An Intersectional Analysis of Victimization of the Homeless,
Mental Health, Guardianship and Housing Status

A research paper submitted in partial fulfillment of the requirements for the Master of Arts
degree.

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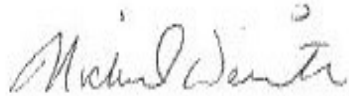Department of Criminal Justice

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We the undersigned certify that this research project meets an acceptable standard in scope and
quality for the Master of Arts in Criminal Justice.

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Abstract

The present study examines victimization across a localized homeless population. It is widely agreed upon across the extant literature that those experiencing homelessness are victimized at disproportionately higher rates in comparison to the general population. Utilizing routine activities and lifestyles theories, this paper examined how varying degrees of housing and mental health issues affect the likelihood of victimization for those experiencing homelessness. It was hypothesized that lower levels of housing and higher degrees of mental health issues exacerbate the high rates of victimization across the homeless population. Utilizing a routine activities perspective, this study conceptualized housing as a measure of guardianship. This study utilized a secondary data analysis design. Secondary data was accessed from the Winnipeg At Home/Chez Soi project. Using negative binominal regression, it was found that there is a relationship between mental health, guardianship, and victimization. Analyses provided partial support for the hypotheses that greater mental health challenges contribute to a higher propensity of victimization. Although the results illustrated that greater levels of stable housing did have a mitigating effect on victimization at the 12-month time period serious mental health issues were found to be a considerably stronger predictor of victimization than guardianship through housing. The findings suggest that proximity to high crime areas, certain lifestyle factors and individual activities may still account for much of high victimization rates for the homeless, despite an increase in provision of housing. Future qualitative inquiry is recommended to better understand the processes that impact victimization for the homeless with mental health issues.

Keywords: Homelessness, Victimization, Mental Health, At Home/Chez Soi

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1. INTRODUCTION

Homelessness is characterized by a constant state of stress, dehumanization, and danger; it is within this context that homeless individuals are at a high risk of becoming victims of crime (Fitzpatrick, LaGory, and Ritchey, 1999:439). Unsurprisingly, those experiencing homelessness are victimized at disproportionately higher rates in comparison to the general population. The elevated rates of victimization among the homeless has been well documented throughout the literature (Garland, Richards, and Cooney, 2014; Gaetz, 2004; Rattelade, Farrell, Aubry, and Klodawsky, 2014; Edalati, Nicholls, Schütz et al., 2020). Researchers have found from one quarter to over half of these individuals had been victimized after becoming homeless (Garland et al., 2014:287). Although the high rate of homeless victimization is well documented, the abuse experienced by the homeless population does not occur in a vacuum. There are several unique structural forces and personal challenges that simultaneously contribute to the high rates of victimization. These structural forces include the lack of affordable housing availability, while personal challenges encompass both mental health issues and weakened social capital. These trials intersect and significantly increase the already high likelihood of becoming a victim for those experiencing homelessness (Garland et al., 2014; Rattelade et al., 2014). Homeless individuals who are dealing with these issues are inhibited from protecting themselves due to the lack of physical protection offered by safe housing, and due to a lack of cognitive ability to accurately assess risk or manage risky situations. Minimal protective measures such as housing and strong interpersonal relationships are not as readily available to the homeless. The lack of these protections increases the prevalence of victimization among the homeless population. Moreover, the intersection of living in high crime areas while experiencing mental health issues and inadequate housing exacerbates these risks.

In Canada there have been estimates that between 150,000 to 300,000 people experience homelessness in a given year (Roebuck, 2008:12). Several of Canada's major urban cities have large homeless populations. This is true in Winnipeg, Manitoba whose homeless population is largely situated in the downtown core. In 2018 it was observed that 1519 individuals in Winnipeg were experiencing homelessness in a given night (Winnipeg Street Census, 2018). The homeless population in Winnipeg face several challenges, including high victimization rates, mental health issues, and the lack of affordable housing (Distasio, Shareen, and Isaak, 2014).

This research paper focuses on uncovering the relationship between mental health and housing status on homeless victimization within a Canadian context. To examine the intersectional relationship of mental health and housing status on homeless victimization, this paper sought to answer the question *"what is the effect of varying degrees of mental health conditions and housing status on the incidence of victimization among the homeless?".* It was hypothesized that mental health and varying degrees of housing status intersect and contribute to the prevalence of victimization experienced by individuals living in a state of homelessness. In examining this research question, this project utilized a secondary data analysis research design. Though studies exist that have examined the prevalence of victimization and mental health issues among the homeless, there are several areas in which the literature on homeless victimization is lacking. A significant deficiency in the literature is that there is limited empirical research examining the intersectional relationship between the factors related to victimization and mental health conditions. There is also a dearth of theoretically informed empirical inquiry, as much of the work done to-date has being descriptive. In addition, limited research has examined how varying degrees of homelessness and housing affects the incidence of victimization and how mental health also plays a factor in this relationship. Finally, there is also a lack of in-depth

inquiry on these issues as they occur in Winnipeg, Manitoba despite the large homeless

population situated in this city.

There have been several governmental reports that highlight the prevalence of homeless

victimization, however, there is a current lack of theoretical and empirical studies that examine

homeless victimization within urban Canadian cities. Rattelade et al. (2014) assert that much of

the literature examining homeless victimization focuses on the experience of physical, sexual,

and emotional abuse leaving other forms of victimization under researched (p.1608). Moreover,

there is little Canadian-centric research that applies the theoretical perspectives of routine

activities theory (RAT) and lifestyles theory (LST) to studies of homeless victimization. These

perspectives are central to the field of victimology and its study (Garland et al., 2014; Gaetz,

2004; Miro, 2014; Cohen and Felson, 1979; Meithe and Meier, 1993).

This paper first reviews the current literature examining homelessness in Canada,

focusing on the central issues that are salient for those experiencing this situation. The review of

the literature also examines the theoretical perspectives that were utilized in this research project,

routine activities theory and lifestyles theory. The central aims of this research are discussed, and

the conceptual, theoretical and methodological objectives outlined. The methodology used in this

research is then reviewed. The use of secondary data analysis as a research design is also

examined and a rationale is provided. Following a description of the analytical plan, this paper

highlights key findings. This report works through univariate, bivariate and multivariate results,

with the multivariate equations relying on negative binomial regression models to deal with

significant skews in the data. These results are then discussed in depth, the findings are

examined and compared to the broader context of homeless victimization and discussed in

relation to routine activities and lifestyles theory. This paper is concluded with a review of the

significance of findings and contributions of this research project, focusing on the theoretical, methodological, and empirical contributions as well as pertinent policy implications. Limitations present in this study are scrutinized, and this paper concludes by identifying areas in which future research is warranted.

2. LITERATURE REVIEW

Homelessness is a complex, multi-faceted social problem with the homeless being at risk of many problems, key among those being victimized (Roebuck, 2008). This literature review will facilitate an understanding of homelessness in Canada and highlights several of the central issues faced by the homeless population, focusing on the issues of mental health, victimization, and housing. The second portion of the review examines two theoretical perspectives, routine activities theory and lifestyles/exposure theory. This section of the paper offers the justification for using these theories as the theoretical framework for this research.

2.1 The Scope of Homelessness

2.1.1 Homelessness in Canada

Homelessness is both a highly salient and visible social issue across many of Canada's urban centres. A combination of several factors led to the growth of homelessness in Western countries, crucial points being the disinvestment in affordable housing, structural shifts in the economy, and reduced spending on social supports. The combination of these factors helped facilitate mass homelessness beginning in the 1980's (Gaetz, Dej, and Redman, 2016). This initial wave of homelessness was not diverse, first affecting a narrow subgroup consisting of single men. However since this initial wave, homelessness in Canada now has been referred to as a crisis that affects a diverse population including men, women, youth, families, Indigenous Peoples, immigrants, and individuals identifying as LGBTQ2S. Compared to the initial wave of homelessness in the 1980s, these diverse groups are now much more likely to be counted amongst the homeless in Canada (Gaetz, 2010; Piat, Polvere, Kirst, et al., 2015, Gaetz et al., 2016). Amongst this group, Indigenous people in Canada face barriers to housing affordability

and consequently are significantly overrepresented in experiencing homelessness (Gaetz et al., 2016:17).

Homelessness in Canada is described as both a mass and complex problem. Gaetz et al. (2016) depicts Canada's approach to dealing with homelessness as occurring in two phases. In the first phase, the approach to homelessness was to invest in a crisis response. It was in this phase that emergency services and supports, including shelters, day programs, and drop-ins were developed. Such responses offer something to those struggling but they do not offer prevention nor introduce reduction measures to effectively eliminate or ameliorate homelessness (p.13). The second and current phase of governmental response to homelessness is said to have begun around 2008. In this phase a significant shift occurred in attempts to reduce the homeless population, including the adoption of the Housing First (HF) Model as well as the renewal of the National Homeless Strategy (Gaetz et al., 2016:13).

In their examination of homelessness in Canada, Frankish et al. (2005) assert that homelessness can be viewed on a continuum. They indicate that it can range from absolute homelessness whereby some live outdoors and in other places not intended for human habitation at the extreme, followed by those living in shelters (Frankish et al., 2005:24). The authors note that homelessness can include people who are staying with friends or family on a temporary basis. Also on this continuum are those at risk of being homeless, including those living in substandard or unsafe housing and persons who are spending a large proportion of monthly income on housing (Frankish et al., 2005:24). In Canada there have been estimates that between 150,000 to 300,000 people experience homelessness in a given year (Roebuck, 2008:12). In 2014 it was projected by Statistics Canada that over 235,000 Canadians experienced homelessness (Rodrigue, 2016:1).

It is believed these estimates do not represent the entire homeless population, rather it has been suggested that the real number could be much higher (Homeless Hub, 2019a). There is a large body of research that supports the notion of "hidden homeless" populations. Hidden homelessness is comprised of individuals who are provisionally accommodated, people who may be living temporarily in other's homes, without guaranteed residence or permanent housing; this is otherwise known as "couch surfing" (Homeless Hub, 2018). Gaetz, Gulliver, and Richter (2014) provide a more nuanced estimate regarding the homeless population. They assert that within the estimate of the 235,000, there is thought to be 5,000 that are chronically unsheltered (sleeping rough, outside), 180,000 live in emergency and women shelters, while 50,000 are provisionally accommodated (prison, hospital, interim housing, temporarily with friends or relatives). It has also been estimated that in Canada approximately 35,000 people are forced to sleep outside every night, often breaking municipal laws by doing so (Pivot Legal Society, 2018). Consequently, homeless populations are paradoxically highly visible and invisible at the same time. The precursors of this status are illustrated when considering the pathways which lead to homelessness.

Frankish et al. (2005) explain that homelessness is the result of "a complex interaction of factors at the individual level and societal level" (p. 24). Individual factors include negative childhood experiences, low educational attainment, lack of job skills, family breakdown, mental health issues and substance abuse, while societal level factors can consist of poverty, high housing costs, weak labour market conditions, decreased public benefits, and racism and discrimination (Frankish et al., 2005). Piat et al. (2015) identify two interacting barriers in exiting homelessness, structural barriers such as transitions from institutional settings, and personal factors. Structural barriers in exiting homelessness lead to entrenchment. Structures are

often exacerbated by individual risk factors such as addictions as well as mental and physical health issues (Piat et al., 2015:2373). Personal and structural factors are also catalysts across several challenges faced by those experiencing homelessness such as mental health issues, the lack of adequate and sufficient housing and victimization.

The structural and personal factors that have been identified as pathways to homelessness are not unique to any one country, province, or city. This is also true for the challenges faced by this population, such as mental health issues, lack of housing, and victimization. These factors are applicable across Canada's urban homeless population. As this research utilized Winnipeg driven data, the following section will provide a brief review of homelessness as it exists in this city.

2.2.2 Homelessness in Winnipeg

The city of Winnipeg has a large homeless population that is primarily situated in the downtown core. In Winnipeg, it has been estimated that there are approximately 135,000 people at risk of becoming homeless, 1,915 short-term or emergency sheltered people, 350 people who live on the streets, and 7,600 hidden homeless (Homeless Hub, 2018). A significant characteristic of Winnipeg's homeless population is Indigenous overrepresentation. The City of Winnipeg has one of the largest Indigenous populations in Canada (City of Winnipeg, 2018). In 2016, the City of Winnipeg reported that the Indigenous population represented 12.2% of the entire population in Winnipeg (City of Winnipeg, 2018). Nationally, Indigenous peoples represents 4.9% of Canada's total population (City of Winnipeg, 2018). Winnipeg's representation of First Nations, Metis and Inuit peoples is higher than seen in other major cities across Canada, yet there is still a mass overrepresentation of Indigenous people within Winnipeg's homeless population. The Homeless Hub notes that there have been estimates that 60

to 70% of the homeless population in Winnipeg is Indigenous (Homeless Hub, 2018). The Homeless Hub (2018) assert that Indigenous populations are at higher risk of homelessness due to the intersection of several factors. These factors include but are not limited to inadequate housing conditions on Reserves, inability to secure adequate housing, as well as the lack of culturally appropriate supports (Homeless Hub 2018).

The Winnipeg Street Census is "a large-scale, community-based research project that gathers information about the extent and nature of homelessness in Winnipeg" (Winnipeg Street Census, 2018). In April of 2018 the Winnipeg Street Census launched their second census to better understand the current scope of homelessness in Winnipeg (the previous census took place three years prior). In gathering this information, volunteers met with people living in emergency shelters, temporarily with friends and relatives, under bridges and at other temporary spaces (Winnipeg Street Census, 2018). Information gathered on the street is combined with data provided by government and community agencies to provide and collate the best available information on homelessness. In 2018, the Winnipeg Street Census reported that there were approximately 1519 individuals that were experiencing homelessness. Of this, 65.4% were male while 32.5% were female, lastly it was found that 65.9% of all participants identified as Indigenous (Winnipeg Street Census, 2018:12).

The marginalization of this population creates and exacerbates many challenges experienced by the homeless. The next section of this paper examines three broad and central challenges that homeless individuals often go through.

2.3 Challenges Faced by the Homeless Population

This research project aimed to examine the intersection of mental health and degree of housing and their impact on victimization of the homeless. This section reviews the extant research on these phenomena within the homeless population.

2.3.1 Mental Health

Mental health represents a significant vulnerability for those experiencing homelessness. People living with mental health conditions are overrepresented among the homeless in comparison to the general population (Goering et al., 2011:2). Mental health problems among people who are homeless include severe and persistent conditions as well as more prevalent mood and affective disorders (Goering et al., 2011:2). It has been largely contended that a vast proportion of individuals who experience homelessness have serious mental health conditions (Goering et al., 2011; Piat et al., 2015; Tolomiczenko, 2001). Roy, Crocker, Nicholls et al. (2014) estimate that between 20% and 50% of homeless adults live with a severe mental health condition (p.739). It has also been found that the experience of homelessness is a risk factor for developing a serious mental health condition (Piat et al., 2015). Goering et al. (2011) found that individuals with severe and chronic mental issues are likely to experience both repeated and longer episodes of homelessness in comparison to other groups experiencing homelessness. Moreover, the growth of homelessness has been attributed to the previous de-institutionalization of those suffering from mental disorders (Tolomiczenko, 2001). Homeless people have been shown to be socially disadvantaged and have higher likelihoods of alcohol and drug dependence, which is exacerbated in the case of homeless people with mental disorders (Goering et al., 2011:446).

Though often discussed as two separate problems, the reality is that mental health and victimization often intersect. In 2019 the Department of Justice Canada released a report which indicated that people who were living with mental health issues self reported a rate of violent victimization that was more than three times higher than that for people without mental health related issues: 236 versus 66 incidents per 1,000 population (Department of Justice Canada, 2019:32). The dangerous effects of the intersection of mental health and victimization is particularly salient for homeless populations. The literature on homeless victimization consistently links victimization to lower levels of mental health (Garland et al. 2014; Rattelade, Farrell, Aubry, and Klodawsky 2014). Wenzel, Koegel, and Gelberg (2000) assert that for the homeless population mental health issues are a "robust" risk factor for victimization (p. 370). It can be concluded that mental disorder has been identified as a prominent risk factor for homelessness.

Lee and Schreck (2005), in their examination of mental health challenges as a risk factor of increased victimization, note that mental health issues put individuals in a place of being physically weak, disabled, or disoriented, thus increasing their attractiveness as a target of victimization (p.1057). Consequently, mental health issues can have the effect of inhibiting vigilance, protective, and self-defence behaviors. Lee and Schreck (2005) explain that those who experience psychological distress are placed at a greater risk of victimization due to distorted perceptions, poor judgment, and other forms of dysfunction. These factors can prevent and hinder the ability to identify risky or dangerous situations and respond appropriately in a way that can mitigate risk (p.1061). In a similar vein, Kushel, Evans, and Perry (2003) highlight the fact that mental disorder experienced by homeless individuals can be described as a cause and effect relationship. Previous victimization can cause an increase in risk for future victimization,

but mental disorder can limit one's ability to learn to identify and then avoid that future risk (Kushel et al., 2003:2497). The limited ability to assess and prevent potential victimization compounds the likelihood of homeless individuals experiencing victimization especially due to their proximity to high crime areas (Wezel, et al., 2000).

2.3.2 Victimization

It has been widely acknowledged throughout the literature that the homeless are victimized at a much higher rate than the general population (Garland et al., 2014; Gaetz, 2004; Rattelade et al., 2014; Fazel, Khosla, Doll, and Gedde, 2008; Kushel et al., 2003; Perron, Alexander-Eitzman, Gillespie, and Pollio, 2008). Those without adequate shelter are more likely than those housed to be victims of violence (Roebuck, 2008). Gaetz (2016) suggests that homelessness produces a conducive environment for criminal victimization. The homeless are living on the street at all hours of the day and night (Roebuck, 2008). This situation increases the opportunity for victimization that is exacerbated by the lack of control of space, not having private space or even a door to lock. The homeless do not have the refuge that they need in order to be proactive about taking protective measures against victimization (Gaetz, 2010). Predominant forms of victimization among homeless people have been identified as theft, assault, and shelter violence. Homeless men are nine times more likely to be murdered than the general population, a significant over-representation in experiencing lethal violence (Roebuck, 2008). Victimization of the homeless is also exacerbated as this population is often targeted for hate crimes by the public or simply for being on the street (Garland et al., 2014).

There are a number of factors and general explanations as to why homeless persons are victimized at higher rates than the general population. Roebeck (2008) summarizes these explanations: homelessness involves spending large quantities of time in public spaces in high

crime areas alone at night, people who conduct illegitimate business on the streets often victimize homeless persons, substance abuse raises the likelihood of victimization due to greater exposure to high crime areas, theft and physical aggression in particular are linked to homeless people carrying all their personal possessions on their person, and lastly, victimization of homeless persons is related to their social exclusion from housing, employment, and public spaces (Roebuck, 2008:16). The intersection of the disrupted social relationships caused by homelessness with experiences of victimization has been examined. Roebuck (2008) contends that the lack of personal connections, a common reality for those facing homelessness, facilitates a lack of protection in dangerous environments. It is within these environments where the homeless are likely to be victimized. Due to these intersecting factors, victimization is especially likely for those living on the street.

In their meta analysis, Roy et al. (2014) found that homeless individuals with mental health issues had reported annual victimization rates between 4.3% and 35.0% for violent victimization and between 7.7% and 28.0% for nonviolent victimization (p.746). Likewise, Simons, Whitbeck, and Bales (1989) found that 50% of homeless individuals reported being victimized; of these, 35% were threatened with a weapon; 25% were assaulted with a weapon; and 35% were robbed (Simons, Whitbeck, and Bales, 1989 in Roebuck, 2008:16). More recently, Tong, Kaplan, Guzman, et al. (2019) found that across their sample pool, which was comprised of homeless adults over the age of 50, just over 10% of individuals reported physical victimization in the past 6 months at baseline (p.9). The Department of Justice Canada reported that people who had a history of being homeless, reported a violent victimization rate that was five times higher than those who had not experienced homelessness (Department of Justice Canada, 2019:32).

2.3.3 The Lack of Housing and Place

A lack of affordable housing is a central contributor to the homeless population and puts many others at risk of homelessness. Gaetz, Gulliver, and Richter (2014) assert that the link between homelessness and the lack of affordable housing is well established (p.38). These authors argue that the underlying problem of the state of homelessness in Canada is the inability of people to afford and maintain housing (p.10). They indicate that chronically homeless individuals are unable to find and have enough money for housing. This is further complicated by the prevalence of mental health and addictions challenges faced by the homeless population, regrettable as housing could provide a platform for recovery (Gaetz et al., 2014:10).

The lack of affordable housing across Canada has been consistently referred to as a crisis. Put simply, this crisis has resulted from increasing housing costs at the same time as decreasing low cost housing options. The shift away from building affordable rental housing is said to have had a major impact on the lives of low-income households and thus has contributed to the growth of the homeless population (Gaetz et al., 2014:11). Housing crises limit the ability of homeless individuals to find permanent or long-term housing on top of other barriers they may face in securing housing. Further, those who are not facing homelessness, but experience housing in-affordability often have just enough money to pay rent, thus they tend to live in physically inadequate housing, areas of significant poverty, and in areas with meagre access to services (Moore and Skaburskis, 2016).

