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Hiding in plain sight: A mixed methods analysis of older adults who are reported missing in two Canadian cities

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Abstract

Despite an increased research and policy focus on Canada's aging population, one area which has generated little attention is older adults who are reported missing. This raises concerns as Canada's population ages and there is an increase in the number of older individuals who are reported missing (Statistics Canada 2015; 2016; 2017; 2018). Addressing this gap in the literature, this thesis examines the demographic and situational characteristics of a sample of 616 missing person reports gathered from two Canadian police agencies from 2014 to 2018. This thesis constructs a preliminary understanding of older adults who are reported missing in Canada, as well as identifies a range of demographic and situational factors for going missing. In particular, I identify the demographic and health characteristics of older adults who are reported missing as well as use a series of logistic regressions to examine which factors predict the spatial dimensions of missing occurrences, repeat missing occurrences, and being found within five hours. For the qualitative component, I conduct a thematic analysis of missing person reports (n=616) to identify salient themes relevant to becoming lost for both community and institutional dwelling older adults.

Summary for Lay Audience

In recent years, there has been a rise in the number of older adults, particularly those living with dementia, who have been reported missing across Canada. In response to the growing number of older adults who are reported missing, this research examines the demographic, health and situational characteristics of a sample of 616 missing person reports from two municipal police agencies in Canada from 2014 to 2018. Through a mixed-methods analysis, I construct a preliminary understanding of older adults who are reported missing in Canada, as well as identify a range of demographic and situational factors for going missing. In particular, I identify the demographic and health characteristics of older adults who are reported missing as well use a series of predictive models to examine which factors predict the spatial dimensions of missing occurrences, repeat missing occurrences, and being found within five hours. I then make use of police notes to identify any contextual themes relevant to becoming lost as an older adult.

Keywords: missing older adults, lost persons living with dementia, older adults, persons with dementia, policing, aging and the environment

Acknowledgements

In the summer of 2019 when I was drafting preliminary thoughts for this thesis, I became aware of the case of a person living with dementia who went missing near my home town. Over the weeks I followed this case, I became cognizant of the vast amounts of misinformation surrounding missing person investigations – not just in public discourse – but also among individuals employed in this field. In the months that followed, I learned the research being drawn upon for these investigations in most cases is not Canadian at all but rather international data where the missing person context is notably different. Following this, I shifted the focus of my thesis away from my well-intentioned investigation of police responses to missing persons to a more focused investigation of the realities of going missing as an older adult in Canada. Thank you first and foremost to Dr. Laura Huey for making this change possible and for your guidance throughout my entire two years at Western. Working alongside you and being able to engage in action-oriented research that has the capability to invoke change is an experience I will never take for granted.

I would also like to express my gratitude to the two anonymous police agencies who graciously shared their missing person reports with me. I recognize it takes considerable trust to share the successes and failures which often come with, and responding to, missing persons. Through conversations I had with constables and missing person investigators across Canada, I learned that the one aspect of their work that causes them the most anguish is being unable to locate a vulnerable missing person. They shared with me the profound heaviness that comes with knowing that without a timely resolution a vulnerable person will remain lost and alone for hours or days, and eventually succumb to their missingness. To the police agencies who participated, I thus say thank you – thank you for your pursuit of evidence-based practices and for your profound desire to use evidence to inform change.

Additionally, thank you to Dr. Andrea Willson, my second reader and the quantitative aficionado of this work; I appreciate your expertise and invaluable feedback. To Dr. Tracey Adams and Dr. Aleksandra Zecevic, thank you for generously sharing your time with me and serving on my thesis committee. I would also like to express my gratitude to the Social Sciences and Humanities Research Council for their financial support for this thesis and providing me with the necessary tools to accomplish this endeavor. Lastly, I would like to express my sincerest appreciation to all of the individuals who helped me along the way – my family and friends, mentors and colleagues. This thesis would have not been possible without your immense support. I am so very grateful.

On a final note, I thank you, the reader, for your interest in and willingness to draw attention to missing older adults in our communities which has not received nearly enough focus nor attention. Our communities deserve better than reactive, short-term policies at the provincial and federal level. The families who have lost loved ones whose remains have not been found deserve better. This thesis is nothing short of a call to action.

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Chapter 1: Introduction

The decision to undertake this thesis was motivated by several older adults being reported missing near my hometown last year. One missing occurrence was especially personal to me; the woman who was reported missing was associated with a non-profit I worked at for over the course of ten years. When she went missing, I had just returned home from my first year of graduate studies and was setting out to research police responses to missing persons while working at the non-profit part-time. I didn't know her well, nor can I recall if we ever spoke, but the proximity to her missing occurrence made me view the literature on missing persons in a different light. As the words took on new meaning, so did the absence of research on older adults who had gone missing. The gap in the literature which I had long learned to celebrate as a researcher was no longer something to be celebrated, it was instead something about which to be concerned. How could I expect a positive outcome when so many questions in the research remained unanswered?

