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Improving immigrants' physical and mental health through volunteering

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Improving immigrants' physical and mental health through volunteering

by

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Abstract

With one fifth of the total population being immigrants, Canada has been one of the most attractive countries as a destination for immigration. Normally, immigrants who have greater human capital and better health are invited to migrate. As a result, most immigrants have better health than their local-born counterparts, which is known as the healthy immigrant effect. However, such effect gradually dissipates, partially due to a lack of social capital. Studies suggest that social capital and immigrants' sense of belonging can be enhanced through volunteering by immigrants. Both volunteering and sense of belonging are important social determinants for one's health status. This study aims to examine the relationships between volunteering, sense of belonging, and health among immigrants in Canada. It is hypothesized that volunteering positively predicts immigrants' physical and mental health and these associations are mediated by sense of belonging.

Utilizing a population-based data, 6784 foreign-born participants were selected. Variables such as volunteering, sense of community belonging, physical and mental health as well as other control variables (education, age, visible minority status, income, years residing in Canada, importance of religious and spiritual beliefs, and sex) were used. Two mediation analyses were then conducted. The results revealed that not only does volunteering have a positive prediction on immigrants' physical and mental health, it also positively predicts their sense of belonging. Simultaneously, sense of belonging serves as a mediator on the pathways between volunteering and both physical as well as mental health. Such pathways were found significant after taking the control variables into account.

This finding validates the significance of volunteering as a civic engagement activity in its association with immigrants' integration in Canadian society and their health. It is pivotal to

utilize immigrants' strengths and empower them to participate socially, culturally, economically, and politically in society. Volunteering by immigrants appears to be a way to achieve this participation. This thesis sheds light on volunteering programs for social workers and human service professionals to instil immigrants' sense of community belonging. Ultimately, it can help build immigrants' social capital and uphold their health statuses.

Keywords: Immigrants, volunteering, physical health, mental health, sense of belonging

Preface

This thesis is original, unpublished, independent work by the author, Ka Kei Jacky Liu.

This thesis was professionally edited by copy-editors Nicole Frenette, Nik Vogler, and Sarah Feldman in 2019.

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Dedication

This project is dedicated to those who

dare to chase their dreams

and fight for a better future

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Chapter 1: Introduction

As one of the most popular countries in the world for immigration, Canada has allocated public resources to help immigrants settle and integrate into society. Instead of forcing immigrants to assimilate and fit into the existing economic and social structure of the country, Canada acknowledges the value of diversity and multiculturalism and encourages immigrants to retain their cultural heritage, guided by a social inclusive approach (Satzewich & Liodakis, 2017; Wang & Handy, 2014; Wiseman, 2018). Many immigrants feel that they are welcomed with open arms and believe that they can re-establish a sense of belonging in the local community upon immigrating to Canada. However, studies show that immigrants face different social and economic challenges such as social exclusion, under- and unemployment, as they learn ways to call Canada their new home (Fang & Katakia, 2017; Tsang & Li, 2017; Vang, Sigouin, Flenon, & Gagnon, 2015). These post-migration challenges have led to the dissipation of the healthy immigrant effect, whereby immigrants become less healthy as they settle in their new country, although they were initially healthier than the native Canadian (Fang & Katakia, 2017). Scholars point to how participation in voluntary community services by immigrants could play a central role in immigrants' civic and social engagement. Volunteering could be a practical program for immigrants to improve their physical and mental health, and it could have a crucial impact on their integration in Canada (Giordano, Ohlsson, & Lindström, 2011; Im & Rosenberg, 2015; Piliavin & Siegl, 2007; Sanchez, 2016; Tossutti, 2003; Weng & Lee, 2016; Wilson-Forsberg & Sethi, 2015).

1.1 Immigrants in Canada

In contemporary literature, different terms are often used interchangeably to refer to the immigrant population. Generally, 'immigrants' refers to people who are living in a country they

were not born in (Tsang & Li, 2017), and are migrating from one country to another. Often, this group of people willingly and voluntarily leaves their home country and this move is typically planned (Potocky-Tripodi, 2002). Within this group, it can be further divided into different immigration streams, which are known as economy class and family class. The economic class is the largest category of immigrants in Canada. It comprises people who immigrate to Canada as a skilled worker, a businessman, a caregiver, or a provincial nominee (Satzewich & Liodakis, 2017). Many times, these candidates are selected to immigrate under the considerations that they have high human capital and strong skills in their respective professional fields and are perceived to be highly adaptable to the Canadian labour market (George, 2017). Some of them would also be invited for immigration when they receive a job offer or have obtained a certain amount of work experience in Canada. Candidates may immigrate alone or as a family unit (Satzewich & Liodakis, 2017). Some immigrants are also perceived to be strong candidates to come to Canada, not only because of their human capitals, but also their social capital. Those who immigrate through the family class (George, 2017) usually are sponsored by their family members who are citizens or permanent residents of Canada and thus, they are able to reunite with their families. Immigrants would be considered as valuable member of society because they are able to engage and adapt to the community easily thanks to their family members who are familiar with the local socio-cultural climate and economic systems (Satzewich & Liodakis, 2017).

At the same time, there are also immigrants who come from a different immigration category than those from economy or family class, which is the refugee stream. ‘Refugees’ are people who meet specific criteria based on the United Nations’ 1951 Refugee Convention and 1967 Protocol. Canada works closely with the Office of the United Nations High Commissioner for Refugees (UNHCR) in determining the specific criteria and legitimacy of individual refugee claimants.

Refugees who come to Canada can be sponsored by the government (known as publicly sponsored refugees) or different organizations (known as privately sponsored refugees) (Satzewich & Liodakis, 2017). Many times, these individuals were forced to flee from their home countries due to natural catastrophe or human-made disaster. Their migration, unlike other immigrants', was sudden and not planned (Potocky-Tripodi, 2002; Yan, 2017). In the Canadian context, immigrants and refugees are put under the umbrella term 'permanent resident', which is also frequently used to address the immigrant population (Satzewich & Liodakis, 2017). Administratively, this term is designated to foreign-born people who were granted the right of abode in Canada. Moreover, for permanent residents who only recently settled in their new country, the term 'newcomers' is often used to describe them (Yan & Anucha, 2017). Those who do not have the right of abode are mainly international students and temporary foreign workers, who are granted a temporary permit to stay in Canada for a certain period of time.

Across the world, immigrants comprise of 3.25% of the population (O'Reilly, 2012; Tsang & Li, 2017). Canada is considered one of the major immigrant-receiving countries, welcoming annually around 250000 permanent residents, as well as over 200000 temporary foreign workers and international students into the country. From the 2018 annual report, the Canadian government plans to receive more than one million newcomers into the country within the coming three years from 2019 to 2021 (Immigration, Refugees, and Citizenship Canada, 2018). In 2017, 80% of the total population growth in Canada was attributed to international migration. Therefore, it is not surprising that immigrants play a major role in Canadian society (Drolet & Wu, 2017; Richmond & Shields, 2005), where more than one-fifth of the total population are immigrants (Marger, 2011; Tsang & Li, 2017). It has also been projected that by 2031, the immigrant ratio of the population will increase from 20%, to potentially between 25% and 28%

(Drolet & Wu, 2017; George, 2017).

To address immigration in Canada, it is important to acknowledge that immigrants, in fact, helped build the country. While Aboriginal inhabitants settling in Canada can be traced back to 40000 BCE, one can argue that all Canadians apart from Aboriginal peoples are either immigrants or descendants of immigrants (George, 2017; Yan, 2017; Yan & Anucha, 2017). With this settler society, immigrants can be seen as the very nature of Canada. The French and English were some of the earliest immigrants to Canada starting in the fifteenth century, followed by the Loyalists of the British Crown with their slaves, which marked Canada's first refugee movement (Walker, 2008; Winks, 2008). Throughout history, Canada went on to receive immigrants from South Asia, Japan, and other non-European countries, war brides during World War II, refugees from Hungary, Czechoslovakia, Uganda, Chile, Vietnam, and many other countries under various criteria and conditions (Citizenship and Immigration Canada, 2015). Throughout the period of 1860 to 2014, at least eighteen million immigrants landed in Canada (Citizenship and Immigration Canada, 2015), with close to a third of this group, or six million immigrants, claiming permanent residency from 1990 onwards (Immigration, Refugees, and Citizenship Canada, 2018; Yan & Anucha, 2017).

1.2 Integration of Immigrants in Canada

With multiculturalism being the backbone of Canada's modern immigration policy, the ideology of integration has directed the Canadian government in implementing practices and policies to facilitate the process of immigrants settling in society (Wiseman, 2018). This includes adopting a cultural pluralist framework, using a metaphor of the society being a 'mosaic', whereby all ethno-cultural communities in Canada can preserve their culture, language, religion, and practices, and still be able to thrive in the society (Wiseman, 2018; Yan, 2017).

In social research on immigrants, integration into the new society has been a key topic, as it is considered to be the final stage of one's migration process (Fong & Shen, 2016). According to Yan (2017), integration has three fundamental goals. The first is to enable immigrants to be full economical, social, cultural, and political participants of Canadian society. Secondly, integration aims to empower immigrants to not only engage in the society, but also to prosper and do well in Canada, by providing them adequate support to acquire necessary social and language skills. Thirdly, the integration process is also described as a two-way street where both local-born counterparts and immigrants learn to accommodate each other. Through reciprocity, it is hoped that a cohesive society can be built. In this third goal, various elements are identified in contributing to cohesion, namely "a feeling of belonging, social inclusion, civic and political participation, recognition of difference, and legitimate public and private institutions that mediate and connect individuals" (Yan, 2017, p. 33). Ultimately, the process of integration has the aim of creating social solidarity and an inclusive society.

1.3 Post-migration challenges encountered by immigrants

Immigrant and refugee resettlement have never been guaranteed to be positive experiences for many immigrants because they can often be stressful, discriminating, and challenging processes (Collett, 2004; Jasinskaja-Lahti, Liebkind, Jaakkola, & Reuter, 2006; Kazemipur, 2018). It has been documented that there are systemic oppressions present in the Canadian labour market, especially in regard to a lack of recognition of immigrants' previous skills, education credentials, and training (Krahn, Derwing, Mulder, & Wilkinson, 2000; Lamba & Krahn, 2003). Immigrants also face layers of additional challenges ranging from employment, health, and access to social service (Weng & Lee, 2016; Zietsma, 2007). In addition, immigrants often encounter social exclusion due to different barriers, such as language barriers and in-access to

information, which impedes them from fully participating in society (Wang & Handy, 2014). When immigrants migrate and re-root to another country, many also experience cultural and religious confusion, which causes them to feel a sense of loss of their identity (Bilewicz & Wójcik, 2009). Such loss of identity can cause immigrants to experience social isolation and even become susceptible to physical and mental illnesses. In fact, stressors related to post-migration have shown to be associated with mental and psychological symptoms ranging from anxiety and depression, to feelings of marginalization and alienation (Jasinskaja-Lahti et al., 2006).

1.4 Purpose and significance of this thesis

It is critical that social workers and other human service professionals find and implement effective interventions to assist immigrants to resettle and excel in Canada (Collett, 2004; Fell, 2004). Previous literature shows that volunteering is recommended as a helpful tool for immigrants to build their sense of belonging and social capital (Tossutti, 2003; Weng & Lee, 2016; Wilson-Forsberg & Sethi, 2015). Volunteering also creates a buffering effect from threats that may harm immigrants' physical and mental health (Giordano et al., 2011; Im & Rosenberg, 2015; Piliavin & Siegl, 2007; Sanchez, 2016).

Despite the fact that social capital and social participation are considered to be critical elements of immigrants' integration to Canadian society, little has been studied on the implementation of volunteering as a way to build social capital, and particularly to uplift immigrants' health, partially through increasing their sense of belonging. Furthermore, no study has been done to investigate sense of belonging as a mediator on the relationship between volunteering and immigrants' health. Therefore, the purpose of this thesis is to understand how volunteering can act as a means to facilitate immigrants' integration by directly and indirectly

predicting their physical and mental health, through enhancing their sense of belonging. Findings of this thesis can have pivotal practice, policy, and research implications on how resources can be better allocated to support the growing immigrant population in Canada in their post-migration settlement. This study can also shed light on the roles that social workers and other human service professionals play to support immigrants in their integration process.

1.5 Organization of thesis

In the following section, the whole skeleton of this thesis will be illustrated. In Chapter one, the background context of immigrants in Canada will be laid out. This is followed by a thorough review of existing literature in Chapter two, including a depiction of the healthy immigrant effect. This proceeds to an explanation of the social capital theory and how it is applied to understanding the role of volunteering as a civic engagement activity to support immigrants' integration, specifically in terms of increasing their sense of belonging and uplifting their physical and mental health. Furthermore, the effects of different socio-demographic characteristics on immigrants' integration and health will also be described. Chapter three will include the overall research design and the operationalization of all the variables used in this thesis. As well, the statistical model will be portrayed with an elucidation of the statistical analytical techniques. Chapter four will illustrate procedures on data cleaning and data analyses, followed by descriptive statistics of the sample's demographics and the chosen variables. The last section in this chapter will also reveal the results from various techniques used to test the hypotheses among different variables. Finally, Chapter five will summarize and situate the findings of this thesis study in regard to the existing literature. It will also offer an understanding of the implications of these findings in terms of social work practices and policy development and will shed light on further research on related topics and discuss certain research limitations.

Chapter 2: Review of the Literature

In the following chapter, the context of immigrants in Canada will be introduced, specifically in relation to their social integration and various challenges. Secondly, an introduction to the social capital theory will be laid out and an explanation of how this theory can be applied to the subject of immigrant settlement and volunteering will be provided. This chapter will then transition to a review of the literature surrounding the importance of volunteering on immigrants' health and sense of belonging. Lastly, this chapter will conclude by highlighting the existing research gap in the literature as well as reviewing this thesis' research questions and hypotheses.

2.1 The healthy immigrant effect and its dissipation

In response to a rapidly aging Canadian population, the Immigration, Refugees, and Citizenship Canada (IRCC) has decided to recruit foreigners who have great potential, with the hope of filling in gaps in the labour market, especially for skilled labour (George, 2017; Wilson, Sakamoto, & Chin, 2017). To accommodate this growing community of immigrants, the IRCC has also developed a welcoming community framework, which aims to "attract and retain newcomers by identifying and removing barriers, promoting a sense of belonging, meeting diverse individuals' needs, and offering services that promote successful integration" (Drolet & Wu, 2017, p. 89). It is important for immigrants who have just arrived and are going to establish a new life in Canada to feel at home. Therefore, it is highlighted that Canadians should create a welcoming environment, which includes a healthy community (Drolet & Wu, 2017; Drolet, Yan, & Francis, 2012).

In the past, the government passed the first Immigration Act and the Continuous Passage Act in 1906 and 1913 respectively to restrict the 'type' of immigrants accepted to Canada (Guo &

Wong, 2018; Marger, 2011; Satzewich & Liodakis, 2017). In 1967, a historic change was made regarding the immigration policy, in which the merit-point system was introduced under the refined Immigration Act (Yan & Anucha, 2017). This merit-point system was created with the intention of recruiting people across the world whose skill sets best fit into the local Canadian labour market (Fleras, 2018; Wong & Tézli, 2013). Applicants' scores are generated based on their human capital and personal qualities in terms of English and French language proficiency, professional expertise and training, health conditions, and many other categories with the goal of the Canadian government inviting the most talented people into the country (George, 2017).

During the immigration selection process conducted by the IRCC, candidates with great potential to be future immigrants to Canada are required not only to submit background information, in order to verify their human and social capital, but are also requested to pass a sophisticated medical examination. This process allows the IRCC to screen out unhealthy immigrants from entering Canada, so as to minimize the chance of public health risks as well as potential healthcare costs (Fang & Katakia, 2017; Vang et al., 2015). Furthermore, as applicants for Canadian immigration tend to have greater human capital, being highly educated and possessing strong work experience makes them more successful in the job market and help them obtain a higher social status, which are key determinants for maintaining their physical and mental health (Vang et al., 2015).

Based on these pre-migration screening mechanisms, it is not surprising that studies have found a phenomenon known as the healthy immigrant effect (Fang & Katakia, 2017; Tsang & Li, 2017; Vang et al., 2015), where immigrants were found to be generally healthier physically and mentally than their Canadian-born counterparts, as well as than non-immigrants of their countries of origin, as evidenced by the fact that over 90% of immigrants reported having very good to

excellent health (Fang & Katakia, 2017). In addition, immigrants were also less likely to have chronic conditions such as cancer, diabetes, heart diseases, obesity, asthma, as well as less likely to have disability or functional limitations or display risky behaviours, as compared to the general Canadian population (Drolet et al., 2012; Fang & Katakia, 2017; Vang et al., 2015). Furthermore, immigrant status was correlated with a lower prevalence of various psychiatric disorders, where immigrants revealed lower rates of suicidal ideation, depression, and anxiety than non-immigrants (Tsang & Li, 2017; Vang et al., 2015). In another study, immigrants in Canada were found to have half the rate of mental health consultations and visits to general practitioners as compared to non-immigrants (Fang & Katakia, 2017).

However, the literature also points to the fact that many immigrants describe the pro-migration process to be challenging to fulfill their dreams and establish a better life in the new country. Immigrants often face different socio-cultural difficulties and economic hardships, leading them to experience disadvantages and oppression, which can have detrimental impacts on their migration experiences and well-being (Yan & Anucha, 2017). In particular, it was found that immigrants' comparative advantage in regard to their health gradually diminishes post-immigration (Tsang & Li, 2017). Fang and Katakia (2017) noted that the superior health status immigrants previously enjoyed deteriorated and converged back to the native-born population over time following immigration. Even among immigrant communities, those who lived in Canada for a decade tend to have poorer health than those who have resided in Canada for less than a decade. The same study further demonstrated that the chance of immigrants suffering from chronic diseases such as diabetes is positively related with the length of residence in Canada (Fang & Katakia, 2017). It has also been found that immigrant mothers generally have worse postpartum health than native-born mothers, with more pain, bleeding, and higher blood

pressure (Fang & Katakia, 2017; Vang et al., 2015).