The lack of adequate and affordable housing puts vulnerable populations at risk of homelessness and functions to keep homeless people in a state of risk and perpetual homelessness (Homeless Hub, 2019b). Canada's approach to homelessness tends to be focused on emergency services, but this type of housing provides only minimal and the most basic of

services and accommodations. Emergency shelters offer little more than food and a bed (Gaetz, 2010). Consequently, many of the needs of this beleaguered population such as stable housing, safety, addictions and mental services are unmet. It has been estimated that there are approximately 400 different emergency shelters consisting of almost 15,500 beds in Canada (Gaetz, 2010). In addition to not offering a long-term response to homelessness, these numbers are meek considering the estimates of 35,000 individuals facing homelessness every night. Gaetz and his colleagues (2014) argue that to meaningfully address the issue of homelessness in Canada there needs to be an increase in the supply of affordable housing (p.10). The need for housing has been a consistent call to meaningfully address homelessness. Some municipalities in Canada have adopted the housing first (HF) model. This model recognizes that the first and most important need of those experiencing homelessness is housing. In this program there is the provision of immediate housing with subsequent supports provided after. The widespread adoption of the HF model coincides with the introduction of the federal at home/chez-soi project.

The HF model is based upon the notion that housing is the primary foundation in which the homeless populations can be transitioned into a domiciled life. HF has been recognized as a best practice in reducing and preventing homelessness and dealing with the associated harms, and key to this program is the immediate provision of housing. A central barrier to the optimal success of HF then, is the lack of affordable housing (Gaetz, 2010). There are often no low-income sites to attach to the program.

In addition to the lack of affordable housing, another factor that exacerbates the dangerous nature of homelessness is the lack of safe and welcome space. The lack of safe space for those experiencing homelessness is inherently connected to the lack of affordable housing. Increases in downtown development and gentrification coincide with the lack of affordable

housing as well as an intensification in the control of public spaces in these areas (Mitchell 1998 in Collins and Blomley, 2003:54). Due to the inability of those experiencing homelessness to secure affordable housing, they are forced to spend the majority of their time in public spaces, in which they are increasingly not welcome (DeVerteuil, 2006:110; O'Grady, Gaetz, and Buccieri, 2011; Mitchell, 1998).

Recently, there has been a growing trend of limiting the use and accessibility of urban public spaces for the homeless. There are several ways in which the use of public space is limited for this population. These can range from restrictive laws to physical infrastructure. O'Grady et al. (2011) identifies four ways in which public space is made unsafe and inaccessible for those experiencing homelessness. The first is the enactment of new laws, bylaws and statutes that are intended to restrict the activities of people who are homeless. This can include laws that restrict and prohibit panhandling, sleeping in public spaces, urination, squatting, and the erection of camps and shelters (DeVerteuil, 2006:110; O'Grady et al., 2011:6; Mitchell, 1998:6). The second way in which public space is made inaccessible is the disproportionate and discriminatory enforcement of existing laws. Often those experiencing homelessness are the focus of these laws and police attention for minor offences that are not likely to be experienced by domiciled citizens. Skolnik (2018) argues that homeless people are disproportionately subjected to police attention as a result of urban bylaws because they spend most of their lives in public due to the lack of access to private places (p.319). The effect of these laws is that public space is rendered inaccessible for public existence and survival for homeless people because they have no private place to sleep or perform bodily functions (Skolnik, 2018:299). Bylaw NO. 7700/2000 (Obstructive Solicitation By-Law) is an example of how public space has attempted to be rendered unusable for those experiencing homelessness in Winnipeg. The Obstructive

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Solicitation By-Law regulates the behavior of panhandlers and includes a number of stipulations that prohibit a range of ways in which individuals panhandle, which severely limits a key mechanism of survival for those experiencing homelessness. The penalties within such bylaws includes fines and monetary penalties that, not surprisingly, greatly exceed the ability of the homeless to pay (Saelinger, 2006:553).

The third way public space is made unsafe for the homeless population is the manipulation of the physical environment to restrict its usage by people who are homeless. This is a growing phenomenon and includes park and urban designs that inhibit people from lying down or sleeping. Lastly, urban public space has seen an increase in surveillance and policing of public and semi-public spaces by both public police and private security (O'Grady et al., 2011:21).

In providing a local example of these practices, The City of Winnipeg's "Enhanced Boulevard Safety Pilot Program", is aimed at utilizing low-cost, physical elements on "unsafe" boulevards to prevent panhandlers from residing in these locations (Siragusa and Dacey, 2018; Rollason and Thorpe, 2018). These laws directly contribute to the lack of safe space and guardianship experienced by Winnipeg's urban homeless population.

2.3.4 The Intersection of Homelessness, Mental Health Issues, Lack of Housing and Victimization

None of the challenges discussed thus far from the literature occur in a vacuum. Rather, mental health issues, lack of housing and safe space, and victimization intersect and further exacerbate these challenges and the marginalization of this population. Edalati et al. (2020) provide an explanation of how these factors intersect. These authors recognize that individuals with mental health issues experiencing homelessness are at a greater risk of victimization (p. 2).

Consistent and prolonged exposure to victimization can limit and impede one's recovery from mental health disorders, and in fact likely will exacerbate mental health concerns (Edalati et al., 2020:5). Experiences with crime can also cause new mental health issues for victims. North, Smith, and Spitznagel (1994) found that symptoms of post-traumatic stress disorder are common among the homeless population and can be linked to both frequent and serious victimizing events (North et al., 1994 in Roebuck, 2008:16). Continuous experiences with victimization also limit the ability to transition out of homelessness (Edalati et al., 2020:5). Often mental health issues can be a barrier when seeking out provisional or stable housing for the individuals experiencing homelessness. Mental health concerns can act as both an individual and structural barrier in seeking out housing. Mental health issues may inhibit an individual from seeking out housing, but even when motivated, status as a person with a mental disorder may elicit a discriminatory response from prospective landlords, who perceive such individuals as too risky.

In addition to the existence of mental health issues and the lack of housing being factors that place the homeless population at a greater risk of victimization, other factors also contribute to this risk, such as proximity and exposure to high crime areas (Kushel et al., 2003:2943). Proximity and exposure to crime as contributors to victimization has been theorized by routine activities theory (RAT). This theory has also conceptualized the notions of target attractiveness and lack of guardianship. Target attractiveness encompasses vulnerabilities such as mental health issues, while, guardianship can encompass anything that offers protection from victimization, ranging from physical defenses such as housing and surveillance cameras, to more abstract defenses such as social networks of supportive neighbours (Garland et al., 2014; Spano and Nagy, 2005). The following section of this paper examines routine activities theory and provides

a description of how this theoretical framework, and its close relative, lifestyles theory, will be utilized in this study.

2.3 Theoretical Framework

Much of the literature examining homelessness is atheoretical with a heavy focus on descriptive empirical analyses. Despite this lack of theoretical breadth, there are two central theories more commonly utilized to explain homeless victimization. These include the crime opportunity perspectives of routine activities theory and lifestyles theory. Routine activities theory (RAT) and lifestyles theory (LST) highlight the contextual significance of environmental/ecological and social/situational factors that increase exposure to the risk of victimization (Gaetz, 2004:426). In these theories, risk of victimization is increased for the homeless due to their exposure to potential offenders and dangerous situations, their limited ability to protect themselves, and their inability to remove themselves from risky environments and situations (p.472). In sum, these opportunity theories claim that victimization occurs as a result of the juxtaposition of a potential offender and a risky situation with an attractive target under a low level of guardianship (Cohen and Felson, 1979; Cohen, Kluegel, and Land, 1981; Miethe and Meier, 1990 in Garland et al., 2014). As homeless populations tend to live in downtown core areas where there is often a high prevalence of crime and disorder, coupled with their lack of protective resources, these theoretical perspectives offer value in explaining the high prevalence of victimization among the homeless population.

2.3.1 Routine Activities Theory

RAT was developed by economists Cohen and Felson in 1979 using macro level data to explain broad changes in the crime rate in the 1960's based on phenomena such as the increase in consumer goods (more targets) and the increase in women working and annual holiday leaves

that resulted in less people at home (less guardianship). RAT has been utilized in criminological studies in a wide range of victimization contexts, including the intersection of homelessness and victimization. Cohen and Felson (1979) defined routine activities as the process in which during daily and ordinary activities of life, individuals put themselves in situations which raise or decrease their risk of being criminally victimized (Miro, 2014). RAT explains victimization as a function of the routine activity of victims that increases their potential of risk and highlights the contextual significance of environmental and situational factors in increasing the risk of criminal victimization, suggesting that certain conditions raise this risk potential (Lynch, 1987; Gaetz, 2004).

RAT has been described as the study of crime as an event which examines its relation to space and time (Miro, 2014). This theory aims to identify criminal activities and their patterns and use this to explain changes in crime rate trends. It is often focused on criminal events, using the distribution and grouping in space and time of the minimal elements that make them up (Miro, 2014; Cohen and Felson, 1979).

RAT explains the criminal event through three elements that are said to converge in space and time in the course of daily activities. These include; a potential offender with the capacity to commit a crime, a suitable target or victim, and the absence of guardians capable of protecting targets and victims (Miro, 2014). In addition to these central factors, researchers have identified four related factors that contribute to the probability of victimization: proximity, exposure, and target attractiveness, and guardianship (Garland et al., 2014; Hoyt, Ryan, and Cauce, 1999; Miethe and Meier,1990). In this study, it is hypothesized that these predictors provide explanatory power for homeless victimization. These core concepts are examined in-depth below.

Guardianship

Guardianship refers to the presence of persons or devices that can prevent or inhibit victimization (Lynch, 1987; Cohen and Felson, 1979). Guardianship can be represented by different types of efforts and/or resources that decrease the suitability of being a target of crime (Miethe and Meirer,1994; Mihorean, Besserer, Hendrick et al., 2001). Guardianship can include both physical and relational forms. Physical forms of guardianship may include locks on doors, alarms whereas relational or social forms of guardianship may include an array of different relationships and companionship (Garland et al., 2014:290). These forms of guardianship are limited for those experiencing homelessness (Garland et al., 2014). The homeless do not have permanent housing, which is a fundamental source of protection and they must carry their possessions with them (Lee and Schreck 2005:1056).

Guardianship is a particular focus in this study. It was hypothesized that not being housed consistently creates a situation where less guardianship exists, which makes the homeless vulnerable targets, often in high crime areas were motivated offenders are thought to reside. As such, RAT offers a suitable theoretical foundation for the study of the victimization of those not domiciled. This is due to its ability to examine the exposure and the degree of guardianship of the homeless population to crime as well as the precipitating factors in the context of high risk and crime areas inhabited by this population.

Exposure

Exposure refers to the accessibility and visibility to crime and the availability of being a victim (Hoyt et al., 376:1999; Park, 68:2015). Exposure has been defined as representing visibility and/or vulnerability to risky and dangerous places or situations (Mihorean et al., 2001:8). For example, it has been asserted that those who often participate in "outside evening

activities increase their interaction with strangers, thereby increasing the likelihood of personal victimization" (Sampson, 1987 in Mihorean, et al., 2001:8). Consequently, it can be understood that the homeless have a heightened degree of exposure to victimization due to their habitancy in downtown core and urban locations. These areas are said to exhibit deviant place attributes that function to attract motivated offenders at the same time as providing limited guardianship (Lee and Schreck 1056:2005). An individual is at an increased risk for victimization when their daily activities exposes them to crime, thus Garland et al. (2014) indicate that simply being at or near homeless places increases risk (p.289). These authors assert that it has been demonstrated through the literature that time spent on the street is related to increased levels of risk such as victimization. In addition to living on the street, survival and sustenance behaviours such as selling sex and drugs as well as drug abuse further facilitates an increase in exposure to victimization for the homeless population (Garland et al., 2014:289; Wenzel, Koegel, and Gelberg, 2000).

Routine activities theory anticipates that the convergence of exposure factors, motivated offenders, suitable targets and a lack of capable guardianship will create a high likelihood of victimization for the homeless. The homeless are not housed consistently, creating a situation where less guardianship exists. Much of the lives of the homeless population occur in public spaces that are marked by high crime rates and low levels of guardianship, due to limited social support and residing in urban space.

Proximity

Physical proximity to risk, high crime areas, and potential offenders has been established as another key predictor of victimization. It has been well documented that homeless populations tend to live in close proximity to high crime areas (Garland et al., 2014: 288). Within RAT,

proximity is often operationalized as the areas in which potential victims live (Hoyt et al., 1999:376). Homeless populations have the tendency to live in areas of concentrated disadvantage and risk (Snow and Mulchahy, 2001 in Garland et al., 2014). These tend to be downtown core and urban areas where crime is concentrated, thus risks such as victimization are disproportionately high (Garland et al., 2014:289; Hoyt et al., 1999). In addition to this proximity to high crime areas, Wenzel et al. (2000) note that often services for homeless persons are located in higher crime areas (p. 370). These include, but are not limited to, shelters, clinics, and provisional housing. Additionally, shelter space is limited, leaving many homeless individuals with no choice but to sleep in public space. Shelters can also impose restrictions such as requiring individuals to be sober, and/or be separated from their family members or partners; this is often the case for women shelters. These requirements often put homeless individuals in closer proximity towards high crimes areas particularly in time periods with elevated risk like overnight (Gaetz et al., 2016; Hoffman and Coffey, 2008).

Target Attractiveness

The homeless make vulnerable and suitable targets due to often residing in high crime areas where motivated offenders are thought to reside, and due to low social capital (Gaetz, 2004). Social capital encompasses social and organizational relationships and connections that provide individuals assistance throughout their daily lives (Shinn, Gottlieb, Wett, et al., 2007: 698). DeSilva, Mckenzie, Harpham, and Huttly (2005) summarize social capital within five main concepts that include community networks, civic engagement and participation, sense of belonging and identity, reciprocity and social obligation, and finally trust within one's community (p.619). Those experiencing homelessness, especially those experiencing mental health issues, lack social capital.

Low guardianship and its associated target suitability combine to hinder the ability of the homeless to protect themselves (Gaetz, 2004). Mental health problems also contribute to target suitability. Lee and Schreck (2005) assert that mental health issues put individuals in a place of being weak, disabled, or disoriented which increases their attractiveness as a target of victimization (p.1057). RAT offers a sound theoretical foundation for the study of the victimization of the homeless due to its ability to examine the exposure of the homeless population to crime and the precipitating factors in the context of high risk and crime prone areas inhabited by this population (Hoyt et al., 1999).

Although these predictors were defined separately, their interrelatedness should not be overlooked. When applying these factors to the homeless population, it becomes clear why this population faces disproportionately high rates of victimization. Living in public spaces (exposure, lack of guardianship), often in high crime areas (proximity), and the lack of private space, social bonds, and high prevalence of mental health issues (target attractiveness, lack of guardianship) come together to create a high risk environment.

Despite the suitability of routine activities as a theoretical foundation, lifestyles/exposure theory fills important gaps that are not encompassed within explanations of victimization in RAT.

3.3.2 Lifestyles/Exposure Theory

Lifestyles exposure theory was developed using individual level victim survey data by criminologists Hindelang, Gottfredson, and Garofalo in 1978. LST views higher risk activities such as frequently going out at night, substance abuse, being unemployed and associating with young males who are crime prone as factors increasing the likelihood of victimization. This theory accounts for differences in the risks of violent victimization across social groups and it

forms the basis for process theories of target selection and focuses on proximate factors (Meier and Miethe,1993; Lee and Schreck, 2005). Lifestyles theory suggests that demographic differences in the likelihood of victimization result from differences in the personal lifestyles of victims. The differences across various lifestyles are said to be relevant because they relate to the varying degrees of exposure to dangerous places, times, strangers, and situations where there are higher risks of victimization (Meithe and Meier, 1993:466). Hindelang et al. (1978) defined lifestyles as the regular daily activities and leisure activities which may bring individuals into contact with crime (Meithe and Meier, 1993:466). This theory also holds that demographic variables influence victimization indirectly by shaping people's lifestyle. This places individuals at differing levels of risk depending on whether the activities occur outside of relatively safe conventional housing units (Hindelang et al., 1978; Miethe and Meier, 1993 in Lee and Schreck 2005). As such, an individual's lifestyle and where it occurs are the critical factors that determine risks of criminal victimization.

Miethe and Meier discuss the importance of differences in lifestyles. They explain that these variations are socially determined by individual responses or adaptations to various role expectations as well as structural constraints (Meithe and Meier, 1993:466). These authors note that status characteristics such as age, gender, race, income, marital status, education and occupation are important correlates of predatory crime as these attributes carry shared expectations about appropriate behaviour and structural obstacles that can enable and constrain one's behavioural choices. Adherence to these cultural and structural expectations lead to the establishment of routine activity patterns in which these lifestyles are expected to enhance exposure to risky situations that increase chances of victimization (Meithe and Meier, 1993:466).

Offering an explanation as how lifestyle functions specifically in the context of homelessness, Lee and Schreck (2005) suggest that the frequency and length of homeless periods serve as a substitute for these daily activities. In their study, these authors asserted that individuals who experience more or longer spells without housing would be particularly vulnerable to crime (Lee and Schreck, 2005:1059). These authors theorized that specific activities by the homeless particularly influenced their chances of being victimized. It is acknowledged, however, that the homeless can engage in precautionary activities that reduce vulnerability, such as forming groups with other homeless individuals and sleeping during the day. Despite these potential cautionary and preventative measures, due to the marginalized and vulnerable state of the homeless, they must undertake a variety of subsistence-oriented behaviors that increase their likelihood of victimization (p.1060). Lee and Schreck operationalize survival and subsistence behaviours as comprising homeless individuals' lifestyle. These authors explained that sustenance activities such as food scavenging, sleeping outdoors, panhandling, prostitution, and drug dealing are seen as behaviours that tend to comprise the lifestyle of those experiencing homelessness. Other survival measures such as selling drugs and prostitution are often visible, and they place homeless individuals in direct contact with an array of potential and motivated offenders (p1060). Thus, Lee and Schreck (2005) posit that engaging in a subsistence and basic survival-oriented lifestyle will heighten the likelihood of victimization.

3.3.3. Integrating Routine Activities and Lifestyles Theory

Taken together, these theories indicate that certain lifestyles and daily activities increase one's risk of victimization. The central difference between these theories is that RAT suggests that three conditions increase the likelihood for a crime to occur: a motivated offender, a suitable target, and the lack of a capable guardian (Cohen and Felson, 1979), while LST suggests that that

differences in the likelihood of victimization are more directly attributable to different personal background attributes and lifestyles of victims (Miethe and Meier, 1993). Though overlap exists between these two theoretical perspectives, they each offer their own nuanced view of the role of factors that contribute to the victimization process (Meier and Miethe, 1993:466).

Cochran, Bromley, and Branch (2000) assert that when combined, RAT and LST emphasize the causal significance of time and place in the daily activities of citizens, whereby both differences in lifestyle choices as well as daily routines place people in differing positions and risks of criminal victimization by "structuring their convergence in time and space with motivated offenders" (p. 190). Cochran et al. (2000) relate that these theories are focused on two central arguments, the first being that variation in routine activities and lifestyles influences opportunities for crime by structuring the contact between potential offenders and victims. The second argument is that the variation in the perceived value of potential targets and their levels of guardianship influences the choices of motivated offenders when selecting targets. As such, certain daily routines can increase proximity to motivated offenders and exposure to risk, while levels of guardianship and target attractiveness influence motivated offenders (Cochran et al., 2000:191).

Within the theoretical framework of RAT, structural factors include the proximity to high crime areas and exposure to offenders while 'choice' processes refer to the attractiveness of a victimization target to an offender and the level of guardianship over the target (Cochran et al., 2000:191; Garland et al., 2014:288). These factors are examined and applied to the homeless populations within this literature review. RAT posits that the homeless have limited resources to either increase their guardianship or decrease their exposure and proximity to crime, which helps explain both their initial and repeat victimization (Garland et al., 2014:288).

As applied to this study, these theories hold that independent variables of housing and mental health status will influence the prevalence of the dependent variable, (victimization of homeless) due to the high risk nature of homelessness, particularly living in public and urban spaces that are often characterized by a high prevalence of crime, and the target attractiveness incurred by the vulnerability associated with mental disorder.

The utilization of RAT and LST in this study ensures that a focus on the variables that contribute to victimization are considered beyond an individual level. The state of homelessness can be attributed to structural and personal factors. In routine activities theory and lifestyles theory there can be an overemphasis on personal factors. Thus, it is important to ensure that structural factors are also considered. Using RAT and LST combined as a theoretical framework ensures that the intersection and relationship of structural and personal factors as they contribute to homelessness are not overlooked.

3. RESEARCH OBJECTIVES

This research aimed to answer the question of *"what is the effect of varying degrees of mental health and housing status on the incidence of victimization among the homeless?"*. The purpose of this research project was to examine homeless victimization under the scope of the theoretical perspectives of routine activities theory (RAT) and lifestyles exposure theory (LST). This study aimed, within a Canadian context, to examine whether there is a relationship between the degree of guardianship provided by housing status and homeless victimization. A central goal of this study was to better understand how mental health conditions affect being victimized within a group that is already in a marginalized position and vulnerable because of varying states of homelessness. The research presented here explored the intersection of three central and distinct variables with regards to the homeless population: victimization, mental health issues, and status of housing. The objectives of the study were to assess how victimization of the homeless is influenced by personal factors (mental health status) and structural factors (housing status). Through an investigation of these variables, this research intended to compare these figures over time and across a homeless study sample.