After almost a month and a half of intensive searches by police, search and rescue, and the broader community, her body was found only a short distance from her family home. I remember thinking to myself, would she have been found alive if there was research on how far a person of her age and health status could have travelled? I further wondered whether she would be alive if there had been research available on the types of locations where she was most likely to be found? And, moreover, would she have even gone missing if there were enhanced provisions of care for older adults in our communities? This thesis is – in so many ways – for her, her family, as well as the countless other families who have experienced this form of immense loss. I consider this work to be a personal and professional endeavour; it is about advocating for older adults in my community, casting light on an under researched topic, and doing my part to be both an engaged citizen and researcher.

The emotional upheaval of her loss came again two months later when a similar case occurred. In the fall, an older man living with dementia was reported missing from his family home. On the day he went missing, he evaded countless safeguarding measures which were believed to inoculate him from the kind of harm the woman I knew had experienced. But on the day he went missing, these measures did not protect him, he was found deceased only a short distance from his family home. Almost a year later his daughter released the following statement:

My father died nine months ago and today we would have celebrated his 80th birthday. How many vulnerable and dependable elderly need to die? When will the BC government take us seriously? I don't want my father to be a statistic; I want him to be the reason, along with all the other victims and their suffering families, to be the reason the BC government [takes action]¹.

This thesis heeds his daughter's call to action by employing a mixed methods² design to examine missing occurrences involving older adults in Canada by drawing on police reports from two cities over a five-year period.

In the pages that follow, I conceive of missing older adults as a subaltern group of missing persons who are 'hiding in plain sight'. Their cases are somehow visible without being seen, heard but somehow not remembered, and considered but only for a passing moment. Indeed, Statistics Canada indicates that the number of older adults who have been reported missing has slowly

¹ This quote was taken from a public Facebook group which was first created to aid in the search for the missing man but was later transformed into a public remembrance page for his community, family and friends. I have not included his name nor the names of anyone in his family to provide some semblance of privacy. However the page is open access at <https://www.facebook.com/groups/531326994374374/>

² Throughout the following chapters, I refer to my research as both 'mixed' and 'mixed methods'. I prefer the former because mixed methods research is not solely about mixing methods as the latter term would suggest – it is about integrating understandings at three levels: (i) method; (ii) methodologies; and (iii) paradigms (Greene 2015). Indeed, both Johnson (2015) and Greene (2015) have argued that mixed methods is a distinctive research paradigm with its own underlying epistemological and ontological assumptions, methodologies and designs, as well as dominant worldview. For this reason, I use 'mixed' and 'mixed methods' interchangeably but give preference to the former as referring to this work solely as 'mixed methods' negates the complexity of integrating understandings at the paradigmatic level.

been increasing over the last five years (2015; 2016; 2017; 2018; 2019). Yet remarkably, there has not been a single study on older adults who have been reported missing within the last 25 years in Canada³. Research on older adults becoming lost has received some attention outside of Canada, but even these studies have not been explored to a full extent (Neubauer et al. 2019). There is thus no research on the scope of missing occurrences involving older adults in Canada. It is also unclear which data and research police draw on for their investigations⁴.

The complexities surrounding how older adults go missing, as well as the extant literature, motivated me to pursue several methods to answer the following central research question:

What is the prevalence of, and antecedents for, missing occurrences in the older adult population, as well as the individual and environmental factors that contribute to missing occurrences?

I draw on police reports because they are *a posteriori* evidence of older individuals who have been reported missing. Like Howell and Prevenier (2001:17), I consider police reports to be “relics of the past” to the extent that they include precise dates, times, and locations. They also provide comprehensive individual-level data that can be distilled by age, race, gender or health condition which makes these data particularly amenable to predictive analysis (see Brimicombe 2016 for more). The quantitative component of this work was thus built on several variables from the missing person reports to address the following questions:

1. What are the demographic, health and incident characteristics of older adults who are reported missing?
2. Which demographic, health, and incident characteristics predict (a) the locations older adults are reported missing from, and (b) the locations they are found?
3. Which demographic and health characteristics predict repeat missing occurrences and classifications?

³ The only study I was able to locate on older adults who have become lost in Canada was from 1992 in Nova Scotia on elderly hunters (See Hill’s “Spatial Competence of Elderly Hunters”).

⁴ Some police officers and search and rescue personnel I have had communication with have indicated they use Robert Koester’s (2008) *Handbook on Lost Person Behaviour* for their searches. However, there are no sections specific to older adults in this handbook, and the data and results are drawn from the United States.