It is speculated that such dissipation is caused by a variety of reasons. First, immigrants may encounter barriers in accessing healthcare that local Canadians may not face. Some of these unique hurdles that immigrants need to jump through in order to receive adequate support for their healthcare, are known as structural barriers (Potocky-Tripodi, 2002). These barriers include cultural and language barriers, lack of trust towards physicians or the healthcare sector, lack of accessibility to healthcare resources and services, lack of ethnocultural representative healthcare service providers, and policies that affect the eligibility of certain immigrants from different categories to access healthcare support (Drolet et al., 2012; Potocky-Tripodi, 2002; Premji & Shakya, 2017; Tsang & Li, 2017; Vang et al., 2015). Second, the cultural and language barriers were further compounded by other social factors such as a lack of personal mobility and social supports (Fang & Katakia, 2017; Sabagh & Okun, 2010; Vang et al., 2015). Immigrants in Canada often encounter unfavorable situations in their post-migration stage, in which they may experience a variety of challenges such as unemployment, poverty, and unstable living conditions in the host country (Fang & Katakia, 2017; Wilson-Forsberg & Sethi, 2015; Zietsma, 2007). Some immigrants are not able to work in their initial occupations, even when they were invited to immigrate by IRCC based on their professional excellence. Instead of utilizing their high education and skills, they are forced to work in multiple survival jobs with minimum wage and long working hours (George, 2017). It was recognized that when the labour market undervalues one's former experience and expertise, it is known as deskilling or employment discrimination, and it brings harmful effects to immigrants' physical health and psychological well-being (Potocky-Tripodi, 2002).

Third, specific groups of immigrants are susceptible to different physical and mental health

issues. For example, refugees who escaped from the warzones are at higher risk of getting post-traumatic stress disorder (PTSD) (Fang & Katakia, 2017). Sometimes it is also accompanied by depression (Potocky-Tripodi, 2002). In addition to these conditions, immigrants typically begin their new lives by leaving their supportive social network of families and friends at home, as well as their native culture, which used to serve as a buffer from external emotional threats (Sabagh & Okun, 2010; Yan & Anucha, 2017; Young & Glasgow, 1998). This loss of interpersonal connection and community belonging sometimes costs immigrants' the ability to cope with stress. For instance, one study has shown that immigrant women who have a high level of social connectedness and sense of community belonging were more able to cope with difficulties after childbirth and improve their postpartum outcomes (Vang et al., 2015). Thus, receiving more support from community members, friends, and families has been found to be associated with better mental health across immigrant (Fang & Katakia, 2017; Fell, 2004).

These aforementioned factors, such as economic hardships and disconnection with community members, can make immigrants more vulnerable towards a high stress level and other mental health issues, such as depression or other psychologically induced somatic symptoms (Fang & Katakia, 2017; Fujiwara & Kawachi, 2008). Unemployment and underemployment issues can further increase immigrants' finance-related stress, which can hinder some important protective factors for avoiding mental distress, such as inner strength and control (Drolet & & Wu, 2017; Fang & Katakia, 2017). Therefore, as the issue of underemployment and unemployment affects skilled worker immigrants, it was found that those who used to be elites and middle class in their home countries were the most dissatisfied group with their integration experience in Canada (Wilson et al., 2017; Yan & Anucha, 2017). A longitudinal study found that this group of highly skilled and well-educated immigrants and their

dependents had the highest percentage of reported stress levels after their second and fourth year of their settlement. In the same study, the highly skilled immigrants were also found to be at a higher risk for schizophrenia than non-immigrants (Yan & Anucha, 2017).

To summarize, while immigrants are generally healthier both physically and mentally, when they first arrive in Canada, they face systemic and structural barriers that create numerous economic and socio-cultural challenges, which directly and indirectly affect their health statuses (Drolet et al., 2012). Without a strong social and community safety net, immigrants and refugees can suffer from poorer health and also may experience difficulties in accessing healthcare support during their post-migration settlement. It can be seen, then, that disadvantages in one area of their lives (e.g., social isolation and underemployment) is linked to exclusion in other areas (e.g., the inability to access healthcare services) (Collett, 2004; Drolet & & Wu, 2017; Vang et al., 2015).

2.2 Theoretical framework

2.2.1 Social capital theory

According to Lin (2002), when people are in need of resources, there are generally two types of resources: personal and social. Personal resources are assets that are owned or possessed by individuals for their disposal. These resources can be tangible (e.g., properties and material items) or symbolic (e.g., educational degrees). Social resources, on the other hand, refer to resources that can only be accessed through a person's network and social connections. Pierre Bourdieu first initiated the theorization of social resources to the social science field (Portes, 1998). He called such resources *social capital*, defined as individuals' durable social network that allows them to gain access to resources. He also referred to individuals' personal resources as their *human capital* (Bourdieu, 1985; Mann, 2008). The social capital theory emphasizes the

importance of one's social network as a way for people to attain certain benefits that are not generated by their personal resources (Lin, 2002). The creation of social capital requires people to engage in different social activities proactively, so as to receive mutual benefit or achieve a shared objective (Bourdieu, 1985; Putnam, 1995a; Wollebaek & Selle, 2002). Lin (2002) further argued that social capital cannot be observed or generated without actions. Thus, social capital can be understood firstly as a network within and among groups where cooperation is facilitated and, secondly, as the capacity of individuals to access resources through their social networks (Yan, 2017). From an individual standpoint, having relationships with others can have significant implications for one's well-being, since one can access increased resources through connections with friends and acquaintances (Lin, 2002). People with more social capital will, therefore, have more resources, which can play a role in their health (Ross, 2002).

In the social capital theory, social capital can be understood and applied in two forms: homophily (or bonding) and heterophily (or bridging) (Grootaert & Bastelaer, 2001). Homophily refers to two actors sharing similar factors like ethnicity, socio-economic positions, and resources, with these resources being transferred and exchanged among people within the same group. Conversely, heterophily directs to the relationships between actors whose backgrounds and characteristics are dissimilar, and implies the differences between actors, where transfer of resources is done between different groups (Grootaert & Bastelaer, 2001; Lin, 2002).

For homophilous interactions, having more friends and social contacts living nearby is considered beneficial, because it increases one's accessibility to more resources (Carpiano & Hystad, 2011; Lin, 2002). In contrast, gaining additional resources or information requires access to other positions and networks that have different (and presumably better) resources, which indicates the importance of heterophilous interactions (Cornell & Hartmann, 1998; Lin, 2002;

McPherson, Smith-Lovin, & Cook, 2001). The linkage between different social groups is called a social bridge and it is pivotal for originally separated groups to connect with one another, in order for interaction to take place (Lin, 2002). While homophily limits people's access to information and affects the interactions they experience, better access to social capital can be obtained through establishing a heterogenous network, whereby people with various positions, and their respective embedded resources, can become reachable and accessible (Cornell & Hartmann, 1998; Lin, 2002; McPherson et al., 2001). Therefore, people who have connections with others from a diversity of backgrounds will theoretically have more social capital and, similarly, those who are closer to social bridges will also have greater potential access to social capital.

It is suggested that using one's social contacts may be a more efficient way of accessing and using resources that are not personally owned (Lin, 2002). Social capital operates and benefits an individual through two mechanisms as following. First, having specific social networks allows an individual to gain certain social credibility, which is invaluable for accessing resources in the process. As mentioned by Putnam (1995a), social trust is one of the components that constitute one's social capital. The acknowledgement of one's connections with other organizations or agents serves as a certification of one's social credentials (Bourdieu, 1985). Thus, others typically place more trust in a person who has more connections, especially with organizations that are more respectable, which will lead that person to receive more trust from others and have more social capital (Lin, 2002; Wollebaek & Selle, 2002).

Second, having a wide and diverse social network enables an individual to access more resources through their direct and indirect ties. An individual may know the types and amounts of resources embedded in their connections (referred as one's direct ties), but that is only a subset

of their social capital. This is because the individual may not know the resources that their connections' connections (referred as one's indirect ties) might possess. With the help of one's indirect ties, an individual may be able to gather resources that they cannot reach by themselves. Through activating one's chains of networks, an individual could "go to someone who does not possess that information but who may know someone else who does" (Lin, 2002, p. 44). Thus, one's direct and indirect ties become that person's resources and as one's social network extends, so does their social capital that enables them to gain access to more resources and information.

2.2.2 Application of social capital theory

The following sections will illustrate the processes of how social capital benefits immigrants' integration, sense of belonging, and health. The use of volunteering as a practice to enhance immigrants' social capital will specifically be discussed.

2.2.2.1 Immigrants' integration

The concept of social capital and social network are intrinsically connected to the process of immigration (Drolet et al., 2012; Marger, 2011; O'Reilly, 2012; Potocky-Tripodi, 2002; Sabagh & Okun, 2010). As Lin (2002) argued, the decision to migrate is an illustration of people's desires to change their social network and socio-economic environment, by leaving their countries of origin and entering a novel community. Through this process, people's social capital also changes drastically (Cornell & Hartmann, 1998). For immigrants under specific categories, such as those who migrate through the family reunification class, their major goal of migration is to reconnect with their families and networks, which is also closely related to social capital (Marger, 2011; Yan & Anucha, 2017). Throughout the process of deciding where to settle in new countries, the presence of existing social networks is also instrumental on such judgment, in which immigrants are often drawn to settle in a specific city due to having friends and relatives

already living there (Drolet & Wu, 2017; Sabagh & Okun, 2010; Yan & Anucha, 2017).

The use of social capital theory to understand immigrants' integration has been widely studied, including in the Canadian context, and is indicated to play a crucial role in immigrants' social integration and well-being (Drolet et al., 2012; Drolet & Wu, 2017; Yan, 2017). It is recognized that immigrants are highly active agents in their own resettlement. They are able to construct and maintain meaningful social ties in their own ways in order to help themselves integrate into the new society (Lamba & Krahn, 2003; O'Reilly, 2012). The amount of social capital that immigrants have is also highlighted as one of the indicators of successful integration (Drolet & Wu, 2017; Potocky-Tripodi, 2002).

Resettling in a new city as individuals or family units can be challenging for immigrants. To truly call a place their home, and have a good life after migration, an immigrant must establish a new sense of community. However, connecting with a community and society is not as easy as it seems. It is thus critical for immigrants to build social connections in hopes of having a smoother integration, whether this is among people from the same community (bonding), or from different background (bridging). These contacts allow immigrants to more easily access basic information for settlement, such as accommodation and employment opportunities (Cornell & Hartmann, 1998; Potocky-Tripodi, 2002; Yan, 2017).

Social capital is a determining factor of immigrants' success in integration. Once immigrants have decided to stay in a community, extending their networks to people other than their friends and families can make them feel they belong in their new country, and can be instrumental for their social and economic integration (Fong & Shen, 2016; Sabagh & Okun, 2010). By engaging in activities where immigrants and residents are required to communicate, participants' sense of self can broaden, and it is possible to develop the concept of "we" rather than "I", allowing

people to reap the benefits of collaboration (Putnam, 1995a). In the following section, further illustrations will be given to demonstrate how social capital theory can help to understand immigrants' integration by enhancing their sense of belonging.

2.2.2.2 Sense of belonging

Generally, sense of community belonging comprises of four pillars. 1) membership – involving a feeling of belonging or the sharing of a sense of personal connectedness; 2) influence – meaning a belief where one can make a difference to the group; 3) integration and fulfillment of needs – recognizing the mutually beneficial relationship between the group and the members, wherein individuals' needs can be fulfilled through the group's resources; and 4) shared emotional connections – highlighting the fact that members of the same group share similar experiences, history, places and time together (McMillan & Chavis, 1986). It is proposed that one's sense of belonging is an indicator of social capital (Carpiano & Hystad, 2011; Schellenberg, Lu, Schimmele, & Hou, 2017). In a study about public health, one's psychological sense of community was used to conceptually tap into one's social capital (Lochner, Kawachi, & Kennedy, 1999). Carpiano and Hystad (2011) also suggested that in order to understand the influence of social capital on one's health mechanisms, their sense of community belonging should be used as a measurement of social capital.

Specifically, from an immigrant context, through civil participation activities like volunteering and other engagement programs, immigrants can integrate more easily into the society as they build a stronger identity in relation to the host community. At the same time, group boundaries between immigrants and local residents can also become less distinctive due to such interactions (Fong & Shen, 2016). As a result, not only do immigrants gain more social capital and sense of belonging in the community, but their health often also improves (Carpiano

& Hystad, 2011).

2.2.2.3 Immigrants' health

According to social capital theory, one's economic, political, and social statuses contribute to maintaining physical and mental health by offering more resources to individuals. According to Lin (2002), physical health under social capital theory is defined as the ability to maintain physical functional competence as well as the freedom from diseases and injuries, whereas mental health is understood as one's capacity to cope with stresses and the ability to maintain one's cognitive and emotional balance. It is also proposed that both bonding (homophilous) and bridging (heterophilous) interactions play a role in improving one's health. Social capital is especially pivotal to the immigrant population, where many find it difficult to access the healthcare system, even when their health is deteriorating (Kim, Auh, Lee, & Ahn, 2013; Vang et al., 2015).

The impact of community and social connections on health has been drawing more interest over the past few decades (Carpiano & Hystad, 2011; Potocky-Tripodi, 2002). Not only are social relationships vital to individuals' health, but they also bring in other supportive qualities that account for a buffering effect (Kim et al., 2013; Young & Glasgow, 1998). Social capital theory is crucial in studying social determinants of health. It can help explore the mechanism of how resources for maintaining, promoting, or harming health can be accessed through one's networks. Social capital theory also examines the impact of social structures on individual and community health (Carpiano & Hystad, 2011). Lin (2002) proposed that research that applies social capital theory should demonstrate how elements of social capital directly or indirectly yield impacts on individuals' physical health and mental well-being. In a study, a high level of social capital is even found to reduce mortality rates (Shields, 2008). Regarding impact on

mental health, the quality of interpersonal ties is also found to be a factor on individuals' life satisfaction (Lin, 2002). On the flip side, socially isolated individuals are found to be more depressed and chronically stressed (Kim et al., 2013), which acts as a kind of "accelerated aging" (Ross, 2002, p. 33).

The mechanism of how social capital improves immigrants' health is illustrated in existing research. It is well documented that social capital allows individuals to have access to information and resources, which can have an impact on one's physical and mental health, both directly and indirectly (Lin, 2002). For instance, through interacting with family members, friends, and respective social networks, immigrants are better able to navigate the healthcare system in Canada (Fang & Katakia, 2017). Through increased interaction with other community members, immigrants will also be more knowledgeable about healthy activities like physical exercises, and refrain from harmful behaviours like smoking (Shields, 2008). The existence of a social network is found to enhance the probability of accessing social support, which improves individuals' life satisfaction, as well as physical and mental health (Fell, 2004; Lin, 2002).

Apart from allowing immigrants to have access to health information and resources, social capital also enhances one's sense of belonging and identity, which directly and indirectly strengthens one's health. Creating ties reinforces one's worthiness as an individual and a member of the social group. This can provide legitimacy and public acknowledgement for individuals in accessing certain resources, in addition to allowing social group members to interact and provide emotional support to each other (Lin, 2002). Echoing this, Shields (2008) explained that social capital has a positive effect on one's health, because being engaged in respectful and reciprocal social relations with people who share similar interests and backgrounds can help people feel connected and thereby increase one's self-esteem. The importance of one's sense of belonging

and connectedness has been closely related to one's social capital, with some scholars arguing that sense of community belonging should be used as a measure of social capital (Carpiano & Hystad, 2011).

2.2.2.4 Volunteering

In social capital theory, volunteering is an essential element of building social capital and social trust (Portes, 1998; Putnam, 1995). In order to generate resources from the social network, one must conduct purposive actions (Lin, 2002). Civic participation that is involved or initiated in voluntary and community organizations represents applications of social capital mobilizations (Lin, 2002). It has been suggested that civic participation consolidates the collective norm and trust, which are crucial to the production of social capital and well-being (Lin, 2002; Pargal, Huq, & Gilligan, 1999). Volunteer work is viewed as one of the examples of social participation (Young & Glasgow, 1998), with the aim of bonding and bridging social capital (Tossutti, 2003).

Volunteering and related civic participation activities are effective for improving immigrants' social contacts, well-being, and smooth integration into the receiving country. All these contribute to indirectly maximizing immigrants' full potential (City of Calgary, 2013; Fong & Shen, 2016; Wilson-Forsberg & Sethi, 2015; Wong & Tézli, 2013). Volunteering programs bring benefits to immigrants' integration, specifically socially (Wilson-Forsberg & Sethi, 2015), as integration implies a strong identity and sense of belonging toward the host society (Fong & Shen, 2016). By increasingly engaging in the society through volunteering, other benefits can also be found, such as an improvement to accessing information and knowledge, which directly and indirectly improves immigrants' health.

Volunteering done by immigrants can help with integration and indirectly improve their physical and mental health in different ways. First, the practice of immigrants volunteering to

help other immigrants has been regarded as a way for immigrants to undertake volunteer work within their comfort zone, and also connect with people who share similar experiences and background. In social capital theory, this represents an act of bonding (Wilson-Forsberg & Sethi, 2015). Volunteering and related civic engagement projects allow residents, both local-born and immigrants, to connect with one another, promote social inclusion, develop dialogues, and celebrate diversity (Drolet & Wu, 2017). Second, in regard to bridging, it was found that even after controlling the demographic and socio-economic backgrounds of immigrants, participation in voluntary activities helps 1) blur the boundary of Canadian-born residents and immigrants, 2) extend immigrants' confined social circle, 3) contact people beyond their own ethnic, racial, cultural backgrounds, and 4) develop ties with a more diversified community, including people with higher status. All this bridging can contribute to better adjustment after migration, and facilitate social integration (Fong & Shen, 2016).