This research paper was also designed to contribute to the body of literature on homeless victimization. This paper provided four types of contributions; policy, empirical, conceptual, and methodological contributions. This research was to inform policy by producing findings that can help key actors such as service providers and policy makers to better understand the issues surrounding homeless victimization. This study sought to identify groups that were particularly vulnerable to victimization and thus aimed to help develop policy that can mitigate and decrease the prevalence of victimization across the homeless population in Winnipeg. Within the current body of literature on homeless victimization in Canada there are two central areas that lack

attention. First, many studies are atheoretical, this is especially true of quantitative empirical examinations of the rate of homeless victimization. As such, this study contributes to the body of literature by incorporating two opportunity theories, routine activities theory and lifestyles theory. By integrating these theoretical perspectives into this research, this project aimed to contribute to the conceptual literature on homeless victimization. This is be particularly salient as few studies have conceptualized housing status as guardianship under the notion of RAT.

Moreover, this study aimed to offer methodological contributions. Within the current literature on homeless victimization, the use of secondary data analysis is not widespread. Although there have been numerous studies that have stemmed from the at home/chez soi project, this paper offered a new direction of analysis of variables that has not been widely considered before. Moreover, this research also contributes to the existing body of literature that is based on the original at home/chez soi project, thus contributing to the broader literature on homelessness in Canada.

4. METHODOLOGY

In the examination of the effect of mental health issues and housing status on the incidence of victimization among the homeless, this research project utilized the methodology of secondary data analysis. Consequently, this research did not involve the primary collection of data, rather it analyzed pre-existing data. Doolan and Froelicher (2009) note that the majority of research methods literature assumes that researchers have designed the study prior to determining research questions. With the advent of big data and government entities such as Statistics Canada making official records and surveys available, potentially much greater use of secondary data analysis has become possible. Indeed, there is a scarcity of articles, publications, and frameworks that provide guidance to those conducting analyses of pre-existing datasets (Doolan, Winters, and Nouredini, 2017; Smith, Ayanian, Covinsky et al., 2011).

To provide context regarding the secondary data to be utilized, this portion of the paper will first describe the primary study program, the primary data source and related research. The characteristics of the study sample will be summarized, including the demographic data, mental health, history of homelessness and housing status, as well as prevalence of victimization. This section will also provide a rationale for the practice of secondary data analysis and highlight the advantages of this methodology while being mindful of the inherent limitations of this research design. This section operationalizes the independent variables including housing status, mental health and victimization as well as control variables. This section is concluded with an overview of the data analysis that was utilized in this research project, and finally a discussion of the analytical plan utilized in this study.

4.1 The At Home/Chez Soi Study Dataset

This study utilized secondary (anonymized) data collected by the at home/chez soi project. This project was a large scale study conducted by the Mental Health Commission of Canada, a non-profit organization created by the federal government (Homeless Hub, 2019a). Using a $110 million federal research grant, the central main focus of the at home/chez soi study was to examine mental health and homelessness (Homeless Hub, 2019a) This project was aimed at generating knowledge about effective approaches for people experiencing serious mental health issues and homelessness in Canada. This research project occurred over the course of four years and across five Canadian cities: Vancouver, Winnipeg, Toronto, Montreal and Moncton. At home/chez soi aimed to examine the HF model (Homeless Hub, 2019a).

The HF model is described as an evidence-based intervention model that involves the immediate provision of permanent housing and supports to individuals who are homeless and living with a serious mental disorder (ESDC, 2019a; Edalati et al., 2020). HF is an approach to ending homelessness that is recovery oriented and centered on immediately providing homeless individuals independent and permanent housing, with the provision of supports and services following placement (Homeless Hub, 2018; Edalati et al., 2020). The HF model "is rooted in the philosophy that all people deserve housing, and that adequate housing is a precondition for recovery" (Gaetz, Scott, and Gulliver, 2013:2). HF is focused on people experiencing chronic or episodic homelessness, and rapidly relocating them from the street or emergency shelters into stable and long-term housing (ESDC, 2019a). Within this model, it is understood that stable housing provides a platform to deliver services and address issues faced by those experiencing chronic and episodic homelessness (ESDC, 2019a). Individuals and families identified as episodically homeless are defined as those that have experienced repeated episodes and for

longer durations, while chronically homeless persons are defined as having fewer episodes but

for longer periods (Gaetz et al., 2013:10). Gaetz et al. (2013) assert that episodically and

chronically homeless persons are typically the target of HF strategies due to the fact their life on

the streets is more entrenched, their needs are more complex such as the high prevalence of

mental health disorders and addictions, as well as the level of service use is much more intensive

(p.10). The goal of the HF model is to foster housing stability, improve quality of life and foster

self-sufficiency (ESDC, 2019a). The underlying principle of HF is that homeless people will be

able to move forward and overcome addictions and mental health issues if they are housed prior

to receiving services (Homeless Hub, 2018).

The HF model involves the provision of three distinct types of services and supports.

These include housing, clinical, and complementary supports. Housing supports help individuals

obtain housing, move in, and maintain housing (ESDC, 2019b). Within the HF approach there is

the expectation for services and supports to collaborate (ESDC, 2019b). Collaboration across

these services is said to ensure that individuals who are chronically homeless receive the

supports they need at the right moment and by the appropriate service (ESDC, 2019b). Key

forms of housing supports include identifying and locating potential HF clients, securing

housing, identifying housing units, determining preferences and needs for housing, building and

maintaining relationships with landlords, providing move in assistance, helping with money

management, and assisting with repairs and general maintenance (ESDC, 2019b; Gaetz et al.,

2013). In this project, these constructs were applied to the theoretical perspectives of routine

activities theory and lifestyles theory. Variables related to housing such as time housed in at-risk

periods offered the operationalization of guardianship under the paradigm of RAT.

Complementary supports include assistance with finding employment, volunteer work, and/or

accessing training, the purpose of these is to improve quality of life, integration into the community and achieve self-sufficiency (ESDC, 2019b). These aspects of HF also provided an avenue to apply RAT and LST to this research. The HF model also provides recovery oriented clinical supports that include access to health and social services (ESDC, 2019b). Variables related to these aspects of HF provided important measures of mental health.

In studying this model, these cities implemented randomized controlled field trials to compare this model with the current approaches to homelessness and to identify what works, at what cost, for whom, and in which environments (Goering et al., 2014). Data collected for this project began in October 2009 and ended in June 2013. In Winnipeg, there were a total of 513 participants. The at home/chez soi study established a baseline of mental health indicators (e.g., high needs/low needs). Survey data was collected every three-six months until participants met two years of enrolment in the study (Distasio et al., 2014).

The at home/chez soi dataset is unique and comprehensive and is heralded as the largest of its kind in the world (Goering et al., 2014). The study also has the broadest range of service delivery and outcome variables, a very high follow-up rate and a relatively long follow-up period (Gaetz et al., 2014). The Mental Health Commission of Canada, the primary funder of the at home/chez soi study, note that investigators, collaborators and sponsors consider the dataset to be a rich resource for a range of secondary research questions as well as for training research students in related fields such as mental health services research and homelessness (p.3). The key strengths of this dataset include that it is a large, longitudinal sample with a high follow-up rate and a rich set of variables ranging from early life risk through clinical, socioeconomic, service use and both observed and self-reported outcomes (p.6). Although the complete at home/chez soi

dataset includes multi-site data from Vancouver, Winnipeg, Toronto, Montréal, and Moncton, this research project examined the data collected solely from Winnipeg.

4.1.1 Winnipeg Sample Description

The population characteristic of the Winnipeg at home/chez soi study is unique (Distasio et al., 2014). The following section summarizes the description of the Winnipeg participants in regard to the central demographic variables that were assessed in this project. This section will also summarize the mental health issues and housing status of the study group prior to entry into the program to provide context as this project utilized data drawn from this sample. The information presented in this section of the paper is drawn from the final report of the Winnipeg at home/chez soi project.

The eligibility for participant involvement in the at home/chez soi study across all cities, including Winnipeg, was as follows: those who were legal adult status, housing status as absolutely homelessness or precariously housed, the presence of a serious mental disorder with or without a co-existing substance use disorder (Distasio et al., 2014). Conversely, the exclusion criteria included those who were currently a client of another Community Treatment (ACT) or Intensive Case Management (ICM) program, did not have legal status as a Canadian citizen, landed immigrant, refugee, or refugee claimant, and those who were relatively homeless (Distasio et al., 2014:14). A total of 513 participants were recruited and enrolled at the Winnipeg at home/chez soi project site, this included the ICM, ACT, and Treatment as Usual (TAU) groups. The Winnipeg Final Report on the at home/chez soi provided a sample description of the Winnipeg participants as well as their background regarding past and current personal, health, and social circumstances.

A significant strength of the study was the collection of mental health data. The final report notes that at entry into the program, participants reported several symptoms that were consistent with the presence of mental disorder (Distasio et al., 2014:15). Broken down, there was a reported 28% psychotic disorder and 86% non-psychotic disorder. Of the concurrent disorders, 77% of the population dealt with substance-related problems, and 45% with post-traumatic stress disorder (PTSD) (p.15). In respect to housing status, 69% were absolutely homeless, while 31% were living in precarious living situations, such as single room occupancy hotels or rooming houses. Participants' previous experience with homelessness showed that one in five of the participants first became homeless in the year prior to entering the study. The standard total time homeless in a participant's lifetime was close to five years, moreover it was found that most participants became homeless in their late 20s or early 30s. The Final Report also stated that 35% of participants reported having been involved with the criminal justice system in the six months prior to the study and many experienced victimization within the same time period (Distasio et al., 2014:15). More specifically 41% reported being robbed or threatened to be robbed, 55% reported being threatened with physical assault, and 51% reported being physically assaulted (Distasio et al., 2014:15).

The at home/chez soi dataset provides a strong foundation from which future research can examine people experiencing homelessness and mental health problems (Goering et al., 2016:31).

4.2 Secondary Data Analysis

4.2.1 The Basics of Secondary Analysis

Using a secondary data research design, this study analyzed the pre-existing at home/chez soi dataset. Secondary data analysis has been defined as the use of existing data to test new

hypotheses or answer new research questions (Dunn, Arslanian-Engoren, DeKoekkoek, Jadack, and Scott, 2015:1296). Cheng and Phillips (2014) distinguish secondary data analysis from primary data analysis. Primary data analysis is limited to the analysis of data by members of the research team that collected the data, which are conducted to answer the original hypotheses proposed in the study. All other analyses of data collected for specific research studies or analyses of data collected for other purposes are considered 'secondary analyses of existing data' (p.372). Secondary data analysis has been described as a flexible approach that can be utilized in several ways at the same time as being an empirical exercise (Johnston, 2014). A strength of secondary analysis is that relationships across variables not previously analyzed can be examined and can result in new and important findings (Dunn et al., 2015). Cheng and Phillips (2014) described two approaches for secondary data analysis, the "research question-driven" and "data driven" approaches. In the former, researchers begin with a hypothesis or a question and then look for suitable datasets to address the question. In contrast, the data-driven approach sees the researchers look through variables in a dataset and then decide what questions can be applied (Cheng and Phillips, 2014:373). In this research paper, the research question driven approach was applied.

4.2.2 Advantages and Limitations of Using Existing Data

Smith et al. (2011) assert that secondary analysis of large datasets offers a mechanism for researchers to examine high impact questions that would otherwise be prohibitively expensive and time consuming to study. Due to the costly and timely nature of data collection, one of the key advantages of secondary data analysis is the ability to obtain data with minimal cost and time requirements (Dunn et al., 2015; Cheng and Philips, 2014; Doolan et al., 2017). This is one of the most commonly noted advantages of secondary data analysis within the literature. In addition

to the monetary and time advantages, one of the most pertinent advantages of analyzing secondary data is that studies using pre-existing data can address important new research questions and nuanced assessments of the primary results from the original study (Cheng and Philips, 2014). Dunn et al. (2015) argue that secondary data analysis offers a practical approach to research, as in primary research there is often a collection of more data that can be analyzed. As such, these authors suggest that the strength of secondary analysis is that variables, relationships among variables, and subgroups within a sample can be examined (p. 1297). Consequently, it is held that new and different analytical focuses resulting from secondary data analysis can result in "new and important findings that may contribute to existing programs of research and advance the science" (Dunn et al., 2015:1297).

Doolan et al. (2017) go as far as to argue that it is preferable to answer research questions using an existing data set if one is available to answer the research questions. It is argued that analyzing existing data is desirable for three central reasons: limited time commitments, cost effectiveness and low levels of risk for study participants. Doolan and his colleagues argue that research studies tend to include a level of risk to the participant, whereas in the analysis of pre-existing datasets this risk to participants is extremely limited (Doolan et al., 2017:4).

Despite the advantages of secondary data analysis, there are limitations that are inherent with this type of research design. A common limitation mentioned throughout the literature on secondary data analysis is that the pre-existing data may not be a perfect fit and not be the preferred data (Doolan et al., 2017). Operationalization of variables not defined by the principle investigator may result in poor measurement. Another limitation of this results from the fact the researchers analyzing the data may not be the same individuals as those involved in the data collection process (Cheng and Phillips, 2014:374). For example, secondary researchers can be

unaware of the nuances or faults in the data collection process that may be important to the interpretation of specific variables in the dataset. Further, the amount of data can also be overwhelming to secondary researchers, as important details may be missed or overlooked (Cheng and Phillips, 2014; Doolan and Froelicher, 2009). This challenge was particularly relevant to this study due to the large and comprehensive nature of the at home/chez soi dataset. This difficulty was mitigated by the primary researcher contacting the at home/chez soi researchers to ensure that the nuances and faults of the data were made known, as much as possible. An advantage of this approach is the ability to access more detailed descriptions of the population of this study, a greater understanding of the original sampling scheme and strategy, and better grasp of the time frame of data collection, assessment tools, response levels, quality control measures, and survey instruments (Cheng and Phillips, 2014:373).

4.2.3 Variables and Operationalization

This project analyzed several variables that were drawn from the at home/chez soi study. Three central and overarching variables that comprise the focus of this study: mental health status, victimization, and status of housing. In this project, several variables were drawn from the primary study that represent these three variables. This section of the paper provides a description of the chosen variables and their operationalization.

Dependent Variables

Victimization: The dependent variable in this study was the incidence of criminal victimization. Three types of criminal victimization were included in the analysis: robbery, threats, and assault. The at home/chez soi study utilized self report data regarding victimization and computed any victimization in the past 6 months as yes-no or aggregate scores (Edalati et al., 2020). The at home/chez soi study's examination was limited to four different types of victimization: robbery,

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being threatened, physical assault, and sexual assault. For the purposes of this research, only robbery, threatened and physical assault were examined.

The data utilized in this study is present in two forms: as a continuous variable (number of times victimized) and a dichotomous variable (yes/no victimized). Both levels of measurement were used in analysis. The definitions for these types of victimization were drawn from the initial at home/chez soi survey instrument as opposed to legal definitions found within the Criminal Code of Canada. With respect, to robbery, this type of victimization was defined by whether or not participants had experienced anyone taking or trying to take something from them by either force or threat of force. Assault was defined as the experience of being hit or attacked. Attacked was further defined as "anything from being hit, slapped, pushed, or grabbed to being shot or beaten". Lastly, threatened was described as the experience of receiving a threat to hit or attack, or being threatened with a weapon.

Independent Variables

Housing*:* To test the theoretical perspectives of RAT and LST and the relationship between guardianship and victimization, guardianship was operationalized as housing status. The amount of time spent housed was hypothesized to increase guardianship by an individual being in a secure setting, reducing exposure and helping to avoid victimization. The central variable that was used to test this relationship is a continuous variable, number of days stably housed in at-risk periods.

Mental Health Status*:* Mental health status was assessed though several psychological scale variables including the Colorado Symptom Index (CSI), the Global Appraisal of Individual Needs (Gain SS), and the Community Integration Scale (physical and psychological). It was

hypothesized that scores indicate more challenges in coping would be correlated with higher rates of victimization.

The Colorado Symptom Index is a self-report measure of psychiatric symptomatology. The CSI consists of a 14-item scale, in this assessment tool higher scores reflect greater prevalence of mental health issues. A limitation of the CSI is that there is no cut off scores, making it difficult to assess severity of mental health issues, though some have called for a cut off of 30 to delineate serious mental health issues. If following this cut off point, the sample in this study indicated a high prevalence of serious mental health issues (see below). Boothroyd and Chen (2008) note the Colorado Symptom Index is widely used in mental health services research in various settings and is often used as a respondent self-report measure of psychiatric symptomatology (p. 370).

The Global Appraisal of Individual Needs Short Screener identifies participants who have one or more behavioral health disorders. GAIN-SS scores have been divided into three levels of severity, with low being a score of 0: those who fall in this category are unlikely to have a diagnosis or need services. Those with a score of 1-2 are considered moderate, meaning there is a possibility of diagnosis, and finally those scoring 3 and up are considered to be high on the severity scale. As table 3 indicates, participants in this study tended to fall in this upper range.

There are two strings of the Community Integration Scale: Physical and Psychological. The Physical scale assesses community presence among those dealing with mental health issues. The Psychological scale assesses the sense of belonging and emotional attachment of those with mental health issues to the community and neighbours. Higher scores in these scales indicate higher levels of community integration. In the community integration scale, the scores for the physical measure were dispersed, while most participants fell within the mid-range scores in the

psychological measure. These measures were operationalized as a measure of social guardianship. In this study, it was hypothesized that there would be a negative relationship between the CIS scales and victimization as it was thought that as individuals have stronger relationships with their neighbours and neighbourhood, victimization would decrease.

Another measure of mental health used was "level of need". The at-home/chez soi project used a dichotomous indicator of general mental health: participants were identified as "High Need" or "Moderate Need". It was hypothesized that those with high needs would be more likely to be victimized. Within the at home/chez soi project, High Need participants were defined as those that met the criteria of a score on the Multnomah Community Ability Scale of 62 or lower, and a Mini International Neuropsychiatric Interview diagnosis of current psychotic disorder or bipolar disorder. A participant would also be High Need if an observation of psychotic disorder by the screener on the Eligibility Screening Questionnaire and one of either two or more hospitalizations for mental health issues in any one year of the last five or comorbid substance use or recent arrest or incarceration, or legal involvement occurred (Distasio et al., 2014:30). Participants with Moderate Need were all other participants that met the program eligibility criteria but did not meet the High Need criteria.

Control Variables: Certain demographics have been identified as correlates with victimization, in which certain demographic characteristics see consistently higher rates of victimization (Meithe and Meier, 1993; Lee and Schreck, 2005; Edalati, Nicholls, Crocker et al., 2017; Miethe, Stafford, and Long, 1987). Miethe, Stafford, and Long (1987) summarize that both routine activities and lifestyles theory have conceptualized that demographic characteristics such as age, gender, income, marital status are associated with varying role expectations. These role expectations are said to contribute to lifestyles differences, exposure to risk, and the differences

in the likelihood of victimization (Hindelang et al. 1978 in Miethe et al., 1987:184). In sum, routine activities and lifestyles theory hold that "demographic variation in victimization is a result of variation in daily activities across demographic groups" (Cohen and Felson, 1979; Hindelang et al., 1978 in Bunch, Clay-Warner, and Lei, 2012:1182).

Drawing from the extant literature, this study utilized a number of key demographic factors to function as control variables. These included age, gender, ethnicity, education and employment status, and marital status. Age was used as an interval-ratio continuous variable (e.g., 22 years of age, 23, 24…), gender was coded as a binary nominal (0= male, 1= female), as was ethnicity (0= Non-Indigenous, 1= Indigenous,) and employment (0=working part time, working full time, retired or student, 1=unemployed), and lastly education was coded into four ordinal categories (0= grade 0-8, 1= attended but did not complete high school, 2=completed high school, 3= attended post-secondary). These variables were tested for associations with victimization in bivariate analysis and then controlled for later in multivariate analysis.

4.2.4 Ethics

This project was approved by the University of Winnipeg Human Research Ethics Board (UHREB) through a Request for Waiver of Research Ethics Review for secondary data analysis. The dataset was downloaded by University of Winnipeg researchers already involved with the at home/chez soi project. The dataset was stored on a password protected computer to ensure that only the primary researcher and committee members of this project had access to this data. Data was analyzed using the Statistical Package for the Social Sciences (SPSS).

4.2.5 Analytical Strategy

The analytical plan utilized in this project was modeled after the Center for Disease Control and Prevention (CDC) (2013). The CDC provides a temporal analytical plan when analyzing secondary data.

Univariate

The first step in analyzing secondary data is to conduct univariate analyses, providing a review of the characteristics of the data (CDC, 2013). This step involved frequency distributions. Cheng and Phillips (2014) also assert that the first step in the analysis of secondary data is to run frequency tables and cross-tabulations of all variables that will be included in the analysis. These authors suggest these statistical methods offer information about the use of the coding pattern for each variable and about the profile of missing data for each variable (p.373).

Bivariate

The second phase of data analysis identified by the CDC consists of bivariate analyses. Bivariate analyses entail computing and interpreting measures of association, determining the magnitude of association between variables, the direction of effects and statistical significance, as well as assessing the effect of potential confounding variables (CDC, 2013:7). The statistical tests and methods that were utilized at this stage included t-tests, chi-square tests, and correlations. The last stage of data analysis according to the CDC, is to conduct multivariate analyses. In this step the results of the bivariate analysis are utilized in implementing the modeling strategy to determine the final model that best explain the data (CDC, 2013:8). The CDC assert that this step is dependent on the hypothesis and literature guiding your research. Utilizing a structured analytical plan will help organize and ensure that the data has been analyzed systemically.

