 – 1.32	0.907
4 5	6.35	4.86 – 8.30	<0.001
Union membership: yes	1.00	0.83 – 1.20	0.989
Province of origin	1.00	0.99 – 1.00	0.075
Sex: male	0.98	0.91 – 1.05	0.563
Age	0.87	0.84 – 0.90	<0.001
Education	1.11	1.09 – 1.13	<0.001
Household income	1.08	1.06 – 1.10	<0.001
Marital status	0.97	0.95 – 0.99	0.001
Visible minority status: no	1.22	1.12 – 1.33	<0.001
Union x Province	1.00	1.00 – 1.01	0.615
Observations	10603		
R ² Nagelkerke	0.453		

Figure A69. 2013 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.15	0.12 – 0.20	<0.001
3 4	1.11	0.87 – 1.41	0.418
4 5	6.91	5.40 – 8.86	<0.001
Union membership: yes	1.02	0.92 – 1.13	0.663
Sex: male	0.96	0.88 – 1.06	0.424
Age	0.87	0.84 – 0.90	<0.001
Education	1.11	1.09 – 1.13	<0.001
Household income	1.08	1.06 – 1.10	<0.001
Marital status	0.97	0.95 – 0.99	0.001
Visible minority status: no	1.24	1.14 – 1.35	<0.001
Union x Sex	1.05	0.91 – 1.21	0.543
Observations	10603		
R ² Nagelkerke	0.453		

Figure A70. 2013 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.15	0.12 – 0.20	<0.001
3 4	1.11	0.87 – 1.43	0.391
4 5	6.96	5.42 – 8.94	<0.001
Union membership: yes	1.04	0.89 – 1.20	0.644
Visible minority status: no	1.23	1.11 – 1.37	<0.001
Sex: male	0.98	0.91 – 1.05	0.593
Age	0.87	0.84 – 0.90	<0.001
Education	1.11	1.09 – 1.13	<0.001
Household income	1.08	1.06 – 1.10	<0.001
Marital status	0.97	0.95 – 0.99	0.001
Union x Visible minority	1.01	0.85 – 1.20	0.901
Observations	10603		
R ² Nagelkerke	0.453		

Figure A71. 2013 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.16	0.12 – 0.21	<0.001
3 4	1.14	0.87 – 1.49	0.330
4 5	7.14	5.44 – 9.37	<0.001
Union membership: yes	1.12	0.79 – 1.59	0.534
Household income	1.08	1.06 – 1.10	<0.001
Sex: male	0.98	0.91 – 1.05	0.594
Age	0.87	0.84 – 0.90	<0.001
Education	1.11	1.09 – 1.13	<0.001
Marital status	0.97	0.95 – 0.99	0.001
Visible minority status: no	1.24	1.14 – 1.35	<0.001
Union x Household income	0.99	0.96 – 1.03	0.698
Observations	10603		
R ² Nagelkerke	0.453		

Figure A72. 2013 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.02	<0.001	0.04	0.03 – 0.06	<0.001
2 3	0.14	0.13 – 0.15	<0.001	0.34	0.26 – 0.44	<0.001
3 4	0.89	0.84 – 0.95	<0.001	2.24	1.71 – 2.94	<0.001
4 5	5.75	5.34 – 6.20	<0.001	15.07	11.38 – 19.97	<0.001
Union membership: yes	1.19	1.08 – 1.30	<0.001	1.11	1.01 – 1.22	0.028
Sex: male				1.10	1.01 – 1.21	0.033
Age				0.97	0.93 – 1.01	0.151
Education				1.12	1.09 – 1.15	<0.001
Household income				1.06	1.04 – 1.09	<0.001
Marital status				0.97	0.94 – 0.99	0.005
Visible minority status: no				1.39	1.22 – 1.58	<0.001
Observations	6584			6465		
R ² Nagelkerke	0.424			0.476		

Figure A73. 2015 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.63	3.59 – 3.67	<0.001	3.24	3.10 – 3.38	<0.001
Union membership: yes	-0.08	-0.13 – -0.04	<0.001	-0.06	-0.11 – -0.02	0.009
Sex: male				0.03	-0.02 – 0.07	0.233
Age				-0.03	-0.05 – -0.01	0.009
Education				0.06	0.04 – 0.07	<0.001
Household income				0.03	0.02 – 0.04	<0.001
Marital status				-0.02	-0.03 – -0.01	0.001
Visible minority status: no				0.14	0.09 – 0.20	<0.001
Observations	6584			6465		
R ² / R ² adjusted	0.002 / 0.002			0.029 / 0.028		

Figure A74. 2015 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.02 – 0.05	<0.001
2 3	0.27	0.20 – 0.37	<0.001
3 4	1.82	1.34 – 2.46	<0.001
4 5	12.24	8.96 – 16.71	<0.001
Union membership: yes	1.00	0.80 – 1.25	0.977
Province of origin	0.99	0.99 – 1.00	0.002
Sex: male	1.10	1.01 – 1.21	0.034
Age	0.97	0.93 – 1.01	0.123
Education	1.12	1.09 – 1.15	<0.001
Household income	1.07	1.04 – 1.10	<0.001
Marital status	0.97	0.94 – 0.99	0.007
Visible minority status: no	1.34	1.18 – 1.53	<0.001
Union x Province	1.00	1.00 – 1.01	0.323
Observations	6465		
R ² Nagelkerke	0.477		

Figure A75. 2015 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.34	0.25 – 0.45	<0.001
3 4	2.24	1.70 – 2.95	<0.001
4 5	15.05	11.32 – 19.99	<0.001
Union membership: yes	1.11	0.96 – 1.27	0.148
Sex: male	1.10	0.98 – 1.23	0.096
Age	0.97	0.93 – 1.01	0.150
Education	1.12	1.09 – 1.15	<0.001
Household income	1.06	1.04 – 1.09	<0.001
Marital status	0.97	0.94 – 0.99	0.005
Visible minority status: no	1.39	1.22 – 1.58	<0.001
Union x Sex	1.01	0.84 – 1.22	0.931
Observations	6465		
R ² Nagelkerke	0.476		

Figure A76. 2015 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.34	0.26 – 0.45	<0.001
3 4	2.27	1.71 – 3.00	<0.001
4 5	15.25	11.42 – 20.37	<0.001
Union membership: yes	1.16	0.89 – 1.51	0.275
Visible minority status: no	1.41	1.20 – 1.64	<0.001
Sex: male	1.10	1.01 – 1.21	0.033
Age	0.97	0.93 – 1.01	0.149
Education	1.12	1.09 – 1.15	<0.001
Household income	1.06	1.04 – 1.09	<0.001
Marital status	0.97	0.94 – 0.99	0.005
Union x Visible minority	0.95	0.72 – 1.27	0.739
Observations	6465		
R ² Nagelkerke	0.476		

Figure A77. 2015 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.06	<0.001
2 3	0.32	0.24 – 0.43	<0.001
3 4	2.14	1.61 – 2.84	<0.001
4 5	14.39	10.76 – 19.25	<0.001
Union membership: yes	0.95	0.74 – 1.24	0.723
Household income	1.05	1.02 – 1.08	<0.001
Sex: male	1.10	1.01 – 1.21	0.036
Age	0.97	0.93 – 1.01	0.152
Education	1.12	1.09 – 1.15	<0.001
Marital status	0.97	0.94 – 0.99	0.006
Visible minority status: no	1.38	1.21 – 1.58	<0.001
Union x Household income	1.03	0.98 – 1.08	0.216
Observations	6465		
R ² Nagelkerke	0.476		

Figure A78. 2015 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.03	0.02 – 0.04	<0.001
2 3	0.12	0.11 – 0.13	<0.001	0.24	0.18 – 0.30	<0.001
3 4	0.96	0.91 – 1.01	0.111	1.96	1.53 – 2.51	<0.001
4 5	6.11	5.69 – 6.55	<0.001	12.81	9.92 – 16.53	<0.001
Union membership: yes	1.17	1.08 – 1.28	<0.001	1.11	1.02 – 1.21	0.014
Sex: male				1.14	1.05 – 1.24	0.001
Age				0.99	0.95 – 1.03	0.558
Education				1.10	1.08 – 1.13	<0.001
Household income				1.09	1.06 – 1.13	<0.001
Marital status				0.99	0.97 – 1.02	0.595
Visible minority status: no				0.94	0.83 – 1.06	0.287
Observations	7926			7789		
R ² Nagelkerke	0.380			0.425		

Figure A79. 2016 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.65	3.61 – 3.68	<0.001	3.37	3.25 – 3.49	<0.001
Union membership: yes	-0.09	-0.13 – -0.05	<0.001	-0.07	-0.11 – -0.02	0.002
Sex: male				0.03	-0.01 – 0.07	0.205
Age				-0.02	-0.04 – -0.00	0.031
Education				0.04	0.03 – 0.06	<0.001
Household income				0.04	0.02 – 0.05	<0.001
Marital status				0.00	-0.01 – 0.01	0.445
Visible minority status: no				-0.05	-0.10 – -0.00	0.035
Observations	7926			7789		
R ² / R ² adjusted	0.002 / 0.002			0.020 / 0.019		

Figure A80. 2016 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.23	0.17 – 0.30	<0.001
3 4	1.91	1.45 – 2.51	<0.001
4 5	12.51	9.46 – 16.56	<0.001
Union membership: yes	1.27	1.04 – 1.54	0.018
Province of origin	1.00	1.00 – 1.00	0.721
Sex: male	1.14	1.05 – 1.24	0.001
Age	0.99	0.95 – 1.03	0.555
Education	1.10	1.08 – 1.13	<0.001
Household income	1.09	1.06 – 1.13	<0.001
Marital status	0.99	0.97 – 1.02	0.630
Visible minority status: no	0.92	0.82 – 1.04	0.205
Union x Province	1.00	0.99 – 1.00	0.147
Observations	7789		
R ² Nagelkerke	0.426		

Figure A81. 2016 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.24	0.18 – 0.31	<0.001
3 4	1.98	1.54 – 2.54	<0.001
4 5	12.96	10.02 – 16.76	<0.001
Union membership: yes	1.15	1.02 – 1.30	0.028
Sex: male	1.17	1.05 – 1.30	0.003
Age	0.99	0.95 – 1.03	0.550
Education	1.10	1.08 – 1.13	<0.001
Household income	1.09	1.06 – 1.13	<0.001
Marital status	0.99	0.97 – 1.02	0.596
Visible minority status: no	0.94	0.83 – 1.06	0.287
Union x Sex	0.94	0.79 – 1.12	0.492
Observations	7789		
R ² Nagelkerke	0.425		

Figure A82. 2016 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.24	0.18 – 0.31	<0.001
3 4	1.96	1.52 – 2.53	<0.001
4 5	12.84	9.88 – 16.69	<0.001
Union membership: yes	1.12	0.88 – 1.43	0.347
Visible minority status: no	0.94	0.82 – 1.08	0.385
Sex: male	1.14	1.05 – 1.24	0.001
Age	0.99	0.95 – 1.03	0.557
Education	1.10	1.08 – 1.13	<0.001
Household income	1.09	1.06 – 1.13	<0.001
Marital status	0.99	0.97 – 1.02	0.595
Union x Visible minority	0.99	0.76 – 1.28	0.940
Observations	7789		
R ² Nagelkerke	0.425		

Figure A83. 2016 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.02 – 0.04	<0.001
2 3	0.24	0.18 – 0.31	<0.001
3 4	1.96	1.52 – 2.53	<0.001
4 5	12.82	9.86 – 16.68	<0.001
Union membership: yes	1.12	0.86 – 1.45	0.394
Household income	1.09	1.05 – 1.13	<0.001
Sex: male	1.14	1.05 – 1.24	0.001
Age	0.99	0.95 – 1.03	0.557
Education	1.10	1.08 – 1.13	<0.001
Marital status	0.99	0.97 – 1.02	0.594
Visible minority status: no	0.94	0.83 – 1.06	0.287
Union x Household income	1.00	0.94 – 1.06	0.971
Observations	7789		
R ² Nagelkerke	0.425		

Figure A84. 2016 Self-rated general health income interaction effect

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.02	0.01 – 0.03	<0.001
2 3	0.11	0.10 – 0.12	<0.001	0.18	0.14 – 0.23	<0.001
3 4	0.74	0.71 – 0.78	<0.001	1.29	1.02 – 1.63	0.036
4 5	4.05	3.82 – 4.30	<0.001	7.47	5.87 – 9.51	<0.001
Union membership: yes	0.93	0.86 – 1.02	0.109	0.88	0.81 – 0.96	0.003
Sex: male				0.90	0.84 – 0.98	0.013
Age				0.88	0.84 – 0.91	<0.001
Education				1.09	1.06 – 1.11	<0.001
Household income				1.09	1.07 – 1.11	<0.001
Visible minority status: no				1.53	1.38 – 1.71	<0.001
Marital status				0.97	0.95 – 1.00	0.019
Observations	8736			8401		
R ² Nagelkerke	0.017			0.162		