Volunteering is not only pivotal in generating immigrants' individual social capital, but also in directly and indirectly improving their quality of life, particularly their physical and mental health. For instance, different ethnic groups in the United States were found to be able to have better health outcomes when they live in a more civically engaged community (Putnam, 1995a). In addition, as volunteering enables immigrants to acquire new information through increasing their social capital, it allows individuals to engage in more purposive actions in order to gain other resources that can promote their well-being (Lin, 2002). While being able to serve others and build networks, immigrants can feel a sense of mastery and fulfillment, and increase their reputation, self-worth, as well as self-identity in the society. When immigrants consider they are valued members of the society, their self-esteem and mental health often increase (Lin, 2002; Wilson-Forsberg & Sethi, 2015). Additionally, having a strong connection and making new

friends also acts as a protective buffer from stress and daily hassles (Wilson-Forsberg & Sethi, 2015).

To conclude, anchored in the social capital theory, immigrants can benefit by engaging in volunteering activities involving people with similar or different backgrounds. Not only does volunteering help generate social capital by allowing immigrants to interact and build trust with one another and facilitate the transfer of knowledge and resources, it also creates a platform to uplift immigrants' physical and mental health by instilling a sense of belonging and self-esteem, as well as creating a social safety net to mediate stress.

2.3 Volunteering on immigrants' integration and health

In the following sections, a general review of the literature on the use of volunteering to improve immigrants' integration, specifically in regard to their sense of belonging and health, will be discussed. This will be followed by a look at how previous studies have documented the importance of immigrants' sense of belonging on their physical and mental health.

By providing immigrants with opportunities to help them establish durable and meaningful social networks, it is hoped that they bond among themselves and bridge with their native-born counterparts. This will, in turn, help immigrants find their new social identities and practices (Drolet & Wu, 2017). Activities like community engagement, education, and health promotion (in the forms of free screenings, workshops, fairs, and so on) can be used, so as to disseminate knowledge about physical and mental health to immigrants, to strengthen their connection to public resources, and to build community capacity. These activities were shown to be useful for identifying at risk physical and mental health issues for immigrants and ensuring that a diverse group of immigrants could receive culturally sensitive and relevant healthcare supports (Drolet & Wu, 2017; Fang & Katakia, 2017).

While the IRCC has identified long-term health as one of the most important indicators for immigrants' successful integration in Canada, many programs and research initiated to welcome immigrants have focused on immigrants and refugees as the service recipients, but not as the service providers. The importance of service provision *by* immigrants to their social network, as well as their physical and mental well-being, has not been highlighted. Volunteering of immigrants in Canada, their potential to serve the community, and the positive effect of this service on their health and integration should not be overlooked. An example of this can be seen in Syrian refugees launching a donation drive in Calgary to contribute to evacuees from Fort McMurray, after witnessing them being affected by wildfires, because these refugees know how it feels to leave their homeland (Drolet & Wu, 2017).

Volunteering, or voluntary community service, can be defined as an unpaid act that involves the provision of a service or a production of goods for the consumption of others (Musick & Wilson, 2007). It is a key indicator of an individual's citizenship and civic engagement, which helps to build social capital and develops a more harmonious society by enhancing trust amongst immigrants (Tossutti, 2003). It is understood that immigrant volunteers often say that they want to "give something back" to their community, as an act of reciprocity to a community that has welcomed them (Weng & Lee, 2016). For instance, immigrants may have received support from community members in the past, and instead of giving the support back to those who addressed their needs, they would choose to contribute to whoever may need it. The concept of reciprocity is pivotal to voluntary community services, and to social capital (Grenfell, 2008; Musick & Wilson, 2007). Volunteering by immigrants has been found to bring various benefits to immigrants, acting as the service providers. Firstly, by working together with different people in or outside their community, immigrants are able to participate in different events and expose

themselves to various cultures and social environments. This also helps form a sense of community as people come together with a shared vision and interest and enables participants to build a meaningful and strong network with one another, which directly and indirectly enhances one's access to information and resources. In addition, it contributes to immigrants' sense of fulfillment through a mastery and professionalism of particular skill sets. Through volunteering, immigrants are able to recognize their contributions, which in turn, can help them view themselves as valued members of society. It has also been seen that through volunteering, when participants build social capital and gain satisfaction by doing something meaningful to the community, it also mediates stress (Wilson-Forsberg & Sethi, 2015).

While understanding that volunteering could be beneficial to immigrants' integration and health, it does not solely appear to be a direct effect, but rather, through a pathway of consolidating their sense of belonging in the community. It was found that sense of belonging plays a major role on the positive relationship between volunteering and psychological well-being (Piliavin & Siegl, 2007), and those who have stronger connections with their communities report to have better health, even as they move onto the later stages of the lifespan (Krissotakis & Gamarnikow, 2004; Poortinga, 2006; Statistics Canada, 2004; Yip, Subramanian, Mitchell, Lee, Wang, & Kawachi, 2007). Volunteering is able to increase community and people's access to resources, and thus enhances individual health outcomes (Giordano et al., 2011). From a twin study by Fujiwara and Kawachi (2008), it was found that individuals' sense of belonging and community participation serve as protective factors from depressive symptoms. From the work of Bruhn and Wolf (2013), it was also demonstrated that strongly cohesive social relationships among immigrants can lower the rates of cardiovascular disease. Ethnic community support for immigrants also helps to reshape their migration experiences and diminish negative

influences on their psychological well-being (Jasinskaja-Lahti et al., 2006). Community voluntary services that involve peer-to-peer support in refugee communities have also been shown to be an effective and culturally appropriate intervention tool to improve community members' access to public health services, as well as provide specific information and awareness about physical and mental health (Im & Rosenberg, 2015; Sanchez, 2016).

Social capital and volunteering are crucial components of immigrants' successful integration and social determinants of physical and psychological well-being (Weng & Lee, 2016). For instance, evidence shows that individuals who are consistently socially active report higher levels of well-being (Theurer & Wister, 2010). Immigrants who gained a stronger sense of community were also shown to have better health (Fujiwara & Kawachi, 2008; Giordano et al., 2011). To summarize, volunteering improves not only immigrants' sense of belonging in a new country, but also their health. Yet, many socio-political systems tend to overlook immigrant communities as rich resources for volunteering and giving back to the community (Weng & Lee, 2016). This study tries to answer what previous studies have called for, in terms of a more comprehensive understanding of the role of social capital on health outcomes (Fujiwara & Kawachi, 2008; Giordano et al., 2011), and a way to document and validate immigrants' capacity and strength to empower themselves (Potocky-Tripodi, 2002).

2.3.1 Impact of volunteering on sense of belonging

In addition to affiliating with organizations passively without real participation, volunteering is an activity that draws people together. With frequent and regular meetings, ample opportunities are provided for people of various backgrounds to develop connections with one another (Fong & Shen, 2016). Whether it is formal or informal, engaging in voluntary service allows people to interact with one another among volunteers, between volunteers and service recipients, or among

staff and volunteers. With volunteering, members of the same organizations share emotional ties, learn more about people in their community with similar interests, share similar goals and develop a sense of belonging. Through this activity, social capital can be built and positive bonds with shared goals and sentiments can be developed (Wollebaek & Selle, 2002). Participation in voluntary community services plays a central role in building one's sense of belonging (Theurer & Wister, 2010). Immigrants benefit from their communities, especially at the beginning stage of their arrival. Once they have settled, there are many opportunities for immigrants to 'give back to the community', and while doing so, they can also establish a strong connection with their community, and a sense of identity in it (Weng & Lee, 2016). Previous studies have found that interventions that focus on enhancing participants' social capital, such as voluntary services, allow refugee participants to create a sense of belonging in the local community and establish new networks (Im & Rosenberg, 2015; Stewart, Simich, Shizha, Makumbe, & Makwarimba, 2012). Therefore, it is important to develop voluntary services for immigrants to help build their sense of belonging.

2.3.2 Impact of volunteering on health

It is also well documented that volunteering can contribute to social capital, which acts as a social determinant of physical and mental health (Fujiwara & Kawachi, 2008; Giordano & Lindström, 2011; Harpham, Grant & Thomas, 2002; Narushima, 2005). Social participation such as volunteering provides a buffering effect in crises and enhances access to local resources. On the other hand, a lack of social capital or social participation is associated with mental illnesses and other health problems (De Silva, McKenzie, Harpham, & Huttly, 2005; Giordano et al., 2011). Among the many social activities, volunteering serves as an effective tool to build social capital and improve individuals' health. Studies have shown that by participating in volunteering,

people engage with others, and by doing so, feel less isolated or lonely (Ross, 2002; Wilson-Forsberg & Sethi, 2015). By comparing those who have more social ties from volunteering and those who do not, even after taking socio-demographic, health behaviours and other related factors into account, participants who volunteer experience lower rates of disease and death (Ross, 2002). Thus, volunteering and participating in social relationships appears to have a significant positive effect on people's health (Young & Glasgow, 1998). In regard to the relationship between volunteering and mental health specifically, it is revealed that by being more altruistic to others, there is a positive effect on individuals' emotional state, self-worth, and life satisfaction, which are essential to mental health (Weng & Lee, 2016; Wilson-Forsberg & Sethi, 2015). People with greater social capital as a result of a strong sense of connectedness with their communities also experience more health benefits (Theurer & Wister, 2010). From a study, the benefit for well-being is 7.5 times greater for acts of giving help than for receiving, in terms of satisfaction, happiness, depression, and anxiety (Schwartz & Sender, 1999).

2.3.3 Impact of sense of belonging on health

Immigrants' connections outside their immediate families are crucial to building social capital. Specifically, solidarity with their ethnic group is a significant factor in fostering their adaptation (Lamba & Krahn, 2003; Sabagh & Okun, 2010). Such networks function as a knowledge transmission station where information can be shared across the network to increase individuals' access to services in every step of their integration. Furthermore, as Lomas (1998) states, individuals' ill health cannot and should not be studied based only on their physical bodies and brains, but one must also take into account their connectedness with their communities and networks. Volunteering does not only directly affect immigrants' physical and mental health, but it also positively influences health through increasing one's sense of belonging. Studies have

shown that when people have stronger ties with their local community, it is easier for them to seek emotional and material support, as well as to increase their access to information (Carpiano & Hystad, 2011; Lin, 2002; Young & Glasgow, 1998). All these types of support are vital to helping immigrants relieve stress from daily hassles, maintain general health, as well as to know more about health-promoting behaviours, such as physical activity and refraining from smoking, by connecting people with their community. Having a stronger sense of belonging enables people to ask their community members for favours, which, in turn, is health-improving (Carpiano & Hystad, 2011; Shields, 2008). Similarly, in another study, people who have a very strong sense of belonging in their community were found to have approximately twice as much likelihood of reporting very good and excellent physical health, as well as mental health, even after other health-related factors are controlled (Ross, 2002). On the contrary, people who are more socially isolated or have fewer social ties tend to suffer more physical and mental health issues and are at higher risk of dying prematurely (Shields, 2008). This points to the fact that social integration is key to one's health status (Dalgard, 2010).

Regarding the importance of one's sense of belonging to mental health, social relation is a key component of maintaining one's mental health (Fell, 2004; Lin, 2002). It is proposed that knowing people in the community can provide a sense of safety and familiarity. Not only does affiliating with a social group that has similar interests help to build one's sense of worthiness, recognition, and identity as an individual or a community member, but it also provides emotional support when individuals encounter difficult times in their lives. Having someone to rely upon allows people to more effectively gain access to resources that can be critical in solving daily problems (Dalgard, 2010). With more social support, such as cohesion and attachment in the neighbourhood, immigrants gain a strong sense of belonging as well as more social capital, and

thus an increased ability to cope with stressors. On the contrary, a low sense of belonging leads to higher incidence of depression and other negative psychological consequences (Carpiano & Hystad, 2011; Fang & Katakia, 2017). This also enables people to build attachment and networks surrounding and among community members, wherein once one member has obtained certain resources, they can then share this access and resources with other members (Carpiano & Hystad, 2011). They can also provide emotional and social support to one another, which has a strong influence on one's mental health (Fell, 2004; Ross, 2002). The more people feel they belong to a certain community, the greater the sense of purpose and self-efficacy they gain, which are also factors for upholding mental health (Na & Hample, 2016).

2.4 Other socio-demographic characteristics

Immigrants may share similar experiences in their immigration journey, but they are composed of a variety of people from all walks of life, with unique capacities and challenges (Yu, 2018). The immigration process affects individuals differently and, thus, structural effects should not be neglected or ignored (Sabagh & Okun, 2010). Previous studies suggested acknowledging and considering the effects of one's socio-demographic status such as education, income, race/ethnicity, and sex, to portray a more comprehensive picture on immigrants' health (Dunn & Dyck, 2000; Hankivsky, 2012; Hayes, 2012; Veenstra, 2011). In the following segments, research that studied seven immigrants' demographic characteristics, including education, age, visible minority status, income, years of immigration, importance of religious and spiritual beliefs, and sex will be discussed.

2.4.1 Education

While immigrants are more highly educated than Canadian-born counterparts (Zietsma, 2007), immigrants who are educated and highly skilled tend to experience a smoother transition

throughout the migration process (Yan & Anucha, 2017). They are more likely to receive warm welcomes from the host country and have broader connections in the community (Wollebaek & Selle, 2002). To further validate the importance of one's education on their integration, a study found that after taking other demographic characteristics into account, such as gender, ethnicity, and age, education is by far the strongest predictor of social and political participation, as well as of trust and associational membership formation in society (Putnam, 1995b).

2.4.2 Age

Although immigrants in general have better health compared with native-born Canadians, such an advantage varies across stages of life among immigrants (Vang et al., 2015). Using age as an indicator, it has been found that the healthy immigrant effect tends to be the most significant for immigrant adults, but less distinct for older immigrants, adolescents, and children. Immigrant seniors, for example, are not found to significantly differ from Canadian-born seniors on both mental health and chronic conditions. Furthermore, social connections of older immigrants are found to play a key role in helping them receive appropriate healthcare support (Kim et al., 2013). Older individuals indicated that one's sense of community belonging is an important predictor in their health status (Carpiano & Hystad, 2011). It is thus critical to emphasize the importance of social engagement of seniors to improving their health (Kim et al., 2013; Putnam, 1995b). In regard to community belonging, it has also been found that older adults tend to report stronger sense of belonging than their younger counterparts (Schellenberg et al., 2017).

2.4.3 Visible minority status

Racialized immigrants often have difficulty accessing information and resources to allow them to participate in voluntary associations (Fong & Shen, 2016). In addition, factors such as a

lack of Canadian experiences, limited social networks, and language barriers can also hinder their chances of participating in volunteering work (Cornell & Hartmann, 1998; Wilson-Forsberg & Sethi, 2015). Without the opportunity to connect with the mainstream society, many racialized immigrants face further rejection and isolation (Este, 2018; George, 2017; Marger, 2011; Wiseman, 2018). Studies have shown that visible minority immigrants experience additional detrimental health effects due to discrimination and racism (Carpiano & Hystad, 2011; Este, 2018; Fang & Katakia, 2017; Vang et al., 2015; Yan & Anucha, 2017).

2.4.4 Income

Income is found to be a significant predictor of people's trust and civic engagement (Putnam, 1995b). People with lower incomes tend to socialize less frequently and have lower trust of others. They also report a lower sense of community belonging (Putnam, 1995b; Shields, 2008). On top of that, financial difficulties also affect immigrants' help-seeking behaviours. New immigrants and refugees in some cases do not have comprehensive healthcare coverage (Collett, 2004; Drolet & Wu, 2017; Fang & Katakia, 2017; Fell, 2004). Consequently, they avoid using healthcare services during their process of settlement because they cannot afford to do so (Potocky-Tripodi, 2002). This causes them to further detach from society, worsen their health status as well as their self-worth, and negatively affect their families (Collett, 2004; Fang & Katakia, 2017). Thus, it is clear that struggles in the labour market for immigrants can have a ripple effect on other aspects of their integration, from income to family and social life to their identities and mental health (Dalgard, 2010; Drolet et al., 2012; Zietsma, 2007).

2.4.5 Years of immigration

The healthy immigrant effect, as well as the diminishing aspect of it, is directly related to immigrants' duration of residence in Canada (Drolet et al., 2012; Vang et al., 2015). Even though

immigrants generally enjoy better physical and mental health when they first arrive, gradually such advantage disappears throughout the post-migration process, and their health status converges back to the norm (Wilson-Forsberg & Sethi, 2015). During the first few years that immigrants stay in Canada, they may experience a lower quality of life and poorer access to healthcare services due to discrimination, lack of social connections, and inaccessibility of resources and information (Fang & Katakia, 2017; Kazemipur, 2018; Yan & Anucha, 2017). It has been found that most immigrants were dissatisfied with their integration experiences, reporting that their situations were worse than expected upon the first six months of their arrival. Even after two to four years, immigrants and their dependents show a further increase in stress levels (Yan & Anucha, 2017).

2.4.6 Importance of religious and spiritual beliefs

For many immigrants and refugees, faith-based organizations serve as an anchor of their lives, where church-related groups still constitute one of the most common types of social institutions (Drolet & Wu, 2017; Este, 2018; Putnam, 1995a). It is recognized that faith-based organizations play an important role in fostering a welcoming community (Drolet & Wu, 2017). To facilitate immigrants' integration and social capital, religious organizations are key players to consider in helping immigrants to build connections, engage socially through volunteer opportunities, and gain access to information-related supporting services and employment (Wong & Simon, 2009). Faith-based organizations can also help immigrants to build trustworthy, close, and reciprocal relationships (Lin, 2002; Wollebaek & Selle, 2002). Young and Glasgow (1998) also suggested that participation in formal organizations such as churches and other kinds of voluntary associations can contribute to improving health. When people report having a strong tie to their community, measured by religious affiliations and volunteer experiences, they enjoy

better health due to the benefits of social connections (Ross, 2002).