Multivariate

The statistical test in the multivariate analysis was negative binomial regression (NBR). Due to the overdispersion of the victimization data, ordinary least squares regression (OLS) models did not provide a good fit for the data. To illustrate this overdispersion, consider that count data for victimization ranged from 0 to 180 across all three types of victimization. The mean scores and standard deviations across threatened (mean= 4.78, s.d.= 18.34), assault (mean=2.76, s.d.= 11.17, and robbery (mean=3.40, s.d.= 17.14) further illustrate the skewed nature of this data. Consequently, OLS analyses were removed and replaced with negative binomial regression models. NBR is well suited for overly dispersed data as it smooths the distribution of highly dispersed and skewed data (Parks, 2015:66). NBR is similar to multiple regression but differs in the fact that the dependent variable is an observed count that follows a negative binomial distribution (NCSS Statistical Software, 326). NBR has been described as "a generalization of Poisson regression which loosens the restrictive assumption that the variance is equal to the mean made by the Poisson model" (NCSS Statistical Software, 326).

NBR has been utilized in the analysis of criminal justice related data, including but not limited to victimization (Berk and Macdonald, 2008:270). Berk and Macdonald (2008) contend that "the negative binomial variant of Poisson-based regression model is now a conventional way to address apparent overdispersion" (p.270). Parks (2015) describes the use of NBR in the context of examining over-dispersed victimization data. He explained that to address this dispersion, an over-dispersion parameter is added to a Poisson model resulting in a negative binomial model (Berk and MacDonald, 2008; Winkelmann, 2008 in Park, 2015). More specifically, NBR "combines the Poisson distribution of event counts with a gamma distribution of the unexplained variation in the underlying or true mean even" (Osgood, 2000:29). Park

argues that if there are reasons for victimization beyond random and independent occurrence "the negative binomial model provides a good fit for the distribution of victimization" (p.66). In other words, when non-random factors contribute to victimization rates NBR is an appropriate statistical method to identify determinants of non-random factors (Tseloni et al., 2004 in Park, 2015).

In addition to the dispersed nature of the data, this statistical analysis corresponds with the hypothesis that the homeless population face a heightened propensity to victimization due to a number of intersecting factors such a routine activities (exposure, proximity, lack of guardianship, target attractiveness) and mental health issues. In other words, it is expected that factors such as homelessness and mental health issues intersect and result in victimization that is not attributable to random occurrence.

Pseudo R^2

In this study, the dependent variable is victimization (threatened, assault, robbery), while demographics, mental health, and housing measures are the independent variables. R^2 would be a useful measure to allow us to consider the overall strength of the model or to compare equations aimed at testing theories based on the ability of predictors to influence the dependent variable. Unfortunately, not all data is amenable to OLS regression and estimating an accurate R^2 or variance explained is not possible. In these circumstances such as for dichotomous or highly skewed dependent variables that are assessed by logistic or negative binomial regressions, there are a number of substitutes of R^2 that are possible. These statistics are termed pseudo R^2's.

Unlike OLS R^2, pseudo R^2 do not provide a true estimate of variance explained (UCLA Statistical Consulting, N.D.). Pseudo R^2 is based on maximum likelihood estimates and does allow for a goodness of fit estimate for the NBR equation. Pseudo R^2s are both valid and useful

in evaluating multiple models that predict the same outcome within the same dataset. It is held

that pseudo R^2s are only meaningful when they are compared to another pseudo R-squared

within the same data, model, or predicting the same outcome (UCLA, N.D.)

In this study, pseudo R^2 is used to provide an overall estimate of the improvement of fit

over predicting the intercept without predictors (null equation) to the equation with predictors.

Furthermore, it allows us to compare the strength of the equation from baseline predictions of

victimization to victimization at the 12-month mark.

Standardized Coefficients

In OLS regressions, unstandardized regression coefficients (*b*) describe the relationship

between dependent and independent variables in terms of the original units of measurement of

those variables. Thus, in interpretation, a one-unit change in the independent variable is expected

to produce (b) units of change in the dependent variable (Menard, 2004a). On the other hand,

standardized coefficients (b* or β) explain the same relationship not as unstandardized

coefficients, but instead in standard deviation units (Menard, 2004b:218). In other words, the use

of standardized coefficients transforms the independent variable into a variable measured in

standard deviation units (Menard, 2011). In sum, the logic of using standardized coefficients is to

express coefficients as the effect of a one standard deviation change rather than a unit change.

Menard (2004a) observes that in situations where data does not allow for accurate OLS

models, logistic and negative binomial regressions have problems comparing independent

variables that are measured differently. Menard (2011) further asserts that for variables with no

natural metric, standardized coefficients can be more meaningful than an unstandardized

coefficient. Menard explains that unstandardized coefficients illustrate the impact of a one-unit

difference in the independent variable on the dependent variable, but unless the unit itself is

meaningful, a one-unit change has little or no meaning (p.1410). To further elaborate, Menard explains: "for variables measured in a natural metric or a unit that has intrinsic meaning, but for many scales used in the social and behavioral sciences (such as Likert Scale) it is not clear whether a one-unit change is big or small with respect to the scale" (p.1410). Consequently, it is concluded that using a standardized coefficient ensures that the amount of change in the predictor should be enough to produce substantial change in the dependent variable if the two are related (Menard, 2011:1411).

Menard (2011) also notes that when the objective is to compare the relative strengths of relationships involving variables measured in different metrics, it is the standardized coefficients that provide an appropriate and intuitively meaningful basis of comparison (p.1421). Menard states standardized coefficients make it possible to determine whether a dichotomous predictor (e.g., gender) is strongly related to the outcome than ordered discrete or continuous predictors (e.g., age) in the same model (p.1421). Menard further contends that it is in this sense that a standardized coefficient makes sense, even for dichotomous predictors (p.1421).

In an NBR equation the statistic used to assess the strength of association is often the risk ratio or Exp(B), which is the exponent of b, the unstandardized regression coefficient. The exponent (B) indicates the increase or decrease in logged odds resulting from a unit change in the independent variable.

This can work relatively well if the independent variables are both categorical. For example, in this study at 12 months the variable Female had an Exp(B) of 1.42 for assault. This meant that the expected frequency of being assaulted increased by a factor of 42% for women compared to men. Indigenous status showed an Exponent (B) of 1.66 that indicates that the logged odds increase by 66% for those Indigenous compared to those non-Indigenous.

Comparing the two independent variables, 1.66 is larger than 1.42, so race is a slightly stronger predictor of assault than gender.

It is not straightforward when variables are continuous or ordinal. Age has an exponent (B) of .964, which indicates a decrease in logged odds of assault. CIS physical is measured on a 0-7 scale and has an Exp(B) of 1.141, indicating a decrease in the logged odds of assault. Which has a stronger influence on the likelihood and number of times assaulted? How do these two continuous variables compare to the categorical race or gender?

The central purpose for the use of standardized coefficients solves this dilemma. By standardizing coefficients, all coefficients have a common unit of measurement and can be meaningfully compared. Thus, standardized coefficients are the same, "regardless of the units in which the variable was originally measured" (Menard, 2004a). Menard (2004a) further explains that a larger standardized coefficient for one independent variable, as opposed to a second independent variable, allows for the conclusion that the first independent variable has a stronger influence than the second independent variable (Menard, 2004a). This is true even when the independent variables were measured in different units (Menard, 2004a). Thus, it can be summarized that when variables are measured in different units of measurement, standardized coefficients are useful for comparing the relative influence of different predictors or independent variables (Menard, 2004b:218).

Menard (2004b) outlines six techniques to estimate standardized coefficients for logistic or NBR type equations. In this study the straightforward method is used, taking the unstandardized coefficient for the independent variable multiplied by the standard deviation of that independent variable, then divided by the standard deviation of the dependent variable. The equation for this is as follows:

$$b* = (b)(sx)/(sy).$$

In which y is the dependent variable, x is the independent variable, sy= is the standard deviation of y, and sx= is the standard deviation of x, and *b* and b* are the unstandardized and standardized coefficients, respectively, for the relationship between x and y (Menard 2004b). The use of standardized coefficients is suitable in this study as the various independent variables, such as the demographic and mental health variables, have several different scales and units of measurement. As such, standardizing the coefficients allows for a more direct comparison across these variables. Menard (2011) argues that "the advantage to this is that a one standard deviation change is known to be a substantial change relative to the range of the independent variable" (p.1410).

5. ANALYSIS AND FINDINGS

This section presents the primary data analyses that were undertaken in this study. The 439 cases presented below consist of baseline cases with sufficient data for later analysis, a loss of 74 cases from the original 513 subjects in the at home/chez soi study sample.

5.1 Univariate Analyses

Table 1 Demographic Profile of Winnipeg At-Home/Chez Soi (N=439)

	N	**%**			**N**	**%**
Gender			**Education**			
Male	282	64.4%		Grades 0-8	98	22.4%
Female	156	35.6%		Not Finished High School	204	46.6%
Total	438	100.0%		High School Completed	56	12.8%
Missing	1			Attended Post-Secondary	80	18.3%
Age				Total	438	100.0%
Mean		38.78		Missing	1	
SD		10.74				
Range		18-71	**Primary Employment Status**			
18-30	113	25.7%		Unemployed	401	91.3%
31-45	184	41.9%		Employed	14	3.2%
46 & up	142	32.3%		Employed in a program	2	0.5%
Total	439	100.0%		Student	2	0.5%
				Volunteer work unpaid	6	1.4%
Ethnicity				Retired	5	1.1%
Indigenous	320	72.9%		Other	9	2.1%
Non-Indigenous	119	27.1%		Total	439	100.00%
Total	439	100.0%				
Relationship Status			**1 Year of Continuous Work Experience**			
Married /Cohabitating	21	4.8%		Yes	225	51.4%
Single /Never Married	306	70%		No	213	48.5%
Separated/Divorce/Widow	110	25.2%		Total	438	100.0%
Total	437	100.0%		Missing	1	
Missing	2					

Totals may not add to 100.0% due to rounding

Table 1 provides the demographic profile of the participants in this study. Within the sample population, the vast majority of participants were male, representing about two thirds of the sample. (64.4%), whereas females represented approximately one third (35.6%). The portion

of females in this sample pool is slightly higher than estimates regarding the gender composition of the homeless population in Canada. Previous studies have estimated that 20% of the adult homeless population are female (Tolomiczenko and Goering, 2001 in Roebuck, 2008).

The mean age of participants falls at approximately 39 years of age, with a total range of 18 (minimum age of participants) to 71. The majority of participants were between the ages of 31-45, representing over one third of total participants.

In regard to ethnicity, approximately three quarters (72.9%) of the sample identified as Indigenous, whereas non-Indigenous participants represented just over one quarter of participants (27.1%). This finding is consistent with the current literature, in which Indigenous people are significantly overrepresented in experiencing homelessness (Gaetz et al., 2016:17). The number of individuals who identified as Indigenous in this sample population was slightly higher than that found in the 2018 Winnipeg Street Census, which found that 65.9% of participants were Indigenous (Winnipeg Census, 2018:6). The disproportionate number of Indigenous persons in this sample is a trend across Canada, as they are consistently over-represented in homeless populations across the country (Aubry et al., 2003; City of Toronto, 2006; Gardiner and Cairns, 2004 in Roebuck 2008).

The relationship status of participants was not very diverse. Almost three quarters of participants were single and/or never married at the time of the study (70%). Those who were separated, divorced, and widowed represented just under one quarter in total (25.2%). Most participants had not completed high school (46.6%). Approximately one third of participants had either completed high school or attended post-secondary education. Close to one quarter of participants (22.4%) had achieved schooling between grades 0 to 8. Unsurprisingly, participants who were unemployed made up all but 8.7% of the entire sample. Despite the high

unemployment rate, approximately half of participants had experience with continuous work for one year.

Table 2 Programming

	N	%
Program Stream		
At-Home/Chez-Soi	253	*57.6%*
Treatment as Usual (TAU)	186	*42.4%*
Total	439	*100.0%*
Intervention Category		
Control (TAU)	200	*45.6%*
Assertive Community Treatment	76	*17.3%*
Intensive Case Management	163	*37.1%*
Total	439	*100.0%*
Degree of Needs		
High Needs	165	*37.6%*
Moderate Needs	274	*62.4%*
Total	439	*100.0%*

Totals may not add to 100.0% due to rounding

Over one half (57.6%) of participants received the HF treatment, leaving 42.4% in the Treatment as Usual group. There were three intervention categories, Treatment as Usual (TAU), Assertive Community Treatment (ACT) and Intensive Case Management (ICM). Within these subgroups, TAU comprised the majority of the group (45.6%), whereas just over one third (37.1%) were in the ICM group, and just under one fifth (17.3%) of participants were placed into the ACT group. Additionally, participants were divided into two groups based on degree of need. The majority (62.4%) of participants were identified as moderate needs, with just over one third being identified as high needs (37.6%). The focus in later analysis was on the at-home/chez soi groupings.

Table 3 Mental Health Measures

	N	%			N	%
Lifetime GAIN			**CIS Sub Score Physical**			
Mean		4.31		Mean		2.39
SD		1.27		SD		1.76
0	12	2.9%		0	61	13.9%
1	16	3.8%		1.0	100	22.8%
2	19	4.6%		2.0	88	20.1%
3	20	4.8%		3.0	80	18.3%
4	67	16.1%		4.0	52	11.8%
5	283	67.9%		5.0	27	6.1%
Total	417	100.0%		6.0	24	5.5%
Missing	22			7.0	6	1.4%
				Total	438	100.0%
				Missing	1	
Past Year GAIN						
Mean		3.45	**CIS Sub Score Psychological**			
SD		1.83		Mean		10.93
0	57	13.7%		SD		3.66
1	27	6.5%		4-7	79	18.4%
2	31	7.4%		8-11	155	36.1%
3	51	12.2%		12-15	141	32.9%
4	58	13.9%		16 & up	54	12.6%
5	193	46.3%		Total	429	100.0%
Total	417	100.0%		Missing	10	
Missing	22					
			CSI Total Score			
				Mean		40.59
Past Month GAIN				SD		11.72
Mean		2.05		14-30	92	21.2%
SD		2.01		31-50	252	57.8%
0	156	37.4%		51-70	92	21.2%
1	56	13.4%		Total	436	100.0%
2	36	8.6%		Missing	3	
3	39	9.4%				
4	41	9.8%				
5	89	21.3%				
Total	417	100.0%				
Missing	22					

Totals may not add to 100.0% due to rounding

Table 3 illustrates the distribution of the mental health variables examined in this study.

These measures are the derived variables of four different assessment tools, the Global Appraisal

of Individual Needs Short Screener (GAIN SS), the Community Integration Scale (CIS), and the

Colorado Symptom Index (CSI). As indicated in the review of the literature, those experiencing homelessness have disproportionate rates of mental health issues, with there being estimates that between 23% and 67% of homeless people report having a mental health issue (Canadian Mental Heath Association, 2013). The findings in the following section reflect this reality and indicate the prevalence of mental health issues can be higher than estimated for this population.

GAIN

There are three time frames within the GAIN SS; lifetime, past year, and past month. Within the lifetime measure, those falling within the scale of 4-5 have the highest representation, with those falling at the level of 4 representing 16.1% of the population while those at the level of 5 represent the vast majority at 67.9%. Those falling under 4 constitute only 16.1% (0=2.9%, 1=3.8%, 2=4.6%, 3=4.8%) of the population. Across the Lifetime GAIN SS and Past Year GAIN SS there was not a marked difference between scores.

For the Past Year measure, those falling within the high end of the scale, continued to represent the majority. Those falling at a level of 5 represented nearly half (46.3%) of the sample population, while those at a level of 4 constituted 13.9%. There was a slight increase in those who fell within the lower scores within the Past Year GAIN SS in comparison to the Lifetime variable. Those falling at the score of 0 represented 13.7%, those at 1 representing 6.6%, those at 2 representing 7.4%, and finally those at a level of 3 constitute 12.2% of the sample. For the Past Month GAIN SS, those with a score of 0 represented the majority (37.4%) of the sample, while those falling at the highest score of 5 constituted just under one quarter (21.3%) of the sample. Those who fell at the following comprised the following; 1=13.4%, 2=8.6%, 3-9.4%, and 4=9.8%. In sum, recent month scores were quite a bit lower than past year or lifetime scores.

Community Integration Scale (Physical and Psychological)

The CIS Sub Score Physical assessment scores were fairly dispersed across the 8-point scale (0-7). The largest portion (22.8%) of the sample population fell at a score of 1, this was followed by those at the score of 2 (20.1%), and 3 (18.3%). The following most frequent scores are located within the 0 (13.9%) and 4 (11.8%). The smallest portion of participants were scored at 7 (1.4%) and 6 (5.5%).

Within the CIS Sub Score Psychological variable, the majority of participants fell within the mid-range scores, with the majority (36.1%) falling at a score between 8-11, with another third (32.9%) of participants having a score of 12-15. Just under one fifth (18.4%) of participants were scored between 4-7. The smallest portion (12.6%) of participants received a score of 16 and up. The CIS Sub Score Psychological scores range from 4-20.

Colorado Symptom Index Total Score

Across the scores for the CSI Total Score, which has a range of 0-70, over half (57.8%) of the participants had mid-range scores ranging from 31-50, with an average score of 40.59. Those falling within the lower range scores (14-30) consisted of one fifth (21.2%) of participants, while those with the highest scores (51-70) represented another fifth (21.2%) of participants.

Table 4 Victimization

	N	%
Threatened		
Mean	4.78	
SD	18.34	
Range	0-180	
0	193	*44.7%*
1	78	*18.1%*
2	45	*10.4%*
3-5	65	*15.1%*
6 & Up	51	*11.8%*
Total	432	*100.1%**
Missing	7	
Assault		
Mean	2.76	
SD	11.17	
Range	0-180	
0	209	*49.2%*
1	79	*18.5%*
2	49	*11.5%*
3-5	55	*12.9%*
6 & Up	34	*8.0%*
Total	426	*100.1%*
Missing	13	
Robbery		
Mean	3.40	
SD	17.14	
Range	0-180	
0	258	*59.7%*
1	60	*13.9%*
2	37	*8.6%*
3-5	49	*11.3%*
6 & Up	28	*6.5%*
Total	432	*100.00%*
Missing	7	

*Totals may not add to 100.0% due to rounding

Victimization rates experienced among the study participants include three different types of criminal victimization; threatened, assault and robbery. Table 4 indicates a high prevalence of victimization, with rates of victimization ranging from a minimum of 40.6% (robbery) to 55.4%

(threatened). The experience of being threatened had the highest prevalence of all three types of victimization. Those who had been threatened between 1-2 times represented just over one quarter of participants (28.3%). Those who had between 3-5 experiences of being threatened comprised 12.9% of the sample, while those with 6 and up experiences represented 8.0%. Regarding assault, over a half of participants had been assaulted one or more times. Those who had been assaulted once represented close to one fourth (18.5%) of the sample, while those assaulted twice represented 11.5% of the sample. Those who had been assaulted between 3-5 times comprised 12.9% of the population those with 6 and up were 8.0%. Just under a fourth of participants (22.5%) had been robbed 1-2 times. Those who experienced robbery 3-5 times made up 11.3% of the study sample, while those who experienced robbery 6 or more times constituted 6.5% of the sample.

Recently, in 2016 the Government of Canada reported that amongst people reporting victimization, assault was the most common police-reported offence for both males (69%) and females (60%) (Allen and McCarthy, 2018). Moreover, it was found that over one-quarter (27%) of police-reported victims in 2016 were victims of other violent offences including uttering threats (13%) and robbery (6%) (Allen and McCarthy, 2018). These rates are considerably lower than comparable victimizations against the homeless subjects examined in this study. Moreover, the victimization rates presented in this table only consider victimization that occurred in the last six months, not the entire prior year.

To provide local context, there was a total of 23,630 victims of violent crime reported to police in Manitoba in 2016. Of those violently victimized in Manitoba, one-fifth (20%) of police-reported victims in 2016 were victims of other violent offences including uttering threats (10%)

and robbery (8%). At the provincial level, assault was the most common police-reported offence among both male (72%) and female (70%) victims in 2016 (Allen and McCarthy, 2018).