Figure A85. 2018 Self-rated general health ordinal regression results

<i>Predictors</i>	Self-rated general health			Self-rated general health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.68	3.64 – 3.71	<0.001	3.41	3.30 – 3.53	<0.001
Union membership: yes	0.05	0.00 – 0.09	0.040	0.09	0.04 – 0.13	<0.001
Sex: male				-0.01	-0.05 – 0.02	0.463
Age				-0.07	-0.09 – -0.06	<0.001
Education				0.02	0.01 – 0.03	<0.001
Household income				0.05	0.04 – 0.06	<0.001
Visible minority status: no				0.20	0.15 – 0.25	<0.001
Marital status				-0.00	-0.01 – 0.01	0.481
Observations	8736			8401		
R ² / R ² adjusted	0.000 / 0.000			0.033 / 0.032		

Figure A86. 2018 Self-rated general health linear regression results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.17	0.13 – 0.22	<0.001
3 4	1.20	0.91 – 1.56	0.193
4 5	6.93	5.28 – 9.10	<0.001
Union membership: yes	0.81	0.66 – 0.99	0.044
Province of origin	1.00	0.99 – 1.00	0.242
Sex: male	0.90	0.83 – 0.98	0.012
Age	0.88	0.84 – 0.91	<0.001
Education	1.09	1.06 – 1.11	<0.001
Household income	1.09	1.07 – 1.11	<0.001
Visible minority status: no	1.52	1.36 – 1.70	<0.001
Marital status	0.97	0.95 – 1.00	0.019
Union x Province	1.00	1.00 – 1.01	0.420
Observations	8401		
R ² Nagelkerke	0.162		

Figure A87. 2018 Self-rated general health province interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.18	0.14 – 0.24	<0.001
3 4	1.31	1.03 – 1.66	0.027
4 5	7.59	5.95 – 9.67	<0.001
Union membership: yes	0.92	0.81 – 1.05	0.215
Sex: male	0.93	0.84 – 1.02	0.120
Age	0.88	0.84 – 0.91	<0.001
Education	1.09	1.07 – 1.12	<0.001
Household income	1.09	1.07 – 1.11	<0.001
Visible minority status: no	1.54	1.38 – 1.71	<0.001
Marital status	0.97	0.95 – 1.00	0.019
Union x Sex	0.92	0.77 – 1.09	0.323
Observations	8401		
R ² Nagelkerke	0.162		

Figure A88. 2018 Self-rated general health sex interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.19	0.15 – 0.24	<0.001
3 4	1.32	1.03 – 1.68	0.027
4 5	7.63	5.96 – 9.76	<0.001
Union membership: yes	0.95	0.76 – 1.19	0.681
Visible minority status: no	1.57	1.39 – 1.78	<0.001
Sex: male	0.90	0.84 – 0.98	0.013
Age	0.88	0.84 – 0.91	<0.001
Education	1.09	1.06 – 1.11	<0.001
Household income	1.09	1.07 – 1.11	<0.001
Marital status	0.97	0.95 – 1.00	0.019
Union x Visible minority	0.91	0.71 – 1.15	0.426
Observations	8401		
R ² Nagelkerke	0.162		

Figure A89. 2018 Self-rated general health visible minority interaction effect

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.19	0.15 – 0.24	<0.001
3 4	1.35	1.06 – 1.71	0.016
4 5	7.82	6.11 – 9.99	<0.001
Union membership: yes	1.08	0.85 – 1.37	0.527
Household income	1.10	1.08 – 1.13	<0.001
Sex: male	0.91	0.84 – 0.98	0.014
Age	0.88	0.84 – 0.91	<0.001
Education	1.09	1.06 – 1.11	<0.001
Visible minority status: no	1.53	1.38 – 1.71	<0.001
Marital status	0.97	0.95 – 0.99	0.015
Union x Household income	0.96	0.92 – 1.00	0.068
Observations	8401		
R ² Nagelkerke	0.162		

Figure A90. 2018 Self-rated general health income interaction effect

Appendix B

Full mental health regression table results by year

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.00	<0.001	0.03	0.01 – 0.12	<0.001
2 3	0.03	0.02 – 0.04	<0.001	0.40	0.14 – 1.18	0.098
3 4	0.66	0.62 – 0.71	<0.001	9.87	3.40 – 28.62	<0.001
Union membership: yes	0.96	0.84 – 1.09	0.500	1.00	0.83 – 1.19	0.981
Sex: male				1.21	1.02 – 1.43	0.029
Age				1.01	0.96 – 1.05	0.804
Education				1.00	0.95 – 1.05	0.999
Household income				1.22	1.15 – 1.30	<0.001
Marital status				0.71	0.65 – 0.78	<0.001
Visible minority status: no				1.02	0.84 – 1.24	0.852
Observations	4628			2383		
R ² Nagelkerke	0.002			0.824		

Figure B1. 1989 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.59	3.56 – 3.62	<0.001	2.79	2.57 – 3.01	<0.001
Union membership: yes	-0.00	-0.04 – 0.03	0.887	-0.00	-0.04 – 0.03	0.798
Sex: male				0.03	-0.00 – 0.06	0.083
Age				0.01	0.00 – 0.02	0.003
Education				0.00	-0.00 – 0.00	0.404
Household income				0.05	0.04 – 0.06	<0.001
Marital status				-0.09	-0.11 – -0.07	<0.001
Visible minority status: no				0.01	-0.03 – 0.05	0.542
Observations	4628			3982		
R ² / R ² adjusted	0.000 / -0.000			0.053 / 0.051		

Figure B2. 1989 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.06	<0.001
2 3	0.25	0.11 – 0.58	0.001
3 4	6.26	2.72 – 14.41	<0.001
Union membership: yes	0.83	0.61 – 1.12	0.217
Province of origin	0.98	0.95 – 1.01	0.214
Sex: male	1.21	1.06 – 1.38	0.005
Age	1.03	0.99 – 1.06	0.139
Education	1.00	1.00 – 1.01	0.347
Household income	1.18	1.13 – 1.23	<0.001
Marital status	0.72	0.67 – 0.77	<0.001
Visible minority status: no	1.05	0.89 – 1.23	0.580
Union x Province	1.03	0.98 – 1.09	0.258
Observations	3982		
R ² Nagelkerke	0.318		

Figure B3. 1989 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.07	<0.001
2 3	0.28	0.12 – 0.64	0.003
3 4	7.01	3.07 – 15.98	<0.001
Union membership: yes	1.02	0.85 – 1.22	0.851
Sex: male	1.25	1.07 – 1.47	0.005
Age	1.03	0.99 – 1.06	0.128
Education	1.00	1.00 – 1.01	0.412
Household income	1.18	1.13 – 1.23	<0.001
Marital status	0.72	0.67 – 0.77	<0.001
Visible minority status: no	1.06	0.91 – 1.24	0.470
Union x Sex	0.89	0.67 – 1.18	0.404
Observations	3982		
R ² Nagelkerke	0.318		

Figure B4. 1989 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.08	<0.001
2 3	0.29	0.13 – 0.68	0.004
3 4	7.42	3.25 – 16.96	<0.001
Union membership: yes	1.29	0.95 – 1.76	0.104
Visible minority status: no	1.18	0.98 – 1.41	0.084
Sex: male	1.21	1.06 – 1.38	0.005
Age	1.02	0.99 – 1.06	0.144
Education	1.00	1.00 – 1.01	0.390
Household income	1.18	1.13 – 1.23	<0.001
Marital status	0.72	0.67 – 0.77	<0.001
Union x Visible minority	0.70	0.49 – 0.98	0.040
Observations	3982		
R ² Nagelkerke	0.319		

Figure B5. 1989 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.03	0.01 – 0.08	<0.001
2 3	0.29	0.12 – 0.72	0.007
3 4	7.36	3.03 – 17.86	<0.001
Union membership: yes	1.31	0.31 – 5.52	0.711
Household income	1.18	1.13 – 1.25	<0.001
Sex: male	1.21	1.06 – 1.38	0.005
Age	1.03	0.99 – 1.06	0.132
Education	1.00	1.00 – 1.01	0.376
Marital status	0.72	0.67 – 0.77	<0.001
Visible minority status: no	1.06	0.91 – 1.24	0.469
Union x Household income	0.98	0.89 – 1.08	0.677
Observations	3982		
R ² Nagelkerke	0.318		

Figure B6. 1989 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001	0.01	0.00 – 0.02	<0.001
2 3	0.04	0.03 – 0.05	<0.001	0.06	0.02 – 0.13	<0.001
3 4	0.18	0.16 – 0.20	<0.001	0.25	0.11 – 0.57	0.001
Union membership: yes	1.13	0.94 – 1.36	0.183	1.09	0.90 – 1.34	0.380
Sex: male				1.03	0.85 – 1.26	0.746
Age				0.95	0.90 – 1.00	0.039
Education				1.00	0.97 – 1.03	0.994
Household income				1.18	1.10 – 1.26	<0.001
Marital status				0.76	0.71 – 0.83	<0.001
Visible minority status: no				0.95	0.66 – 1.35	0.800
Observations	3907			3291		
R ² Nagelkerke	0.250			0.448		

Figure B7. 1991 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.86	3.80 – 3.91	<0.001	3.70	3.53 – 3.87	<0.001
Union membership: yes	-0.02	-0.05 – 0.01	0.191	-0.02	-0.05 – 0.02	0.356
Sex: male				-0.01	-0.04 – 0.03	0.617
Age				-0.01	-0.02 – -0.00	0.028
Education				0.00	-0.00 – 0.01	0.730
Household income				0.04	0.02 – 0.05	<0.001
Marital status				-0.06	-0.07 – -0.04	<0.001
Visible minority status: no				0.01	-0.05 – 0.07	0.754
Observations	3907			3291		
R ² / R ² adjusted	0.000 / 0.000			0.035 / 0.033		

Figure B8. 1991 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.02	<0.001
2 3	0.05	0.02 – 0.13	<0.001
3 4	0.23	0.10 – 0.55	0.001
Union membership: yes	1.04	0.65 – 1.68	0.876
Province of origin	0.99	0.94 – 1.04	0.621
Sex: male	1.03	0.85 – 1.26	0.740
Age	0.95	0.90 – 1.00	0.039
Education	1.00	0.97 – 1.03	0.992
Household income	1.18	1.10 – 1.26	<0.001
Marital status	0.77	0.71 – 0.83	<0.001
Visible minority status: no	0.95	0.65 – 1.35	0.782
Union x Province	1.01	0.93 – 1.09	0.822
Observations	3291		
R ² Nagelkerke	0.448		

Figure B9. 1991 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.02	<0.001
2 3	0.06	0.02 – 0.13	<0.001
3 4	0.24	0.11 – 0.55	0.001
Union membership: yes	1.03	0.78 – 1.36	0.823
Sex: male	0.98	0.77 – 1.26	0.904
Age	0.95	0.90 – 1.00	0.041
Education	1.00	0.97 – 1.03	0.965
Household income	1.18	1.10 – 1.26	<0.001
Marital status	0.76	0.71 – 0.83	<0.001
Visible minority status: no	0.96	0.66 – 1.36	0.809
Union x Sex	1.13	0.76 – 1.70	0.541
Observations	3291		
R ² Nagelkerke	0.448		

Figure B10. 1991 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.02	<0.001
2 3	0.06	0.02 – 0.13	<0.001
3 4	0.25	0.11 – 0.57	0.001
Union membership: yes	1.06	0.52 – 2.26	0.882
Visible minority status: no	0.94	0.59 – 1.45	0.794
Sex: male	1.03	0.85 – 1.26	0.744
Age	0.95	0.90 – 1.00	0.040
Education	1.00	0.97 – 1.03	0.991
Household income	1.18	1.10 – 1.26	<0.001
Marital status	0.76	0.71 – 0.83	<0.001
Union x Visible minority	1.04	0.47 – 2.19	0.923
Observations	3291		
R ² Nagelkerke	0.448		