2.4.7 Sex

Regarding the effect of sex, there has not been a consistent result in terms of the relationships between immigrants volunteering, sense of belonging, and health. In a previous study, immigrant men and women had the same positive effect of voluntary social participation on their health, wherein the more they volunteer, the healthier they are (Young & Glasgow, 1998). However, women tend to report a greater sense of belonging than men (Carpiano & Hystad, 2011; Schellenberg et al., 2017; Wollebaek & Selle, 2002). While at the same time women in Canada are also more likely to report poorer health (Veenstra, 2011; Veenstra, 2013), immigrant men have a higher chance of having diabetes (Creatore, Moineddin, Booth, Manuel, DesMeules, McDermott, & Glazier, 2010), and there is no sex effect on immigrants getting hypertension (Veenstra, 2013). It is proposed that women and men are influenced by the communities that they are in, and thus have different health choices and outcomes (Hankivsky, 2012).

2.5 Gaps in existing literature

It has been well documented that volunteering is beneficial to building immigrants' social contact and integration, by enhancing their access to resources through widening their social networks with people (Fong & Shen, 2016). At the same time, both voluntary participation (Su & Ferraro, 1997; Young & Glasgow, 1998) and sense of community belonging, as an indicator of one's social integration (Carpiano & Hystad, 2011), are also found to be helpful to one's health even after accounting for participants' socio-economic characteristics and initial health-related variables. One could argue that the act of volunteering by immigrants could improve one's health not only directly, but also indirectly via increasing their social capital and sense of belonging, which grant them better access to resources to cope with physical and mental health crises.

A thorough study is thus called for, to examine the relationships between immigrants' volunteering and their physical and mental health, specifically to shed light on the direct and indirect effects of volunteering on immigrants' physical and mental health through predicting their sense of belonging, while taking essential socio-demographic characteristics into consideration.

Different factors are found to be mediators between volunteering and mental health, which include income (Detollenaere, Willems, & Baert, 2017), one's perceived senses of control and optimism (Meller, Hayashi, Firth, Stokes, Chambers, & Cummins, 2008), self-esteem, self-efficacy, and social connectedness (Brown, Hoye, & Nicholson, 2012), religiosity, life satisfaction (Mollidor, Hancock, & Pepper, 2014), and the sense of mattering (Piliavin & Siegl, 2007). However, only one of the above studies took participants' immigration status into account (Detollenaere, et al., 2017) and none of these studies were conducted in Canada. To the best of this author's knowledge, no research has been conducted to investigate the direct prediction of immigrants volunteering on both their physical and mental health, as well as its indirect prediction on their sense of belonging as a mediator.

2.6 Research questions and hypotheses

Based on the above illustrations, the research question and their corresponding hypotheses for this study are as following: Research question 1. Are there any differences on sense of belonging, as well as physical and mental health between immigrants who volunteer and those who do not? Its corresponding hypothesis would be Hypothesis 1. Immigrants who volunteer have a higher level of sense of belonging, as well as better physical and mental health than immigrants who do not volunteer. Followed by that, the second question would be Research question 2. To what extent does volunteering help increase immigrants' physical and mental

health, as well as their sense of belonging? Derived from it, the hypothesis would be Hypothesis 2. Immigrants' volunteering significantly predicts better physical and mental health, as well as their sense of belonging. After that, the next question would be Research question 3. What are the relationships between sense of belonging and both physical and mental health for immigrants, if any? To tackle it, the hypothesis would be Hypothesis 3. There are significant and positive relations between immigrants' sense of belonging and both their physical and mental health. At last, the fourth question would be Research question 4. How is the prediction of volunteering on immigrants' physical and mental health mediated by their sense of belonging? The hypothesis generated by the question would be Hypothesis 4. Immigrants' sense of belonging significantly mediates the relationships between volunteering and both their physical and mental health, where volunteering positively predicts one's sense of belonging, which also positively predicts one's physical and mental health.

Chapter 3: Methodology

3.1 Research design

A quantitative cross-sectional study was conducted. Cross-sectional survey research, specifically the use of secondary data, provides a number of advantages as following: 1) it allows analyses of social processes to take place, in some other inaccessible settings; 2) it saves time and money for collecting a sizable sample in a particular population; 3) it helps minimize the chance of researchers getting some data collection problems; 4) it enables the comparison of a study with other data set; and 5) it is able to include a more diverse sample and more question items than many other research studies or methodology (Engel & Schutt, 2014). Survey research has been widely used in social work research in different fields, including but not limited to gerontology, child welfare, health, community building, and community development (Engel & Schutt, 2014).

Survey research, especially the use of secondary data from a national survey, would be appropriate in answering the proposed research questions for a few reasons. First, as immigration is a federal policy that is implemented across all provinces, while at the same time, most resettlement and immigrant-serving agencies are largely funded federally by Immigration, Refugees, and Citizenship Canada (IRCC), a data set that resembles all immigrant populations in Canada across provinces should be used. Second, as this study is about immigrant integration in Canada generally, a large sample instead of certain programs or communities in a specific region should be gathered so as to obtain substantial external validity and generalizability.

3.2 Data source and participants

A secondary survey data set was obtained from the General Social Survey (GSS), cycle 27 - Social Identity collected by Statistics Canada (2015). The sample for the GSS - Social Identity

data targets all non-institutionalized persons who were 15 years of age or above and resided in the ten provinces of Canada (Statistics Canada, 2014). A stratified probability sampling technique was employed during the data collection process at the province/census metropolitan area (CMA) level. This sampling method aims to lower the possibility of misrepresentation or errors from the total population. Data were collected between June 2013 and March 2014 and an introduction letter and pamphlet were sent in advance to target respondents for which an address is available. In most cases, first contact with respondents was made by telephone while some cases were followed by e-mails and back to telephone after. In terms of the medium of instruction between questioning and answering, the respondents had the choice between French and English. All data were collected directly from survey respondents via computer assisted telephone interviewing (CATI) and electronic questionnaire (EQ). During data collection via phone call, if the households did not meet the eligibility criteria, the interviews were terminated after an initial set of questions that established whether or not they met the criteria. An attempt was made to conduct an interview with one randomly selected person from each household. Respondents were completely voluntary in participating in this survey. No proxy reporting was allowed.

The GSS was originated in 1985, and each year, different core topics or focuses were highlighted. The cycle 27 of GSS in particular, aims to depict a picture of Canadians' sense of belonging, pride, identification, as well as attachment to their socio-cultural environment. It emphasizes the important elements surrounding people's national and social identity in Canada such as civic participation and engagement, sense of belonging, and some other concepts such as their social networks, knowledge of Canadian history and appreciation of shared values, and national symbols. In this study, variables revolving around respondents' civic participation and

sense of belonging were used. In addition, respondents' social demographic characteristics were documented and were included in this study. Civic participation focuses on the respondent's participation in groups and organizations, including the socio-demographics of people who met through those groups and organizations. The topic for engagement includes questions on engagement with politics, voting, and various modes of media used to follow news and current affairs, whereas topics of sense of belonging and trust in people aim to shed light on respondents' sense of belonging to their local community city, province, and to Canada. Furthermore, in terms of well-being, respondents were asked to rate their own physical and mental health, as well as their level of life satisfaction. These are all considered important factors in assessing the well-being of Canadians. Lastly, in regard to social-demographic characteristics, respondents were asked to share some of their housing characteristics, and other information such as their religion, language, and personal and household income (Statistics Canada, 2014).

In order to answer the research questions, an additional criterion was used to include the representative sample from the entire data set. Initially the survey data set had a participation of 27695 respondents. A screening process was made to select the participants not born in Canada for further analysis. A question item was used for the screening (coded BRTHCAN) where respondents' place of birth was derived from a previous study called the Standard Classification of Countries and Areas of Interest (SCCA) 2010 (Statistics Canada, 2015). After adopting the selection criterion, the data set contained responses from a total of 9689 participants across Canada.

3.3 Measures

In the following section, the operationalization of the variables used in this thesis is described. For additional details of the original variable names, coding, and scaling on the

Statistics Canada data set, please see Appendix A.

3.3.1 Independent variable: Volunteering

Participation in volunteering was assessed using the following question, "In the past 12 months, did you do unpaid volunteer work for any organization?" The options were 1) Yes, and 2) No. Related items in the data set were previously used in similar research on volunteering by other studies (Brown et al., 2012; Fujiwara & Kawachi, 2008; Giordano et al., 2011; Helliwell, Aknin, Shiplett, Huang, & Wang, 2017; Lemyre, 2016; Theurer & Wister, 2010; Wang, Mook, & Handy, 2017; Wollebaek & Selle; 2002).

In GSS, another related question was asked for respondents to indicate the number of hours on a monthly basis they volunteered during the past 12 months. The options were 1) Less than 1 hour per month, 2) Between 1 and less than 5 hours per month, 3) Between 5 and less than 15 hours per month, and 4) 15 hours or more per month. Those who answered "No" for the previous question on whether they had volunteered or not, would be considered missing data in this question (Statistics Canada, 2014). Even though there are merits in utilizing the responses of this question rather than a dichotomous answer, this categorical variable was decided not to be used in this study due to a few reasons. First, the answers of this question provide more information on the number of hours participants volunteered per month, but there is not an equal difference between each option. Thus, the responses of this question could not be considered as an interval-ratio variable for further analyses. Second, by using the answers of this question, it neglected the immigrant participants who reported not volunteering in the past year, but only considered those who had volunteered. Therefore, using this variable forbid us from testing the Hypothesis 1, on comparing the differences between volunteers and non-volunteers. Therefore, based on the usefulness in testing the Hypotheses and the concurrent validity support of using a

dichotomous “Yes/No” variable on volunteering from previous studies, it was decided that the former variable on whether immigrants have volunteered or not would be adopted and more appropriate in this study.

3.3.2 Mediator: Sense of belonging

Sense of belonging was measured by a question, which sought participants to answer the extent of their sense of belonging to their local community. It was answered with a 4-point Likert scale, from 1) Very strong, to 2) Somewhat strong, 3) Somewhat weak, and 4) Very weak. The use of this item to study sense of belonging was supported by previous studies (Lemyre, 2016); Na and Hample, 2016; Schellenberg et al., 2017; Wang et al., 2017).

3.3.3 Dependent variables: Physical health and mental health

Participants’ physical health was measured based on a rating of their health in general on a 5-point Likert scale. The five levels are 1) Excellent, 2) Very good, 3) Good, 4) Fair, and 5) Poor. Similarly, respondents’ mental health was also measured on a self-report 5-point Likert scale, asking them to assess their condition of mental health from excellent to poor. In further research that examined participants’ health conditions, Dilmaghani (2017) as well as Schellenberg and his colleagues (2017) used the same research. Wang and Handy (2014) as well as Na and Hample (2016) also used a single self-reported item to rate individuals’ health conditions. All of these four studies were conducted in Canada, with the latter one also specifically done on immigrant populations. General health was also used as a dependent variable in other studies related to volunteering (Detollenaere et al., 2017; Piliavin & Siegl, 2007).

3.3.4 Control variables

3.3.4.1 Education

Respondents’ education was assessed by respondents’ highest certificate, diploma or degree

that they have completed. The options were 1) Less than high school, 2) Graduated from high school, 3) Post-secondary diploma, and 4) University degree. In recent years, Statistics Canada has released a fact sheet, reporting that education was used as an influential factor on people's volunteering rates (Statistics Canada, 2016). Education was also treated as a control variable in other studies related to immigrants, volunteering, sense of belonging, and health (Detollenaere et al., 2017; Wong & Simon, 2009).

3.3.4.2 Age

Respondents were also asked to indicate the age range that they belong to. The first six options are all within a ten-year range, from 1) 15 to 24 years, to 2) 25 to 34 years, 3) 35 to 44 years, 4) 45 to 54 years, 5) 55 to 64 years, and 6) 65 to 74 years. The seventh category belonged to respondents who were 75 years old or above. In a study on volunteering of working Canadians, age was also used as a control variable in the model (Statistics Canada, 2016). It was also used in other studies involving secondary data analyses of immigrants or Canadians (Detollenaere et al., 2017; Schellenberg et al., 2017; Wong & Simon, 2009).

3.3.4.3 Visible Minority status

Another key demographic characteristic among newcomer studies is whether or not a person is of visible minority status. In the data set, the question invites respondents to reveal their visible minority status and the options to select from are 1) Visible minority, and 2) Not a visible minority. This item was used in other studies about immigrants and refugees in Canada (Maslov, 2006; Nangia, 2013; Wong & Tézli, 2013).

3.3.4.4 Income

Income was examined by one of the question items in the data set, where participants were asked to note their annual personal income in 2012, the year before the survey was conducted.

The options range from 1) No income to 12) $100000 or more. In this study, annual personal income was recoded and combined so that the range of each category is equal. After recoding, these options range from 1) No income, 2) Less than $20000, 3) $20000 to $39999, 4) $40000 to $59999, 5) $60000 to $79999, and 6) $80000 or above. A similar item was used in another study released by Statistics Canada (2016) and was identified as a significant variable in determining Canadians' volunteering behavior. It was also controlled in a research studying one's sense of belonging in Canada (Wong & Simon, 2009).

3.3.4.5 Years of immigration

One of the questions in the data set asked the respondents the range of years when they first came to Canada. Similar to age and income, this variable was recoded such that each option has the same range. It starts from 1) prior to 1965, to 2) 1965 to 1974, and ends at 13) 2004 or after. This question allows the researcher to identify the period the respondents had settled in Canada as well as to assess the number of years these respondents had come and integrated into the Canadian society. The same item or similar concept was used in studies about immigrants in Canada (Maslov, 2006; Wong & Tézli, 2013).

3.3.4.6 Importance of religious and spiritual beliefs

Respondents' subjective perception of the significance of their religious or spiritual beliefs was rated by a 4-point Likert scale, with choices ranging from 1) Very important, 2) Somewhat important, 3) Not very important, to 4) Not at all important. Identical item on another GSS survey were used to examine Canadians' religiosity (Wilkins-Laflamme, 2015). Other studies related to volunteering and one's sense of belonging also used similar variables in their models (Detollenaere et al., 2017; Musick & Wilson, 2003; Wang et al., 2017; Wong & Simon, 2009).

3.3.4.7 Sex

According to Statistics Canada (2015), some variables were derived from information gathered previously, rather than asked directly during the survey interviews. The participants' sex was one of these derived variables and was coded as 1) Males and 2) Females. The variable of sex was used as a control variable in other national studies on immigrants, sense of belonging, or health (Detollenaere et al., 2017; Na & Hample, 2016; Schellenberg et al., 2017; Wong & Simon, 2009; Wong & Tézli, 2013).

3.3.5 Missing data

Respondents were allowed to skip certain questions during the interview. If respondents replied they did not know, their responses were coded as "97" or "997". If respondents refused to answer, their responses were coded as "98" or "998". If responses did not state their answers to particular questions due to any reason, it was coded as "99" or "999". If the questions were not applicable to certain respondents, other related questions were coded as '96" or "996", also known as "valid skip". For example, if previously the respondents reported that they were born in Canada, questions like their citizenship status would be entered as "valid skip". During the data cleaning process, all respondents with at least one missing answer were excluded.

3.4 Statistical analyses

Before proceeding to hypotheses-testing, two procedures were employed to ensure a thorough understanding of the sample. First, the statistical weight of the participant in the sample was accounted for in all analyses. The statistical weight was defined as "the number of persons represented by a given person in the sample" (Statistics Canada, 2015, p.8). Since the survey was conducted based on stratified sampling method, with unequal probabilities of participants being selected, in order for the sample used in this thesis to obtain external validity and become more

representative to the overall immigrant population of Canada across all provinces and territories, the statistical weight of the participants must be adjusted and included into the model (Statistics Canada, 2015). The statistical weight was calculated by Statistics Canada with its pre-existing knowledge of the total Canadian population across provinces and territories, and also certain demographics such as age and sex (Statistics Canada, 2015). Suggested by Statistics Canada (2015), prior to conducting any analysis, the statistical weight of the participants was rescaled by dividing each weight by the overall average weight, such that "the average weight is one, then the variances produced by the standard packages will be more reasonable" (Statistics Canada, 2015, p.15). Second, a basic data cleaning processes was implemented to check outliers and missing data. This was followed by the examination of descriptive statistics of participants' demographic characteristics so as to gain a comprehensive understanding of the background and distribution of the sample groups and subgroups. The normality of the variables was also checked to ensure the data gathered can be used for parametric statistics. The use of Likert data for parametric statistics was supported by different studies (Murray, 2013; Norman, 2010).

To test the hypotheses, independent sample t-tests were conducted to explore the differences of participants' sense of belonging as well as their physical and mental health, between volunteers and non-volunteers. After that, to ensure a mediation model could be used appropriately, correlation and partial correlation analyses were undertaken to demonstrate that the mediator and the dependent variables were associated (Hayes, 2013). Since the independent variable is a dichotomous variable, it was not used on the correlation analyses. Followed by that, hierarchical multiple regressions, which are also referred as sequential regressions, were used to analyze the proposed mediation models between volunteering, sense of belonging, and both physical and mental health. Such technique is prevalent in health and social work research

(Pallant, 2013; Woltman, Feldstain, MacKay, & Rocchi, 2012).

As can be seen from Figures 1 and 2, each of the two mediation models contains one independent variable, i.e. volunteering, one mediator, i.e. sense of belonging, and a dependent variable correspondingly, physical or mental health. A simple mediation model is a model in which an independent variable is proposed to be predictive of the change of a dependent variable, through a single mediating variable. Two pathways can be observed by which the independent variable is proposed to be influencing the dependent variables. In this case the two pathways are the direct effect and the indirect effect of volunteering on physical and mental health. The pathway that leads from volunteering to physical and mental health, without passing through sense of belonging is called the direct effect, as portrayed by the c'-paths of both models in the figures; the second pathway from volunteering to physical and mental health through sense of belonging is the indirect effect, as portrayed by the combinations of the a- and b-paths.