Table 5. Housing Status Last Three Months

	N	%
Days in Street Places		
Mean		8.7
SD		22.7
Range		0-90
0	344	*81.9%*
1-30	26	*6.2%*
31-60	22	*5.2%*
61-90	28	*6.7%*
Total	420	*100.0%*
Missing	19	
Days in Unstable Housing		
Mean		33.17
SD		36.92
Range		0-90
0	181	*43.1%*
1-30	59	*14.1%*
31-60	59	*14.1%*
61-90	121	*28.8%*
Total	420	*100.0%*
Missing	19	
Days in Stable Housing		
Mean		5.35
SD		17.88
Range		0-90
0	370	*88.1%*
1-30	18	*4.3%*
31-60	16	*3.8%*
61-90	16	*3.8%*
Total	420	*100.0%*
Missing	19	

Totals may not add to 100.0% due to rounding

Table 5 shows the housing status of the participants within a 90 day at risk period. The vast majority (81.9%) of participants did not spend any time in street places. Approximately one fifth (18.1%) of participants spent at least some time in street places, with the slight majority of

this group spending anywhere between 61-90 days in street places. The time spent in unstable housing was more varied in comparison to time spent in street places. The majority (56.9%) of the sample had spent some time in unstable housing situations. Of this group, most participants (28.81%) had spent 61-90 days in unstable housing. The remaining participants were evenly divided, with 14.05% of participants spending 1-30 days in unstable housing and 14.05% of participants spending 31-60 days in unstable housing situations. Unsurprisingly, very few participants had spent time in stable housing. The vast majority (88.1%) of participants spent no time in stable housing. Only a total of 11.9% of participants spent time in stable housing. Of these, 4.3% spent anywhere between 1 to 30 days in stable housing, 3.8% spent anywhere between 31 to 60 days in stable housing, and 3.8% spent anywhere between 61 to 90 days in stable housing

5.2 Bivariate Analysis

5.2.1 Mean Comparisons, Baseline Versus Twelve Months: Mental Health, Housing, and Victimization

Table 6. Baseline and 12 Month Comparison for Mental Health, Housing and Victimization

	Baseline	12 Month	t Value	Significance
Mental Health	Mean	Mean		
CIS Subscale Physical (0-7)	2.39	2.39	-0.55	.592
	(1.76)	(1.79)		
CIS Subscale Psychological (4-20)	10.93	12.50	-7.05*	.000*
	(3.66)	(3.45)		
Colorado Symptom Index (0-70)	40.59	35.92	7.80*	.000*
	(11.72)	(11.42)		
Past Month GAIN SS Symptoms (0-5)	2.05	1.99	0.42	.674
	(2.01)	(1.95)		
Housing				
Days Stable Housing (0-180)ᵃ	10.70	47.13	-13.702*	.000***
	(35.75)	(42.14)		
Times Victimized Last 6 months				
Threatened#	4.78	3.57	1.18	.239
	(18.3)	(18.04)		
Assault#	2.76	1.77	1.82	.069
	(11.69)	(7.24)		
Robbery#	3.40	2.04	1.44	.151
	(17.13)	(12.45)		
Ever Victimized Last 6 months				
Threatened	209	140	17.9%	16.328***
	(54.3%)	(36.4%)		
Assault	190	138	13.7%	26.216***
	(50.0%)	(36.3%)		
Robbery	153	111	11.7%	23.313***
	(39.6%)	(28.8%)		

*p<.05, **p<.01, ***p<.001.
Note: Standard deviations are in parentheses.
ᵃ At baseline, Days in Stable Housing scores were pro-rated from 3 months to 6 months prior (x2) to allow for a rough comparison.

Mental Health

The mental health variables assessed in this project tended to indicate expected improvements of the baseline measure to the 12 month time point. It was expected that given the program involvement of at least half the sample in the at home/chez soi program, improvements in mental health would be observed. The two subscales of the Community Integration Scale (CIS) did not indicate large differences across the 12 month comparison. The CIS Physical, in fact, did not display any difference across the two time periods, while the average score of the CIS Psychological showed a slight rise, from a baseline mean score of 10.93 to 12.50 at the one year mark, and this difference was statistically significant (t=-7.05, p <.05). This was in the expected direction, as higher scores in these scales indicate higher levels of community integration.

Higher scores in the Colorado Symptom Index (CSI) reflect a greater prevalence of mental health issues. The mean score at the baseline measure for the CSI was 40.59, at 12 months this score decreased to 35.92 indicating a decline in the prevalence of mental health issues across the first year of participation in the study, with this difference being significant (t=7.80, p<.05).

The GAIN Past Month variables showed a small decrease in mean scores from baseline to twelve months, indicating an improvement in mental health though this was not a significant finding.

Housing

There were improvements in stable housing for study participants. The average number of days in stable housing increased substantively. The average number of days in stable housing increased from 10.70 at baseline to 47.13 at the 12 month mark, a very large increase.

Victimization

There were decreases in the incidence and prevalence of all three types of victimization at the one-year mark. This was true across both the continuous (# of times) and dichotomous (yes/no) variables. The increase in the average number of times victimized in the last 6 months was most evident across robbery, as the mean decreased from a baseline of 3.40 to 2.04 at 12 months. None of these differences were statistically significant at $p<.05$, likely due to the skewness of the data, as evidenced by the large standard deviation. The dichotomous measure of victimization (yes/no) showed statistically significant differences with moderate to modest differences from time one to time two. The strongest difference was found across the threatened variable, a 17.9% decline between baseline (54.3%) and twelve month (36.4%) victimization, a moderate effect (χ^2=16.328***, 1 *df*).

5.2.2 Baseline Correlations

Table 7. Spearman's Rho Baseline Victimization Number of Times Last Six Months by Demographic, Mental Health and Housing Variables Correlates

	Threat#	Assault#	Robbery#
Demographic			
Female	.137**	.137**	.162**
Age	-.113*	-.160**	-.055
Indigenous	.117*	.131**	.058
Single	.122*	.111*	.030
Education	.040	.021	.021
Unemployed	.045	-.005	.103*
Program Variables			
At Home/Chez Soi	-.033	.040	.051
Mental Health			
CIS Subscale Physical (0-7)	.108*	.073	.049
CIS Subscale Psychological (4-20)	-.118*	-.064	-.066
Colorado Symptom Index (0-70)	.319**	.342**	.267**
Past Month GAIN SS Symptoms (0-5)	.201**	.272**	.137**
Housing			
Days Stable Housing	.031	.045	.070

*$p<.05$. **$p<.01$, ***$p<.001$.

Demographics

The correlations between the three types of victimization and gender were modest but statistically significant at the baseline measure. These correlations were in the expected direction, in which females were most likely to experience victimization. The correlation between gender and victimization had the strongest association with robbery (r_s= .162, ** $p<.01$), with similar effects observed for threatened (r_s=.137, ** $p<.01$) and assault (r_s=.137, ** $p<.01$).

All demographic variables of age, Indigenous, being single and being unemployed were in the expected direction. Age was negatively correlated with victimization. These effects were modest to weak but as expected. The strongest correlation with age was with assault (r_s =-.160, **$p<.01$), both assault and threatened (r_s=-.113, *$p<.05$) were statistically significant but weak. The association with robbery (r_s=-.055, ns) was not statistically significant. The correlation

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across the three types of victimization and Indigenous status tended to illustrate statistical significance. The exception to this was robbery (r_s=.058, ns). Threatened (r_s=.117, *p<.05) and assault (r_s=.133, **p<.01) were statistically significant but showed weak associations with Indigenous status. The correlations between the relationship status of single and the three types of victimization tended to be statistically significant, the exception to this was robbery (r_s=.030) which indicated a weak but positive association. Threatened (r_s=.122, *p<.05) and assault (r_s=.111, *p<.05) had weak associations but were statistically significant. All correlations for education were negligible and not significant. Unemployment was positively correlated with robbery (r_s=.103, *p<.05), though this was a weak association. Threatened (r_s=.045, ns) and assault (r_s =-.005, ns) were not statistically significant.

Program Variable

At baseline, there was a lack of statistical significance and negligible associations between at home/chez soi and victimization.

Mental Health

The correlation between CIS subscale Physical and number of times threatened was a positive but weak association that was statistically significant (r_s= .108, *p<.05). This finding was not in the expected direction. There was no association between the Physical CIS Subscale and assault (r_s=.073, ns) as well as robbery (r_s=.049, ns). The Psychological CIS Subscale followed a similar pattern across the three victimization types as well as the Physical measure. There were weak and non-significant associations with assault (r_s=-.064) as well as robbery (r_s=-.066). The correlation between the Psychological CIS Subscale and threatened was weak but significant (r_s=-.118, *p<.05). This effect was in the expected direction. The negative correlation

between the Psychological scores and victimization indicates that as CIS Subscale Psychological scores increased, the likelihood of being threatened decreased.

The Colorado Symptom Index had positive, moderate, and statistically significant correlations for threatened (r_s=.319, **p<.01), assault (r_s= .342, **p<.01), and robbery (r_s=.267, **p<.01). As higher CSI assessment scores reflect more serious mental health issues, these associations were in the expected direction: more mental health issues indicate a higher propensity for victimization. The Past Month GAIN SS Symptoms showed moderate to small positive effects for assault (r_s=.272, **p<.01) and threatened (r_s=.201, **p<.01), while there was a weaker association with robbery (r_s=.137, **p<.01).

Housing

Baseline days in stable housing showed negligible associations with victimization.

5.2.3 Baseline and Twelve-Month Correlations

Table 8. Spearman's Rho Victimization Baseline and 12 Months by Demographic, Mental Health and Housing Variables Correlates

	Baseline			12 Months		
	Threat#	Assault#	Robbery#	Threat#	Assault#	Robbery#
Demographic						
Female	.137**	.137**	.162**	-.041	.051	-.052
Age	-.113*	-.160**	-.055	-.047	-.186**	.020
Indigenous	.117*	.131**	.058	.115*	.145**	.092
Single	.122*	.111*	.030	.034	-.011	.038
Education	.040	.021	.021	.068	.050	.088
Unemployed	.045	-.005	.103*	-.027	.006	.007
Program Variables						
At-Home Chez Soi	-.033	.040	.051	.002	.002	-.030
Mental Health						
CIS Subscale Physical (0-7)	.108*	.073	.049	.163**	.082	.122*
CIS Subscale Psychological (4-20)	-.118*	-.064	-.066	.006	-.042	-.049
Colorado Symptom Index (0-70)	.319**	.342**	.267**	.258**	.240**	.151**
Past Month GAIN SS Symptoms (0-5)	.201**	.272**	.137**	.211**	.333**	.168**
Housing						
Days Stable Housing	.031	.045	.070	-.071	-.109*	-.020

*p<.05. **p<.01, ***p<.001.

Demographics

Victimization had decreased overall at 12 months, and the magnitude and consistency of some of the effects of the predictor variables also decreased, while others were similar to baseline. At the 12-month mark, there were no longer modest associations with gender and victimization. There was also a change in the direction of the correlation, at baseline all correlations were positive, whereas at 12 months only assault was positively correlated. Threatened and robbery thus became negatively correlated with female at 12 months. There was

a decrease in the magnitude of effect and statistical significance between age and victimization from baseline to 12 months. Age remained negatively associated with assault, and the coefficient was slightly stronger (r_s= -.186, **p<.01), at 12 months.

Being Indigenous did not show a marked difference in correlation coefficients across the two time periods. Threatened and assault associations showed minimal differences at 12 months, threatened (r_s= .115, * p<.05) illustrated a slight decrease in strength, while assault (r_s=.145, **p<.01) had a slight increase at 12 months. These effects remained in the same direction from the baseline and were statistically significant. Robbery (r_s=.092, ns) showed a slight increase in strength but was not statistically significant.

The was a marked decrease in strength and statistical significance at the 12-month mark for being single and victimization, as correlations were weak and non-significant. Education strengthened slightly but coefficients were still not significant. Being unemployed at 12 months was not associated with any of the three victimization outcomes.

Program Variables

At the 12-months, there continued to be a lack of statistical significance and association between at home/chez soi program involvement and victimization.

Mental Health

When comparing the associations between baseline and 12 months, there were variable results across the mental health scores; some differences were in the expected direction while others were not. The CIS Subscale Physical score at the 12-month mark showed slightly stronger associations than those found at the baseline. The correlation between the CIS Physical and threatened (r_s= .163, ** p<.01) continued to be statistically significant, the strength of this association increased slightly (baseline: r_s = .108, *p<.05). One difference occurred with

robbery. The CIS Physical and robbery were not statistically significant at the baseline measure but at 12 months this association was weak, but statistically significant (r_s=.122, * p<.05). Although still a weak association, there was a small increase in the magnitude of effect across the two time periods. Assault did not have a statistically significant association at 12 months, nor baseline.

At twelve months there were no statistically significant associations between the CIS Subscale Psychological and all three types of victimization. The most prevalent difference between the baseline and 12-month mark occurred with the outcome of being threatened. At baseline, there was a negative, weak but statistically significant association (r_s= -.118, *<05). At twelve months this association was considerably different. The association was weaker, in the opposite direction, and not statistically significant (r_s= .006, ns). Assault (r_s= -.042, ns) and robbery (r_s= -.049, ns) at 12 months indicated minimal differences in comparison to the baseline.

The association between the CSI and victimization at 12 months illustrated small differences from the baseline. The associations at 12 months were slightly less strong than those found at the baseline across all types of victimization, but the correlations continued to be in the expected direction and were statistically significant. The CSI associations at twelve months had moderate associations with threatened (r_s=.258, ** p<.01) and assault (r_s= .240, **p<.05), while there was a weak association with robbery (r_s= .151, ** p<.01).

The Past Month GAIN associations with victimization consistently illustrated increases at the 12-month mark when compared to the baseline. Moreover, all associations continued to be in the predicted direction and statistically significant. The largest difference between baseline and 12 months was found across assault (baseline: r_s=.272, **p<.01, 12 months: r_s=.333, **p<.01).

The strength of association for threatened (r_s=.211, **p<.01) and robbery (r_s=.168, p<.01) showed only minimal increases at 12 months.

Housing

The correlations at 12 months for days in stable housing were very different from the baseline correlations. At baseline, all correlations were positive, weak, and not statistically significant, but at 12 months they were negative and in the predicted direction. In contrast, at 12 months the correlation for threatened and days spent in stable housing was negative (r_s=-.071). This finding was similar to robbery, in which the association was also negative (r_s=-.020). Assault had the largest difference, at baseline assault had a weak positive correlation, whereas at 12 months the correlations with assault was negative, stronger, and statistically significant (r_s =-.109*, p<.05). Some of this difference may be attributable to the improved measurement at 12 months. At baseline days in stable housing concerned the last 3 months, at 12 months six months of housing data were used. The 12 month data also had the benefit of "bounding" by interviewers from 6 month and 9 month interviews, improving recall accuracy by respondents.

5.3 Multivariate Analysis

Table 9 Negative Binomial Regression, Baseline Victimization by Gender, Ethnicity, Marital Status, Employment, Program, Age, Education, CIS Physical, CIS Psychological, Colorado Symptom Index, GAIN Past Month, Days in Stable Housing

	Threatened			Assault			Robbery		
Categorical Control Variables	b	ExpB	StdCoeff	b	ExpB	StdCoeff	b	ExpB	StdCoeff
Female	.017	1.017		.226	1.449		.655***	1.925	.226
Indigenous	.236	1.266		.289ᵃ	1.336	.101	.083	1.087	
Single	-.191	.826		-.397*	.672	-.285	.087	1.091	
Employed	.739**	2.095	.060	1.449***	4.260	.112	1.009***	2.742	.084
Categorical Program Variable									
At-Home Chez-Soi	.365**	1.440	.209	.084	1.088		.444**	1.559	.264
Continuous/Ordinal Control Variables									
Age	-.028***	.972	-.304	-.046***	.955	-.500	-.012ᵃ	.988	-.125
Education	-.083ᵃ	.920	-.131	-.084ᵃ	.919	-.133	-.110*	.896	-.170
Mental Health									
BL CIS Physical (0-7)	.255***	1.291	.447	.053	1.055		.222***	1.275	.389
BL CIS Psychological (4-20)	-.141***	.869	-.511	-.041*	.960	-.149	-.080***	.964	-.290
BL Colorado Symptom Index (0-70)	.053***	1.054	.618	.054***	1.055	.632	.061***	1.061	.712
BL GAIN Past Month (0-5)	.192***	1.212	.385	.129***	1.137	.259	.042	1.043	
Housing									
Days in Stable Housing last 6 months	.009**	1.009	0.162	-.002	.998		.012**	1.012	.216
Significance of Model (Omnibus Test)	309.224***			264.156***			298.046***		
R²	.060			.075			.040		
N	382			376			382		

ᵃp<.10, *p<.05, **p<.01, ***p<.001

Note: All mental health and housing variables are measured as continuous variables.

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5.3.1 Baseline Multivariate Model

Goodness of fitness statistics tests supported the use of negative binomial regression for baseline victimization. The omnibus test statistics for threatened (χ^2 =309.224***), assault (χ^2 =264.156***) and robbery (χ^2 =298.046***) showed all 3 equations improved prediction of the dependent variable. The deviance estimates for threatening, assault and robbery all exceeded 1.0, also confirming overdispersion (results available on request). Mental Health scores were found to be the strongest predictors of victimization. The CSI Index in particular exerted the largest and most consistent effects as indicated by the standardized coefficient.

Control Variables

Gender effects showed that, net of the effect of other predictors, being female was a significant predictor for the baseline number of times robbed (b=.655, p<.001). The predicted log count for the number of times robbed for females (coded 2) was .665 units greater than that for males (coded 1). The incidence ratio (Exp B) indicates that for females, the incidence rate of robbery was 1.925 times greater than that for males. Consequently, there was an increase in the expected number of robberies for females of 92.5% greater than that for males. Ethnicity was a significant predictor for the number of times assaulted (b=.289, p<.10). It was not a significant predictor for being threatened or robbery. The predicted log count for the number of times threatened for Indigenous persons (coded 1), was .289 units greater than that for Non-Indigenous (coded 0). The incidence ratio (Exp B) indicates that for Indigenous persons, the expected number of times threatened was 1.336 (33.6%) times greater than that for Non-Indigenous.

Being single was significant in decreasing the log odds of victimization (assault) (b=-.397, p<.05). Inverting the Exponent B, there is a 1.488 higher incident rate for those married/common-law, divorced, separated or widowed. Being employed (coded 1) had the

greatest impact on the incidence of victimization. Controlling for other variables, those employed had a greater predicted log count of victimization by a factor of 2.1 for being threatened, 1.5 for assault and 2.7 for robbery. Being employed was statistically significant for all three outcomes.

Those older were less likely to be victimized. For every one unit increase in age, the predicted log count of victimization decreased by -.028 for threatened, by -.046 for assault, and -.012 for robbery. Education also lowered the logged count of victimization occurrences. As education increased by each ordinal category, the expected incidence of victimization decreased against all three victimization categories; by a log count of -.083 for threatened, -.084 for assault and -.110 for robbery. The effects were not as stable as desirable, as statistical significance was achieved only at the $p<.10$ for threatened and assault, and $*p<.05$ for robbery.

Standardized coefficients that were statistically significant showed that net of the effect of other predictors, age consistently showed the strongest effects on being threatened ($b*=-.304$) and assault ($b*=-.500$) but not robbery ($b*=-125$). For education, the standardized coefficient value of -.131 indicates weak effects on the likelihood of being threatened; this pattern persisted for assault ($b*=-.133$) and robbery ($b*=-.170$). Being employed had consistent but small effects on the expected incidence of being threatened ($b*= .060$) assaulted ($b*=-.112$) or robbed ($b*=.084$).

Other demographic variables were inconsistent in their effect of victimization outcomes and even effects that achieved statistical significance were small. Being female escalated the expected incidence of robbery ($b*=.226$) while those with Indigenous status were more likely to be assaulted than Non-Indigenous ($b*=.101$). Being single had a moderate negative impact on probable assaultive incidents ($b*=-.285$). Being in the treatment group increased the likelihood of being threatened ($b*=.209$) and robbed ($b*=.264$).

Overall, demographic control variables produced effects in the predicted direction. Being indigenous, older and more educated reduced the probability of victimization over the previous six months. Other indicator variables were not in the predicted direction; being female, single and employed increased the probability of victimization. With the exception of age and employment, most effects were either quite modest or not highly stable (i.e., statistical significance at less than *p<.05). Age was the strongest demographic predictor for threatened (b*=-.304) and assault (b*=-.500), while gender was the strongest predictor for robbery (b*=.226).

Program Variables

Contrary to predictions, participation in the at-home/chez-soi program did not decrease the probability of victimization for threatening (b=.365**) or robbery (b=.444**) related victimization. Effects were positive, indicating that program attendees had their incident rate for victimization increase by a factor of 1.440, and for robbery a factor of 1.559. The standardized effects for threatened (b*= .209) and robbery were small (b*=. 264).

Mental Health Variables

The CIS Physical scores (0-7) were a significant predictor for the number of times people were threatened (b=.255***) and robbed (b=.222***). CIS Physical was not a significant predictor of the expected number of times assaulted. For every one unit increase in the CIS Physical score, the predicted log count of being threatened increased by .255. The (Exp B), indicated that for every one unit increase on the predictor the incidence rate ratio for threatened increased by a factor of 1.291. For robbery, every one unit increase in the CIS Physical score, the predicted log count increased by .222. The incidence ratio (Exp B), indicated that for every one unit increase, the incident rate for robbery increased by a factor of 1.275.

The CIS Psychological (4-20) was a significant predictor across all three types of victimization. This predictor was the strongest for threatened (b=-.141***). Followed by robbery (b=-.080***) and assault (b=-.041*). All relationships were in the predicted negative direction as it was hypothesized that greater integration would result in better self-management (guardianship) and less victimization. For every one unit increase in the CIS Psychological score, the predicted log count of threatened decreased by -.141. Times assaulted decreased by -.041 and robbery incidents by -.080.

The Colorado Symptom Index was a significant predictor for all three types of victimization, threatened (b=.053***), assault (b=.054***) and robbery (b=.061***). All relationships were in the expected positive direction as higher CSI scores indicated greater mental health problems and thus more substantial vulnerability (less guardianship, not as good lifestyle choices). For threatened, the incidence ratio (Exp B) indicates that for every one unit increase in CSI scores the incident rate for victimization increased by a factor of 1.054. For assault, the incidence rate ratio (Exp B) indicates that for every one unit increase in CSI scores the incident rate for victimization increased by a factor of 1.055. For robbery, the incidence ratio (Exp B) indicates that for every one unit increase in CSI scores the incident rate for victimization increased by a factor of 1.043.

GAIN Past Month scores (0-5) were a significant predictor for threatened (b=.192***) and assault (b=.129***). These relationships were in the expected positive direction, as higher scores indicate more problematic mental health functioning. For threatened, the (Exp B) indicates that for every one unit increase in GAIN scores the incident rate for victimization increased by a factor of 1.212, and for assault, by a factor of 1.137.