Figure B11. 1991 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.02	<0.001
2 3	0.06	0.02 – 0.13	<0.001
3 4	0.24	0.10 – 0.57	0.001
Union membership: yes	0.98	0.36 – 2.69	0.975
Household income	1.17	1.09 – 1.27	<0.001
Sex: male	1.03	0.85 – 1.26	0.746
Age	0.95	0.90 – 1.00	0.040
Education	1.00	0.97 – 1.03	0.987
Marital status	0.77	0.71 – 0.83	<0.001
Visible minority status: no	0.95	0.66 – 1.36	0.802
Union x Household income	1.01	0.89 – 1.16	0.831
Observations	3291		
R ² Nagelkerke	0.448		

Figure B12. 1991 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.02	0.01 – 0.04	<0.001
2 3	0.12	0.11 – 0.13	<0.001	0.17	0.10 – 0.31	<0.001
3 4	3.04	2.79 – 3.31	<0.001	5.14	2.93 – 9.00	<0.001
Union membership: yes	1.06	0.93 – 1.21	0.346	0.96	0.83 – 1.11	0.555
Sex: male				1.09	0.95 – 1.25	0.214
Age				0.95	0.88 – 1.02	0.164
Education				0.98	0.96 – 1.01	0.190
Household income				1.09	1.05 – 1.13	<0.001
Marital status				0.85	0.81 – 0.89	<0.001
Visible minority status: no				1.62	1.21 – 2.17	0.001
Observations	4143			3461		
R ² Nagelkerke	0.371			0.633		

Figure B13. 1998 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.15	3.12 – 3.18	<0.001	2.95	2.79 – 3.10	<0.001
Union membership: yes	-0.02	-0.06 – 0.02	0.247	0.01	-0.04 – 0.05	0.804
Sex: male				0.01	-0.03 – 0.05	0.658
Age				-0.01	-0.03 – 0.01	0.348
Education				-0.00	-0.01 – 0.01	0.501
Household income				0.03	0.02 – 0.04	<0.001
Marital status				-0.04	-0.06 – -0.03	<0.001
Visible minority status: no				0.09	0.02 – 0.17	0.013
Observations	4143			3461		
R ² / R ² adjusted	0.000 / 0.000			0.035 / 0.033		

Figure B14. 1998 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.15	0.08 – 0.26	<0.001
3 4	4.31	2.40 – 7.74	<0.001
Union membership: yes	0.74	0.53 – 1.05	0.089
Province of origin	0.99	0.99 – 1.00	0.050
Sex: male	1.09	0.95 – 1.25	0.215
Age	0.94	0.88 – 1.02	0.143
Education	0.98	0.96 – 1.01	0.218
Household income	1.10	1.06 – 1.14	<0.001
Marital status	0.85	0.82 – 0.89	<0.001
Visible minority status: no	1.59	1.18 – 2.14	0.002
Union x Province	1.01	1.00 – 1.02	0.117
Observations	3461		
R ² Nagelkerke	0.633		

Figure B15. 1998 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.18	0.10 – 0.31	<0.001
3 4	5.17	2.94 – 9.09	<0.001
Union membership: yes	0.97	0.80 – 1.19	0.785
Sex: male	1.11	0.93 – 1.32	0.264
Age	0.95	0.88 – 1.02	0.164
Education	0.98	0.96 – 1.01	0.186
Household income	1.09	1.05 – 1.13	<0.001
Marital status	0.85	0.81 – 0.89	<0.001
Visible minority status: no	1.62	1.21 – 2.17	0.001
Union x Sex	0.97	0.73 – 1.29	0.827
Observations	3461		
R ² Nagelkerke	0.633		

Figure B16. 1998 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.18	0.10 – 0.32	<0.001
3 4	5.20	2.89 – 9.35	<0.001
Union membership: yes	1.00	0.54 – 1.85	0.994
Visible minority status: no	1.64	1.16 – 2.33	0.006
Sex: male	1.09	0.95 – 1.25	0.215
Age	0.95	0.88 – 1.02	0.165
Education	0.98	0.96 – 1.01	0.189
Household income	1.09	1.05 – 1.13	<0.001
Marital status	0.85	0.81 – 0.89	<0.001
Union x Visible minority	0.96	0.51 – 1.80	0.893
Observations	3461		
R ² Nagelkerke	0.633		

Figure B17. 1998 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.18	0.10 – 0.33	<0.001
3 4	5.35	2.98 – 9.61	<0.001
Union membership: yes	1.11	0.58 – 2.13	0.744
Household income	1.10	1.05 – 1.14	<0.001
Visible minority status: no	1.62	1.21 – 2.17	0.001
Sex: male	1.09	0.95 – 1.26	0.207
Age	0.95	0.88 – 1.02	0.166
Education	0.98	0.96 – 1.01	0.190
Marital status	0.85	0.81 – 0.89	<0.001
Union x Household income	0.98	0.92 – 1.06	0.639
Observations	3461		
R ² Nagelkerke	0.633		

Figure B18. 1998 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.02	0.01 – 0.02	<0.001
2 3	0.10	0.09 – 0.10	<0.001	0.19	0.14 – 0.27	<0.001
3 4	2.88	2.74 – 3.03	<0.001	7.15	5.21 – 9.83	<0.001
Union membership: yes	1.10	1.02 – 1.19	0.011	0.98	0.90 – 1.06	0.603
Sex: male				1.21	1.12 – 1.31	<0.001
Age				0.87	0.83 – 0.90	<0.001
Education				1.01	0.98 – 1.05	0.469
Household income				1.13	1.10 – 1.15	<0.001
Marital status				0.86	0.84 – 0.88	<0.001
Visible minority status: no				1.77	1.52 – 2.06	<0.001
Observations	12177			10476		
R ² Nagelkerke	0.005			0.347		

Figure B19. 2003 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.20	3.18 – 3.22	<0.001	2.93	2.84 – 3.01	<0.001
Union membership: yes	-0.03	-0.06 – -0.01	0.002	0.00	-0.02 – 0.02	0.898
Sex: male				0.05	0.03 – 0.07	<0.001
Age				-0.04	-0.06 – -0.03	<0.001
Education				0.01	-0.00 – 0.01	0.259
Household income				0.03	0.03 – 0.04	<0.001
Marital status				-0.04	-0.04 – -0.03	<0.001
Visible minority status: no				0.16	0.13 – 0.20	<0.001
Observations	12177			10476		
R ² / R ² adjusted	0.001 / 0.001			0.047 / 0.046		

Figure B20. 2003 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.15	0.11 – 0.21	<0.001
3 4	5.67	4.05 – 7.93	<0.001
Union membership: yes	0.94	0.76 – 1.15	0.527
Province of origin	0.99	0.99 – 1.00	<0.001
Sex: male	1.21	1.12 – 1.31	<0.001
Age	0.87	0.84 – 0.91	<0.001
Education	1.01	0.98 – 1.05	0.400
Household income	1.14	1.11 – 1.16	<0.001
Marital status	0.86	0.85 – 0.88	<0.001
Visible minority status: no	1.68	1.44 – 1.96	<0.001
Union x Province	1.00	1.00 – 1.01	0.632
Observations	10476		
R ² Nagelkerke	0.350		

Figure B21. 2003 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.19	0.14 – 0.27	<0.001
3 4	7.16	5.20 – 9.85	<0.001
Union membership: yes	0.98	0.87 – 1.10	0.710
Sex: male	1.21	1.09 – 1.34	<0.001
Age	0.87	0.83 – 0.90	<0.001
Education	1.01	0.98 – 1.05	0.470
Household income	1.13	1.10 – 1.15	<0.001
Marital status	0.86	0.84 – 0.88	<0.001
Visible minority status: no	1.77	1.52 – 2.06	<0.001
Union x Sex	1.00	0.85 – 1.18	0.983
Observations	10476		
R ² Nagelkerke	0.347		

Figure B22. 2003 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.20	0.14 – 0.27	<0.001
3 4	7.29	5.25 – 10.11	<0.001
Union membership: yes	1.05	0.77 – 1.44	0.751
Visible minority status: no	1.81	1.51 – 2.16	<0.001
Sex: male	1.21	1.12 – 1.31	<0.001
Age	0.87	0.83 – 0.90	<0.001
Education	1.01	0.98 – 1.05	0.475
Household income	1.13	1.10 – 1.15	<0.001
Marital status	0.86	0.84 – 0.88	<0.001
Union x Visible minority	0.92	0.67 – 1.28	0.634
Observations	10476		
R ² Nagelkerke	0.347		

Figure B23. 2003 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.20	0.14 – 0.28	<0.001
3 4	7.26	5.19 – 10.16	<0.001
Union membership: yes	1.03	0.69 – 1.53	0.882
Household income	1.13	1.10 – 1.16	<0.001
Visible minority status: no	1.77	1.52 – 2.06	<0.001
Sex: male	1.21	1.12 – 1.31	<0.001
Age	0.87	0.83 – 0.90	<0.001
Education	1.01	0.98 – 1.05	0.476
Marital status	0.86	0.84 – 0.88	<0.001
Union x Household income	0.99	0.96 – 1.04	0.790
Observations	10476		
R ² Nagelkerke	0.347		

Figure B24. 2003 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.01	0.01 – 0.02	<0.001
2 3	0.13	0.12 – 0.14	<0.001	0.16	0.11 – 0.25	<0.001
3 4	3.72	3.49 – 3.96	<0.001	5.38	3.57 – 8.11	<0.001
Union membership: yes	1.06	0.97 – 1.17	0.210	1.07	0.96 – 1.19	0.195
Sex: male				1.14	1.03 – 1.26	0.015
Age				0.93	0.88 – 0.98	0.009
Education				0.99	0.95 – 1.03	0.538
Household income				1.07	1.04 – 1.10	<0.001
Marital status				0.85	0.83 – 0.88	<0.001
Visible minority status: no				1.48	1.22 – 1.79	<0.001
Observations	7914			6594		
R ² Nagelkerke	0.366			0.628		

Figure B25. 2005 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.12	3.10 – 3.15	<0.001	3.06	2.95 – 3.17	<0.001
Union membership: yes	-0.03	-0.05 – 0.00	0.054	-0.02	-0.05 – 0.01	0.111
Sex: male				0.01	-0.02 – 0.04	0.401
Age				-0.02	-0.04 – -0.01	0.001
Education				-0.00	-0.01 – 0.01	0.571
Household income				0.02	0.01 – 0.02	<0.001
Marital status				-0.04	-0.05 – -0.04	<0.001
Visible minority status: no				0.10	0.06 – 0.14	<0.001
Observations	7914			6594		
R ² / R ² adjusted	0.000 / 0.000			0.033 / 0.032		

Figure B26. 2005 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.15	0.10 – 0.23	<0.001
3 4	4.90	3.18 – 7.54	<0.001
Union membership: yes	1.24	0.97 – 1.60	0.091
Province of origin	1.00	0.99 – 1.00	0.171
Sex: male	1.14	1.02 – 1.26	0.015
Age	0.93	0.88 – 0.98	0.008
Education	0.99	0.95 – 1.03	0.589
Household income	1.07	1.04 – 1.10	<0.001
Marital status	0.85	0.83 – 0.88	<0.001
Visible minority status: no	1.43	1.18 – 1.74	<0.001
Union x Province	1.00	0.99 – 1.00	0.197
Observations	6594		
R ² Nagelkerke	0.628		

Figure B27. 2005 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.16	0.11 – 0.25	<0.001
3 4	5.41	3.58 – 8.16	<0.001
Union membership: yes	1.09	0.93 – 1.27	0.272
Sex: male	1.15	1.01 – 1.31	0.033
Age	0.93	0.88 – 0.98	0.009
Education	0.99	0.95 – 1.03	0.526
Household income	1.07	1.04 – 1.10	<0.001
Marital status	0.85	0.83 – 0.88	<0.001
Visible minority status: no	1.48	1.22 – 1.79	<0.001
Union x Sex	0.97	0.78 – 1.20	0.770
Observations	6594		
R ² Nagelkerke	0.628		

Figure B28. 2005 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.15	0.10 – 0.23	<0.001
3 4	4.96	3.25 – 7.58	<0.001
Union membership: yes	0.80	0.54 – 1.19	0.269
Visible minority status: no	1.34	1.07 – 1.69	0.012
Sex: male	1.14	1.03 – 1.26	0.014
Age	0.93	0.88 – 0.98	0.009
Education	0.99	0.95 – 1.03	0.560
Household income	1.07	1.04 – 1.10	<0.001
Marital status	0.85	0.83 – 0.88	<0.001
Union x Visible minority	1.37	0.91 – 2.08	0.133
Observations	6594		
R ² Nagelkerke	0.628		