The unstandardized coefficients (*B*) with their standard errors (*SE*) of the model were treated as estimates of the influences of each variable in the model (Pallant, 2013), and would reveal the direction and magnitude of the direct and indirect effects of the independent variable (volunteering) on the dependent variables (physical and mental health), along with a mediator (sense of belonging). The *B* of the direct effect refers to the amount of change needed for independent variable to elicit a unit change in the dependent variables, with the mediator being fixed (Hayes, 2013). For the case of a dichotomous independent variable, the direct effect estimates the difference of the dependent variables between the two groups (those who engage in volunteering services and those who do not), while holding the mediator constant. The indirect effect can be broken down into two separate parts. The first part is the change in the mediator caused by the change in the independent variable, which is the a-path as shown on Figures 1 and

2. In this thesis, the a-path refers to the group difference of the mediator between immigrant volunteers and non-volunteers. The second part is the b-path of the Figures, which refers to the changes in the dependent variables caused by the change in the mediator. The indirect effect of the independent variable on the dependent variables through the mediator is the product of the abovementioned parts. The sum of the direct and indirect effects of the independent variable on the dependent variables is called the total effect of the model, which is also represented by the c-path in the model (Hayes, 2012).

With the use of the Statistical Package for Social Sciences (SPSS), the hierarchical multiple regression allows variables to be entered in steps based on a pre-determined order. In the first block, the seven control variables were entered to examine their levels of effects on the dependent variables (Kim et al., 2013). This also enables SPSS to statistically control for these variables in later analyses (Woltman et al., 2012). After that, the independent variable of volunteering was entered into the model to see its prediction on the dependent variables, while removing the possible effects of the control variables entered in the first block. Lastly, the mediator variable of sense of belonging was entered into the third step, to see if it can explain further the predictive significance of the independent variable. It is suggested that mediation takes place when the prediction and/or significance of the independent variable are weakened after the presence of the mediator into the models (Pallant, 2013). There are two types of mediation, which are partial and full mediation respectively. A partial mediation refers to a weakened direct effect of the independent variable. A full mediation, however, means that the direct effect of the independent variable is no longer significant, while most of its influence on dependent is due to the presence of the mediator (Pallant, 2013).

Figure 1
Statistical mediation model with physical health as the dependent variable

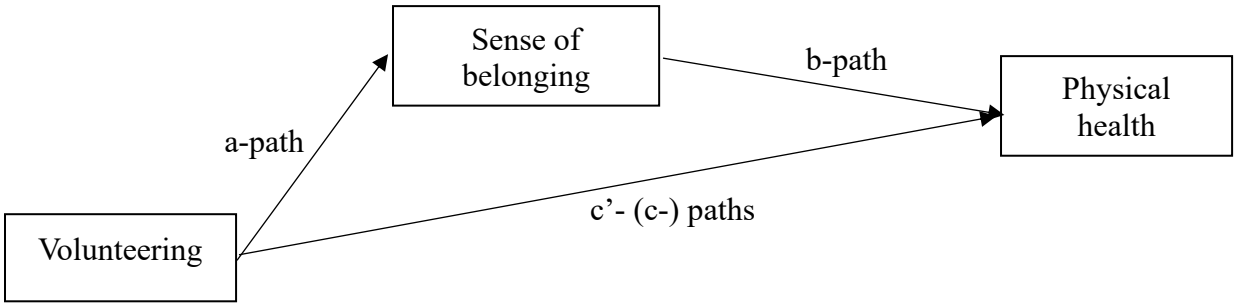
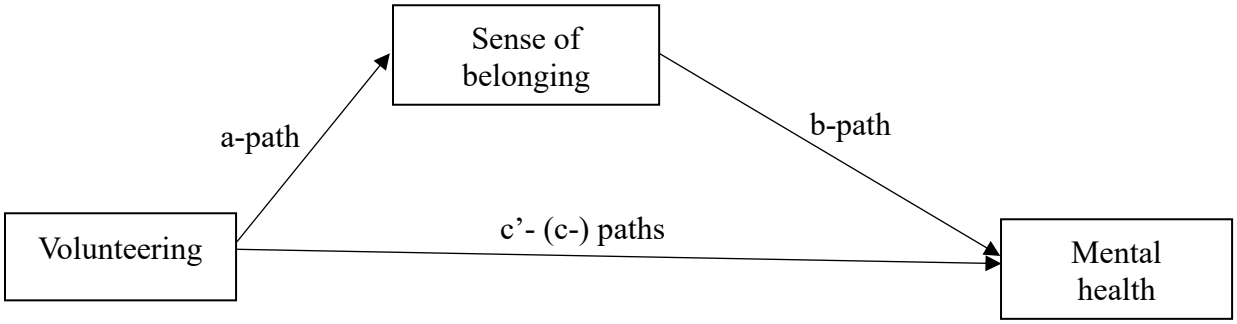


Figure 2
Statistical mediation model with mental health as the dependent variable



Suggested by Statistics Canada (2015), the level of significance will be displayed with the p-values being smaller than five percent (or 0.05). In addition to the p-value, one can also reject the null hypothesis with the 95% bias-corrected confidence interval estimates. The confidence interval is helpful for rejecting the null hypothesis when the interval estimate does not include zero (Hayes, 2013). In this thesis, a variety of direct and indirect effects were generated under the 95% confidence level, which form confidence intervals of both effects respectively, with the upper limit confidence level (ULCI) at the 97.5^{th} percentile in the distribution, and the lower limit confidence level (LLCI) at the 2.5^{th} percentile. If the range between ULCI and LLCI do not include zero, then one can claim that the corresponding effect is statistically significant at the 95% level (Hayes, 2013; Zou, 2007).

3.5 Critical reflection on researcher positionality

In the process of writing this thesis and conducting analyses using the data set, it is also important to recognize the significance of critical reflection. This element has been central to social work training and research, and each social worker should be a "reflective practitioner" (Sheppard, Newstead, Di Caccavo, & Ryan, 2000, p. 468). By doing so, a reflective social worker should be an active thinker who is able to assess, respond and take actions, while is also aware of the social relationship between him/her and the client, and at the same time is capable of analyzing situations and making practical decisions.

While this study uses secondary data set that was collected by Statistics Canada, one may argue that everyone who has access to such data set, has the ability to generate the exact same results from this thesis. It can be implied that this approach is relatively bias-free. However, it is nevertheless a subjective decision for the researcher to select the specific variables and assign them in different places. Different researchers could also have different reasoning and points of references for an understanding of different variables, to be developed (Sheppard et al., 2000). It is thus pivotal for the researcher of this thesis to critically reflect on his understanding of the data set, through the lens of understanding his own background, to identify how his personal, contextual, and circumstantial aspects of the process could shape the research. As Berger (2015, p. 200) said, "researchers need to increasingly focus on self-knowledge and sensitivity; better understand the role of the self in the creation of knowledge; carefully self monitor the impact of their biases, beliefs, and personal experiences on their research; and maintain the balance between the personal and the universal". Therefore, for the following section, I aim to engage in discussion about the relationship between the subject matter and my personal experiences.

Prior coming to Canada for my master program in social work, I was studying a bachelor's

degree in Psychology. I was equipped to conduct social science research, with quantitative research methodology being the only approach I was introduced to. Upon graduation, I worked as a research assistant in the same department for three years in a voluntary service-learning project. My job was to monitor and evaluate the impact of volunteering on the personal development among not only the service recipients, but mainly the volunteers who are university students.

During my social work program, due to my master specialization in international community development, I had the opportunity to engage numerous non-profit organizations as an intern or a practicum student. I had a practicum at an ethno-cultural organization, known as the Calgary Chinese Community Service Association (CCCSA); an inter-regional grass-root organization that advocates for temporary foreign workers, known as Migrante, as well as an internship at a macro-level institution that support immigrant-serving agencies, called the Alberta Association of Immigrant-Serving Agencies (AAISA). Through engaging the newcomer community with a diverse level, from policymakers and executive directors, to clients and organization volunteers, I understand more about the functions of volunteering to the newcomer community and the volunteers themselves. In bridging social work theories and practices, I was assigned for a few practicum supervisors and faculty liaisons. While most of them are also visible minority, their insights and experiences as part of the newcomer community influenced the process of my learning throughout the three-year period. At the same time, inside the classrooms and faculty, I had the chance to meet different students who are visible minority newcomers or had family members coming to Canada with refugee statuses. Some, like myself, were international students of different races with temporary visa. The sharing of their lived experiences also shaped my perspectives on the research topic.

In terms of my personal story, I was born in a formerly British-colonized city called Hong Kong as part of the ethnic majority community. With most of the people embracing a collectivistic culture where social connections are of paramount importance in our daily lives, I was raised in a Christian family where both my parents were English teachers and was immersed in a pro-Western environment. After coming to Calgary alone as an international student for the master's degree, I have experienced what it feels like to settle in a foreign land and established a social network here. I had gone through the different applications with IRCC, from getting a student permit when I was in Hong Kong, to entering the merit-point system for immigration after arriving Calgary. I took the language proficiency test multiple times; I had gone through medical examination and criminal record check. Throughout the journey of my master's degree, I have successfully received my permanent residency in Canada, and am a newcomer of this land. After more than three years living in Canada, I have not seen a physician for physical illness reasons, and still have minimal engagement to the healthcare system. As a person from a Chinese descent, I recognize that I am perceived as a racialized person in Canada. I have experienced discrimination with racist remarks. At the same time, as a member of one of the largest visible minority communities in Canada, I acknowledge that my experience as a newcomer can be different from newcomers from other ethno-cultural and religious backgrounds.

Through engaging in this research, it serves as a mental lighthouse in my immigration journey to come to Canada, in finding where I belong, and what I can do to have a good and healthy life here. Furthermore, it is also hoped that by engaging in this research, I could challenge the socio-political narrative that immigrants and refugees are 'recipients' or in need but are not good enough to be 'providers' of services and support. I also wish to empower fellow immigrants, to spread the idea that we have resilience and strengths to not only be self-reliant,

but also have the ability to contribute to society, our new home.

Chapter 4: Results

In this chapter, the descriptive statistics of the sample are introduced to depict a clearer picture of the background of the participants. This is followed by a discussion of the independent sample t-tests to detect the group differences regarding sense of belonging, physical health, and mental health between immigrant volunteers and non-volunteers. Pearson's correlation and partial correlation analyses are used to examine the associations across different variables in the whole sample as well as by splitting the results by volunteers and non-volunteers. It is followed by a description of the two separate mediation model analyses that were conducted to see the significance and potential relationships between the independent variable (volunteering), the mediator (sense of belonging), and the two dependent variables (physical and mental health). Lastly, results of the hypotheses-testing are shown, and the chapter is concluded with a summary of the major findings.

4.1 Data cleaning and recoding

Several steps in the SPSS program were implemented in order to ensure that the data set is clean and has no errors. First, each variable was verified by inspecting the minimum and maximum values, as well as the frequencies of each variable used in this thesis, to ensure that there were no erroneous scores observed. If blanks or error answers were found, corresponding corrections were made by checking the original data set file to verify with the codebook provided by Statistics Canada. Second, all non-dichotomous categorical variables were recoded to adopt an ascending order, implying that the higher the number, the more positive they are. A positive relationship between variables would refer to an association where both variables increase together. After the completion of all the procedures, 6784 valid respondents remained and were selected for further analyses.

4.2 Descriptive statistics of demographic characteristics

For demographic characteristics, respondents with missing or invalid answers on any of the questions below were excluded from the analysis.

Table 1
Descriptive statistics of the control variables (*N* = 6784)

		Frequencies	Percentage
Educational level	Less than high school	595	8.77
	Graduated from high school	1366	20.14
	Post-secondary diploma	1985	29.26
	University degree	2837	41.82
Age	15 to 24 years	637	9.39
	25 to 34 years	1226	18.07
	35 to 44 years	1376	20.28
	45 to 54 years	1381	20.36
	55 to 64 years	1034	15.24
	65 to 74 years	717	10.57
	75 years and over	412	6.07
Visible minority status	Not visible minority	3041	44.83
	Visible minority	3743	55.17
Annual personal income	No income	681	10.04
	Less than $20000	1254	18.48
	$20000 to $39999	1780	26.24
	$40000 to $59999	1276	18.81
	$60000 to $79999	817	12.04
	$80000 or above	976	14.39
Years of immigration	After 2004	1508	22.23
	1995 to 2004	1686	24.85
	1985 to 1994	1232	18.16
	1975 to 1984	699	10.30
	1965 to 1974	861	12.69
	Prior to 1965	797	11.75
Importance of religious and spiritual beliefs	Not at all important	914	13.47
	Not very important	758	11.17
	Somewhat important	1693	24.96
	Very important	3418	50.38
Sex	Male	3479	51.28
	Female	3304	48.70

First, participants had different educational accomplishments. Only 8.77% of them (n = 595) had not completed high school, while 20.14% of them had finished high school without any further education (n = 1366). In the sample, 1985 or 29.26% of them had at least a post-secondary diploma, and 2837 of them (41.82%) had a university degree. The data also showed a quite evenly distribution in terms of participants' age. For instance, 637 of participants (9.39%) were 15 to 24 years old and 1226 (18.07%) were 25 to 34 years old. Then, 1376 (20.28%) were aged 35 to 44 years old, 1381 (20.36%) were 45 to 54 years old, and 1034 (15.24%) were between 55 and 64 years old. The rest were at least 65 years old, with 717 (10.57%) of them ranging between 65 and 74 years old, and 412 (6.07%) were 75 years old or above. Among the whole sample, 3743 participants (55.17%) indicated to be a visible minority, while the remaining 3041 participants (44.83%) reported that they are not visible minority.

Regarding personal annual income, 10.04% of the sample (n = 681) had no income in 2012. Around one-fifth of the sample had an income lower than $20000 (with 1254 or 18.48%), followed by approximately a quarter of them earning between $20000 and $39999 a year (with 1780 or 26.24% of the total sample). Between earning $40000 and $59999 in 2012, there were 1276 participants (18.81%). The remaining quarter of the sample were earning at least $60000, which composed of 817 people (12.04%) earning between $60000 and $79999, as well as 976 participants (14.39%) earning $80000 or more.

In the same sample, the majority of the participants came to Canada quite recently, with approximately a quarter of the sample (n = 1508, 22.23%) arriving after 2004, and around another quarter (n = 1686, 24.85%) coming between the 1995 and 2004. The remaining participants came to Canada before 1995, with 18.16% (n = 1232) coming between 1985 and 1994; 10.30% (n = 699) coming between 1975 and 1984, 12.69% (n = 861) coming between

1965 and 1974, and 11.75% (*n* = 797) coming before 1965.

Over half of respondents (*n* = 3418, 50.38%) reported that religious and spiritual beliefs are very important, 1693 participants (24.96%) said they are somewhat important, 758 participants (11.17%) believed that they are not very important, and 914 participants (13.47%) answered that they are not important at all. Lastly, in terms of sex, participants were nearly equally divided into the two sexes, with male (*n* = 3479, 51.28%) and female (*n* = 3304, 48.70%).

4.3 Descriptive statistics of independent variable, mediator, and dependent variables

Across all participants, 2333 (34.39%) had volunteered in the 12 months prior to the data collection data while 4451 (65.61%) had not. Only around one fifth of the participants rated their sense of belonging to be somewhat weak (*n* = 884, 13.03%) or very weak (*n* = 403, 5.94%). Whereas 3312 (48.82%) of them described their sense of belonging to be somewhat strong, while 2184 of them (32.19%) even rated it to be very strong. Regarding physical and mental health, a small amount of participants gave a score of poor (*n* = 171, 2.52% for physical health, and *n* = 62, 0.91% for mental health respectively) or fair (*n* = 495, 7.30% for physical health, and *n* = 283, 4.17% for mental health respectively). After that, 1934 (28.51%) and 1384 (20.40%) of them rated their physical and mental health to be good respectively. ‘Very good’ was the rating of the physical and mental health for 2552 and 2451 participants (37.62% and 36.13%) respectively. Lastly, 1632 (24.06%) and 2603 (38.37%) reported that their physical and mental health was excellent respectively.

Table 2
Descriptive statistics of the independent variables, meditators, and dependent variables (*N* = 6784)

		Frequency	Percentage	Mean	SD
Volunteer				0.34	0.48
	Yes	2333	34.39		
	No	4451	65.61		
Sense of belonging				3.07	0.83
	Very weak	403	5.94		
	Somewhat weak	884	13.03		
	Somewhat strong	3312	48.82		
	Very strong	2184	32.19		
Physical Health				3.73	0.99
	Poor	171	2.52		
	Fair	495	7.30		
	Good	1934	28.51		
	Very good	2552	37.62		
	Excellent	1632	24.06		
Mental health				4.07	0.91
	Poor	62	0.91		
	Fair	283	4.17		
	Good	1384	20.40		
	Very good	2451	36.13		
	Excellent	2603	38.37		

4.4 Independent sample t-tests

Followed by the descriptive statistics assessments, independent sample t-tests were used to examine the differences between immigrants who volunteer and those who do not on the mediator (sense of belonging) and the dependent variables (physical and mental health). Table 3 shows the results of the tests. The results indicate that volunteers tend to have a higher sense of belonging (for volunteer, $M = 3.17$, $SD = 0.76$; for non-volunteer, $M = 3.02$, $SD = 0.86$, $t(6782) = 6.84$, $p < 0.001$), better physical health (for volunteer, $M = 3.83$, $SD = 0.92$; for non-volunteer, $M = 3.68$, $SD = 1.02$, $t(5152.47) = 6.29$, $p < 0.001$) and mental health (for volunteer, $M = 4.15$, $SD = 0.87$; for non-volunteer, $M = 4.03$, $SD = 0.93$, $t(6782) = 5.23$, $p < 0.001$) than non-volunteers.