4. Which demographic and health characteristics predict being located within five hours from the time an older adult was last seen and the time they were reported missing?

Beyond this, the reports also provided comprehensive, contextual data on missing persons from the past five years. What was noteworthy about this data was that it included police notes from the beginning of a report to its closure, and in some cases, also interviews with missing person's care providers or family. Sometimes the voices of older adults who had become lost were present as well. Using this aspect of the reports, I was able to identify salient themes relevant to becoming lost as well as provide meaningful opportunities for prevention (Brimicombe 2016). I used a socio-spatial perspective to examine the following qualitative research question:

1. Using a socio-spatial perspective, what are the circumstances that surround missing occurrences in both community and institutional dwelling older adults? In particular, what individual and environmental circumstances contribute to missing occurrences?

Framework

This thesis employs a socio-spatial perspective to examine missing occurrences involving older adults in two Canadian cities – that is, the results are framed by the central belief that “spaces and places are more than passive containers of social life” (McHugh 2003: 166). Despite the spatial dimensions of missing occurrences oftentimes being rendered invisible, it is my belief that the spaces in which older adults inhabit and the communities in which they reside can inform a great deal of our understandings about becoming lost among older adults and the cultural milieu of growing old in Canada. As we age, our ‘space and place’ within society shifts, both within the physical sense of the word but also with respect to our engagement with several aspects of social life. As I will discuss in the upcoming chapter, I was inspired by the formative work of Carol Estes and colleagues (1996) on the political economy of aging, as well as theories of aging and the environment to frame missing occurrences within the older adult population (Lawton and

Nahemow 1973; Kahana 1982). I have also borrowed from social models of disability to supplement my understandings of aging with a pathology (Verbrugge and Jette 1994; Hahn 1994; Brandt and Pope 1997).

To be specific, I propose that becoming lost is most often resultant of the incongruence between an individual's capabilities and the demands of their environment. That is to say, becoming lost is not an isolated problem in and of itself rather it is a consequence of an individual and environmental mismatch that creates the potentiality for becoming lost. Like McHugh (2003:166), I contend that the spaces we live in are "far from inert backdrops"; rather they are contested with meaning. Older adults' capabilities and living arrangements are the primary source of this incongruence – whether it be older adults aging in place without ample home and community care, or older adults in institutional care that is understaffed or unfit for their needs. An undercurrent of this research is inspired by Estes (2001) work which attests that just as 'spaces and places' are often rendered invisible, older adults are often rendered invisible too.

Overview of Chapters

This thesis begins with a discussion of the political economy of aging and an application of this theoretical framework to missing occurrences. Following this, I draw on theories of aging and the environment to identify how individual and environmental incongruence may be a precipitating factor for missing occurrences. I supplement these understandings within social models of disability which explicate the relationship between aging with a pathology and the social construction of dependency. In chapter three, I discuss my research design and methodology which examines the characteristics of mixed methods in this research, my access and sampling strategy, as well as the epistemological and ontological assumptions that ground my work. I then bridge these assumptions with my methodological approach by first discussing the quantitative methods and then the qualitative methods I employed.

The next three chapters are centered on my results and analyses. In chapter four, I present the results from the quantitative component of this research which includes both descriptive and multivariate statistics. In chapter five, I identify salient themes from the thematic analysis as well as situate these themes within the available literature. In chapter six, I integrate the quantitative and qualitative results to answer the central research question. I explicate these findings within theories of aging and the environment, as well as social models of disability. In the final chapter, I provide a summary of my findings as well as detail the limitations and implications of this research.

Chapter 2: Literature Review

In the first section of this chapter, I engage with the political economy of aging as an overarching framework for examining the processes in which older adults who have been reported missing are relegated to the status of ‘invisible others’, both in Canadian scholarship as well as policy initiatives. Following this, I use a socio-spatial perspective to explain missing occurrences in both community and institutional dwelling older adults. In particular, I draw on theories of aging and the environment, as well as social models of disability to explain how individual and environmental incongruence is a precipitating factor for missing occurrences. I provide an overview of theoretical developments in these areas, as well as an interrogation of how these theories explicate missing occurrences involving older adults in Canada. Lastly, I draw on literature from both Canada and abroad to discuss what is presently known about becoming lost and living with dementia. I do not discuss literature concerning older adults because existing research tends to focus exclusively on persons with dementia⁵.