Figure B29. 2005 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.15	0.10 – 0.23	<0.001
3 4	4.95	3.22 – 7.61	<0.001
Union membership: yes	0.78	0.47 – 1.30	0.339
Household income	1.06	1.02 – 1.09	0.001
Visible minority status: no	1.48	1.22 – 1.79	<0.001
Sex: male	1.14	1.02 – 1.26	0.016
Age	0.93	0.88 – 0.98	0.010
Education	0.99	0.94 – 1.03	0.519
Marital status	0.85	0.83 – 0.88	<0.001
Union x Household income	1.03	0.98 – 1.09	0.209
Observations	6594		
R ² Nagelkerke	0.628		

Figure B30. 2005 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.00	0.00 – 0.01	<0.001
2 3	0.06	0.06 – 0.07	<0.001	0.04	0.03 – 0.05	<0.001
3 4	0.57	0.54 – 0.60	<0.001	0.36	0.29 – 0.45	<0.001
4 5	2.51	2.37 – 2.67	<0.001	1.65	1.34 – 2.04	<0.001
Union membership: yes	0.93	0.85 – 1.01	0.080	0.91	0.84 – 1.00	0.041
Sex: male				0.83	0.76 – 0.90	<0.001
Age				1.01	0.97 – 1.05	0.735
Education				0.88	0.85 – 0.91	<0.001
Household income				1.00	1.00 – 1.00	0.435
Marital status				0.94	0.92 – 0.95	<0.001
Visible minority status: no				1.11	0.96 – 1.28	0.147
Observations	7769			7637		
R ² Nagelkerke	0.532			0.566		

Figure B31. 2008 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.85	3.81 – 3.88	<0.001	4.08	3.98 – 4.19	<0.001
Union membership: yes	0.03	-0.02 – 0.07	0.240	0.03	-0.01 – 0.07	0.165
Sex: male				-0.09	-0.13 – -0.05	<0.001
Age				-0.00	-0.02 – 0.02	0.698
Education				-0.06	-0.08 – -0.05	<0.001
Household income				-0.00	-0.00 – 0.00	0.886
Marital status				-0.03	-0.05 – -0.02	<0.001
Visible minority status: no				0.06	-0.01 – 0.12	0.081
Observations	7769			7637		
R ² / R ² adjusted	0.000 / 0.000			0.016 / 0.015		

Figure B32. 2008 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.00	<0.001
2 3	0.03	0.02 – 0.04	<0.001
3 4	0.26	0.20 – 0.34	<0.001
4 5	1.19	0.92 – 1.54	0.176
Union membership: yes	0.88	0.71 – 1.08	0.212
Province of origin	0.99	0.99 – 1.00	<0.001
Sex: male	0.82	0.76 – 0.90	<0.001
Age	1.01	0.97 – 1.05	0.709
Education	0.88	0.85 – 0.91	<0.001
Household income	1.00	1.00 – 1.00	0.388
Marital status	0.94	0.92 – 0.96	<0.001
Visible minority status: no	1.05	0.91 – 1.22	0.500
Union x Province	1.00	1.00 – 1.01	0.712
Observations	7637		
R ² Nagelkerke	0.568		

Figure B33. 2008 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.04	0.03 – 0.05	<0.001
3 4	0.37	0.30 – 0.46	<0.001
4 5	1.67	1.36 – 2.07	<0.001
Union membership: yes	0.97	0.85 – 1.09	0.578
Sex: male	0.86	0.77 – 0.95	0.004
Age	1.01	0.97 – 1.05	0.760
Education	0.88	0.85 – 0.91	<0.001
Household income	1.00	1.00 – 1.00	0.427
Marital status	0.94	0.92 – 0.95	<0.001
Visible minority status: no	1.11	0.96 – 1.28	0.147
Union x Sex	0.90	0.76 – 1.07	0.242
Observations	7637		
R ² Nagelkerke	0.566		

Figure B34. 2008 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.04	0.03 – 0.05	<0.001
3 4	0.37	0.29 – 0.46	<0.001
4 5	1.66	1.33 – 2.08	<0.001
Union membership: yes	0.94	0.69 – 1.28	0.684
Visible minority status: no	1.12	0.95 – 1.33	0.184
Sex: male	0.83	0.76 – 0.90	<0.001
Age	1.01	0.97 – 1.05	0.736
Education	0.88	0.85 – 0.91	<0.001
Household income	1.00	1.00 – 1.00	0.434
Marital status	0.94	0.92 – 0.95	<0.001
Union x Visible minority	0.97	0.71 – 1.34	0.865
Observations	7637		
R ² Nagelkerke	0.566		

Figure B35. 2008 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.04	0.03 – 0.05	<0.001
3 4	0.37	0.30 – 0.46	<0.001
4 5	1.67	1.35 – 2.06	<0.001
Union membership: yes	0.95	0.85 – 1.05	0.298
Household income	1.00	1.00 – 1.00	0.201
Visible minority status: no	1.11	0.96 – 1.28	0.144
Sex: male	0.83	0.76 – 0.90	<0.001
Age	1.01	0.97 – 1.05	0.737
Education	0.88	0.85 – 0.91	<0.001
Marital status	0.94	0.92 – 0.95	<0.001
Union x Household income	1.00	1.00 – 1.00	0.267
Observations	7637		
R ² Nagelkerke	0.566		

Figure B36. 2008 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001	0.01	0.01 – 0.01	<0.001
2 3	0.04	0.04 – 0.05	<0.001	0.07	0.05 – 0.10	<0.001
3 4	0.34	0.32 – 0.36	<0.001	0.52	0.36 – 0.75	<0.001
4 5	1.65	1.56 – 1.74	<0.001	2.73	1.90 – 3.92	<0.001
Union membership: yes	1.04	0.96 – 1.13	0.383	0.99	0.90 – 1.08	0.783
Sex: male				0.93	0.86 – 1.02	0.131
Age				0.97	0.93 – 1.01	0.111
Education				0.92	0.89 – 0.96	<0.001
Household income				1.09	1.06 – 1.11	<0.001
Marital status				0.99	0.96 – 1.01	0.245
Visible minority status: no				1.02	0.87 – 1.19	0.843
Observations	8141			7068		
R ² Nagelkerke	0.402			0.632		

Figure B37. 2009 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	4.12	4.09 – 4.16	<0.001	3.94	3.78 – 4.10	<0.001
Union membership: yes	-0.01	-0.05 – 0.03	0.477	-0.01	-0.05 – 0.04	0.788
Sex: male				-0.04	-0.08 – -0.00	0.044
Age				-0.01	-0.03 – 0.01	0.437
Education				-0.05	-0.06 – -0.03	<0.001
Household income				0.03	0.02 – 0.04	<0.001
Marital status				-0.02	-0.03 – -0.00	0.011
Visible minority status: no				0.01	-0.06 – 0.07	0.856
Observations	8141			7068		
R ² / R ² adjusted	0.000 / -0.000			0.018 / 0.017		

Figure B38. 2009 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.04 – 0.08	<0.001
3 4	0.42	0.29 – 0.61	<0.001
4 5	2.20	1.51 – 3.20	<0.001
Union membership: yes	0.91	0.73 – 1.12	0.367
Province of origin	0.99	0.99 – 1.00	<0.001
Sex: male	0.93	0.86 – 1.02	0.130
Age	0.97	0.93 – 1.01	0.149
Education	0.92	0.89 – 0.96	<0.001
Household income	1.10	1.07 – 1.12	<0.001
Marital status	0.99	0.97 – 1.01	0.395
Visible minority status: no	0.97	0.82 – 1.14	0.692
Union x Province	1.00	1.00 – 1.01	0.459
Observations	7068		
R ² Nagelkerke	0.633		

Figure B39. 2009 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.07	0.05 – 0.10	<0.001
3 4	0.53	0.37 – 0.76	0.001
4 5	2.77	1.93 – 3.98	<0.001
Union membership: yes	1.04	0.91 – 1.18	0.595
Sex: male	0.97	0.87 – 1.08	0.557
Age	0.97	0.93 – 1.01	0.109
Education	0.92	0.89 – 0.96	<0.001
Household income	1.09	1.06 – 1.11	<0.001
Marital status	0.99	0.96 – 1.01	0.246
Visible minority status: no	1.02	0.87 – 1.19	0.852
Union x Sex	0.91	0.76 – 1.09	0.314
Observations	7068		
R ² Nagelkerke	0.632		

Figure B40. 2009 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	< 0.001
2 3	0.07	0.04 – 0.10	< 0.001
3 4	0.52	0.36 – 0.75	0.001
4 5	2.70	1.86 – 3.93	< 0.001
Union membership: yes	0.95	0.69 – 1.31	0.775
Visible minority status: no	1.00	0.82 – 1.22	0.974
Sex: male	0.93	0.86 – 1.02	0.132
Age	0.97	0.93 – 1.01	0.111
Education	0.92	0.89 – 0.96	< 0.001
Household income	1.09	1.06 – 1.11	< 0.001
Marital status	0.99	0.96 – 1.01	0.248
Union x Visible minority	1.04	0.74 – 1.44	0.828
Observations	7068		
R ² Nagelkerke	0.632		

Figure B41. 2009 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	< 0.001
2 3	0.07	0.05 – 0.11	< 0.001
3 4	0.60	0.41 – 0.87	0.008
4 5	3.11	2.13 – 4.56	< 0.001
Union membership: yes	1.58	1.01 – 2.46	0.043
Household income	1.10	1.07 – 1.13	< 0.001
Visible minority status: no	1.02	0.87 – 1.20	0.807
Sex: male	0.94	0.86 – 1.02	0.139
Age	0.97	0.92 – 1.01	0.104
Education	0.92	0.89 – 0.96	< 0.001
Marital status	0.98	0.96 – 1.01	0.198
Union x Household income	0.95	0.92 – 1.00	0.034
Observations	7068		
R ² Nagelkerke	0.632		

Figure B42. 2009 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.02	0.01 – 0.03	<0.001
2 3	0.09	0.08 – 0.10	<0.001	0.18	0.12 – 0.28	<0.001
3 4	0.59	0.55 – 0.63	<0.001	1.22	0.81 – 1.85	0.342
4 5	3.36	3.13 – 3.61	<0.001	7.35	4.84 – 11.18	<0.001
Union membership: yes	0.95	0.86 – 1.05	0.299	0.95	0.86 – 1.06	0.359
Sex: male				0.80	0.72 – 0.88	<0.001
Age				1.00	0.95 – 1.05	0.916
Education				0.95	0.91 – 0.99	0.021
Household income				1.09	1.06 – 1.12	<0.001
Marital status				0.99	0.97 – 1.02	0.636
Visible minority status: no				1.09	0.92 – 1.29	0.328
Observations	5874			5150		
R ² Nagelkerke	0.447			0.659		

Figure B43. 2010 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.77	3.73 – 3.81	<0.001	3.49	3.30 – 3.69	<0.001
Union membership: yes	0.01	-0.04 – 0.06	0.630	0.00	-0.05 – 0.05	0.942
Sex: male				-0.15	-0.20 – -0.10	<0.001
Age				-0.00	-0.03 – 0.02	0.804
Education				-0.02	-0.04 – -0.00	0.038
Household income				0.04	0.02 – 0.05	<0.001
Marital status				-0.01	-0.03 – 0.00	0.064
Visible minority status: no				0.06	-0.01 – 0.13	0.105
Observations	5874			5150		
R ² / R ² adjusted	0.000 / -0.000			0.021 / 0.020		

Figure B44. 2010 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.16	0.10 – 0.25	<0.001
3 4	1.08	0.70 – 1.66	0.728
4 5	6.50	4.21 – 10.05	<0.001
Union membership: yes	0.89	0.70 – 1.14	0.356
Province of origin	1.00	0.99 – 1.00	0.030
Sex: male	0.79	0.72 – 0.88	<0.001
Age	1.01	0.96 – 1.06	0.823
Education	0.95	0.91 – 0.99	0.028
Household income	1.10	1.07 – 1.13	<0.001
Marital status	1.00	0.97 – 1.02	0.730
Visible minority status: no	1.06	0.89 – 1.26	0.517
Union x Province	1.00	1.00 – 1.01	0.583
Observations	5150		
R ² Nagelkerke	0.659		

Figure B45. 2010 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.19	0.12 – 0.29	<0.001
3 4	1.26	0.83 – 1.91	0.280
4 5	7.57	4.97 – 11.55	<0.001
Union membership: yes	1.02	0.88 – 1.19	0.784
Sex: male	0.84	0.73 – 0.95	0.006
Age	1.00	0.95 – 1.05	0.928
Education	0.95	0.91 – 0.99	0.018
Household income	1.09	1.06 – 1.12	<0.001
Marital status	0.99	0.97 – 1.02	0.666
Visible minority status: no	1.09	0.92 – 1.29	0.331
Union x Sex	0.88	0.71 – 1.08	0.224
Observations	5150		
R ² Nagelkerke	0.659		