Table 3
Differences between volunteers and non-volunteers (*N* = 6784)

	Non-volunteers (*n* = 4451)		Volunteers (*n* = 2333)		
	M	*SD*	*M*	*SD*	*t*
Sense of belonging	3.02	0.86	3.17	0.76	6.84***
Physical health	3.68	1.02	3.83	0.92	6.29***
Mental health	4.03	0.93	4.15	0.87	5.23***

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

4.5 Correlations and partial correlations

Prior to conducting mediation models, researchers historically would establish evidence to demonstrate that there is an association between the variables (Hayes, 2013). This practice serves as a "conceptualization of mediation analysis as a statistical means of 'accounting for an effect'" (Hayes, 2013, p. 88). However, it is also described that a significant correlation between the independent variable and the dependent variable is not necessary as a precondition for a mediation model, especially if the independent variable is a dichotomous variable (Hayes, 2013).

Therefore, two separate correlation and partial correlation analyses were conducted to show the relationships among the variables. In both correlation analyses, the whole sample was split into two sub-groups, namely those who volunteer (*n* = 2333) and those who do not volunteer (*n* = 4451). The first analysis was a correlation analysis that including the control variables, the mediator, and the dependent variables. The second analysis was a partial correlation, which examined the associations between the mediator and the dependent variables, where the control variables were controlled. The results are shown on Tables 4 and 5, respectively.

Table 4 reveals that most variables included in the mediation model are to different extent significantly associated, both in the immigrant volunteer sub-sample and the non-volunteer sub-sample. Since there are significant associations between most of the socio-demographic characteristics and sense of belonging as well as health, this indicates the needs to take these

demographic characteristics into account while putting the mediator and dependent variables into the models. Seven out of the twenty-eight correlations had notable and comparatively major differences between immigrant volunteers and non-volunteers. These differences are namely: 1) The association between age and physical health (for volunteers, $r(2333) = -0.11$, $p < 0.001$; for non-volunteers, $r(4451) = -0.23$, $p < 0.001$), implying a stronger relation for immigrant non-volunteers than volunteers, where the higher the age, the poorer their physical health. 2) The relation between years of immigration and physical health (for volunteers, $r(2333) = -0.06$, $p < 0.01$; for non-volunteers, $r(4451) = -0.18$, $p < 0.001$), showing a similar pattern with the aforementioned correlation where immigrant volunteers who arrived earlier in Canada had a weaker negative relation with health (i.e. earlier arrival correlated with poorer physical health). 3) The correlation between one's education and mental health (for volunteers, $r(2333) = 0.03$, *ns*; for non-volunteers, $r(4451) = 0.13$, $p < 0.001$). This indicates that for immigrant participants who did not volunteer, there is a positive relation with education, meaning that the more educated they are, the healthier they are mentally. On the other hand, for volunteer immigrants, such relation is not significant. 4) The association between education and age (for volunteers, $r(2333) = 0.18$, $p < 0.001$; for non-volunteers, $r(4451) = -0.15$, $p < 0.001$). These reveal an opposite direction, where for volunteer immigrants, the older they are, the more educated they are. For participants who did not volunteer, the older they are, the less educated they are. 5) The relation between education and years of immigration (for volunteers, $r(2333) = -0.01$, *ns*; for non-volunteers, $r(4451) = -0.25$, $p < 0.001$). Such results show that for immigrant participants who volunteered in the past, there is no significant relation between their level of education and how recently (or distantly) they came to Canada. On the other hand, there is a negative correlation for non-volunteer participants, meaning that the earlier they arrived Canada, the less

educated they are. 6) How age is correlated with one's income (for volunteers, $r(2333) = 0.25$, $p < 0.001$; for non-volunteers, $r(4451) = 0.06$, $p < 0.001$). This shows a stronger association for volunteer than non-volunteer participants, where the older the respondents are, the wealthier they are. 7) The correlation between income and years of immigration (for volunteers, $r(2333) = 0.23$, $p < 0.001$; for non-volunteers, $r(4451) = 0.11$, $p < 0.001$). This demonstrates that for immigrant volunteers, the earlier they came to Canada, the wealthier they are, whereas for immigrant non-volunteers, such correlation is not as strong.

Table 5 shows that, after controlling the control variables, significantly positive correlations were found between one's sense of belonging and physical as well as mental health across both volunteer and non-volunteer sub-samples. For instance, sense of belonging was correlated to one's physical health (for volunteers, $r(2324) = 0.08$, $p < 0.001$; for non-volunteers, $r(4442) = 0.14$, $p < 0.001$) and mental health (for volunteers, $r(2324) = 0.14$, $p < 0.001$; for non-volunteers, $r(4442) = 0.19$, $p < 0.001$). Physical and mental health were also strongly and positively correlated for both sub-samples (for volunteers, $r(2324) = 0.51$, $p < 0.001$; for non-volunteers, $r(4442) = 0.50$, $p < 0.001$). This demonstrates that the more an immigrant feels that he/she belongs to the local community, the healthier both physically and mentally he/she is, regardless of whether he/she had volunteered.

Table 4
Correlations between the variables (*N* = 6784)

	1.	2.	3.	4.	5.	6.	7.	8.
1. Sense of belonging		.05*	.15***	-.11***	.16***	-.00	.14***	.14***
2. Physical health	.08***		.50***	.08***	-.11***	.10***	-.06**	-.04*
3. Mental health	.15***	.52***		.03	.01	.05*	-.02	.07**
4. Education	-.10***	.16***	.13***		18***	.38***	-.01	-.05*
5. Age	.12***	-.23***	-.08***	-.15***		.25***	.70***	08***
6. Personal income	-.07***	.17***	.12***	.34***	.06***		.23***	-.07**
7. Years of immigration	.08***	-.18***	-.11***	-.25***	.70***	.11***		-.01
8. Importance of religious and spiritual beliefs	.15***	-.05**	-.01	-.08***	.09***	-.12***	-.04*	

Note. Correlations below the diagonal are results from non-volunteers (*n* = 4451), those above the diagonal are results from volunteers (*n* = 2333). *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Table 5
Partial correlations between the mediator and the dependent variables (*N* = 6766)

	1.	2.	3.
1. Sense of belonging		.08***	.14***
2. Physical health	.14***		.51***
3. Mental health	.19***	.50***	

Note. Correlations below the diagonal are results from non-volunteers (*n* = 4442), those above the diagonal are results from volunteers (*n* = 2324). Participants' education, age, visible minority status, personal income, years of immigration, importance of religious and spiritual beliefs, and sex were controlled. *p < 0.05, **p < 0.01, ***p < 0.001.

4.6 Mediation models

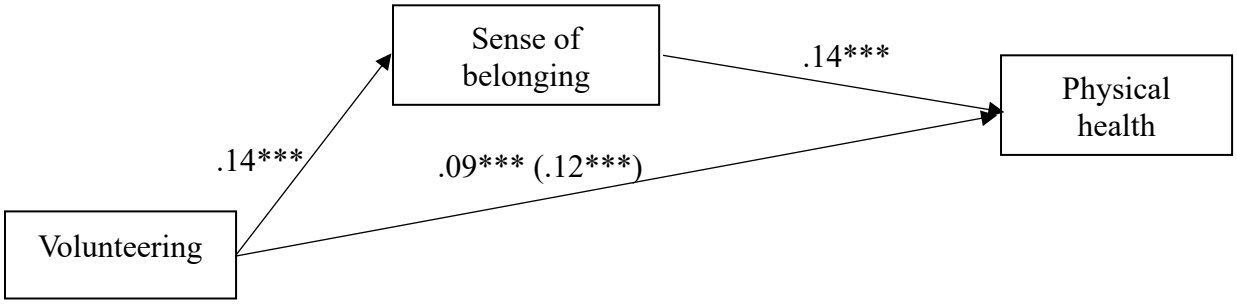
Two separate mediation analyses were conducted to test the mediating effect of one's sense of belonging on the relationships between volunteering and two dependent variables, which are physical and mental health respectively.

From the first mediation analysis, the mediation model was found significant before (R^2 = .08, F(7, 6775) = 87.49, p < 0.001) and after (R^2 = .10, F(9, 6773) = 102.89, p < 0.001) entering the independent variable and the mediator. Volunteering was found to be positively associated with one's physical health (c-path, B = 0.12, SE = 0.02; t(6783) = 4.70, p < 0.001; CI = 0.07 to 0.16). It was also positively associated with one's sense of belonging (a-path, B = 0.14, SE = 0.03; t(6783) = 6.78, p < 0.001; CI = 0.10 to 0.18). Furthermore, one's sense of belonging (the mediator) positively predicted physical health (b-path, B = 0.14, SE = 0.01; t(6783) = 10.14, p < 0.001; CI = 0.12 to 0.17). As both a- and b-paths were significant, the potential mediating effect of one's sense of belonging on the relationship between volunteering and physical health was tested using the 95% confidence intervals (CI) of the direct and indirect effects (Hayes, 2013; Preacher & Hayes, 2004). The results of the mediation analysis confirmed the mediating role of one's sense of belonging in the relationship between volunteering and physical health, where a direct effect of volunteering on physical health was weakened but remained significant (c'-path, B = 0.09, SE = 0.02; t(6783) = 3.88, p < 0.001; CI = 0.05 to 0.14). This result revealed a partial mediation (see Figure 3). From the c-path, it was found that the total effect of volunteering on physical health is B = 0.12, where B = 0.09 remained to be the direct effect and B = 0.03 was attributed to the indirect effect, which was also indicated by the product of a-path and b-path.

For the second mediation analysis for mental health, an identical procedure and input method were used. The overall model was also found significant before (R^2 = .02, F(7, 6775) =

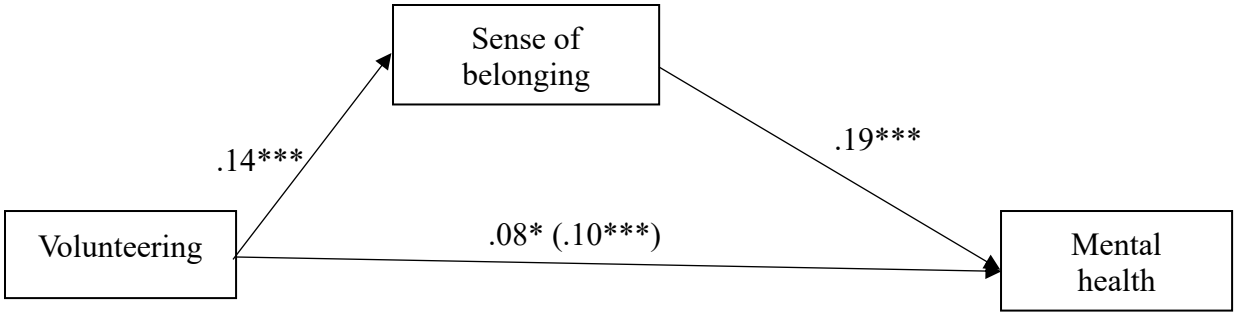
24.46, $p < 0.001$) and after ($R^2 = .06$, $F(9, 6773) = 208.82$, $p < 0.001$) entering the independent variable and the mediator. Volunteering was also found to be positively associated with one's mental health (c-path, $B = 0.10$, $SE = 0.02$; $t(6783) = 4.39$, $p < 0.001$; $CI = 0.06$ to 0.15) and one's sense of belonging (a-path, $B = 0.14$, $SE = 0.03$; $t(6783) = 6.78$, $p < 0.001$; $CI = 0.10$ to 0.18). Similarly, one's sense of belonging (the mediator) also positively predicted mental health (b-path, $B = 0.19$, $SE = 0.01$; $t(6783) = 14.45$, $p < 0.001$; $CI = 0.18$ to 0.22). Because volunteering predicted one's mental health and part of the explanation might be attributed to an indirect effect, namely via changing one's sense of belonging, a mediation model was conducted to test the mediating role of one's sense of belonging. The results of the mediation analysis also confirmed the mediating role of one's sense of belonging in the relationship between volunteering and mental health. As the direct effect of volunteering on mental health was weakened but still significant (c'-path, $B = 0.08$, $SE = 0.02$; $t(6783) = 3.25$, $p < 0.01$; $CI = 0.03$ to 0.12), this also demonstrated a partial mediation (see Figure 4). Similar to the previous model, the c-path pointed out the total effect of volunteering on one's mental health, which is $B = 0.10$. It was divided by the direct effect, which was represented by the c'-path, and the indirect effect, which is the product of a-path and b-path.

Figure 3
Statistical mediation model with physical health as the dependent variable ($N = 6784$)



Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Figure 4
Statistical mediation model with mental health as the dependent variable ($N = 6784$)



Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Adopting the technique suggested by Weaver and Wuensch (2013), the total effects of volunteering on immigrant participants' physical and mental health were compared using t-tests, separated by the differences between the intercepts and the slopes of the models. As illustrated in Table 6, both the difference between the coefficients of the two models and that between the standard error of the two models were calculated as B_{diff} and SE_{diff}, respectively. From the t-scores on comparing the intercepts and slopes individually, it was found that there was a significant difference between the total effects of volunteering on physical health and that on mental health. Such result was further validated by comparing their lower and upper limit confidence intervals, as suggested by Zou (2007). In Table 6, it was found that zero was included between the LLCI and ULCI of both the intercepts and the slopes, which also confirmed the

results, that the difference between the coefficients of volunteering on physical and mental health was not statistically significant (Hayes, 2013; Preacher & Hayes, 2004; Zou, 2007). In summary, it was demonstrated that the positive predictions of volunteering on immigrants' physical and mental health were similar.

Table 6
Differences between coefficients of volunteering of physical and mental health (N = 6784)

	B_{PH}	B_{MH}	SE_{PH}	SE_{MH}	B_{diff}	SE_{diff}	*LLCI*	*ULCI*	*t*
Intercept	3.72	3.79	0.06	0.06	-0.07	0.09	-0.24	0.10	-0.82
Slope	0.12	0.10	0.02	0.02	0.01	0.03	-0.05	0.78	0.39

Note. B_{PH} = *B* of volunteering on physical health, B_{MH} = *B* of volunteering on mental health, SE_{PH} = Standard error of volunteering on physical health, SE_{MH} = Standard error of volunteering on mental health, B_{diff} = Difference between the *B*s of volunteering on physical and mental health, SE_{diff} = Difference between the standard errors of volunteering on physical and mental health, LLCI = Lower limit confidence interval, ULCI = Upper limit confidence interval. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

4.7 Control variable effects

In the two mediation models, all control variables were included as predictor variables in the first step, while both the independent variable (volunteering) and mediator (sense of belonging) were added afterwards, as suggested by Pallant (2013). The results of the control variables are also displayed in Table 7.

In the first model with physical health as the dependent variable, it is found that apart from the importance of religious and spiritual beliefs, all other six control variables were found to significantly predict one's physical health (c-paths for education, $B = 0.08$, $SE = 0.01$; $t(6783) = 6.79$, $p < 0.001$; $CI = 0.06$ to 0.11; age, $B = -0.13$, $SE = 0.01$; $t(6783) = -12.86$, $p < 0.001$; $CI = -0.11$ to -0.15; visible minority status, $B = -0.22$, $SE = 0.03$; $t(6783) = -8.38$, $p < 0.001$; $CI = -0.19$ to -0.27; income, $B = 0.08$, $SE = 0.01$; $t(6783) = 9.88$, $p < 0.001$; $CI = 0.07$ to 0.10; years of immigration, $B = -0.03$, $SE = 0.01$; $t(6783) = -3.05$, $p < 0.01$; $CI = -0.01$ to -0.05; sex, $B = 0.12$, $SE = 0.02$; $t(6783) = 5.19$, $p < 0.001$; $CI = 0.08$ to 0.17). This shows that the higher one's

education, the healthier physically the participant is. As for age, the negative coefficient indicated that there is a negative prediction, meaning the older one becomes, the less healthy they are physically. Regarding one's visible minority status, it was found that immigrant participants who indicated themselves to be visible minorities would more likely have poorer physical health than those who did not indicate themselves to be visible minorities. The income factor shows that the wealthier one is, the healthier one becomes. Additionally, the earlier the participant arrived Canada, the less healthy he/she is. Lastly, male participants were found to be physically healthier than female participants.

On the a-paths relating to one's sense of belonging, except for visible minority status, income, the years of immigration, and sex, the other three control variables were also found to significantly predict one's sense of belonging (a-path for education, B = -0.06, SE = 0.01; t(6783) = -5.76, $p < 0.001$; CI = -0.04 to -0.09; age, B = 0.05, SE = 0.01; t(6783) = 6.30, $p < 0.001$; CI = 0.04 to 0.07; importance of religious and spiritual beliefs, B = 0.10, SE = 0.01; t(6783) = 10.34, $p < 0.001$; CI = 0.08 to 0.12). Such results indicate that one's education predicted his/her sense of belonging negatively, meaning that the more educated the participants is, the less likely they are to feel that they belong. On the factor of age, the analysis showed that older immigrant participants are more likely have a greater sense of belonging than their younger counterparts. Furthermore, the more that a person cherishes his/her religious and spiritual beliefs, the greater sense of belonging he/she feels.

As for the second mediation model in terms of mental health, there were some similar outcomes as the results above. Education, age, and importance of religious and spiritual beliefs, were found to significantly predict one's sense of belonging (a-path for education, B = -0.06, SE = 0.01; t(6783) = -5.76, $p < 0.001$; CI = -0.04 to -0.09; age, B = 0.05, SE = 0.01; t(6783) = 6.30,

$p < 0.001$; $CI = 0.04$ to 0.07; importance of religious and spiritual beliefs, $B = 0.10$, $SE = 0.01$; $t(6783) = 10.34$, $p < 0.001$; $CI = 0.08$ to 0.12).