Controlling for other factors, for threatened, the standardized coefficient for CIS Physical scored a moderate .447 and .389 for robbery. CIS Psychological displayed a moderate standardized coefficient value of -.511, a smaller impact for assault, (b*=-.149) and robbery (b*=-.290). The standardized coefficient for the CSI Index indicated moderate effects on the expected incidence of being threatened (b*=.618), assaulted (b*=.632) and robbed ((b*=.712). Past Month GAIN effects were moderate to small for the log odds of being threatened (b*=.385) and assault (b*=.259).

The Colorado Symptom Index scores were the strongest predictor of the likelihood of all three types of victimization over the past six months at baseline: threatened (b*=.618), assault (b*=.632), and robbery (b*=.712).

Housing Variable

The number of days spent in stable housing was a significant predictor for threatened (b=.009**) and robbery (b=.012**). The relationship between days in stable housing and threatened is positive. This was not in the expected direction, as more stable housing was thought to lead to stronger guardianship and less victimization. This is consistent, however, with bivariate correlations. For every one unit increase in days spent in stable housing, the predicted log count of victimization (threatened) increased by .008. The incidence ratio (Exp B), indicated that for every one unit increase on the predictor, the incident rate for threatened increased by a factor of 1.009. For threatened, the standardized coefficient effect was small: (b*=.162), and it was only slightly larger for robbery (b*=.216).

Table 10 Negative Binomial Regression, 12-Month Victimization by Gender, Ethnicity, Marital Status, Employment, Program, Age, Education, CIS Physical, CIS Psychological, Colorado Symptom Index, GAIN Past Month, Days in Stable Housing

	Threatened			Assault			Robbery		
Categorical Control Variables	**b**	**ExpB**	**StdCoeff**	**b**	**ExpB**	**StdCoeff**	**b**	**ExpB**	**StdCoeff**
Female	1.028***	2.795	.357	.350**	1.419	.121	.509***	1.664	.175
Indigenous	.989***	2.688	.714	.504**	1.655	.365	-.339	.713	
Single	.534**	1.705	.376	.353*	1.423	.250	-.139	.870	
Employed	-.393	.675		-.420	.657		-.686*	.503	-.055
Categorical Program Variable									
At-Home Chez-Soi	.618***	1.856	.370	.219	1.245		.280	1.323	
Continuous/Ordinal Control Variables									
Age	-.028***	.927	-.293	-.036***	.964	-.375	-.029***	.972	-.303
Education	.122*	1.129	.188	.261***	1.298	.405	-.065	.937	-.100
Mental Health									
CIS Physical (0-7)	.337***	1.400	.596	.132**	1.141	.234	.198***	1.219	.350
CIS Psychological (4-20)	-.037	.964		-.023	.978		.087***	1.091	.298
Colorado Symptom Index (0-70)	.049***	1.050	.553	.028***	1.028	.317	.053***	1.055	.597
GAIN Past Month (0-5)	-.035	.965		.305***	1.357	.592	.057	1.058	
Housing									
Days in Stable Housing last 3 months	-.007***	.993	-.552	-.003 a	.997	-.237	-.003*	.997	-.236
Significance of Model (Omnibus Test)	359.403***			242.354***			214.386***		
R²	.060			.082			.040		
N	352			351			352		

[a]p<.10, *p<.05, **p<.01, ***p<.001

Note: All mental health and housing variables are measured as continuous variables.

5.3.2 Twelve Months

Goodness of fitness statistics tests supported the use of negative binomial regression for

12-month victimization. The omnibus test statistics for threatened (χ^2 =359.403***), assault (χ^2

=242.354***) and robbery (χ^2 =214.386***) showed all 3 equations improved prediction of the

dependent variable. The 12-month results indicated that both housing and mental health maintained their impact on victimization. Mental health scores continued to be the strongest predictors of victimization at 12 months, though this was less consistent in comparison to baseline. The CSI Index continued to show strong and consistent effects as indicated by the standardized coefficient, though not as strong as indicated at baseline. In comparison to the baseline, stable housing at 12 months overall showed greater strength in predicting victimization. This time, however, the effects of stable housing on victimization were in the predicted direction.

Control Variables

Being female was a significant predictor for the number of times threatened (b= 1.028***), assaulted (b= .350**), and robbed (b= .509***) at 12-months. The incidence rate ratio (Exp B) indicates that for females, the incidence rate of being threatened was 2.795 times greater than that for males. This is a much stronger and stable effect than indicated at the baseline measure. The predicted log count for the number of times assaulted for female was .350 units greater than that for males. For assault, the incidence ratio (Exp B) indicates that for females, the incidence rate of being assaulted was 1.419 (41.9%) times greater than that for males. This is a stronger effect than indicated at the baseline measure. The predicted log count for the number of times robbed for female was .509 units greater than that for males. Lastly, for robbery the incidence ratio (Exp B) indicated that for females, the incidence rate of being robbed was 1.664 (66.4%) times greater than the rate for males. This is a slightly weaker effect than indicated at the baseline measure, though this is still a substantive finding.

In contrast to the baseline results, ethnicity was a significant predictor for the number of times threatened (b= .989***) and assaulted (b= .504**) at 12 months. The incidence rate ratio (Exp B) indicates that for Indigenous persons, the incidence rate of threatened was 2.688 times

greater than that for Non-Indigenous individuals. For assault, the predicted log count for the number of times assaulted for Indigenous persons, was .504 units greater than that for Non-Indigenous. The incidence ratio (Exp B) indicates that for Indigenous persons, the incidence rate of assault was 1.655 (65.5%) times greater than that for Non-Indigenous individuals. In contrast with the other types of victimization, being Indigenous was not a significant predictor for the number of times robbed (b=-.339).

Being single was a significant predictor for the number of times threatened at 12 months (b=.534**). This differed from the baseline, which provided only a weak, negative and non-significant effect. Being single was also a significant predictor for the number of times assaulted (b=.353*). At 12 months, the predicted log count for the number of times threatened for single individuals was .534 greater than that for those married/common-law, divorced, separated or widowed. The incidence ratio (Exp B) indicates that for single individuals, the incidence rate of threatened was 1.705 (70.5%) times greater than that for non-single persons. At 12 months, the predicted log count for the number of times assaulted for single individuals was .353 greater than that for those married/common-law, divorced, separated or widowed. The incidence ratio (Exp B) indicates that for single individuals, the incidence rate of assault was 1.423 (42.3%) times greater than that for non-single persons. At twelve months this relationship saw a change in direction, in which this was positive at the baseline, and negative after a year. At 12 months being single was not a significant predictor for the number of times robbed (b=-.139).

The likelihood of robbery saw a reverse in the direction of the relationship with employed. Unlike the baseline measure, which saw a strong positive relationship with employed and number of times robbed, at 12 months there was a negative relationship between these two variables. The likelihood of being robbed effectively doubled for the employed (Exp(B), inverted

= 1/.503 = 1.988). Unlike the baseline measure, being employed did not produce significant effects at 12 months for the number of times threatened and assaulted. Also different from the baseline measure, being employed did not produce significant effects at 12 months for the number of times threatened. This relationship was in a positive direction and thus differs from the baseline result.

Age maintained its status as a significant predictor for the number of times people were threatened (b=-.028***), assaulted (b=-.036***), and robbed (b=-.029***). As such, older individuals were less likely to be victimized. The results for age and number of times threatened at 12 months produced the same results found at the baseline. For every one unit increase in age, the predicted log count of victimization decreased by -.028 for threatened. Every one unit increase in age resulted in the predicted log count of assault victimization decreasing by -.036. In other words, the chances of being assaulted decreased by 1.04% as age increased. This continued to be in the expected direction. Lastly for robbery, for every one unit increase in age, the predicted log count of victimization decreased by -.029 for robbery. This effect continued to be in the expected direction.

In contrast to the baseline measure, at 12 months education was a significant predictor for the number of times threatened (b=.122, p<.05) and assaulted (b=.261, p<.001). Thus, at 12 months education increased the log count of probable victimization (threatened), in which the log odds of victimization increased by.122. The incidence ratio (ExpB) indicated that as category of educational achievement increased, the likelihood of being threatened increased at a modest rate of 12.9%. In regard to assault and education, at baseline this relationship was negative and not significant, at 12 months this relationship became positive and consistent. The positive direction was not in the expected direction. The incidence ratio (ExpB) shows that as each level of

education increased, the log odds of being assaulted increased 29.8%. Unlike baseline, at 12 months education was not a significant predictor of the number of times robbed.

At 12 months there was more inconsistency in standardized effects across the demographic predictors when compared to baseline. Unlike baseline, the standardized coefficients that were statistically significant showed that net of the effect of other predictors, age did not consistently show the strongest effects across victimization. Age was only the strongest predictor for robbery (b*=-.303) and although a smaller effect, this pattern remained the same for assault and threatened. The standardized effect of age was the strongest for assault but remained small (b*=-.375), and was also modest for threatened (b*=-.293).

Being Indigenous was by far the strongest demographic predictor for being threatened (b*=.714) and showed a small but positive relationship with assault (b*=.365). Education was the strongest demographic predictor for assault (b*=.405). Education showed a small standardized effect for threatened (b*=.188) and robbery (b*=-.100).

As such, the other demographic variables were inconsistent in their effect on victimization outcomes and even relationships that achieved statistical significance continued to be small in size. Being female increased the expected incidence of threatened (b*=.357), assaulted (b*=.121), and robbed (b*=.175). Being single had a positive impact on likelihood of being threatened (b*=.376) and assaulted (b*=.250). Being employed showed a small and negative standardized effect in the expected incidence of being robbed (b*=-.055).

Program Variables

Similar to the baseline, participation in the At-Home Chez-Soi had a positive effect with the number of times threatened. The predicted log count for the number of times threatened for program participants was .618 units greater than that for those in the TAU group. The incidence

ratio (Exp B) indicates that for program participants, the incidence rate of being threatened was 1.856 (85.6%) times greater than that for males. This is a stronger effect than indicated at the baseline measure. The standardized effect for threatened (b*= .370) was small. The relationship between participation in the at home/chez soi program and likelihood of assault and robbery was not significant.

Mental Health

The CIS Physical scores (0-7) continued to be a significant predictor for the number of times people were threatened (b=.337, p<.001), assaulted (b=.132, p<.01), and robbed (b=.198, p<.001). For threatened, in every one unit increase in the CIS Physical score, the predicted log count of being threatened increased by .337. The (Exp B), indicated that for every one unit increase on the predictor the incidence rate ratio for threatened increased by a factor of 1.400. This is stronger than the effects indicated at the baseline measure. In regards to the number of times assaulted, for every one unit increase in the CIS Physical score, the predicted log count of being assaulted increased by .132. The (Exp B), indicated that for every one unit increase on the predictor the incidence rate ratio for assault increased by a factor of 1.141 (14.1%). This is a much stronger and more stable effect than that observed at baseline. For the number of times robbed, the incidence rate ratio (ExpB) indicated that for every one unit increase on the CIS Physical scale, the incidence rate ratio for robbery increased by a factor of 1.219 (21.9%). This is slightly less strong than the effects indicated at the baseline measure.

The CIS Psychological (4-20) remained a significant predictor for robbery at twelve months (b=.087, p<.001), despite the change in the direction of the relationship from baseline. At twelve months, CIS Psychological indicated a positive relationship; better functioning participants were more likely to be robbed. The incidence rate ratio (ExpB) indicated that for

every one unit increase in the CIS Psychological, the incident rate for robbery increased by a factor of 1.091 (9.1%). In contrast, the CIS Psychological (4-20) was not a significant predictor for threatened and assaulted at twelve months, but both of these relationships were significant at baseline.

The Colorado Symptom Index effect continued to be in the expected direction as well as a significant predictor for the number of times threatened (b=.049, p<.001), assaulted (b=.028, p<.001), and robbed (b=.053, p<.001) at twelve months. These effects showed similar patterns to those indicated at baseline. For threatened, the incidence ratio (Exp B) indicates that for every one unit increase in CSI scores the incident rate for threatened increased by a factor of 1.050. This is slightly less strong than indicated at the baseline, but continued to be significant at 12 months, nonetheless. For assault, the incidence ratio (Exp B) indicated that for every one unit increase in CSI scores the incident rate for assault increased by a factor of 1.028 (2.8%). This continued to be significant and in the expected direction but was not as strong an effect as that observed at the baseline. For robbery, the incidence ratio (Exp B) indicates that for every one unit increase in CSI scores the incident rate for robbery increased by a factor of 1.055 (5.5%). This is slightly less strong than indicated at the baseline.

GAIN Past Month scores were a significant predictor for number of times assaulted at twelve months (b=.305, p<.001).The incidence rate ratio (ExpB) indicated that for every one unit increase in GAIN scores, the incident rate for assault increased by a factor of 1.357 (35.7%). In contrast, GAIN Past Month scores were not a significant predictor for number of times threatened at 12 months, this differs from baseline in which GAIN scores were significant. GAIN Past Month scores were not a significant predictor for number of times robbed at twelve months, the same pattern seen at baseline.

While controlling for other factors, the standardized coefficient for CIS Physical scored moderate effects for threatened (b*=.596), and robbery (b*=.350), while showing smaller effects for assault (b*=.234). The CIS Psychological displayed a small standardized coefficient for robbery (b*=.298). The standardized coefficient for the CSI continued to indicate moderate effects on the expected incidents of all three types of victimization: threatened (b*=.553), assault (b*=.317) and robbery (b*=.597). This is a slight decrease in comparison to the baseline standardized effects of the CSI. Despite this, the CSI scores continued to be the strongest and most consistent mental health predictor of the likelihood of all three types of victimization at 12 months. Past Month GAIN effects were moderate for the log odds of being assaulted (b*=.592), this is a stronger effect that illustrated at the baseline.

Housing Variable

At 12 months the number of days spent in stable housing had a negative significant relationship with the number of times threatened (b=-.007, p<.001), assaulted (b=-.003, p<.10), and robbed (b=-.003, p<.05).These relationships are in the expected direction, as more stable housing was hypothesized to lead to stronger guardianship and less victimization. For threatened, the incidence ratio (Exp B), indicated that for every one unit increase for days spent in stable housing, the incident rate for threatened decreased by a factor of .993. This is stronger than indicated at the baseline. For assault, the incidence rate ratio (ExpB) indicates that for every one unit increase for days spent in stable housing, the incident rate for assault decreased by a factor of .997. For robbery, the number of days spent in stable housing continued to be significant in decreasing the log odds of robbery. This contrasts with the findings at baseline, which indicated a significant and positive relationship. For threatened, the standardized effect was moderate, (b*=-.552), while it was weak for assault (b*=-.237) and robbery (b*=-.236).

Pseudo R^2 and the Strength of the Baseline NBR Equations

There was improvement in the predictive power of the pseudo R^2 between the baseline model and the 12-month model for threatened, assault, and robbery. Pseudo R^2 at the baseline, generally showed an overall weak model and, despite improvement, that did not change markedly at the 12 month level.

At baseline, the pseudo R^2 for threatened indicated that only 6.0% of the probability of victimization is influenced by demographic, mental health, and housing variables. Assault had a slightly higher R^2 though this number continued to be small. For assault, the pseudo R^2 indicated the equation had a relative strength of 7.5%. Lastly, for robbery, the pseudo R^2 was only 4.0%, a weak improvement over the null model.

At 12 months the pseudo R^2, despite likely better measured for a number of variables, did not increase substantively. At 12 months, the pseudo R^2 for the probability of being threatened remained at 6%. In contrast, assault at 12 months did show some increase in variance explained from the baseline. The pseudo R^2 for 12-month assault was 8.2%, an improvement of 0.7%, still less than 1%. Similar to threatened, the pseudo R^2 for robbery did not show any increase, remaining at 4.0%.

The following section of this paper provides a review and in-depth analysis of the findings presented in this chapter. There is an aim to draw their explanatory value to the hypothesis initially set out in this study. Key patterns and trends are highlighted, and connections are drawn to the theoretical perspectives of routine activities and lifestyle theories. The strength of these theories in explaining victimization across the homeless population is examined. Connections and comparisons are also drawn to the current literature on the challenges of mental health and victimization faced by homelessness in Canada.

6. DISCUSSION

This study sought to examine the relationship between mental health, guardianship, and victimization experienced by the homeless population with mental health conditions. A key objective was to better understand how mental health conditions affect the likelihood of victimization of those experiencing homelessness. In taking an intersectional approach, this study aimed to determine whether heightened levels of physical guardianship mitigate the high rate of victimization experienced by this population, particularly with respect to stable housing, available to many subjects in this study under the auspices of the at-home/chez-soi program. Overall, the findings produced in this study suggested that there is in fact a relationship between mental health, guardianship, and victimization. Analyses largely supported the hypotheses that greater mental health challenges contribute to a higher propensity of victimization. Although the results illustrated that greater levels of stable housing did have a mitigating effect on victimization at the 12-month time period, serious mental health issues were found to be a considerably stronger predictor of victimization than guardianship through stable housing.

The results of this study contribute to the existing body of literature that recognizes the disproportionately high rates of victimization among homeless individuals (Garland, Richards, and Cooney, 2014; Gaetz, 2004; Rattelade et al., 2014; Edalati et al., 2020). The findings are also consistent with past studies that show a large portion of the homeless population in Canada experience a very high prevalence of serious mental health issues (Rattelade et al., 2014). This study produced findings in an area that has not been widely examined in regard to Canada's homeless population, an empirical and theoretical examination of the notion of guardianship and homelessness. Studies that have considered guardianship tend to simply assume that due to the nature of homelessness, these individuals are generally exposed and vulnerable. Analysis of the at home/chez-soi data showed the housing status amongst homeless is variable, but that stable

housing provided to homeless individuals has a mitigating effect on rates of victimization. Analyses illustrated that the relationship between guardianship and victimization was less consistent than mental health effects, but it was found that increased levels of stable housing did reduce the likelihood of victimization. Overall, the findings produced by this study support the hypotheses that lower levels of guardianship and higher degrees of mental health issues contribute to the higher rates of victimization experienced by the homeless population, but there was still much variability in victimization rates not explained.

There have been estimates that between 20% and 50% of homeless adults live with a severe mental health condition (Roy et al., 2014:739). The participants in this study fell within this range. Over two thirds (37.1%) of individuals in the sample population were included in the intensive case management stream of the program in comparison to 17.1% who were in the assertive community treatment group. These figures reflect that a large portion of Winnipeg's homeless population live with severe mental health concerns. Mental health measures at the univariate level illustrated a very high prevalence of severe mental health issues across the sample population. All four mental health measures (GAIN, CIS Physical, CIS Psychological, and the CIS) consistently showed at baseline and 12 months that a large bulk of the homeless population experienced high levels of mental health issues. Substantial portions of the sample pool scored in the upper ranges of these scales. For example, close to 70% of participants had a score of 5 on the Lifetime GAIN measure, while 79% received a score of 31 and higher on the CSI. GAIN-SS scores of 3 and higher indicate a high probability of a mental health diagnosis, CSI scores of 30 and higher are indicative severe mental health concerns, the highest CSI score recorded in this population was 70, with 79% of the sample receiving scores above 30. The severe mental health issues across this sample proved extremely prominent in later analysis.

A high degree of victimization was indicated across the sample. Prevalence of victimization ranged from 40.6% to 55.4% at the baseline. These figures reflect a very high rate of victimization. The high prevalence and significance of assault across this population reflects the findings within the current literature on homeless victimization. Assault has been identified as a predominant type of victimization experienced by those facing homelessness (Allen and McCarthy, 2018).

These findings highlight the fact that those facing homelessness are in a constant state of stress, dehumanization, and danger (Fitzpatrick, LaGory, and Ritchey, 1999). The next section of the paper discusses the control variable findings and links them to the broader literature and then outlines some unexpected findings. I then review the hypotheses put forward in this study and the key theoretical implications for routine activities and lifestyles perspectives

6.1 Control Variables

Throughout the literature, demographic characteristics such as age, gender, race, marital status, employment status and education have been identified as significant correlates of victimization (Meithe and Meier, 1993; Lee and Schreck, 2005; Edalati, Nicholls, Crocker et al., 2017; Miethe, Stafford, and Long, 1987) and hence they were used as control variables in this study. As noted earlier, routine activities and lifestyles theory hypothesize that differences in victimization are a result of variation in daily activities across demographic groups (Cohen and Felson, 1979; Hindelang et al., 1978 in Bunch, Clay-Warner, and Lei, 2012:1182).

At the univariate level it was found that the majority of this sample population were Indigenous (72.9%), male (64.4%), and aged 31 to 45 (41.9%). Moreover, the sample population was found to have a low degree of education (46.6% did not complete high school), a high level of unemployment (91.3%), and most participants were single (70%). Overall, demographic

variable results were in the expected direction, in which age, gender, ethnicity, marital status, and employment were all significant predictors of victimization at the baseline.

At the bivariate and multivariate level age yielded consistent and expected results, in which younger individuals experienced greater likelihoods of all three types of victimization. This finding is consistent with much of the literature examining victimization across the homeless and domiciled populations (Turanovic, 2015; Bunch et al., 2012:1182; (Hindelang et al. 1978, Sampson and Lauritsen, 1994).

Gender showed more inconsistent results in comparison to age. In bivariate analysis, being female was a significant predictor of being victimized at baseline, at 12 months the males were more likely to be victimized, though this was not a statistically significant finding. At the multivariate level, females showed a greater association with victimization than males across both baseline and 12 month time periods. Indigenous status was consistently in the expected direction across bivariate and multivariate analysis: Indigenous individuals were more likely to experience victimization than non-Indigenous. The exception to this occurred at 12 months, in which Non-Indigenous individuals were more likely to experience robbery, though this was not a significant finding.