Figure B46. 2010 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.04	<0.001
2 3	0.21	0.13 – 0.32	<0.001
3 4	1.39	0.91 – 2.14	0.129
4 5	8.40	5.44 – 12.95	<0.001
Union membership: yes	1.41	1.00 – 1.98	0.049
Visible minority status: no	1.26	1.02 – 1.56	0.030
Sex: male	0.80	0.72 – 0.88	<0.001
Age	1.00	0.95 – 1.05	0.916
Education	0.95	0.91 – 0.99	0.020
Household income	1.09	1.06 – 1.12	<0.001
Marital status	0.99	0.97 – 1.02	0.592
Union x Visible minority	0.65	0.45 – 0.93	0.018
Observations	5150		
R ² Nagelkerke	0.659		

Figure B47. 2010 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.18	0.12 – 0.29	<0.001
3 4	1.24	0.80 – 1.93	0.339
4 5	7.46	4.78 – 11.64	<0.001
Union membership: yes	1.00	0.60 – 1.68	0.997
Household income	1.09	1.06 – 1.13	<0.001
Visible minority status: no	1.09	0.92 – 1.29	0.326
Sex: male	0.80	0.72 – 0.88	<0.001
Age	1.00	0.95 – 1.05	0.919
Education	0.95	0.91 – 0.99	0.021
Marital status	0.99	0.97 – 1.02	0.628
Union x Household income	1.00	0.95 – 1.05	0.854
Observations	5150		
R ² Nagelkerke	0.659		

Figure B48. 2010 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.01	0.01 – 0.01	<0.001
2 3	0.05	0.04 – 0.05	<0.001	0.06	0.04 – 0.08	<0.001
3 4	0.44	0.42 – 0.47	<0.001	0.56	0.39 – 0.79	0.001
4 5	2.24	2.13 – 2.36	<0.001	2.97	2.10 – 4.20	<0.001
Union membership: yes	0.96	0.89 – 1.04	0.346	0.92	0.85 – 1.01	0.073
Sex: male				0.88	0.81 – 0.96	0.003
Age				0.96	0.92 – 1.00	0.032
Education				0.91	0.88 – 0.95	<0.001
Household income				1.08	1.06 – 1.11	<0.001
Marital status				0.97	0.95 – 1.00	0.029
Visible minority status: no				0.94	0.81 – 1.09	0.415
Observations	8889			7792		
R ² Nagelkerke	0.416			0.636		

Figure B49. 2011 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.95	3.92 – 3.98	<0.001	3.82	3.66 – 3.99	<0.001
Union membership: yes	0.03	-0.01 – 0.07	0.108	0.06	0.02 – 0.10	0.003
Sex: male				-0.07	-0.11 – -0.03	0.001
Age				-0.03	-0.05 – -0.01	0.003
Education				-0.05	-0.06 – -0.03	<0.001
Household income				0.04	0.03 – 0.05	<0.001
Marital status				-0.01	-0.02 – -0.00	0.023
Visible minority status: no				-0.02	-0.08 – 0.04	0.546
Observations	8889			7792		
R ² / R ² adjusted	0.000 / 0.000			0.022 / 0.021		

Figure B50. 2011 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.03 – 0.07	<0.001
3 4	0.48	0.34 – 0.70	<0.001
4 5	2.59	1.80 – 3.72	<0.001
Union membership: yes	0.94	0.77 – 1.16	0.586
Province of origin	0.99	0.99 – 1.00	0.005
Sex: male	0.88	0.81 – 0.96	0.004
Age	0.96	0.92 – 1.00	0.034
Education	0.92	0.88 – 0.95	<0.001
Household income	1.09	1.07 – 1.11	<0.001
Marital status	0.98	0.95 – 1.00	0.046
Visible minority status: no	0.91	0.78 – 1.05	0.191
Union x Province	1.00	0.99 – 1.00	0.748
Observations	7792		
R ² Nagelkerke	0.637		

Figure B51. 2011 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.06	0.04 – 0.08	<0.001
3 4	0.56	0.40 – 0.79	0.001
4 5	2.99	2.11 – 4.24	<0.001
Union membership: yes	0.95	0.84 – 1.07	0.400
Sex: male	0.90	0.81 – 0.99	0.040
Age	0.96	0.92 – 1.00	0.032
Education	0.91	0.88 – 0.95	<0.001
Household income	1.08	1.06 – 1.11	<0.001
Marital status	0.97	0.95 – 1.00	0.028
Visible minority status: no	0.94	0.81 – 1.09	0.414
Union x Sex	0.96	0.81 – 1.13	0.607
Observations	7792		
R ² Nagelkerke	0.636		

Figure B52. 2011 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.06	0.04 – 0.08	<0.001
3 4	0.56	0.39 – 0.80	0.001
4 5	2.99	2.10 – 4.27	<0.001
Union membership: yes	0.95	0.69 – 1.30	0.743
Visible minority status: no	0.95	0.80 – 1.13	0.546
Sex: male	0.88	0.81 – 0.96	0.003
Age	0.96	0.92 – 1.00	0.031
Education	0.91	0.88 – 0.95	<0.001
Household income	1.08	1.06 – 1.11	<0.001
Marital status	0.97	0.95 – 1.00	0.029
Union x Visible minority	0.97	0.70 – 1.34	0.865
Observations	7792		
R ² Nagelkerke	0.636		

Figure B53. 2011 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.06	0.04 – 0.09	<0.001
3 4	0.58	0.40 – 0.83	0.003
4 5	3.07	2.13 – 4.43	<0.001
Union membership: yes	1.04	0.67 – 1.62	0.853
Household income	1.09	1.06 – 1.12	<0.001
Visible minority status: no	0.94	0.81 – 1.09	0.419
Sex: male	0.88	0.81 – 0.96	0.003
Age	0.96	0.92 – 1.00	0.031
Education	0.91	0.88 – 0.95	<0.001
Marital status	0.97	0.95 – 1.00	0.028
Union x Household income	0.99	0.95 – 1.03	0.586
Observations	7792		
R ² Nagelkerke	0.636		

Figure B54. 2011 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001	0.01	0.01 – 0.02	<0.001
2 3	0.05	0.05 – 0.06	<0.001	0.09	0.06 – 0.13	<0.001
3 4	0.45	0.43 – 0.47	<0.001	0.78	0.56 – 1.08	0.134
4 5	1.96	1.86 – 2.07	<0.001	3.65	2.63 – 5.06	<0.001
Union membership: yes	0.95	0.88 – 1.03	0.208	0.92	0.84 – 1.01	0.073
Sex: male				0.84	0.77 – 0.91	<0.001
Age				0.91	0.87 – 0.95	<0.001
Education				1.06	1.04 – 1.09	<0.001
Household income				1.08	1.05 – 1.10	<0.001
Marital status				0.99	0.96 – 1.01	0.329
Visible minority status: no				1.06	0.95 – 1.20	0.304
Observations	8639			7071		
R ² Nagelkerke	0.398			0.709		

Figure B55. 2012 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	4.03	4.00 – 4.06	<0.001	3.78	3.62 – 3.94	<0.001
Union membership: yes	0.01	-0.03 – 0.05	0.697	0.03	-0.01 – 0.07	0.194
Sex: male				-0.09	-0.13 – -0.05	<0.001
Age				-0.06	-0.08 – -0.04	<0.001
Education				0.03	0.02 – 0.04	<0.001
Household income				0.03	0.02 – 0.04	<0.001
Marital status				-0.00	-0.01 – 0.01	0.682
Visible minority status: no				0.05	-0.00 – 0.10	0.063
Observations	8639			7071		
R ² / R ² adjusted	0.000 / -0.000			0.023 / 0.022		

Figure B56. 2012 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.06 – 0.13	<0.001
3 4	0.78	0.56 – 1.10	0.164
4 5	3.67	2.60 – 5.18	<0.001
Union membership: yes	1.02	0.82 – 1.25	0.888
Province of origin	1.00	1.00 – 1.00	0.938
Sex: male	0.84	0.77 – 0.91	<0.001
Age	0.91	0.87 – 0.95	<0.001
Education	1.06	1.03 – 1.09	<0.001
Household income	1.08	1.05 – 1.11	<0.001
Marital status	0.99	0.96 – 1.01	0.340
Visible minority status: no	1.06	0.94 – 1.19	0.375
Union x Province	1.00	0.99 – 1.00	0.309
Observations	7071		
R ² Nagelkerke	0.709		

Figure B57. 2012 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.07 – 0.13	<0.001
3 4	0.80	0.58 – 1.11	0.190
4 5	3.76	2.71 – 5.23	<0.001
Union membership: yes	1.01	0.88 – 1.15	0.896
Sex: male	0.89	0.79 – 0.99	0.031
Age	0.91	0.87 – 0.95	<0.001
Education	1.06	1.04 – 1.09	<0.001
Household income	1.08	1.05 – 1.10	<0.001
Marital status	0.99	0.96 – 1.01	0.308
Visible minority status: no	1.07	0.95 – 1.20	0.286
Union x Sex	0.85	0.71 – 1.02	0.076
Observations	7071		
R ² Nagelkerke	0.709		

Figure B58. 2012 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.07 – 0.13	<0.001
3 4	0.79	0.57 – 1.11	0.171
4 5	3.71	2.66 – 5.18	<0.001
Union membership: yes	0.98	0.78 – 1.22	0.830
Visible minority status: no	1.09	0.94 – 1.26	0.250
Sex: male	0.84	0.77 – 0.91	<0.001
Age	0.91	0.87 – 0.95	<0.001
Education	1.06	1.04 – 1.09	<0.001
Household income	1.08	1.05 – 1.10	<0.001
Marital status	0.99	0.96 – 1.01	0.328
Union x Visible minority	0.93	0.73 – 1.19	0.588
Observations	7071		
R ² Nagelkerke	0.709		

Figure B59. 2012 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.06 – 0.13	<0.001
3 4	0.80	0.57 – 1.13	0.205
4 5	3.75	2.65 – 5.29	<0.001
Union membership: yes	1.02	0.65 – 1.61	0.917
Household income	1.08	1.05 – 1.11	<0.001
Sex: male	0.84	0.77 – 0.91	<0.001
Age	0.91	0.87 – 0.95	<0.001
Education	1.06	1.04 – 1.09	<0.001
Marital status	0.99	0.96 – 1.01	0.313
Visible minority status: no	1.06	0.95 – 1.20	0.303
Union x Household income	0.99	0.95 – 1.03	0.642
Observations	7071		
R ² Nagelkerke	0.709		

Figure B60. 2012 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.04 – 0.05	<0.001	0.07	0.05 – 0.09	<0.001
3 4	0.35	0.33 – 0.37	<0.001	0.55	0.43 – 0.70	<0.001
4 5	1.92	1.84 – 2.01	<0.001	3.21	2.51 – 4.10	<0.001
Union membership: yes	1.09	1.02 – 1.17	0.008	0.96	0.89 – 1.04	0.296
Sex: male				0.85	0.79 – 0.91	<0.001
Age				0.99	0.96 – 1.02	0.528
Education				1.08	1.06 – 1.11	<0.001
Household income				1.05	1.03 – 1.07	<0.001
Marital status				0.94	0.93 – 0.96	<0.001
Visible minority status: no				0.94	0.87 – 1.03	0.182
Observations	12736			10604		
R ² Nagelkerke	0.004			0.432		

Figure B61. 2013 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	4.09	4.06 – 4.11	<0.001	3.66	3.54 – 3.78	<0.001
Union membership: yes	-0.04	-0.07 – -0.01	0.013	0.03	-0.00 – 0.07	0.051
Sex: male				-0.07	-0.10 – -0.04	<0.001
Age				-0.00	-0.02 – 0.02	0.976
Education				0.05	0.04 – 0.05	<0.001
Household income				0.03	0.02 – 0.03	<0.001
Marital status				-0.03	-0.04 – -0.02	<0.001
Visible minority status: no				0.01	-0.03 – 0.06	0.492
Observations	12736			10604		
R ² / R ² adjusted	0.000 / 0.000			0.025 / 0.025		