All control variables except participants' age and the importance of religious and spiritual beliefs significantly predicted mental health (c-path for education, $B = 0.07$, $SE = 0.01$; $t(6783) = 5.42$, $p < 0.001$; $CI = 0.04$ to 0.09; visible minority status, $B = -0.09$, $SE = 0.03$; $t(6783) = -3.63$, $p < 0.001$; $CI = -0.04$ to -0.14; income, $B = 0.05$, $SE = 0.01$; $t(6783) = 6.53$, $p < 0.001$; $CI = 0.04$ to 0.07; years of immigration, $B = -0.06$, $SE = 0.01$; $t(6783) = -5.55$, $p < 0.001$; $CI = -0.04$ to -0.07; sex, $B = 0.05$, $SE = 0.02$; $t(6783) = 3.25$, $p < 0.01$; $CI = 0.03$ to 0.12). The results reveal that higher education and income levels can predict greater mental health. On the contrary, a visible minority individual or a female participant is more likely to have poorer mental health than non-visible minority individuals or male participant respectively, and the longer one stays in Canada in terms of the years since immigration, the poorer mental health one is predicted to have.

To summarize the results of the control variables from the mediation model analyses, immigrants' visible minority status, income level, years following immigration, and sex were all non-significant variables in predicting their sense of belonging. Each of these variables, however, is significant in predicting immigrants' physical and mental health with different directions and magnitudes. At the same time, it was found that the importance of religious and spiritual beliefs was the only non-significant variable in predicting immigrants' physical and mental health, but it was a significant predictor of their sense of belonging. Regarding age, this was a strong predictor of immigrants' physical health, but not on their mental health.

Table 7
Results of the control variables on the mediator and dependent variables (*N* = 6784)

Control variables	Sense of belonging (a-path)	Physical health (c-path)	Mental health (c-path)
Education	-0.06 (0.11) ***	0.09 (0.01) ***	0.07 (0.01) ***
Age	0.05 (0.01) ***	-0.13 (0.01) ***	-0.02 (0.01)
Visible minority status	0.03 (0.02)	-0.22 (0.03) ***	-0.09 (0.03) ***
Income	-0.01 (0.01)	0.08 (0.01) ***	0.05 (0.01) ***
Years of immigration	0.02 (0.01)	-0.03 (0.01) **	-0.06 (0.01) ***
Importance of religious and spiritual beliefs	0.10 (0.01) ***	-0.00 (0.01)	0.01 (0.01)
Sex	0.00 (0.02)	0.12 (0.02) ***	0.05 (0.02) *

Note. All results were shown with unstandardized coefficients (*B*) and standard errors of the control variables on the mediator (a-paths) and dependent variables (c-paths).
*p < 0.05, **p < 0.01, ***p < 0.001.

4.8 Hypotheses-testing

Based on the above analyses, the independent sample t-tests confirmed that Hypothesis one was supported, whereby immigrants who volunteer have higher level of sense of belonging, as well as better physical and mental health than immigrants who do not volunteer. The t-tests showed that immigrant volunteers reported significantly greater senses of belonging as well as better physical and mental health than their non-volunteer counterparts. Hypothesis two, which stated that immigrants' volunteering can significantly predict better physical and mental health was validated by the total effects (displayed as the c-paths of Figures 3 and 4) of the two mediation models. At the same time, the positive effect of volunteering on sense of belonging was also displayed on the a-paths of the two mediation models. From the partial correlation analyses, Hypothesis three, which predicted that there are significant and positive relations between immigrants' sense of belonging and both their physical and mental health, was also supported. Finally, the overall two mediation models also provided evidence for Hypothesis four, which stated that immigrants' sense of belonging significantly mediates the relationships between volunteering and both their physical and mental health, where volunteering positively

predicts one's sense of belonging, which also positively predicts one's physical and mental health. Therefore, in this study, all four hypotheses were supported by the analyses.

To summarize, findings show that volunteering serves as a significant factor in promoting Canadian immigrants' better physical and mental health. After controlling demographic characteristics, this result was found to be significant. Moreover, one's sense of belonging is a significant mediator along the pathway from volunteering to one's physical and mental health, where it was positively associated with volunteering, and it also positively predicted immigrant participants' physical and mental health. Such results were consistent with the previous literature. Findings on the control variables show that Canadian immigrants' age, sex, and visible minority status are related to one's physical health, but not to mental health. Lastly, the importance individuals attribute to religious and spiritual beliefs plays an important role in influencing one's sense of belonging, but not as much on one's physical and mental health directly.

Chapter 5: Discussion

Canadian immigrants bring numerous resources into society, enriching the culture and economy in multiple ways. It is essential for various levels of government and local communities to assist these immigrants with integrating more smoothly, by helping them overcome barriers and providing them with enough support so that they can thrive, be self-sustainable, and have healthy lives (Yan, 2017; Yan & Anucha, 2017). This study suggests that active civic participation, with the use of volunteering as a program, can help immigrants build a sense of belonging, social capital, and access to more resources and opportunities (Handy & Greenspan, 2009). Ultimately, it is believed that volunteering would be an effective way to help improve immigrants' physical and mental health.

This chapter summarizes and further explains the findings of the study. After that, potential implications for social work practice as well as immigration policy will be discussed. Limitations of the study will also be described, which will be followed by recommendations for future study to address some of the unanswered questions.

This study demonstrated that immigrants' volunteering positively associates with their sense of belonging, as well as physical and mental health using a nationally representative data set while controlling various socio-demographic characteristics. The hypotheses were 1) Immigrants who volunteer have higher levels of sense of belonging, as well as better physical and mental health than immigrants who do not volunteer; 2) Immigrants' volunteering significantly predicts better physical and mental health, as well as a greater sense of belonging; 3) There are significant and positive relations between immigrants' sense of belonging and both their physical and mental health; and 4) Immigrants' sense of belonging significantly mediates the relationships between volunteering and both their physical and mental health, where volunteering positively predicts

one's sense of belonging, which also positively predicts one's physical and mental health.

5.1 Explanation of results

5.1.1 Hypothesis one

From hypothesis one, immigrants who volunteer have a greater sense of belonging, and better physical and mental health than those who do not volunteer.

Supported by existing studies and literature, volunteering serves to build immigrants' social capital by allowing them to establish ties with people and institutions from a diverse background (Wollebaek & Selle, 2002). It widens immigrants' social networks, which have a buffering effect on their physical and mental health (Piliavin & Siegl, 2007; Wang et al., 2017). In particular, this buffering effect was found to be more effective for people who have fewer ties and are more socially isolated (Wang et al., 2017). From the study by Piliavin and Siegl (2007), mortality rates were found to be negatively related to volunteering, but only among those who meet and socialize less with friends, neighbours, and relatives. In addition, while there might be a significant difference between immigrants who volunteer and those who do not, the duration of volunteering does not have an effect on participants' breadth of networks, as long as they have volunteered (Wollebaek & Selle, 2002).

5.1.2 Hypothesis two

It was hypothesized that immigrants' volunteering significantly predicts better physical and mental health, and a greater sense of belonging. Compared with non-volunteers, volunteers typically have more social interactions with others, and participate in more community activities. Volunteers are known to be more socially active and closely connected with their community (Musick & Wilson, 2003). Drawing on the social capital lens, by volunteering in different institutions, immigrants are able to not only bond with like-minded people from their community,

but also reach out to a wider community and integrate into a large, multi-layered network in society (Handy & Greenspan, 2009). Activities like community-based social services and multicultural festivals in religious or secular settings provide an opportunity for immigrants to interact with members of the general public (Handy & Greenspan, 2009; Na & Hample, 2016). Immigrants' involvement in volunteer work and contribution to the community also dilutes boundaries between communities and knits networks together. At the same time, such involvement also increases the reputation and the visibility of immigrant communities as a whole in society (Handy & Greenspan, 2009; Wollebaek & Selle, 2002). Among different types of relationships and ties between people, volunteering is particularly effective in creating relatively weak ties that are among acquaintances. These ties are "characterized by less intimacy, less intensity, less frequent contact, few obligations, and weaker reciprocal services" (Lin, 2002, p. 68). Often, since these ties can be established with people from a variety of backgrounds, the network of acquaintances built through volunteering is effective in bridging social distance among people and allowing volunteers to reach resources that are normally harder to access (Granovetter, 1973; Wilson-Forsberg & Sethi, 2015). Therefore, immigrant volunteers are able to not only build their identities through engaging in volunteering, but also connect with people and resources from more diverse backgrounds (Fong & Shen, 2016; Granovetter, 1973; Handy & Greenspan, 2009; Lin, 2002; Wollebaek & Selle, 2002).

Consistent with previous studies, the results of this study showed a positive association between immigrants' volunteering and their physical health. In a longitudinal study by Young and Glasgow (1998), it was found that social participation in the form of volunteering increases people's health status, regardless of their sex. It was also estimated that volunteering corresponded in the health gains of around five years younger of age, through gaining

psychological resources (i.e. self-efficacy) and social resources (i.e. social integration and access to information) for the volunteers themselves (Detollenaere et al., 2017). From Piliavin and Siegl's (2007) study, volunteering was shown to act as a protective factor, where people who volunteered in at least two organizations had 44 percent lower mortality rate than those who did not volunteer. In addition to lowering mortality rates and increasing one's health status, volunteering has also shown effects of enhancing individuals' physical activity and reducing pain (Salt, Crofford, & Segerstrom, 2017).

Apart from physical health benefits, volunteering was also found to boost individuals' life satisfaction, happiness and self-esteem, and to reduce depressive symptoms (Mellor, Hayashi, Firth, Stokes, Chambers, & Cummins, 2008; Piliavin & Siegl, 2007; Salt et al., 2017). Not only does volunteering bring benefits to the people who are served, but also to those who serve others, in terms of their physical and mental well-being (Musick & Wilson, 2003). For those who are serving others when they volunteer, such acts of kindness can be intrinsically rewarding, and enhances people's sense of purpose and self-efficacy (Mellor et al., 2008). In a longitudinal study, volunteers who worked with people with Acquired Immune Deficiency Syndrome (AIDS) for 12 months were found to have an increase of self-esteem and a decrease of loneliness after the program (Omoto, Synder, & Berghus, 1993). In other studies, volunteering was also found to lower the likelihood of suffering from psychological distress and depressive symptoms (Musick & Wilson, 2003; Salt et al., 2017). By being altruistic, volunteers gain social benefit, which is vital to their mental well-being. Volunteers are reinforced with a sense of purpose to their lives (Salt et al., 2017). Volunteering also builds their trust towards other people and the community. Voluntary services may not bring monetary gains, but volunteers are often appreciated and rewarded with social recognition (Musick & Wilson, 2003). Furthermore, another benefit from

volunteering in terms of mental health appears to be a sense of psychological empowerment. Serving others allows one to utilize their skills and strengths in which they take pride. Thus, the act of volunteering boosts one's sense of control and identity, increases self-esteem, and lowers the sense of powerlessness in life (Brown et al., 2012; Musick & Wilson, 2003).

5.1.3 Hypothesis three

This hypothesis stated that there are significant and positive relations between immigrants' sense of belonging and both their physical and mental health. From this thesis, immigrants' sense of belonging predicted their physical and mental statuses positively, where the greater sense of belonging one has, the better health he/she reports.

Echoing many previous studies, this thesis study confirms the positive relation between sense of belonging and physical and mental health. Sense of belonging can be understood as one's attachment to and social comfort with his/her community (Kitchen, Williams, & Chowhan, 2012). A closely connected relationship with community members was found to be positively associated with physical and mental health, and with lower stress in general across different ethnic groups (Berkman, Glass, Brissette, & Seeman, 2000; Fell, 2004; Na & Hample, 2016). Immersing in the community allows individuals to build social capital, such that they could gain access to health-related resources and information (Lin, 2002). In Na and Hample's (2016) study, immigrants who form strong ties with people from both the same and different cultural origins were found to be associated with better social and economic integration. Their well-being was also related to the strength of those ties.

Previous studies have shown that social cohesion in the community is related to better health among community members and lower rates of all causes of mortality (Carpiano & Hystad, 2011; Kitchen et al., 2012; Ross, 2002; Shields, 2008). Social integration is seen as a critical social

determinant of health alongside other factors such as individuals' income, educational level, and living conditions (Na & Hample, 2016). When one has a stronger sense of belonging to his/her community, he/she is more likely to engage and participate in the community. Through such engagement, individuals are able to gain access to and share information, resources, and opportunities. This has a positive effect on his/her health outcomes (Kitchen et al., 2012; Na & Hample, 2016).

Previous studies support the proposition that one's sense of belonging is also an important factor not only on physical but also mental health. Sense of belonging is argued to be a "missing conceptual link in understanding mental health and mental illness from a relationship/interactional approach" (Kitchen et al., 2012, p. 105). By establishing a large network with different people in society, individuals, particularly immigrants, can gain social capital, which has implications on their well-being (Ross, 2002). More civic and community participation and a greater sense of belonging were found to improve one's psychological and mental health in terms of concepts such as self-esteem (Hagerty, Williams, Coyne, & Early, 1996; Na & Hample, 2016). These factors also negatively correlated with stress, depression, loneliness, anxiety, and suicidality (Kitchen et al., 2012). People who feel more connected to the community are also more likely to be involved in community activities and receive more social support. In the process, they gain a stronger sense of identity, meaning, and purpose, as well as self-efficacy, which are all important buffers for maintaining mental health (Na & Hample, 2016). In particular, immigrants who engage in inter-cultural activities are seemingly more culturally adapted, and they can develop networks with people from more diverse backgrounds, which brings in more resources and opportunities. These factors all contribute positively to their health (Kitchen et al., 2012; Na & Hample, 2016).

5.1.4 Hypothesis four

The last hypothesis of the study stated that immigrants' sense of belonging mediates the positive relationships between volunteering and both their physical and mental health. Based on the mediation models, after controlling for seven socio-demographic characteristics, the positive relationships between immigrants' volunteering and their physical and mental health were partially mediated by their sense of belonging. In other words, volunteering positively predicts immigrants' physical and mental health in two ways, a direct and an indirect way. The direct way is the positive association between volunteering and health, whereas the indirect pathway, is one via positively predicting their sense of belonging, and the sense of belonging positively predicting physical and mental health.

By serving society and individuals in need, volunteering allows immigrants to feel that they are a part of the community, and that they matter and have something to contribute. The sense of 'mattering' gained from volunteering allows volunteers to feel that they are valuable and significant. This grants them a sense of satisfaction, self-assurance and self-esteem, which in turn lowers the chance of feeling depressed and frustrated (Handy & Greenspan, 2009; Musick & Wilson, 2003; Piliavin & Siegl, 2007). Participants' level of social integration in the community, acts as a factor in the relationship between volunteering and health (Detollenaere et al., 2017; Piliavin & Siegl, 2007). By volunteering, immigrants are able to build interpersonal ties with others, which gives them an increase in social support and access to resources. Volunteering also helps them construct a new identity, reputation, and a social role in the community, which are factors of a stronger well-being (Handy & Greenspan, 2009; Musick & Wilson, 2003; Na & Hample, 2016; Piliavin & Siegl, 2007). Therefore, one may conclude that one of the reasons why volunteering might uplift one's physical and mental health is because of its positive influence on

volunteers' social integration (Musick & Wilson, 2003), as evidenced in a longitudinal study showing that both volunteering and sense of belonging reduce the probability of individuals experiencing depression (Lin, Ye, & Ensel, 1999).

5.2 Implications

From this study, it is recognized that volunteering has a positive association not only with immigrants' sense of belonging, but also their physical and mental health. Immigrants, like all Canadians, rely on health, education, and social services to integrate into the society (Drolet & Wu, 2017), the application of such knowledge can be used to help immigrants succeed in society socially, culturally, economically, and politically. It is important not only for social workers and human service professionals to understand the needs and characteristics of immigrants, but policymakers should also work to create an environment where immigrants can feel they belong and have better access to support, so as to be included in society (Collett, 2004; Potocky-Tripodi, 2002). As described in Kirkham's (2003, p. 777) article, "perhaps the clearest indicator of a commitment to foster belonging for all in our healthcare settings is the allocation of resources". In the following sections, various implications generated from the thesis will be illustrated.

5.2.1 Implications on social work practices

As one fifth of the Canadian population is comprised of immigrants, human service and healthcare professionals, including social workers, have a high likelihood of encountering and serving immigrants as their clients. Therefore, it is essential for these professionals to be equipped with the right mindset and training to work with this community, as well as to create a platform where immigrants can fully participate and enrich society through their abilities and resources (Collett, 2004; Fell, 2004; Hayes & Humphries, 2004; Potocky-Tripodi, 2002; Yan & Anucha, 2017). Prior to organizing community engagement programs such as volunteering,

program organizers should be trained on the specific skills critical to working with immigrant communities, so that these professionals can effectively help immigrants integrate along the process (Collett, 2004; Fell, 2004; Kirkham, 2003; Potocky-Tripodi, 2002; Richmond & Shields, 2005; Tsang & Li, 2017). Some of this training should equip professionals to encourage and mobilize immigrants to participate in volunteering programs, in order to directly and indirectly enhance their sense of belonging, physical and mental health (Potocky-Tripodi, 2002).

This thesis showed the importance of enriching immigrants' sense of belonging and how that can improve their physical and mental health. Previous studies have demonstrated how community engagement activities can remedy a low level of belonging and a high level of social isolation, which are key factors for health (Kitchen et al., 2012; Na & Hample, 2016). For instance, social workers and other human service professionals are suggested to first identify and approach the local networks, map out the community resources and strength, such as advocacy and settlement-oriented organizations, as well as immigrants' psychological and physical health needs (Fell, 2004; Potocky-Tripodi, 2002). After having more awareness of the needs of immigrants, these workers can initiate volunteering programs by immigrants, so as to help them connect with these resources, and receive culturally preferred healthcare support (Fang & Katakia, 2017; Wilson et al., 2017).