In general, it was found that single individuals were more likely to be victimized. There was statistical significance in this finding at the bivariate baseline stage for threatened and assault as well as multivariate at 12 months. The exception to this occurred at baseline and 12-month multivariate analysis, in which non-single individuals were more likely to be threatened and assaulted at baseline and robbery at 12 months. Education showed inconsistent results. Education was consistently positively correlated with victimization at bivariate but did not have significant findings with victimization at the bivariate level. At the multivariate baseline analysis,

education had a negative relationship with victimization, in which lower levels of education were a significant predictor of all three types of victimization. At 12 months, there were inconsistent results. Education was a positive and significant predictor of threatened and assault, while showing a non-significant and negative relationship with robbery.

  Employment as a control did not show effects in the expected direction at baseline. Employment was hypothesised to reduce the rate of victimization experienced by this population. Instead, employment was often found to be a significant and positive predictor of victimization. The exception to this was 12 months robbery, where employment was a significant predictor in reducing the likelihood of being robbed. The concepts of exposure and target attractiveness can also provide an explanation as why employment was often a significant predictor of victimization. It was hypothesized that having employment would reduce victimization, as a steady job provides a safe and stable environment that reduces the amount of time spent on the streets and interacting with potential offenders. This explanation may be present in the finding for robbery, but the idea that leaving your house routinely places oneself in a position that is in closer proximity to high crime areas, thus increasing exposure to potential victimization, is also viable. Due to the nature of the sample population, it is assumed that individuals who were employed either walked or took public transport for their places of work. It is also likely that their places of work are concentrated in Winnipeg's downtown core due to the proximity of the housing provided by HF and social service agencies for the TAU group where much of the homeless population in Winnipeg resides (control group). Thus, consistently leaving one's home places them in greater proximity to high crime areas. Caution must also be taken in this finding because of the small number of employed cases (3.2%), making them quite an atypical subgroup in the study.

Surprisingly, the program in which individuals were enrolled in (at home/ chez soi versus the control group) was often a significant correlate of victimization in the opposite direction. It was hypothesized that those partaking in the treatment group (at home/chez soi) would experience less victimization than the control. This was due to the provision of enhanced housing and mental health services provided by the program, as the control group received only regular services. The provisions of housing and mental health services were hypothesized to decrease the propensity of victimization due to the reduced degree of exposure to high crime areas and potential offenders. The additional mental health services were thought to provide needed support that would reduce the target attractiveness of individuals. The predictive strength in the opposite direction indicated that although exposure may have been decreased and mental health services may have had a positive impact at an individual level, victimization remained high. This can be explained as the housing provided by the HF model was located in Winnipeg's downtown urban core, an area with a concentrated high crime rate. Although participants were provided more stable housing and thus reduced the amount of time spent on the streets, this decrease in exposure was not enough to significantly decrease the high rate of victimization. On the other hand, although participants received mental health services, the degree, quality, and participation in these services is unknown. What is known is that this population has severe and deep-seated mental health issues that are not simply resolved with the provision of mental health services, thus their attractiveness as a target may remain.

Overall, the control effects were not particularly strong across the multivariate models. Despite the statistical significance of many predictors present throughout the baseline and 12-month models, there was minimal explanatory power for the variation in the high rates of victimization. Throughout these models the weak R^2 results were consistent, ranging from only

4% to 8% variance explained. The strongest model, 12-month assault, provided only 8.2% of the explained variance in victimization. Additionally, there were minimal increases in the explained variance across the two separate time frames. These figures signal that more research is warranted to fill this gap.

Despite the unexpected and inconsistent results amongst controls, mental health and housing results widely supported this study's research hypotheses. The three central hypotheses that guided this study are now discussed in detail and connected to the extant literature and theoretical foundation utilized in guiding this research.

6.2 Hypotheses

6.2.1 Hypothesis One: Mental Health

The mental health and victimization relationships presented in this study were largely consistent with the literature, which outlines that people living with mental health conditions are overrepresented among the homeless in comparison to the general population (Goering et al., 2011:2). Furthermore, mental health represents a significant vulnerability for those experiencing homelessness, and there is a disproportionately high rate of crime experienced by homeless individuals (Garland, Richards, and Cooney, 2014; Gaetz, 2004; Rattelade, Farrell, Aubry, and Klodawsky, 2014; Edalati, et al., 2020).

The hypothesis that more serious mental health issues result in a greater prevalence of victimization was supported at the bivariate and multivariate levels of analysis. Bivariate analysis allowed for the examination into potential relationships between mental health and housing variables with victimization. Spearman's Rho correlations indicated that significant positive associations existed between victimization and mental health conditions. At this level, baseline victimization correlates were first analyzed, and 12-month measures were introduced to

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assess, longitudinally, the effects of housing and victimization. The relationship between mental health and victimization showed significant results across both time periods. The Colorado Symptom Index and the Global Appraisal of Individual Needs indicated relationships with victimization that were in the hypothesized direction. Higher scores indicated more challenges and higher rates of victimization. There were slight differences in the stability of effects, as significance levels varied across the two time periods, but the results indicated that higher degrees of mental health issues were correlated with victimization at baseline and over the course of the one-year follow-up period. The exception to this was the CIS Physical and CIS Psychological, Integration Scale results.

Across the two CIS assessment tools, higher scores indicate higher levels of community integration. The Psychological scale assesses the sense of belonging and emotional attachment of those with mental health issues to the community and neighbours, while the Physical scale assessed presence in the community outside the home. It was hypothesized that there would be a negative relationship between the CIS scales and victimization, in other words, it was expected that as individuals have greater and stronger relationships with their neighbours and neighbourhood, victimization would decrease. CIS Physical results showed consistent findings in the baseline NBR into the 12-month measures that were in not the expected direction and was generally significant (the exception to this being baseline assault). CIS Physical results indicated that as assessment scores increased, so did the likelihood of victimization. Thus, higher levels of physical presence and integration in the community contributed to higher levels of victimization. These results may indicate that although higher levels of community integration indicate a positive relationship with one's community, greater integration and presence outside the home can result in greater propensity to victimization. Consistent with routine activities theory,

spending more time outside domiciled areas results in greater proximity and exposure to potential offenders. This notion is also substantiated as much of the housing provided by the HF program is located in Winnipeg's core and urban areas.

Despite the majority of the findings being in the expected and hypothesized direction, there was one relationship that continued to show inconsistent results and often leaned towards the opposite direction. It was initially hypothesized that greater scores on the CIS Psychological Scale would indicate a decreased propensity to victimization and this was true at the bivariate and multivariate level at baseline. At 12 months the CIS Psychological showed weak, unstable effects for being threatened or assaulted, and a weak positive association with robbery. This was not in the expected direction. as it was hypothesized that greater community sense of belonging and attachment to one's community (psychological) would equate to a decreased experience of victimization. The CIS Psychological variable was conceptualized as a measure of social guardianship. Thus, it was thought this relationship would be in the negative direction. However, similarly to the CIS Physical, perceived social associations with others may have produced limited protection, and even incurred greater risk of victimization. In any event it was not as consistent or strong a predictor as the GAIN or CSI.

The strongest and most consistent relationships with victimization occurred between the CSI and the Past Month GAIN scores. These findings showed that more serious mental health issues were consistently significantly associated with all three types of victimization: being threatened, assaulted, or robbed. The strong effects of CSI scores on victimization continued into multivariate analyses, while Past Month GAIN scores tended to decrease in their strength and significance, when controlling for other factors.

In nearly all NBR victimization models (threatened, assault, and robbery), the CSI was the strongest victimization predictor across both time periods. Standardized coefficients for the CSI ranged from a minimum of .317 (assault 12 months) to a maximum of .714 (baseline robbery). CSI effects on victimization were stronger at the baseline than at 12 months. At the multivariate level Past Month GAIN scores were a significant predictor for threatened and assault at the baseline, at 12 months these scores were only a significant predictor for number of times assaulted. Thus, the GAIN findings were much less consistent in comparison to the CSI. Additionally, CIS Physical scores were a significant predictor for the number of times people were threatened and being robbed at the baseline. At 12 months, the scores were a significant predictor for all three types of victimization and tended to show stronger and more stable effects than illustrated at the baseline.

The consistent and significant findings that showed lower levels of mental health are related to high levels of victimization give partial support for the association of target attractiveness with victimization, as conceptualized by routine activities theory. An attractive and suitable target is presented to potential offenders in the form of the vulnerabilities incurred by those with severe mental health issues. Consistent with RAT, the relationship between higher levels of mental health and victimization showed that the homeless make vulnerable and suitable targets due mental health challenges.

Findings at baseline and 12 months show that mental health represents a serious and significant predictor for the likelihood of victimization. Even within the marginalized homeless, mental health makes a difference. As noted previously, there was a minimal amount of variance explained across these models, ranging from 4-8%. Despite the lack of variance explained by the

NBR models, the significant results still provide valuable insights regarding the high prevalence of mental health issues and victimization across Winnipeg's homeless population.

6.2.2 Hypothesis Two: Housing

Drawing from the literature, it was hypothesized that the housing provided to the participants in this study would increase guardianship by providing a secure and stable setting. This is due to the assumption that housing would provide individuals the necessary refuge needed to be proactive about taking protective measures against victimization (Gaetz, 2010). The hypothesis that greater amounts of time spent stably housed decreases the likelihood of being victimized was largely supported by bivariate and multivariate analyses. Although not as strong as the mental health effects, greater amounts of time spent stably housed did show a significant inverse relationship with victimization. This decrease was assumed to be caused by the fact that placing individuals in a secure setting would increase guardianship while simultaneously reducing exposure, consequently assisting in the avoidance of victimization.

Univariate analysis supported the hypothesis that this population was highly marginalized, with low socioeconomic resources, substantial levels of severe mental health concerns, high rates of victimization, and low levels of guardianship in the form of stable housing. Univariate analysis illustrated that the sample was housed in various ways (e.g., couch surfing, shelters, on the street) and that the vast majority (88.1%) of participants had spent no time in stable housing at the baseline level.

In bivariate analysis, days in stable housing was positively correlated at the baseline, but at 12 months was only negatively correlated with assault victimization. Stable housing saw more stable, significant effects at the multivariate level, in which there was a marked increase in the effect of stable housing on victimization at 12 months. As previously noted, guardianship effects

of having your own residence were less consistent and strong in comparison to mental health

measures. This was particularly true at the baseline multivariate analysis. Despite this, at 12

months the housing variable, net of the effect of other predictors, shifted in the expected

direction and illustrated significant effects.

At baseline, there were inconsistent results. For threatened and robbery, the relationship

with the number of days in stable housing was positive and significant. This was not in the

expected direction, as more stable housing was thought to lead to stronger guardianship and less

victimization. On the other hand, the relationship between assault and housing was in the

expected direction but was not significant. This may have been due to measurement issues, as the

housing measure at baseline comprised only the past 3 months, not 6 as was available at 12

months. An aggregate of 6 months might be a more effective measure of housing.

As mentioned, effects became more consistent at 12 months. The number of days spent in

stable housing had a negative and significant relationship with the number of times threatened,

assaulted, and robbed. As such, these results were consistent with the hypothesis that more stable

housing should decrease rates of victimization. At 12 months, the strongest relationship between

housing and victimization was threatened. The standardized effects of stable housing ranged

from -.236 (robbery), -.237 (assault), to -.552 (threatened), indicating that all types of

victimization saw moderate effects with stable housing.

In sum, the results presented in this study provide evidence to support the claim that

increased levels of physical guardianship reduce the likelihood of victimization and the widely

held sentiment that individuals who experience longer periods without housing are especially

vulnerable to victimization (Lee and Schreck, 2005). Previous studies have also theorized this

relationship, in which mental health issues put individuals in a place of being weak, disabled, or

disoriented which increases their attractiveness as a target of victimization (Lee and Schreck, 2005; Garland et al., 2014). These findings also support key sentiments of lifestyles theory, that higher risk lifestyles increase the likelihood of victimization. Living a homeless lifestyle presents a risk due to the higher degrees of exposure to dangerous places, times, strangers, and situations where there are higher risks of victimization (Meithe and Meier, 1993:466). Such risk is exacerbated by living with mental health issues.

The negative relationship between victimization and housing has also been found in studies examining the at home/chez-soi dataset. In their study, Edalati et al., 2020 found that individuals who received housing via the HF model, saw a significant (18%) reduction in the odds of experiencing victimization over the course of their two-year study period (Edalati et al., 2020:6). Similar to the hypothesis presented in this study, Edalati et al. (2020) concluded this reduction was potentially attributable to the safer, stable, and secure/private living situations of individuals, although they accord this impact to the HF program (p.6), and do not measure days in stable housing.

The HF model was able to provide more stable housing to the treatment group than the control group (62.4 days to 27.4 for the TAU, t=9.434, 429 *df*, p<.000), but this did not result in substantial differences in victimization. Although accommodation provided some benefits, other factors conceptualized by routine activities theory and lifestyles theory can help explain why there was not a larger effect, and why the at-home/chez-soi group did not show substantial reductions in victimization.

Proximity and exposure, target attractiveness and general lifestyle are not simply negated by an increase in guardianship. This was evident as victimizing events continued despite being housed. As previously noted much, if not all, of the housing provided by the HF model was

located within inner-city core and urban areas. As these areas experience greater crime rates, the exposure and proximity to high risk areas was not reduced enough through housing to mitigate risk of victimization. These results also indicate that mental health, housing, and victimization do not occur in a vacuum, rather these factors have an interconnected relationship that contributes to the high-risk nature of homelessness.

Despite the provision of housing, there are certain lifestyles characteristics and activities that place homeless individuals in dangerous situations. For example, HF housing is situated in low cost/high crime areas, where they will have contact with many offenders. The HF model is based upon the notion that housing is the primary foundation in which the homeless populations can be transitioned into a domiciled life. Despite this, housing provided by the HF model is concentrated in high crime areas. A barrier to the success of HF has been identified as the lack of affordable housing (Gaetz, 2010), a consequence of this is that much of the affordable housing that is available is located in downtown urban areas which often see a higher concentration of crime.

6.2.3 Hypothesis Three: Mental health Issues and Housing Intersect to Exacerbate Victimization

Overall, the research project was guided by the hypothesis that greater degrees of mental health issues and lower levels of housing intersect and contribute to the high prevalence of victimization faced by those experiencing homeless. The results of this study largely support this intersectional assumption. The findings at the bivariate and multivariate level consistently showed a connection between lower levels of mental health and greater propensities towards victimization. Even when controlling for other factors at the multivariate level the significance of this relationship was confirmed. As previously highlighted, housing effects were less consistent

than mental health measures, but this does not negate the assumption that these two factors intersect and compound the high-risk nature of homelessness.

The results that support this intersectional hypothesis the strongest were illustrated at the multivariate level. Bivariate analyses simply showed which variables had associations and the strengths of these. Multivariate analyses supported the notion that housing, mental health, and victimization do not occur in a vacuum. Rather, it was found that mental health issues, lack of housing and safe space, and victimization intersect and exacerbate these issues. At the bivariate level the results indicated significant associations between mental health, housing, and victimization. At the multivariate level these relationships largely remained significant and indicated that while holding the other variables in the model constant, mental health measures and stable housing did produce findings in the hypothesized direction. At the multivariate stage, the strongest negative binomial regression model was for the outcome of 12-months threatened, as it showed the most consistent effects across mental health and housing while controlling for other variables. Additionally, in this model, nearly all variables included in the equation were significant predictors of being threatened. The exception to this was being employed, at home/chez soi participation, and Past Month GAIN scores. These predictors also had inconsistent effects across the other victimization results as well. These findings are generally consistent with the results from the bivariate analyses, in which employment and at home/chez soi saw little association and no significance with victimization.

Although this study took an intersectional approach and hypothesized that both housing and mental health concerns contribute to victimization, the results showed that mental health has a greater effect on the likelihood of victimization. As previously noted, mental health issues were a much more consistent and significant predictor of victimization in comparison to stable

housing. This finding may indicate the other catalysts of victimization as put forward by RAT and LST outweigh the provision of physical security. Previous efforts, such as HF, as indicated by the name, have prioritized housing over mental health supports. The finding that mental health was a much greater predictor of victimization indicates that housing is not enough to mitigate victimization and other forces are present in this intersectional relationship. Although the results do support the hypothesis that lack of housing increases the opportunity for victimization, factors such as proximity, exposure, and target attractiveness are still very critical to risk. Factors identified in the lifestyles theory also play a significant role in likelihood of victimization, particularly demographic characteristics and the location in which individual's daily lives and activities are situated.

6.3 Theoretical Implications

The tenets of routine activities and lifestyles theory were partially supported by this study. Empirical evidence of the influence of guardianship, proximity, exposure, and target attractiveness was found to explain the high rate of violent victimization in the homeless community. This paper used the primary purpose of the HF initiative (secure residence) to assess the benefits of greater guardianship, operationalized as stable housing. Micro/personal factors were operationalized as mental health status, while macro/structural factors were operationalized as variables such as housing status. Utilizing both RAT and LST offered a dualistic theoretical underpinning to this study. This use of this theoretical grounding can guide future research in acknowledging that the occurrence of victimization across the homeless population is a combination of individual (age, gender, mental health) and environmental (housing) factors. Several important theoretical findings resulted from this analysis.

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Bivariate and multivariate results showed that stable housing did reduce the likelihood of experiencing victimization. Overall, however, the effects were weak and showed that even with better physical guardianship, high rates of victimization were still possible. Proximity and exposure to crime were obviously important factors, given that the at home/chez soi residences, indeed interim housing even for the control group, were all situated in Winnipeg's high crime inner city. People do not stay indoors at all times and the day to day activities of study subjects outside of their residences still brought them into contact with offenders in their high crime community. Further support of the exposure argument can be found when considering the positive effects of the CIS Physical, wherein more frequent contact with others was linked to higher scores and an increased likelihood of victimization.

These arguments also partially support lifestyle theory, which indicates that one's regular lifestyle and contact with people and places is linked to victimization. Whether involved in the HF program or in the control group, the behaviors exhibited on a regular basis at baseline were not necessarily extinguished by involvement in the program or other supports 12 months later. Lifestyles can become deeply embedded, the high-risk nature of the lifestyles of the homeless are not simply dissolved with the provision of housing. Particularly when the housing and employment are situated in a high crime area and an area in which their pre-domiciled life was situated. As theorized by LST, differences across various lifestyles are relevant because they relate to the varying degrees of exposure to dangerous places, times, strangers, and situations where there are higher risks of victimization (Meithe and Meier, 1993:466). As much of the housing provided to the homeless continues to remain in low-cost units in high crime areas, little is done to mitigate this exposure by simply providing housing.

Even with provision of more housing, study subjects remained attractive targets of victimization due to their high prevalence of mental health issues, which increased vulnerability. Some study participants also appeared to become more attractive targets through activities related to social cohesion (CIS Physical) and employment, which were both mostly positively correlated with victimization.

Although the results of this analysis showed that housing was not the most consistent nor strongest predictor of victimization, housing did significantly decrease the likelihood of victimization. This has important implications for the notion of guardianship and victimization. This supports the idea that housing must be provided to those experiencing homelessness. What these findings also indicate is that housing alone is not enough, but that affordable housing policy efforts should focus on providing housing that is located in safe environments (to reduce exposure and proximity to crime) and necessary supports. Findings also illustrate the importance of lifestyles theory when considering victimization across homeless populations. The finding that housing was not the most significant predictor of victimization indicates that proximity to high crime areas and certain lifestyle factors and individual activities may play a more dominant role in victimization than access to housing. Simply having a place to stay was not enough to significantly reduce risk for many study participants.

7. CONCLUSION

This study examined the relationship between mental health, guardianship, and victimization experienced by the homeless population. The disproportionate rates of victimization and prevalence of mental health issues among those facing homelessness have been broadly acknowledged across the literature. It has been found that homeless populations experience more victimization than domiciled persons. Furthermore, a key finding across the literature is that mental health often plays a cyclical role in the lives of those facing homelessness, whereby serious mental health concerns are a risk factor to becoming homeless and often function to keep homeless individuals marginalized. What has not been as widely examined in the literature is how these two factors are empirically related. Empirical analyses examining the relationship between these two factors are limited, despite their acknowledged interconnectedness. This study examined the effect of varying degrees of mental health on victimization. In adding another layer to this research to account for the intersecting challenges faced by this marginalized group, this study also examined the effects of housing and other forms of guardianship. Guardianship is conceptualized as the presence of factors and resources that can prevent or inhibit victimization (Lynch, 1987; Cohen and Felson, 1979). This study examined a fundamental and central measure of guardianship, housing. Although the consideration of housing may seem counter-intuitive in a study examining homelessness, the nature of this dataset allowed for the examination of the effects of accommodation on victimization. In incorporating the concept of guardianship, a central aim of this study was to assess whether or not a lack of stable housing created a situation where because less guardianship existed, and more victimization would ensue because the homeless are vulnerable targets. Using days in stable

housing data from at home/chez soi, this study could see if more housing days increased guardianship and resulted in a reduction in victimization.

This study took an intersectional approach to examine the effect of mental health and guardianship on the incidence of victimization. Examining just one of these issues, whether it was housing and victimization, or mental health and victimization, provides only a limited perspective on the challenges faced by the homeless population. Taking this intersectional approach allowed for a broader examination into the difficult lifestyle experienced by the homeless population with serious mental health challenges. Examining both mental heath and housing variables allowed for the assessment of the relative strength of these factors as predictors of victimization, while controlling for other relevant (demographic) variables identified in the literature.