Figure B62. 2013 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.06	0.05 – 0.08	<0.001
3 4	0.49	0.37 – 0.64	<0.001
4 5	2.85	2.18 – 3.73	<0.001
Union membership: yes	0.95	0.79 – 1.15	0.623
Province of origin	1.00	0.99 – 1.00	0.030
Sex: male	0.85	0.79 – 0.91	<0.001
Age	0.99	0.96 – 1.02	0.532
Education	1.08	1.06 – 1.11	<0.001
Household income	1.05	1.03 – 1.07	<0.001
Marital status	0.94	0.93 – 0.96	<0.001
Visible minority status: no	0.92	0.85 – 1.01	0.066
Union x Province	1.00	1.00 – 1.01	0.945
Observations	10604		
R ² Nagelkerke	0.433		

Figure B63. 2013 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.07	0.06 – 0.09	<0.001
3 4	0.56	0.44 – 0.72	<0.001
4 5	3.27	2.55 – 4.18	<0.001
Union membership: yes	1.00	0.91 – 1.11	0.939
Sex: male	0.88	0.80 – 0.97	0.008
Age	0.99	0.96 – 1.02	0.509
Education	1.08	1.06 – 1.11	<0.001
Household income	1.05	1.03 – 1.07	<0.001
Marital status	0.94	0.93 – 0.96	<0.001
Visible minority status: no	0.95	0.87 – 1.03	0.194
Union x Sex	0.91	0.79 – 1.05	0.215
Observations	10604		
R ² Nagelkerke	0.432		

Figure B64. 2013 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.07	0.06 – 0.10	<0.001
3 4	0.57	0.44 – 0.73	<0.001
4 5	3.33	2.59 – 4.27	<0.001
Union membership: yes	1.07	0.92 – 1.24	0.395
Visible minority status: no	0.99	0.89 – 1.11	0.922
Sex: male	0.85	0.79 – 0.91	<0.001
Age	0.99	0.96 – 1.02	0.535
Education	1.08	1.06 – 1.11	<0.001
Household income	1.05	1.03 – 1.07	<0.001
Marital status	0.94	0.92 – 0.96	<0.001
Union x Visible minority	0.87	0.74 – 1.03	0.115
Observations	10604		
R ² Nagelkerke	0.432		

Figure B65. 2013 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.07	0.05 – 0.09	<0.001
3 4	0.55	0.42 – 0.72	<0.001
4 5	3.22	2.46 – 4.23	<0.001
Union membership: yes	0.98	0.69 – 1.39	0.909
Household income	1.05	1.03 – 1.07	<0.001
Sex: male	0.85	0.79 – 0.91	<0.001
Age	0.99	0.96 – 1.02	0.525
Education	1.08	1.06 – 1.11	<0.001
Marital status	0.94	0.93 – 0.96	<0.001
Visible minority status: no	0.94	0.87 – 1.03	0.186
Union x Household income	1.00	0.97 – 1.03	0.912
Observations	10604		
R ² Nagelkerke	0.432		

Figure B66. 2013 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.02	0.01 – 0.02	<0.001
2 3	0.11	0.10 – 0.12	<0.001	0.12	0.09 – 0.16	<0.001
3 4	0.71	0.67 – 0.75	<0.001	0.81	0.62 – 1.06	0.132
4 5	3.90	3.64 – 4.17	<0.001	4.51	3.42 – 5.93	<0.001
Union membership: yes	1.08	0.98 – 1.18	0.103	1.08	0.98 – 1.19	0.107
Sex: male				0.85	0.78 – 0.93	0.001
Age				1.05	1.00 – 1.09	0.042
Education				1.05	1.02 – 1.08	0.001
Household income				1.02	0.99 – 1.04	0.134
Marital status				0.95	0.92 – 0.97	<0.001
Visible minority status: no				0.90	0.79 – 1.03	0.124
Observations	6575			6458		
R ² Nagelkerke	0.412			0.453		

Figure B67. 2015 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.72	3.69 – 3.76	<0.001	3.80	3.66 – 3.94	<0.001
Union membership: yes	-0.04	-0.08 – 0.01	0.143	-0.05	-0.10 – 0.00	0.053
Sex: male				-0.08	-0.13 – -0.04	<0.001
Age				0.00	-0.02 – 0.03	0.665
Education				0.02	0.01 – 0.03	0.001
Household income				0.01	-0.01 – 0.02	0.381
Marital status				-0.03	-0.05 – -0.02	<0.001
Visible minority status: no				-0.10	-0.16 – -0.05	<0.001
Observations	6575			6458		
R ² / R ² adjusted	0.000 / 0.000			0.014 / 0.013		

Figure B68. 2015 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.07 – 0.14	<0.001
3 4	0.69	0.51 – 0.93	0.016
4 5	3.83	2.82 – 5.20	<0.001
Union membership: yes	1.12	0.89 – 1.40	0.330
Province of origin	1.00	0.99 – 1.00	0.016
Sex: male	0.85	0.78 – 0.93	0.001
Age	1.04	1.00 – 1.09	0.052
Education	1.05	1.02 – 1.08	0.001
Household income	1.02	1.00 – 1.05	0.070
Marital status	0.95	0.93 – 0.97	<0.001
Visible minority status: no	0.87	0.77 – 1.00	0.049
Union x Province	1.00	0.99 – 1.00	0.696
Observations	6458		
R ² Nagelkerke	0.454		

Figure B69. 2015 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.12	0.09 – 0.16	<0.001
3 4	0.81	0.61 – 1.06	0.130
4 5	4.49	3.40 – 5.93	<0.001
Union membership: yes	1.07	0.93 – 1.23	0.329
Sex: male	0.85	0.76 – 0.95	0.004
Age	1.05	1.00 – 1.09	0.042
Education	1.05	1.02 – 1.08	0.001
Household income	1.02	0.99 – 1.04	0.134
Marital status	0.95	0.92 – 0.97	<0.001
Visible minority status: no	0.90	0.79 – 1.03	0.124
Union x Sex	1.02	0.84 – 1.23	0.862
Observations	6458		
R ² Nagelkerke	0.453		

Figure B70. 2015 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.12	0.09 – 0.16	<0.001
3 4	0.82	0.62 – 1.08	0.158
4 5	4.54	3.42 – 6.03	<0.001
Union membership: yes	1.11	0.85 – 1.46	0.437
Visible minority status: no	0.91	0.78 – 1.06	0.235
Sex: male	0.85	0.78 – 0.93	0.001
Age	1.05	1.00 – 1.09	0.042
Education	1.05	1.02 – 1.08	0.001
Household income	1.02	0.99 – 1.04	0.134
Marital status	0.95	0.92 – 0.97	<0.001
Union x Visible minority	0.97	0.72 – 1.29	0.815
Observations	6458		
R ² Nagelkerke	0.453		

Figure B71. 2015 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.12	0.09 – 0.16	<0.001
3 4	0.79	0.60 – 1.05	0.108
4 5	4.41	3.32 – 5.86	<0.001
Union membership: yes	1.00	0.78 – 1.30	0.974
Household income	1.01	0.99 – 1.04	0.313
Sex: male	0.85	0.78 – 0.93	0.001
Age	1.05	1.00 – 1.09	0.042
Education	1.05	1.02 – 1.08	0.001
Marital status	0.95	0.92 – 0.97	<0.001
Visible minority status: no	0.90	0.79 – 1.03	0.121
Union x Household income	1.01	0.97 – 1.06	0.554
Observations	6458		
R ² Nagelkerke	0.453		

Figure B72. 2015 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001	0.01	0.01 – 0.02	<0.001
2 3	0.08	0.07 – 0.09	<0.001	0.09	0.07 – 0.12	<0.001
3 4	0.58	0.54 – 0.61	<0.001	0.65	0.51 – 0.84	0.001
4 5	3.21	3.02 – 3.40	<0.001	3.76	2.93 – 4.82	<0.001
Union membership: yes	0.97	0.89 – 1.06	0.519	0.96	0.88 – 1.05	0.351
Sex: male				0.88	0.81 – 0.96	0.003
Age				1.08	1.04 – 1.12	<0.001
Education				1.02	1.00 – 1.05	0.059
Household income				1.07	1.04 – 1.10	<0.001
Marital status				0.95	0.93 – 0.98	<0.001
Visible minority status: no				0.69	0.61 – 0.78	<0.001
Observations	7922			7785		
R ² Nagelkerke	0.367			0.415		

Figure B73. 2016 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.83	3.79 – 3.86	<0.001	3.79	3.66 – 3.91	<0.001
Union membership: yes	0.01	-0.04 – 0.05	0.793	0.01	-0.03 – 0.06	0.591
Sex: male				-0.09	-0.13 – -0.05	<0.001
Age				0.02	0.00 – 0.04	0.018
Education				0.02	0.01 – 0.03	0.003
Household income				0.03	0.02 – 0.05	<0.001
Marital status				-0.02	-0.03 – -0.01	0.003
Visible minority status: no				-0.21	-0.26 – -0.16	<0.001
Observations	7922			7785		
R ² / R ² adjusted	0.000 / -0.000			0.020 / 0.019		

Figure B74. 2016 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.08	0.06 – 0.11	<0.001
3 4	0.59	0.45 – 0.77	<0.001
4 5	3.39	2.58 – 4.46	<0.001
Union membership: yes	1.16	0.95 – 1.41	0.142
Province of origin	1.00	0.99 – 1.00	0.085
Sex: male	0.88	0.81 – 0.96	0.003
Age	1.08	1.04 – 1.12	<0.001
Education	1.02	1.00 – 1.05	0.064
Household income	1.07	1.04 – 1.11	<0.001
Marital status	0.96	0.94 – 0.98	<0.001
Visible minority status: no	0.66	0.59 – 0.75	<0.001
Union x Province	0.99	0.99 – 1.00	0.031
Observations	7785		
R ² Nagelkerke	0.416		

Figure B75. 2016 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.07 – 0.12	<0.001
3 4	0.67	0.53 – 0.86	0.002
4 5	3.87	3.01 – 4.98	<0.001
Union membership: yes	1.04	0.92 – 1.18	0.553
Sex: male	0.93	0.84 – 1.03	0.171
Age	1.08	1.04 – 1.12	<0.001
Education	1.02	1.00 – 1.05	0.048
Household income	1.07	1.04 – 1.10	<0.001
Marital status	0.95	0.93 – 0.98	<0.001
Visible minority status: no	0.69	0.61 – 0.78	<0.001
Union x Sex	0.86	0.73 – 1.02	0.089
Observations	7785		
R ² Nagelkerke	0.415		

Figure B76. 2016 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.07 – 0.12	<0.001
3 4	0.67	0.52 – 0.87	0.002
4 5	3.87	3.00 – 5.00	<0.001
Union membership: yes	1.08	0.85 – 1.38	0.534
Visible minority status: no	0.72	0.62 – 0.83	<0.001
Sex: male	0.88	0.81 – 0.96	0.003
Age	1.08	1.04 – 1.12	<0.001
Education	1.02	1.00 – 1.05	0.056
Household income	1.07	1.04 – 1.10	<0.001
Marital status	0.95	0.93 – 0.98	<0.001
Union x Visible minority	0.87	0.68 – 1.13	0.308
Observations	7785		
R ² Nagelkerke	0.415		

Figure B77. 2016 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.07 – 0.12	<0.001
3 4	0.63	0.49 – 0.82	<0.001
4 5	3.64	2.82 – 4.71	<0.001
Union membership: yes	0.85	0.66 – 1.10	0.225
Household income	1.06	1.02 – 1.10	0.001
Sex: male	0.88	0.81 – 0.96	0.003
Age	1.08	1.04 – 1.12	<0.001
Education	1.02	1.00 – 1.05	0.061
Marital status	0.96	0.93 – 0.98	<0.001
Visible minority status: no	0.69	0.61 – 0.78	<0.001
Union x Household income	1.03	0.97 – 1.09	0.338
Observations	7785		
R ² Nagelkerke	0.415		

Figure B78. 2016 Self-rated mental health income interaction effect

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001	0.02	0.02 – 0.03	<0.001
2 3	0.11	0.10 – 0.12	<0.001	0.16	0.12 – 0.20	<0.001
3 4	0.63	0.60 – 0.66	<0.001	0.90	0.71 – 1.14	0.389
4 5	2.98	2.82 – 3.14	<0.001	4.37	3.44 – 5.53	<0.001
Union membership: yes	0.84	0.77 – 0.91	<0.001	0.85	0.78 – 0.92	<0.001
Sex: male				0.75	0.69 – 0.81	<0.001
Age				1.08	1.04 – 1.12	<0.001
Education				1.03	1.01 – 1.05	0.011
Household income				1.06	1.04 – 1.09	<0.001
Visible minority status: no				0.90	0.81 – 1.01	0.068
Marital status				0.95	0.93 – 0.97	<0.001
Observations	8729			8396		
R ² Nagelkerke	0.019			0.148		