Through these initiatives, social workers are able to establish connections between the local and immigrant communities, and build a welcoming and inclusive society, where immigrants feel a sense of belonging. It is important for social workers working with the immigrant community to adopt a more participatory approach in working with all stakeholders (Drolet & Wu, 2017; Potocky-Tripodi, 2002). Apart from purely volunteering to boost immigrants' sense of belonging, these initiatives can also include certain elements of community outreach, education, and health

promotions, “such as health fairs, free screening, media promotion, community workshops, wellness events, and civic engagement, outreach and promotion activities” (Fang & Katakia, 2017, p. 147). These elements further allow participants, especially immigrants, to strengthen knowledge of and access to community resources and boost physical and mental health awareness, not just in regard to themselves, but also those to other family and community members. These benefits from community programs would be able to create long-lasting positive health effects in the community (Fang & Katakia, 2017; Potocky-Tripodi, 2002).

While volunteering is suggested to be beneficial to immigrants’ integration, one should not neglect the fact that there are barriers for immigrants’ participation in volunteering activities. Immigrants who are new to the society may not be familiar with the civic culture of Canada or confident with their language proficiency in participating in community activities (Potocky-Tripodi, 2002; Wang et al., 2017). Therefore, the importance of organizations lowering various barriers for immigrants’ civic participation should be emphasized, so that they can have better access to volunteer opportunities (Handy & Greenspan, 2009). Moreover, organizations should also improve access to interpretation services, as a way to lower barriers for immigrants to participate as volunteers (Potocky-Tripodi, 2002). For instance, some immigrant-serving agencies have made interpretation a priority through a larger fiscal commitment (Kirkham, 2003).

5.2.2 Implications on policies related to immigration in Canada

While social workers should create specific initiatives to provide opportunities for immigrants to serve others, one should not ignore the importance of helping immigrants engage in society through a more macro perspective (Collett, 2004; Grady, 2004; O’Reilly, 2012; Potocky-Tripodi, 2002). As mentioned by Handy and Greenspan (2009, p. 978), “in the case of

immigrants, initiatives promoting volunteer opportunities, especially for new immigrants wanting local work experiences, should be coupled with the setting of institutional infrastructure to facilitate such opportunities". Apart from the local community and other non-profit organizations, the involvement of the government at different levels is also critical, as social policies can affect how all members of society socialize and live.

A macro level of practice often involves a socio-political lens in dissecting a phenomenon (Tsang & Li, 2017), it is recognized that immigrants' actions are not only guided by their own experiences but are also governed by the existing socio-economic and political systems (O'Reilly, 2012). When immigrants come to Canada, they enter a brand-new society with different lifestyles, practices, cultural values, power dynamic, and resource allocations, where there are new challenges and opportunities (Yan & Anucha, 2017). From previous studies, immigrants encounter structural barriers throughout their integration process, socially and economically (Drolet & & Wu, 2017; Tsang & Li, 2017). The contemporary socio-economic system encourages certain members of society and discourages other groups (Lin, 2002). For immigrants, their work experience and expertise are often undervalued, and they are sometimes trapped in the secondary job market sector, they sometimes also face racism or other forms of discriminations, which negatively affects their establishment of a new life (Potocky-Tripodi, 2002; Wilson et al., 2017; Yan, 2017). Gradually, immigrants feel isolated and disconnected from the local networks (Wilson et al., 2017). It is suggested that volunteering organized by immigrants can be used as a tool to gain social status, integrate into the socio-economic and political system more effectively, and combat marginalization and exploitation of immigrants (Fong & Shen, 2016; O'Reilly, 2012; Wollebaek & Selle, 2002).

Social integration is not a one-way street. It requires mutual adaptations from both

immigrants and the local society to accommodate and collaborate with each other (Wong & Tézli, 2013). Volunteering is similar in that respect, in that the concept of reciprocity is embedded in the very activity (Manatschal & Freitag, 2014), especially for immigrants who want to give back to the society that received them (Weng & Lee, 2016). The government should create policies and programs such as volunteering by immigrants, which emphasize the joint participation of both parties in building a more inclusive environment (Na & Hample, 2016). In particular, Local Immigration Partnerships (LIPs) serve as a type of place-based initiative where immigrants and their local-born counterparts can interact, work together, and take ownerships of the development of their communities. This initiative puts immigrants and local Canadians on an equal position in affecting changes in the community, in which immigrants are empowered to voluntarily participate in their communities and gain a sense of responsibility through serving others (Fell, 2004). This program aims to not only build a sense of belonging and social connection, but also to facilitate practical information dissemination, and allow immigrants to gain access to emotional and community supports (Drolet & Wu, 2017). By adopting a 'two-way street' approach, it enables the community to build capacity where immigrants can be more efficiently integrated into the society, gain access to public support, and "ensure that the benefits of immigration for communities are realized" (Drolet & Wu, 2017, p. 98).

Volunteering is suggested to not only be able to facilitate immigrants' integration through increasing their sense of belonging and health status, but also help them integrate into the labour market (Handy & Greenspan, 2009). Through volunteering, immigrants do not only provide support to others, but also receive support from their peers, in terms of acquiring the know-how in Canada, and situate themselves in the local socio-economic system. In addition, immigrants can also establish a social network, which serves as the persons' social credentials, and grants

them higher accessibility to information and resources for other job opportunities (Bourdieu, 1985; Lin, 2002). Therefore, it is critical to capitalize on the benefits of volunteering in helping immigrants obtain Canadian work experience and establish references for employment (Wilson-Forsberg & Sethi, 2015). This may include accreditation services and recertification opportunities of immigrants based on their volunteering experiences (Drolet & & Wu, 2017; Wilson et al., 2017). However, one should also be cautious with the circumstance that immigrants often face, where their good-will voluntary services, especially in their respective professional workplaces, may be treated as free labour (Wilson-Forsberg & Sethi, 2015). It is thus paramount to implement it fairly and ensure that volunteering would not be misused to further exploit immigrants' invaluable skills, which brings harmful impacts to their well-being.

Therefore, it would be beneficial for various levels of government and other organizations that initiate volunteering activities to create a system that effectively validates immigrants' contributions and the skills they acquire through those activities, so as to assist in their process of entering professional fields (Wilson et al., 2017). Volunteering has been viewed not only as a useful and respectable way to help volunteers gain experience in certain work environments, but also provides opportunities for potential employers to get to know immigrant volunteers (Handy & Greenspan, 2009; Wilson-Forsberg & Sethi, 2015). Professional regulatory bodies, community agencies, and various levels of government can include volunteering as a way to validate immigrants' professional abilities for recertification and accreditation. It is hoped that, such accreditation can perhaps also address the issue of deskilling and employment discrimination towards immigrants (George, 2017; Wilson et al., 2017).

5.3 Limitations

This study has a number of strengths in terms of investigating the importance of

volunteering for immigrants on their health and successful integration into Canada. It also uses a national sample, which allows for the capture of immigration as a cross-provincial phenomenon. However, this thesis is not free from limitations.

First, since this study used a cross-sectional data set, a causality of the determinants cannot be established or attributed, despite the frequent use of inferential statistics in studies relating to volunteering, social connection, and health (Brown et al., 2012; Salt et al., 2017; Wang et al., 2017). The findings of this study mainly reveal associations among the variables used in the study (Na & Hample, 2016). While immigrants' volunteering is found to be a significant factor in their physical and mental health, one could argue that immigrants' health also plays a role in affecting their likelihood of participating in voluntary activities (Detollenaere, et al., 2017). For instance, one study showed that individuals with depression and pain volunteer less and report lower levels of well-being and meaning in life, whereas people who are more physically active volunteer more (Salt et al., 2017).

Second, language barrier has been studied and cited as a major challenge of Canadian immigrants' integration, including to participation in volunteering (Kirkham, 2003; Wang et al., 2017; Wilson-Forsberg & Sethi, 2015). It is important to consider the role of language proficiency as a barrier for immigrants' active participation in society, including the involvement in research and interviews that have been conducted looking at their settlement experiences. As this survey was conducted in either English or French by Statistics Canada, without any interpretation and translation assistance available, immigrants whose first language is not one of these languages may have faced difficulties in expressing themselves and answering the questions. Therefore, it is possible that this data set reflects an under-representation of immigrants who have lower English and French language skills. Based on the literature, one

could expect that these ‘silent’ immigrants may have even poorer social integration and health statuses, due to linguistic isolation (Na & Hample, 2016).

Third, regarding the merit of building social capital for immigrants’ health, studies also show that the benefits of social capital are dependent on the socio-cultural context and may sometimes also result in undesirable effects on people’s integration and well-being (Campos-Matos, Subramanian, & Kawachi, 2015; Portes & Landolt, 2000; Van Deth & Zmerli, 2010). For instance, it was found that while connecting with others could lead to learning more about healthy activities (Shields, 2008), it may also cause people to engage in unfavorable behaviors such as harmful drinking in certain cultures (Nie, Zhu, Fu, Dai, & Gao, 2018). Another study shows that individuals’ participation in voluntary activities in Europe limit their engagement with others in wider society (Iglič, 2010; Whittaker & Holland-Smith, 2016). In addition, by developing strong ties within one’s own community, it may restrict interactions with people outside of the community. Portes (1998) proposed that close ties among community members may foster conformity, which hinders individuals’ willingness to connect with outsides in order to gain access to other resources and information. A systematic review study thus concludes that social capital can be a double-edged phenomenon, where it brings both positive and negative effects on health (Villalonga-Olives & Kawachi, 2017).

Fourth, the variable used in this study on volunteering has not captured the more dynamic aspects of volunteer work. While only asking if participants have volunteered in the past twelve months, the question did not take into account the types and settings of volunteering, which are elements that may have an impact on immigrants’ integration and health (Musick & Wilson, 2003). It is illustrated that immigrants engage in three main categories of volunteering, which are unpaid internships and co-op placements, on-the-job training and mentorships, volunteer

positions in the receiving community and those to assist other immigrants (Wilson-Forsberg & Sethi, 2015; Wilson et al., 2017). Still, these categories include a wide range of activities, and this study did not identify and compare the differences among these categories of volunteering work, which are believed to be influential in shaping immigrants' experiences with integration (Brown et al., 2012; Musick & Wilson, 2003). In terms of the setting of volunteering, different types of voluntary organizations could also affect immigrants' extension and diversification of their social contacts (Fong & Shen, 2016). A more formal and institutionalized setting for volunteering was thought to be more beneficial to immigrants' integration in terms of improving their access to social support, information and indirect ties (Musick & Wilson, 2003).

Fifth, some scholars may argue that other demographic variables not included in this study are also crucial in understanding immigrants' integration (Satzewich & Liodakis, 2017). For instance, while this study has sex, a dichotomous variable, as one of the control variables, it did not fully capture the effect of gender on immigrants' health and sense of belonging. Hankivsky (2012) proposed that while women's and men's health might be different biologically, their health is also affected by one's social locations and social roles. Studies have shown that sexual minority immigrants face specific challenges and can fall into double and triple jeopardy in society and healthcare system (Dysart-Gale, 2010; Mathieson, Bailey, & Gurevich, 2002; Wong & Pong, 2013). It is thus not a surprise that some gender and health research found this community to have poorer health as compared to their cisgender counterparts (Pakula & Shoveller, 2013; Veenstra, 2011; 2013). Research that only considers sex but not gender may be seen as a perpetuation of "false dichotomies that fail to reflect the diversity between different groups of women and men or open the possibility of examining different types of population groups" (Hankivsky, 2012, p. 1714). While it is impossible to take all variables relating to

immigrants' integration and health into account, it is important for researchers to be explicit about what variables were chosen and the rationale behind such selection (Hankivsky, 2012). Therefore, it is understood that the findings of this control variable in this thesis may have different implications for immigrants with different gender identities beyond the traditional male/female binary. Apart from gender, it should be also acknowledged other factors such as their employment status and their discrimination experiences can be influential to immigrants' integration and social determinants of health. While volunteering is suggested to be helpful in increasing one's employability (Slootjes & Kampen, 2017; Smith, 2010), and employability is negatively associated with physical and mental health problems (Premji & Shakya, 2017; Qiao, Xia, & Li, 2016), refugees in Canada and immigrants in other countries encounter structural barriers that hinder their abilities to enter the labour market, and the building of social capital is viewed as an important factor to gain employability (Lamba, 2003; Slootjes & Kampen, 2017; Thondhlana, Madziva, & McGrath, 2016). Immigrants who experience discrimination based on their race, gender, religion in Canada show poorer physical and mental well-being (MacDonnell, Dastjerdi, Khanlou, Bokore, & Tharao, 2017; Premji & Shakya, 2017).

5.4 Future study

As mentioned in the limitation section while cross-sectional studies cannot showcase causality of the independent variable and the outcome variables, one can replicate this study by adopting an alternative research methodology. A carefully designed longitudinal study would be able to generate a causal conclusion on the impact of immigrants volunteering on their physical and mental health (Na & Hample, 2016; Salt et al., 2017; Wang et al., 2017). In addition, some scholars have suggested the use of randomised field experimental design to examine the benefits of volunteering between immigrants who participate in it and those who do not across a

timeframe (Brown et al., 2012; Detollenaere et al., 2017).

In addition to looking at immigrants' volunteering from an individual lens, it can also be helpful to examine social capital on a communal level (Portes & Landolt, 2000; Schellenberg et al., 2017). Future studies can focus more on how volunteering generates sense of belonging and social capital from a group or social level, and how volunteering can be helpful in accumulating immigrant communities' resources collectively, which allow these community resources and assets to benefit the community members (Lin, 2002; Potocky-Tripodi, 2002).

Furthermore, it is also important to investigate more thoroughly the different social capital mechanisms between homophilous (or bonding) and heterophilous (or bridging) interactions, especially their impacts on immigrants' social interaction, and also how different kinds of volunteering might create different results on immigrants' health. As it is proposed that immigrants interact differently in the social structure, future studies should focus on how volunteering at different institutions and with different clientele might change the health outcomes and effectiveness for immigrant volunteers (Lin, 2002).

In addition, even though this thesis has included numerous socio-demographic characteristics related to immigrants' race, class, and sex as control variables, so as to depict a more distilled picture between immigrant volunteers and their health, there are still potential confounders or relationships that are not put into the study. For examples, the variable of gender and sexuality should be included or considered. Health researchers with an intersectionality perspective have suggested that the effects of sex and gender are intersecting but distinct from one another (Hankivsky, 2012; Mathieson et al., 2002; Veenstra, 2011). It is proposed that race, class, sex, and gender are the four primary axes of intersectionality and that these factors have interacting effects on one's physical and mental health (Veenstra, 2013). Apart from one's

experiences in discrimination and employability, future studies can investigate specifically on the interactions of these socio-demographic characteristics, and their effects on immigrants' integration, volunteering, social capital, sense of belonging, and health.

5.5 Conclusion

Canada is widely considered to be a multicultural and inclusive country where immigrants can prosper. Immigrants who come and settle in Canada are healthier initially than the general Canadian population. Yet, the current socio-economic system has potential loopholes that are not always favourable to immigrants, and thus many immigrants land up suffering from health problems at a rate faster than their local-born counterparts (Na & Hample, 2016). To address this issue, this study provides support to the idea of "doing well by doing good" by immigrants (Piliavin & Siegl, 2007, p. 462). Volunteering can enhance immigrants' sense of belonging, which is a critical determinant of their physical and mental health. The indirect positive effects of volunteering on immigrants' physical and mental health via increasing their sense of belonging are still significant even after controlling for seven different socio-demographic characteristics. Thus, social workers and other human service professionals are encouraged to empower immigrants and help them integrate in society by establishing initiatives for them to participate in volunteering activities, which will thereby uplift immigrants' physical and mental health.

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Appendix A

Table 8
Descriptions of variables from Statistics Canada dataset

Variables in this thesis	Code name on Statistics Canada dataset	Framing question of the variable	Numeric coding representations on dataset
Volunteering	VCG_300	"In the 12 past months, did you do unpaid volunteer work for any organization?"	1) Yes, 2) No
Sense of belonging	SBL_100	"How would you describe your sense of belonging to your local community? Would you say it is...?"	1) Very strong, 2) Somewhat strong, 3) Somewhat weak, 4) Very weak
Physical health	SRH_110	"In general, would you say your health is ...?"	1) Excellent, 2) Very good, 3) Good, 4) Fair, 5) Poor
Mental health	SRH_115	"In general, would you say your mental health is...?"	1) Excellent, 2) Very good, 3) Good, 4) Fair, 5) Poor
Age	AGEGR10	"Age group of respondents (Group of 10)"	1) 15 to 24 years, 2) 25 to 34 years, 3) 35 to 44 years, 4) 45 to 54 years, 5) 55 to 64 years, 6) 65 to 74 years, 7) 75 years and over
Visible minority status	VISMIN	"Visible minority status of the respondent."	1) Visible minority, 2) Not a visible minority
Education	DH1GED	"What is the highest certificate, diploma or degree that you have completed?"	1) Less than high school, 2) Graduated from high school, 3) Post-secondary diploma, 4) University degree
Years of immigration	YRARRI	"Range of years when respondent first came to Canada"	1) Prior to 1946, to 2) 1946 to 1959, 3) 1960 to 1964, 4) 1965 to 1969, 5) 1970 to 1974, 6) 1975 to 1979, 7) 1980 to 1984, 8) 1985 to 1989, 9) 1990 to 1994, 10) 1995 to 1999, 11) 2000 to 2004, 12) 2005 to 2009, 13) 2010 to 2013
Income	INCM	"Annual personal income of the respondent - 2012"	1) No income, 2) less than $5000, 3) $5000 to $9999, 4) $10000 to $14999, 5) $15000 to $19999, 6) $20000 to $29999, 7) $30000 to $39999, 8) $40000 to $49999, 9) $50000 to $59999, 10) $60000 to $79999, 11) $80000 to $99999, 12) $100000 or more
Importance of religious and spiritual beliefs	RLR_110	"How important are your religious or spiritual beliefs to the way you live your life? Would you say they are...?"	1) Very important, 2) Somewhat important, 3) Not very important, 4) Not at all important
Sex	SEX	"Sex of respondent"	1) Male, 2) Female