In taking this approach, important relationships were uncovered. For instance, a key finding was that mental health challenges were consistently a stronger predictor of victimization than housing. This supports the idea that simply providing housing to homeless individuals is not enough; accommodation does not remove this population from a situation characterized by marginalization and risk. This finding can be utilized in future policy creation and implementation. Targeting mental health challenges across the homeless population should be a priority when drafting policy, with the focus being on both available and accessible services. A lack of information and overall resources are key barriers for the homeless to access services (Canavan, Barry, Matanov et al., 2012; Homeless Hub, 2019c; Institute of Medicine (US), 1985).

This study advanced what is currently known about victimization across the homeless population. Using at home/chez soi data, the results of this study showed that in addition to the high rate of victimization experience by this population, mental health conditions are strong

predictors of victimization. Housing was not as strong a predictor for the decrease in victimization as anticipated. This suggests that guardianship may not be the strongest and most effective mediator of victimization. Other factors, such as exposure and proximity, also contribute to the high rates of victimization of the homeless population, as well as the activities of homeless targets. Future research is needed to uncover other contributors to the high prevalence of victimization experienced by those facing homelessness in an effort to prevent and reduce victimization.

Across mainstream media and academic literature, there has been a tendency to focus on the criminality of homeless populations, with little consideration given to the high prevalence of victimization across this group (Novac et al., 2006 in Roebuck, 2008.). Prominent Canadian homeless researcher Stephen Gaetz has noted that research is a key component of mitigating and ending the experience of homelessness and the associated challenges. Consequently, contributing to the body of knowledge on this social issue is imperative in better understanding and responding to the unique issues experienced by the homeless population. In seeking to contribute to this body of knowledge, this paper examined the effects of housing status and mental health issues on the prevalence of homeless victimization. The results of this study provide a deeper understanding of how mental health conditions and different degrees of housing affect the prevalence of victimization of the homeless. As such, the findings produced by this research provided a range of significant contributions across unique paradigms. This section discusses both the scholarly and practical implications of study findings, as well as some of the study limitations.

7.1 Theory

The consistent significant findings of mental health and housing associations with victimization showed support for the hypotheses that greater levels of mental health issues and decreased guardianship contribute to the high rates of victimization experienced by the homeless population. As such, the results of this study provide support for routine activities and lifestyles theory. Though a widely applied theory in studies examining victimization (Garland et al., 2014; Hoyt et al., 1999; Lee and Schreck, 2005), the applications of RAT and LST to examine and explain the victimization of the homeless within a Canadian context has been limited. As such, this project provided theoretical contributions that are focused on a Canadian context in addition to contributing to the pre-existing body of literature on RAT. This research also offered a distinct theoretical contribution as there have been few studies that have conceptualized housing status as guardianship within the notion of routine activities theory.

As theorized by lifestyles theory, differences across lifestyles relate to the varying degrees of exposure to dangerous places, times, strangers, and situations where there are higher risks of victimization (Meithe and Meier, 1993:466). Meithe and Meier (1993) note that hypotheses from lifestyles theories have not been adequately examined. Consequently, as this research examined a hypothesis stemming from lifestyles theory, this project also contributed to the theoretical literature. Future research can be undertaken with homeless populations to utilize a qualitative study design to uncover and better understand different lifestyle factors, beyond demographics, mental health or housing, that contribute to victimization across homeless populations (see below). There has been minimal research that applies both theoretical perspectives to explain the high prevalence of victimization across the homeless population. The use of both RAT and LST acknowledges that victimization goes beyond factors at the individual

level. Using a combination of these opportunity theories provides the opportunity to examine and explain both micro (individual) as well as macro (structural) factors (Garland et al., 2014).

7.2 Methods

In addition to these theoretical and empirical contributions, this study also offered methodological contributions. Within the literature on secondary analysis it has been acknowledged that, despite its limitations, this type of data analysis is an under used research methodology (Johnston, 2014). As this research utilized a secondary data analysis research design, this project offers important contributions to the body of methodological literature on secondary analyses. This study also contributes to the body of literature that has utilized NBR in examining over-dispersed victimization data. Currently, there is a small but growing amount of empirical research that has utilized this statistical test to explain victimization (Parks, 2015; Huang and Cornell, 2012; Randa and Wilcox, 2010). As victimization rates are often more greatly felt in disenfranchised and marginalized populations, populations that tend to have over-dispersed data, the use of NBR provides a useful method for more accurate statistical analyses.

Moreover, there is currently a wide range of published literature that has resulted from the at home/chez soi study (Goering et al., 2011; Aubry, Nelson, and Tsemberis, 2015; Hwang, Stergiopoulos, O'Campo, et al., 2012; Macnaughton, Goering, and Nelson, 2012). This research project joins a growing and diverse body of literature that provides a range of different formats and analyses on this rich longitudinal data set. Within that pool of research, this study can provide a foundational basis in which future at home/chez soi studies can build to further the study of homelessness and victimization.

7.3 Empirical

There have been several studies that have utilized the national and Winnipeg data collected by the at home/chez soi project, but these have been primarily psychological and health focused. To provide new insights regarding the homeless population in Winnipeg, this research project undertook a victimological approach in assessing the relationship between housing status and mental health on victimization. As such, this research project is both relevant and highly significant to the situation confronting homelessness within a local context. This study advanced knowledge as the literature lacks a victimological inquiry into these issues within a Canadian context. Salient and significant predictors of victimization were identified, for example it was found that that higher scores on the CSI had a significant and consistent effect on the likelihood of being victimized, and this was more stable than other measures such as the GAIN or CIS. These findings can help inform practitioners in future using measurement tools to identify at-risk individuals as well as to better predict and prevent future victimizing events. Another important empirical contribution was the examination of guardianship. As previously mentioned, studies examining guardianship among the homeless tend to lack nuance, in contrast this study assessed the number of days in stable housing. Through the examination of number of days spent in stable housing, this study empirically examined and showed that the provision of private and secure space decreased the likelihood of victimization.

Rattelade et al. (2014) outlines that much of the literature examining homeless victimization focuses on the experience of physical, sexual, and emotional abuse (p.1608). This research examined three different types of victimization including being threatened, assault, and robbery. Several important empirical findings were presented in regard to these three types of victimization. Overall, a key empirical finding was that the homeless population experiences an

extremely high rate of victimization. The results indicated at the univariate stage suggest that Winnipeg's homeless population experiences victimization at a similar, if not higher rate than estimated in previous studies (Roy et al., 2014, Simons, Whitbeck, and Bales, 1989 in Roebuck, 2008:16; Tong et al., 2019). Although already noted widely across the literature, this finding is made more salient because it provides a local context and reiterates that more must done to mitigate the high-risk situations that Winnipeg's homeless population experiences. These victimization findings also reiterated the high rate of violence experienced by the homeless, and brought forward more recent estimates of how much victimization is experienced

Demographic differences in the likelihood of victimization may result in differences in the personal lifestyles of victims. Several demographic variables that proved to be predictors of victimization were identified in this study, the central of these being age, gender, and ethnicity. As such, this study also contributes to the body of literature examining lifestyles theory and correlates of victimization.

7.4 Policy Implications

This research aimed to inform policy in a way that can reduce the high rate of victimization of the homeless. In addition to informing policy makers, this research can guide services and programs that deal with the homeless population to help them better address what factors, whether they be micro or macro, contribute to the high prevalence of homeless victimization. Frankish et al. (2005) asserts that research on homelessness is both valuable and essential for policymakers, program planners, service providers, and community groups (p.23). These authors argue that information stemming from research on homelessness plays an important role in public education and awareness campaigns, policy decisions, resource allocation, program development, and program or policy evaluation (p.23)

In April 2019, the federal government of Canada began rolling out a new housing-based policy for those experiencing homelessness. Encompassed under the National Homeless Strategy, the new Reaching Home policy has initiated the phasing out of the previous Homeless Partnering Strategy policy. Thus, the current policy that governs all levels of government dealing with reducing overall homelessness as well as its risk factors, is in a new and transitionary phase. As one of the key focuses of this new policy is to reduce the harms related to the state of being homeless, the findings produced by this study can contribute to this new policy by informing key actors about the different risk factors that are associated with high rates of victimization. This policy, although federally constructed, leaves much of the organization, and implementation up to local groups. Consequently, the results produced by this study can assist in the implementation of a homeless housing policy as it occurs in Winnipeg. Moreover, as this program is set for funding over the next ten years, this research project can provide both valuable and timely information that can be utilized throughout the implementation and adoption of this policy and future homelessness-based policy.

As noted, the Reaching Home Strategy is a nationally created policy but the funding for housing efforts are utilized and implemented locally. Due to the high prevalence of victimization across Winnipeg's homeless population, efforts under the Reaching Home Strategy can take further measures to address this victimization. In 2019-2020, End Homelessness Winnipeg undertook the role of Community Entity for the Reaching Home Strategy in Winnipeg. Within their 10-year plan to end homelessness in Winnipeg, End Homelessness Winnipeg has negligible acknowledgment of victimization of Winnipeg's homeless population (McKay, 2014). Consequently, the results of this study can provide an evidentiary base that can assist with the creation and adopting of a policy centred on victimization. This study highlighted several

demographic risk factors that indicate higher rates of victimization, such as gender, age and ethnicity.

Although it has been acknowledged that providing housing is an approach for addressing victimization among the homelessness (Roebuck, 2008), the results of this study indicated housing alone is not enough. Unfortunately, much of policy that touches on reducing victimization of the homeless tends to rely solely on housing to reduce victimization. In a report prepared for the Homelessness Partnering Strategy several recommendations were put forward for addressing victimization among the homeless. These included victim assistance for youth in care, educational measures that teach life skills, educating the public, improving mental health services, and investment in the prevention of family and female violence (Roebuck, 2008:32). In sum, these recommendations lack nuance and provide little guidance for the creation of policy that aims at reducing victimization and leaves severe gaps. The reality of the lifestyles lived by those experiencing homelessness is overlooked. The provision of life skills does not negate the fact that much of this population is situated in high crime areas and may be forced to partake in risky survival and subsistence behaviours. This study showed that more research on lifestyles and programming aimed at reducing risky behaviors is needed.

Unfortunately, since that report, little work has focused on providing policy recommendations and implications for addressing the high rate of victimization beyond housing. Consequently, study findings reported here indicate that policy should be targeted at reducing the high rate of victimization amongst the homeless. Currently, there is no national policy that specifically addresses this serious issue. A policy is needed to address the risks and dangers associated with the extreme rates of victimization. Policy within this area needs to recognize the

unique barriers that exist for those experiencing homelessness in mitigating their risk of

victimization but also barriers related to the reporting of victimization.

As noted throughout this section, the results of this study also provide evidence that

housing is not enough to reduce victimization experienced by this population. Policy should be

constructed around the reality that housing does not do enough to remove the particular lifestyle

characteristics that make the homeless more susceptible to victimization. The Reaching Home

policy does not address the high rate of victimization, thus more is required than housing to

mitigate this risk and marginalization. When there is limited policy addressing the victimization

of the homeless population and an over-reliance on housing to address this issue, simply

acknowledging that a "vulnerability to victimization" in not enough to effectively manage and

respond to this issue. In response to the lack of focus on victimization and the factors that

characterize the high risk nature of homelessness, the results of this study highlight the reality of

the lifestyles as well as exposure and proximity to crime that must be addressed in any policy

that aims to mitigate victimization of the homeless.

7.5 Limitations

Several of the limitations present in this study are inherent with the use of a secondary

data methodology (Cheng and Phillips, 2014; Doolan and Froelicher, 2009). Using an existing

data set means that the variables have already been determined. Key among these limitations are

issues pertaining to measurement and (ex)inclusion of potentially valuable variables. The lack of

inclusion of different types of victimization is a central limitation of this study. In particular, the

original data focuses on violent victimization. Consequently, the primary at home/chez soi

dataset lacks the inclusion of the more common but still hurtful offence of theft. Given the nature

of homelessness the experience of theft has been found to be a very common and prevalent form

of victimization among this population. For example, Garland et al. (2014) assert that the majority of crimes perpetrated against the homeless are property crimes (p.296). In their study, these authors found that reports of property and violent victimization, such as assault, were almost equal (p.296). It was also found that a large portion of violent victimization, such as assault, experienced by the homeless was committed to obtain items of value (p.296). The lack of the inclusion of theft limited the explanatory power of the data analysis and limited the ability to better understand the full scope of victimization experienced by the homeless. Brassard and Cousineau (2000) found that theft, assault, and shelter violence are the most common forms of victimization experienced by the homeless (Brassard and 2000; Fischer, 1992 in Roebuck, 2008). Accordingly, the inability to examine the prevalence of theft across this population was a central limitation of this study.

Another limitation encompasses a lack of specificity in variable definition. The data utilized in this study had one definition of assault and it was quite broad. The assault was defined as being either hit or attacked, in which "attacked" was defined as anything from being "hit, slapped, pushed, or grabbed to being shot or beaten". Clearly this definition of assault encompasses a broad range of assaulting acts. The Criminal Code of Canada identifies several different forms of assault based on severity and circumstances of the victimizing event. Utilizing a narrow definition of assault would have provided a more concrete understanding of the type of victimization experienced by this population

The use of self-report also weakened the study design, as longitudinal studies such as at home/chez-soi raise the issue of recall bias (Kushel, et al., 2003). In this case it can be argued that the benefits of self-report data outweigh the potential limitations. Due to the growing criminalization of the homeless broadly, as well as the criminalization of many survival actions

undertaken by this population it is not surprising many homeless are not willing to report victimization to the police. Previous negative experiences with the police and criminal justice system have been identified as a central reason why homeless individuals do not officially report victimization. The Homeless Hub, a Canadian online information and resource tool, explains that mistrust and lack of action by the police when reporting are key reasons why a large portion of this population chose not to report being a victim of a crime (Homeless Hub, 2015). Homeless individuals also have expressed concerns regarding being treated fairly and adequately protected by the police (Novac, Hermer, Paradis, and Kellen, 2009:9). Thus, the existence of self-report can provide a better understanding of the rates of victimization that reported data does not demonstrate.

Attrition and consequent missing data were a salient limitation present in the study data set. Unfortunately, there was a moderate attrition rate in the at home/chez soi study. Attrition can occur due to several reasons, such as death and/or frailty, withdrawal of participation and a lack of success in contacting study participants for follow up surveys (Young, Powers, Bell, 2006:353), which were all factors in the at home/chez soi study. Attrition is a limitation well documented across longitudinal studies. With longer follow up periods, there tends to be more chances for participant drop out (Gustavson, von Soest, Karevold, et al., 2012; Young et al., 2006). Gustavson et al. (2012) noted that common attrition rates often range from 30% to 70% (p.1). These authors also identified certain groups and/or characteristics of individuals that make them more likely to drop out of a longitudinal study. These authors found that socio-demographic variables, such as low educational level, unemployment, being single, and high risk lifestyle factors such as smoking, high alcohol consumption, and physical inactivity, as well as high levels of psychological distress and mental health problems have all been related to non-

participation and attrition (Gustavson, et al., 2012:2). The participants in this study shared many of the attributes identified by Gustavson and his colleagues. Indeed, longitudinal research examining individuals experiencing homelessness has been shown to suffer from high attrition rates (Veldhuizen, Adair, Methotin, et al., 2014). Veldhuizen and his colleagues (2014) assert that homelessness itself has been shown to predict attrition, whereby longitudinal studies examining homeless population have follow-up rates that fall below 50 % (p.196). In this study, the univariate level of analysis went from 513 cases to a sample size of 439. At the multivariate stage of analysis at 12 months the sample was reduced to 352, an attrition rate 19.8% from the initial study. This is slightly higher than Veldhuizen et al.'s (2014) study utilizing at home/chez soi multi-site data, but is still problematic.

In this study there were also some empirical limitations. A shortcoming of the results presented at the multivariate stage was the lack of predictive strength across the Pseudo R^2. There was only a minimal improvement in the predictive power of the pseudo R^2 between the baseline model and the 12-month model for all three types of victimization. This despite the fact that self-reports were likely more reliable at 12 months then at baseline. Study subjects were interviewed at baseline and 6 months, thus by 12 months would have had a better chance to accurately recollect recent housing and victimization experiences. The Pseudo R^2's at the baseline, generally showed an overall weak model that did not have a substantive increase at the 12 month mark. At 12 months, the pseudo R^2 for the dependent variable of the probability of being threatened remained at 6%. Similar to threatened, the pseudo R^2 for robbery did not show any increase, remaining at 4.0%. Thus, assault was the only type of victimization that saw improvement in the pseudo R^2 in which the pseudo R^2 for 12-month assault was 8.2%, though only an improvement of 0.7%. Overall, more complete explanations of why a homeless person

with mental health challenges might be more or less likely to be victimized in downtown Winnipeg were not found in this study. Future research offers several possible ways to improve insights.

7.6 Future Research

Despite limitations, the empirical results provided by this study give a foundation for future research and the limitations highlight spaces in which future research can occur. Several aspects of this study highlighted the value of undertaking a qualitative approach in assessing victimization across this study sample. In particular, such a strategy would enable a better understanding of how the lifestyles of the homeless might contribute to higher or lower rates of victimization. Taking a qualitative approach could help identify the day to day practices of this marginalized group and how these behaviours might contribute to their victim status. The words and insights of the victims themselves would help to identify patterns of behavior or local social organization in the inner city that could influence experiences of violence. Depth interviews and observation are potential approaches to the study of safer versus riskier day to day activities.

As indicated by the use of NBR at the multivariate analysis stage, the victimization data was very highly dispersed, which was caused by individuals with remarkably high rates of victimization. Although there was an approximate average of 2-3 victimizing events within the last 6 months, a number of individuals experienced victimization well over 50-100 separate events within this time period. Previous victimization has been shown to have explanatory power for high rates of victimization, introducing the notion of a "victim career" (Farrell, Graham, Tseloni, et al., 2001; Tillyer, 2014; Wittebrood and Nieuwbeerta, 2000). Due to the lack of variance explained in the multivariate analysis, undertaking a qualitative research methodology in examining victimization across a high risk sub-sample would provide viable insights into the

prevalence and circumstances surrounding victimization experienced by this sample population broadly.

As previously noted, stable housing may not be the most effective measure in reducing victimization. As we know, the challenges surrounding homelessness itself as well as the lives of individuals experiencing homelessness are extremely complex. As measured in this study, physical guardianship may not be the most effective way to mitigate victimization across this population. Future research can be undertaken to examine the various other factors that have been conceptualized as guardianship. These include, but are not limited to, various sources of social guardianship such as personal relationships as well as other forms of physical guardianship such as whether individuals carry a weapon for self defense (Garland et al., 2014; Gaetz, 2004). Further, homeless individuals with either no experiences of violence or low rates of victimization might also identify methods of safeguarding their peers.

A further area in which future research could take place is the examination of victimization on mental health. This study examined the effect of varying degrees of mental health on the prevalence of victimization. It has been identified in this paper and across the literature that mental health and victimization are interconnected and play a significant role in aggravating each other. This study only examined one facet of this relationship; future research can be undertaken to empirically examine the effects of victimization on levels of mental health concerns. The data utilized in this study offers a strong foundation in which both areas of future research can be undertaken.

7.7 Conclusion

Life for homeless individuals is characterized by a constant of risk, lack of stability, and often is dangerous. Several factors contribute to the high risk nature of homelessness, this study

examined how mental health issues and housing intersect and exacerbate the high prevalence of victimization experienced by the homeless population. This study provided a local examination of how these forces interact across Winnipeg's homeless population. A central aim of this research was to better understand how mental health conditions affect the likelihood of victimization of those experiencing homelessness. This study determined that physical guardianship does mitigate the high rate of victimization experienced by this population. As such, the findings largely supported the hypothesis that that there is in fact a relationship between mental health, guardianship, and victimization, in which greater mental health challenges contribute to a higher propensity of victimization, while stable housing show decreased instances of victimization. A key finding was that the prevalence of serious mental health issues was a much stronger predictor of victimization than guardianship

The results of this research make several contributions, particularly in regard to the extant literature and policy. The quantitative findings of this study contribute to the existing body of literature on homelessness in Canada. Currently in the literature the figures illustrating the prevalence of victimization of the homeless tends to provide estimates. This study provided concrete, self report measures that illustrate the dangerous reality experienced by the homeless population. In addition to providing important figures regarding victimization, this study illustrated that a very large portion of the homeless population in Canada experience serious mental health issues. This research contributes also to the theoretical literature, in which proximity, exposure, guardianship, and target attractiveness on homeless victimization were examined in relation to their role in reducing or increasing the likelihood of victimization.

Due to the local focus of this research, this paper was able to draw deeper connections to these contextual nuances as they occur in Winnipeg. The findings of this study are not general,

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rather they have been examined and put forth within the context of Winnipeg's unique socio-economic and cultural paradigm. As such, this paper is especially significant in its potential contributions to policy on homelessness as it occurs in Winnipeg. This study identified important predictors among Winnipeg's homeless population, the identification of these predictors can support focused and pre-emptive initiatives to help reduce the high rate of victimization experienced across this population. In particular, it was found that lower levels of mental health were a consistent and strong predictor of victimization. Acknowledging this as a key predictor of victimization should inform efforts aiming to remove homeless individuals from their marginalized position, as it was made clear that housing alone is not enough to mitigate victimization. The identification of predictors of victimization even when stable housing has been provided can shed light on whether certain factors have been overlooked when drafting policy and creating resources for those experiencing homelessness.

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