Figure B79. 2018 Self-rated mental health ordinal regression results

<i>Predictors</i>	Self-rated mental health			Self-rated mental health		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	3.73	3.69 – 3.77	<0.001	3.59	3.46 – 3.71	<0.001
Union membership: yes	0.09	0.04 – 0.13	<0.001	0.09	0.04 – 0.14	<0.001
Sex: male				-0.14	-0.18 – -0.10	<0.001
Age				0.04	0.02 – 0.06	<0.001
Education				0.01	-0.01 – 0.02	0.327
Household income				0.03	0.02 – 0.05	<0.001
Visible minority status: no				-0.07	-0.12 – -0.02	0.005
Marital status				-0.03	-0.04 – -0.02	<0.001
Observations	8729			8396		
R ² / R ² adjusted	0.002 / 0.001			0.026 / 0.025		

Figure B80. 2018 Self-rated mental health linear regression results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.12	0.09 – 0.16	<0.001
3 4	0.68	0.52 – 0.89	0.005
4 5	3.31	2.53 – 4.32	<0.001
Union membership: yes	0.79	0.65 – 0.96	0.020
Province of origin	0.99	0.99 – 1.00	<0.001
Sex: male	0.74	0.69 – 0.81	<0.001
Age	1.07	1.03 – 1.11	<0.001
Education	1.03	1.01 – 1.05	0.012
Household income	1.07	1.04 – 1.09	<0.001
Visible minority status: no	0.86	0.77 – 0.96	0.009
Marital status	0.95	0.93 – 0.97	<0.001
Union x Province	1.00	1.00 – 1.01	0.555
Observations	8396		
R ² Nagelkerke	0.150		

Figure B81. 2018 Self-rated mental health province interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.16	0.12 – 0.20	<0.001
3 4	0.90	0.71 – 1.14	0.377
4 5	4.35	3.43 – 5.52	<0.001
Union membership: yes	0.84	0.74 – 0.95	0.007
Sex: male	0.75	0.68 – 0.82	<0.001
Age	1.08	1.04 – 1.12	<0.001
Education	1.03	1.01 – 1.05	0.011
Household income	1.06	1.04 – 1.09	<0.001
Visible minority status: no	0.90	0.81 – 1.01	0.068
Marital status	0.95	0.93 – 0.97	<0.001
Union x Sex	1.02	0.86 – 1.21	0.818
Observations	8396		
R ² Nagelkerke	0.148		

Figure B82. 2018 Self-rated mental health sex interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.16	0.12 – 0.20	<0.001
3 4	0.91	0.71 – 1.16	0.436
4 5	4.40	3.45 – 5.61	<0.001
Union membership: yes	0.87	0.70 – 1.09	0.223
Visible minority status: no	0.91	0.80 – 1.03	0.152
Sex: male	0.75	0.69 – 0.81	<0.001
Age	1.08	1.04 – 1.12	<0.001
Education	1.03	1.01 – 1.05	0.010
Household income	1.06	1.04 – 1.09	<0.001
Marital status	0.95	0.93 – 0.97	<0.001
Union x Visible minority	0.97	0.76 – 1.23	0.777
Observations	8396		
R ² Nagelkerke	0.148		

Figure B83. 2018 Self-rated mental health visible minority interaction effect

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.16	0.13 – 0.21	<0.001
3 4	0.94	0.74 – 1.19	0.613
4 5	4.55	3.57 – 5.80	<0.001
Union membership: yes	1.03	0.81 – 1.30	0.833
Household income	1.07	1.05 – 1.10	<0.001
Sex: male	0.75	0.69 – 0.81	<0.001
Age	1.08	1.04 – 1.12	<0.001
Education	1.03	1.01 – 1.05	0.011
Visible minority status: no	0.90	0.81 – 1.01	0.068
Marital status	0.95	0.93 – 0.97	<0.001
Union x Household income	0.97	0.93 – 1.01	0.088
Observations	8396		
R ² Nagelkerke	0.148		

Figure B84. 2018 Self-rated mental health income interaction effect

Appendix C

Top and bottom 20% income earner regression table results by year

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.05	0.03 – 0.09	<0.001
3 4	0.30	0.19 – 0.47	<0.001
Union membership: yes	1.07	0.82 – 1.39	0.626
Household income	1.16	0.91 – 1.47	0.237
Sex: male	1.04	0.87 – 1.25	0.685
Age	0.91	0.87 – 0.95	<0.001
Education	1.00	0.99 – 1.00	0.589
Marital status	0.93	0.85 – 1.02	0.118
Visible minority status: no	0.94	0.75 – 1.16	0.536
Union x Household income	1.10	0.73 – 1.67	0.635
Observations	2037		
R ² Nagelkerke	0.919		

Figure C1. 1989 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.04	0.02 – 0.07	<0.001
3 4	0.95	0.61 – 1.49	0.834
Union membership: yes	1.12	0.86 – 1.44	0.403
Household income	2.28	1.78 – 2.94	<0.001
Sex: male	1.31	1.09 – 1.58	0.005
Age	1.03	0.98 – 1.08	0.222
Education	1.00	0.99 – 1.01	0.808
Marital status	0.74	0.68 – 0.82	<0.001
Visible minority status: no	1.21	0.97 – 1.49	0.086
Union x Household income	0.81	0.53 – 1.23	0.312
Observations	2021		
R ² Nagelkerke	0.897		

Figure C2. 1989 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.02	<0.001
2 3	0.06	0.04 – 0.11	<0.001
3 4	0.42	0.25 – 0.70	0.001
4 5	2.12	1.26 – 3.57	0.005
Union membership: yes	0.73	0.55 – 0.97	0.031
Household income	1.25	0.97 – 1.60	0.088
Sex: male	1.12	0.94 – 1.34	0.193
Age	1.00	0.95 – 1.04	0.854
Education	0.94	0.91 – 0.97	<0.001
Marital status	0.96	0.89 – 1.04	0.366
Visible minority status: no	1.07	0.79 – 1.46	0.655
Union x Household income	1.39	0.96 – 2.02	0.083
Observations	1688		
R ² Nagelkerke	0.993		

Figure C3. 1991 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.03	0.01 – 0.07	<0.001
3 4	0.13	0.06 – 0.28	<0.001
Union membership: yes	1.00	0.70 – 1.44	0.979
Household income	1.94	1.32 – 2.89	0.001
Sex: male	0.96	0.73 – 1.25	0.767
Age	0.97	0.91 – 1.04	0.372
Education	1.00	0.96 – 1.05	0.863
Marital status	0.79	0.70 – 0.88	<0.001
Visible minority status: no	0.94	0.58 – 1.48	0.812
Union x Household income	1.05	0.59 – 1.86	0.866
Observations	1673		
R ² Nagelkerke	0.877		

Figure C4. 1991 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.03 – 0.08	<0.001
3 4	0.29	0.18 – 0.46	<0.001
4 5	1.44	0.90 – 2.30	0.129
Union membership: yes	0.83	0.66 – 1.04	0.099
Household income	1.48	1.20 – 1.83	<0.001
Visible minority status: no	0.96	0.67 – 1.36	0.803
Sex: male	1.22	1.05 – 1.42	0.009
Age	0.92	0.89 – 0.96	<0.001
Education	0.94	0.92 – 0.97	<0.001
Marital status	1.16	1.06 – 1.26	0.001
Union x Household income	1.18	0.87 – 1.61	0.280
Observations	2355		
R ² Nagelkerke	0.964		

Figure C5. 1994 general health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.03	<0.001
2 3	0.11	0.07 – 0.19	<0.001
3 4	0.54	0.32 – 0.90	0.018
4 5	2.72	1.62 – 4.58	<0.001
Union membership: yes	1.13	0.89 – 1.43	0.329
Household income	1.16	0.91 – 1.47	0.231
Visible minority status: no	0.98	0.71 – 1.37	0.928
Sex: male	1.08	0.91 – 1.28	0.382
Age	1.05	0.96 – 1.15	0.263
Education	0.97	0.94 – 1.00	0.091
Marital status	0.94	0.89 – 0.99	0.021
Union x Household income	1.01	0.70 – 1.45	0.971
Observations	1805		
R ² Nagelkerke	0.992		

Figure C6. 1998 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.14	0.07 – 0.25	<0.001
3 4	3.82	2.10 – 6.94	<0.001
Union membership: yes	1.12	0.85 – 1.48	0.406
Household income	1.83	1.40 – 2.40	<0.001
Visible minority status: no	1.77	1.21 – 2.59	0.003
Sex: male	1.03	0.85 – 1.25	0.729
Age	0.96	0.87 – 1.07	0.464
Education	1.00	0.96 – 1.03	0.878
Marital status	0.85	0.80 – 0.91	<0.001
Union x Household income	0.76	0.50 – 1.15	0.197
Observations	1805		
R ² Nagelkerke	0.969		

Figure C7. 1998 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.04	0.03 – 0.05	<0.001
3 4	0.25	0.19 – 0.33	<0.001
4 5	1.41	1.08 – 1.85	0.012
Union membership: yes	0.96	0.81 – 1.13	0.622
Household income	1.69	1.48 – 1.94	<0.001
Visible minority status: no	1.35	1.14 – 1.59	<0.001
Sex: male	1.12	1.02 – 1.23	0.019
Age	0.81	0.78 – 0.85	<0.001
Education	0.83	0.80 – 0.86	<0.001
Marital status	0.98	0.95 – 1.00	0.098
Union x Household income	1.04	0.85 – 1.28	0.688
Observations	5973		
R ² Nagelkerke	0.944		

Figure C8. 2003 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.09	0.07 – 0.13	<0.001
3 4	3.19	2.35 – 4.35	<0.001
Union membership: yes	0.95	0.78 – 1.15	0.582
Household income	1.63	1.40 – 1.91	<0.001
Visible minority status: no	1.93	1.60 – 2.35	<0.001
Sex: male	1.17	1.05 – 1.31	0.004
Age	0.86	0.82 – 0.91	<0.001
Education	1.00	0.96 – 1.04	0.948
Marital status	0.85	0.82 – 0.87	<0.001
Union x Household income	1.11	0.88 – 1.41	0.377
Observations	5953		
R ² Nagelkerke	0.871		

Figure C9. 2003 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.07 – 0.16	<0.001
3 4	0.66	0.45 – 0.97	0.036
4 5	3.77	2.55 – 5.57	<0.001
Union membership: yes	1.00	0.81 – 1.23	0.994
Household income	1.47	1.21 – 1.79	<0.001
Visible minority status: no	1.44	1.13 – 1.83	0.003
Sex: male	1.03	0.90 – 1.19	0.638
Age	0.94	0.87 – 1.01	0.075
Education	0.89	0.84 – 0.94	<0.001
Marital status	0.95	0.91 – 0.99	0.006
Union x Household income	1.11	0.83 – 1.48	0.495
Observations	2837		
R ² Nagelkerke	0.999		

Figure C10. 2005 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.14	0.09 – 0.22	<0.001
3 4	4.01	2.57 – 6.28	<0.001
Union membership: yes	1.08	0.85 – 1.37	0.531
Household income	1.55	1.23 – 1.94	<0.001
Visible minority status: no	1.39	1.06 – 1.82	0.019
Sex: male	1.12	0.96 – 1.31	0.153
Age	0.93	0.85 – 1.00	0.060
Education	1.03	0.97 – 1.10	0.369
Marital status	0.87	0.84 – 0.91	<0.001
Union x Household income	1.11	0.80 – 1.55	0.537
Observations	2820		
R ² Nagelkerke	0.988		

Figure C11. 2005 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.09	0.06 – 0.12	<0.001
3 4	0.58	0.42 – 0.78	<0.001
4 5	2.81	2.06 – 3.82	<0.001
Union membership: yes	0.85	0.71 – 1.03	0.105
Household income	1.36	1.17 – 1.57	<0.001
Visible minority status: no	1.47	1.23 – 1.75	<0.001
Sex: male	1.07	0.96 – 1.19	0.222
Age	0.93	0.89 – 0.98	0.011
Education	0.83	0.79 – 0.86	<0.001
Marital status	0.96	0.93 – 0.98	0.002
Union x Household income	1.17	0.93 – 1.48	0.188
Observations	4561		
R ² Nagelkerke	0.963		

Figure C12. 2008 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.04 – 0.07	<0.001
3 4	0.47	0.35 – 0.65	<0.001
4 5	2.08	1.52 – 2.84	<0.001
Union membership: yes	0.79	0.65 – 0.96	0.016
Household income	1.19	1.02 – 1.38	0.023
Visible minority status: no	1.22	1.02 – 1.46	0.033
Sex: male	0.87	0.78 – 0.97	0.010
Age	1.03	0.98 – 1.09	0.237
Education	0.88	0.84 – 0.92	<0.001
Marital status	0.94	0.91 – 0.96	<0.001
Union x Household income	1.17	0.92 – 1.48	0.195
Observations	4559		
R ² Nagelkerke	0.956		

Figure C13. 2008 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.05	0.04 – 0.07	<0.001
3 4	0.32	0.23 – 0.45	<0.001
4 5	1.82	1.30 – 2.54	<0.001
Union membership: yes	1.13	0.93 – 1.36	0.212
Household income	1.71	1.45 – 2.02	<0.001
Visible minority status: no	1.34	1.08 – 1.64	0.006
Sex: male	1.03	0.92 – 1.16	0.558
Age	0.88	0.83 – 0.93	<0.001
Education	0.83	0.79 – 0.87	<0.001
Marital status	0.98	0.95 – 1.01	0.186
Union x Household income	0.80	0.63 – 1.01	0.061
Observations	4126		
R ² Nagelkerke	0.976		

Figure C14. 2009 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.03	0.02 – 0.05	<0.001
3 4	0.26	0.19 – 0.37	<0.001
4 5	1.36	0.97 – 1.90	0.078
Union membership: yes	1.14	0.95 – 1.38	0.164
Household income	1.56	1.32 – 1.84	<0.001
Visible minority status: no	0.98	0.79 – 1.20	0.830
Sex: male	0.94	0.84 – 1.05	0.275
Age	0.97	0.92 – 1.03	0.308
Education	0.91	0.86 – 0.95	<0.001
Marital status	0.97	0.94 – 1.00	0.065
Union x Household income	0.77	0.61 – 0.99	0.038
Observations	4123		
R ² Nagelkerke	0.967		

Figure C15. 2009 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.14	0.09 – 0.21	<0.001
3 4	0.87	0.59 – 1.28	0.468
4 5	5.87	3.96 – 8.70	<0.001
Union membership: yes	1.00	0.80 – 1.26	0.982
Household income	1.61	1.32 – 1.96	<0.001
Visible minority status: no	1.63	1.30 – 2.05	<0.001
Sex: male	1.03	0.91 – 1.18	0.615
Age	0.93	0.87 – 1.00	0.040
Education	0.87	0.82 – 0.92	<0.001
Marital status	0.96	0.92 – 0.99	0.020
Union x Household income	0.93	0.70 – 1.24	0.617
Observations	3027		
R ² Nagelkerke	0.976		

Figure C16. 2010 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.01	<0.001
2 3	0.08	0.05 – 0.12	<0.001
3 4	0.52	0.35 – 0.77	0.001
4 5	3.21	2.17 – 4.73	<0.001
Union membership: yes	0.96	0.76 – 1.21	0.749
Household income	1.50	1.23 – 1.82	<0.001
Visible minority status: no	1.09	0.87 – 1.37	0.432
Sex: male	0.79	0.69 – 0.90	<0.001
Age	0.97	0.91 – 1.04	0.388
Education	0.94	0.88 – 0.99	0.027
Marital status	0.99	0.95 – 1.03	0.491
Union x Household income	0.97	0.73 – 1.29	0.839
Observations	3026		
R ² Nagelkerke	0.974		

Figure C17. 2010 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.06	0.05 – 0.09	<0.001
3 4	0.43	0.31 – 0.59	<0.001
4 5	2.61	1.90 – 3.60	<0.001
Union membership: yes	1.07	0.88 – 1.30	0.512
Household income	1.87	1.59 – 2.19	<0.001
Visible minority status: no	1.13	0.93 – 1.37	0.223
Sex: male	1.02	0.92 – 1.13	0.727
Age	0.90	0.85 – 0.95	<0.001
Education	0.86	0.82 – 0.90	<0.001
Marital status	0.97	0.94 – 1.00	0.070
Union x Household income	0.84	0.66 – 1.06	0.143
Observations	4675		
R ² Nagelkerke	0.972		

Figure C18. 2011 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.03	0.02 – 0.04	<0.001
3 4	0.29	0.21 – 0.40	<0.001
4 5	1.57	1.14 – 2.17	0.006
Union membership: yes	0.98	0.80 – 1.19	0.838
Household income	1.56	1.33 – 1.84	<0.001
Visible minority status: no	0.92	0.76 – 1.12	0.424
Sex: male	0.88	0.79 – 0.97	0.015
Age	0.97	0.92 – 1.02	0.221
Education	0.90	0.86 – 0.94	<0.001
Marital status	0.97	0.94 – 1.00	0.042
Union x Household income	0.90	0.71 – 1.14	0.369
Observations	4669		
R ² Nagelkerke	0.965		

Figure C19. 2011 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.12	0.08 – 0.16	<0.001
3 4	0.86	0.62 – 1.19	0.362
4 5	4.57	3.30 – 6.33	<0.001
Union membership: yes	1.04	0.84 – 1.27	0.740
Household income	1.74	1.47 – 2.05	<0.001
Sex: male	0.98	0.88 – 1.10	0.787
Age	0.85	0.81 – 0.90	<0.001
Education	1.12	1.09 – 1.16	<0.001
Marital status	0.98	0.94 – 1.01	0.160
Visible minority status: no	1.36	1.17 – 1.58	<0.001
Union x Household income	0.90	0.70 – 1.15	0.393
Observations	4302		
R ² Nagelkerke	0.978		

Figure C20. 2012 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.00 – 0.01	<0.001
2 3	0.05	0.04 – 0.07	<0.001
3 4	0.41	0.30 – 0.57	<0.001
4 5	1.88	1.36 – 2.60	<0.001
Union membership: yes	0.99	0.80 – 1.21	0.900
Household income	1.43	1.21 – 1.69	<0.001
Sex: male	0.81	0.72 – 0.90	<0.001
Age	0.90	0.85 – 0.95	<0.001
Education	1.07	1.04 – 1.11	<0.001
Marital status	0.97	0.93 – 1.00	0.047
Visible minority status: no	1.07	0.92 – 1.24	0.378
Union x Household income	0.92	0.72 – 1.18	0.493
Observations	4304		
R ² Nagelkerke	0.973		

Figure C21. 2012 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.10	0.08 – 0.13	<0.001
3 4	0.72	0.56 – 0.92	0.008
4 5	4.42	3.45 – 5.66	<0.001
Union membership: yes	1.07	0.90 – 1.28	0.415
Household income	1.54	1.35 – 1.75	<0.001
Sex: male	0.96	0.88 – 1.05	0.427
Age	0.87	0.83 – 0.90	<0.001
Education	1.13	1.10 – 1.16	<0.001
Marital status	0.98	0.95 – 1.00	0.063
Visible minority status: no	1.27	1.14 – 1.41	<0.001
Union x Household income	0.93	0.76 – 1.14	0.469
Observations	6605		
R ² Nagelkerke	0.920		

Figure C22. 2013 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.00	0.00 – 0.01	<0.001
2 3	0.05	0.04 – 0.07	<0.001
3 4	0.41	0.32 – 0.52	<0.001
4 5	2.42	1.89 – 3.10	<0.001
Union membership: yes	0.98	0.82 – 1.16	0.778
Household income	1.27	1.11 – 1.44	<0.001
Sex: male	0.83	0.76 – 0.91	<0.001
Age	1.00	0.95 – 1.04	0.851
Education	1.10	1.07 – 1.13	<0.001
Marital status	0.94	0.92 – 0.96	<0.001
Visible minority status: no	0.95	0.85 – 1.06	0.354
Union x Household income	0.99	0.81 – 1.22	0.947
Observations	6603		
R ² Nagelkerke	0.909		

Figure C23. 2013 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.04	0.03 – 0.07	<0.001
2 3	0.31	0.21 – 0.45	<0.001
3 4	1.99	1.37 – 2.89	<0.001
4 5	13.61	9.27 – 19.97	<0.001
Union membership: yes	1.11	0.91 – 1.35	0.291
Household income	1.36	1.13 – 1.63	0.001
Sex: male	1.13	1.00 – 1.29	0.059
Age	0.98	0.92 – 1.04	0.484
Education	1.14	1.10 – 1.18	<0.001
Marital status	0.97	0.93 – 1.00	0.084
Visible minority status: no	1.27	1.06 – 1.53	0.011
Union x Household income	1.16	0.89 – 1.52	0.268
Observations	3245		
R ² Nagelkerke	0.979		

Figure C24. 2015 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.02	<0.001
2 3	0.12	0.08 – 0.17	<0.001
3 4	0.83	0.57 – 1.20	0.322
4 5	4.49	3.08 – 6.53	<0.001
Union membership: yes	1.18	0.97 – 1.43	0.098
Household income	1.17	0.97 – 1.40	0.096
Sex: male	0.90	0.79 – 1.03	0.115
Age	1.04	0.98 – 1.11	0.202
Education	1.06	1.02 – 1.10	0.003
Marital status	0.95	0.92 – 0.99	0.008
Visible minority status: no	0.85	0.70 – 1.02	0.087
Union x Household income	1.01	0.77 – 1.32	0.949
Observations	3242		
R ² Nagelkerke	0.978		

Figure C25. 2015 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.18	0.13 – 0.23	<0.001
3 4	1.42	1.08 – 1.86	0.013
4 5	8.93	6.73 – 11.84	<0.001
Union membership: yes	1.17	1.01 – 1.36	0.042
Household income	1.36	1.18 – 1.56	<0.001
Sex: male	1.16	1.05 – 1.28	0.004
Age	0.99	0.95 – 1.04	0.774
Education	1.10	1.06 – 1.13	<0.001
Marital status	0.98	0.96 – 1.01	0.228
Visible minority status: no	0.86	0.74 – 0.99	0.037
Union x Household income	0.97	0.79 – 1.20	0.780
Observations	5294		
R ² Nagelkerke	0.867		

Figure C26. 2016 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.01	0.01 – 0.02	<0.001
2 3	0.08	0.06 – 0.10	<0.001
3 4	0.54	0.41 – 0.71	<0.001
4 5	3.17	2.40 – 4.19	<0.001
Union membership: yes	0.88	0.76 – 1.02	0.101
Household income	1.24	1.08 – 1.43	0.003
Sex: male	0.93	0.84 – 1.02	0.131
Age	1.09	1.04 – 1.14	<0.001
Education	1.02	0.99 – 1.05	0.189
Marital status	0.96	0.93 – 0.99	0.003
Visible minority status: no	0.66	0.57 – 0.77	<0.001
Union x Household income	1.09	0.89 – 1.35	0.398
Observations	5291		
R ² Nagelkerke	0.868		

Figure C27. 2016 mental health results

<i>Predictors</i>	Self-rated general health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.01 – 0.03	<0.001
2 3	0.15	0.11 – 0.21	<0.001
3 4	1.02	0.75 – 1.40	0.897
4 5	5.85	4.25 – 8.05	<0.001
Union membership: yes	0.99	0.82 – 1.19	0.907
Household income	1.67	1.43 – 1.96	<0.001
Sex: male	0.87	0.78 – 0.97	0.014
Age	0.88	0.83 – 0.92	<0.001
Education	1.10	1.07 – 1.14	<0.001
Visible minority status: no	1.60	1.37 – 1.86	<0.001
Marital status	0.95	0.92 – 0.98	0.002
Union x Household income	0.76	0.60 – 0.97	0.030
Observations	4470		
R ² Nagelkerke	0.930		

Figure C28. 2018 general health results

<i>Predictors</i>	Self-rated mental health		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
1 2	0.02	0.02 – 0.03	<0.001
2 3	0.16	0.12 – 0.22	<0.001
3 4	0.87	0.64 – 1.19	0.391
4 5	4.20	3.06 – 5.76	<0.001
Union membership: yes	0.99	0.82 – 1.18	0.876
Household income	1.48	1.27 – 1.73	<0.001
Sex: male	0.71	0.64 – 0.80	<0.001
Age	1.10	1.04 – 1.15	0.001
Education	1.04	1.01 – 1.07	0.016
Visible minority status: no	0.98	0.84 – 1.14	0.791
Marital status	0.93	0.90 – 0.96	<0.001
Union x Household income	0.76	0.60 – 0.97	0.027
Observations	4471		
R ² Nagelkerke	0.933		

Figure C29. 2018 mental health results