Relegating older adults to the status of ‘invisible others’

The political economy of aging is a framework for examining the social construction of old age, as well as the impact of socially produced definitions of old age on public policy and welfare provision (Putam 2002). At its core, the political economy of aging calls for a critical examination of age-based inequality by turning its attention to the political economy – that is, by interrogating the relationship between the state and the economy, and their role in allocating and distributing resources to the aged (McMullin 2000). Estes (1993) contends that the ways in which ‘problems’ and ‘solutions’ are defined are determined by how those in positions of power perceive older

⁵ As stated in the introduction, there was only one study on elderly hunters who became lost in Nova Scotia from 1992. However, it had no bearing on this research because it only focused on the profile of missing hunters. There was not a single report from either police agency where an older adult had become lost while hunting, thus I did not review this study in this chapter.

adults. These perceptions tend to be seeded with narratives of loss and decline which portray older adults in a perpetual state of physical or cognitive decay and are fueled by anti-aging and ageist⁶ rhetoric. These constructions in turn influence the treatment of older adults by seeping into public policy and shaping social programming (Estes, Linkins and Binney 1996).

Characterizations of aging as a debilitating and degenerative process have resulted in aging being framed as ‘disease’ in need of a ‘cure’. Only through medication and individual rehabilitation can one manage or overcome their own aging (Estes 1993). One must thus evade disease and sustain reasonably high levels of engagement to age successfully (Rowe and Kahn 1987). These characterizations have had material effects on the provision of health and social resources for older adults in recent years; especially as the baby boomers have entered retirement age. The current, most challenging construction is that of apocalyptic demography which asserts that Canada’s economic problems have been caused by the aged – that is, increased health care expenditures brought on by population aging have placed significant demands on the Canadian economy (Estes 2001). These constructions of aging, and the social policies that result, not only reflect, but also reify existing demographic and health related disparities among older adults (Estes 1993:292). Social policy on aging thus does “little to alter or disturb” the unequal distribution of economic, health or other resources among the older adult population (ibid).

Critical aging scholars attest that these constructions have fueled the formation of the medical-industrial complex which is conceived of as the proliferation of health care services and products for profit. Central to it, is the commodification of health through which older adults’ needs are transformed into commodities for capital accumulation whereby “business and

⁶ Ageism is defined by the World Health Organization as the stereotyping, prejudice, and discrimination against people on the basis of age (2020).

government ... look at medical care as more nearly an economic product than a social good” (Iglehart 1982:120 as cited in Estes 2001). Through this, the desire to enhance health and social wellbeing becomes obscured by the desire to increase profits. The consequences for older adults, as well as for others dependent on public policy, is that their health and social care needs have become “profit-making commodities” (Scull 1977). As Estes (2001) observes, older adults’ needs are thus defined as ‘problems’ which the medical-industrial complex seeks to ‘remedy’ through prescriptions and medication, while concurrently earning a sizeable profit.

The medicalization of old age provides excellent footing to discuss the subject of missing older adults in Canada, as well as the paucity of research in this area. Through this framework, the limited research on missing older adults can be seen as both a consequence of negative cultural perceptions of aging, as well as the permeation of the medical-industrial complex on scholarship and policy. As discussed briefly in the Introduction, the prevalence of and antecedents for going missing as an older adult or person with dementia in Canada have not received much scholarly focus to date. Rather than focusing on the scope of the problem, research efforts in this area have instead focused on how technology of various types can intervene. Such technologies include the creation of an alert system to locate persons with dementia who have critically wandered, as well as the use of unmanned aerial vehicles for search and rescue (Hanna et al. 2018; Daum et al. 2019). Although these are noteworthy research foci, they beg the question: Why are we prescribing solutions to a problem if we do not understand the scope of it first?⁷

⁷ Certainly, I do not want to minimize the importance of existing research on the role of technology for both preventing or enhancing responses to lost persons with dementia. Instead, I use this as an example to illustrate how the medical-industrial complex has permeated research efforts in this field. Further, this is not to say that research needs to follow a linear process and there is evidence to suggest missing persons with dementia require attention. I am rather critiquing the model through which myself and other researchers operate within.

From a political economy of aging perspective, the extant literature on older adults and persons with dementia who have been reported missing can be explained through the medical-industrial complex, which explains the processes through which policies and programs both define and prescribe solutions to age-related health concerns and commodify them for profit. Persons with dementia who become lost are not immune to this. Both the 'problem' of becoming lost and the prescribed 'solution' i.e. using technology to either trace or locate them are defined by other individuals than persons living with dementia themselves. Indeed, the solutions are provided by for-profit corporations which seek to make a sizeable profit from technologies to prevent persons with dementia from going missing. Interestingly, despite these technologies being geared towards persons with dementia, the most common finding across studies is that they have no interest in wearing them or the technology fails to work effectively when most needed (Petonito et al. 2012; Applegarth, Rowe, Kearns and Bowen 2013). Thus, if prevention efforts for missing occurrences were better aligned with the environments in which persons with dementia go missing, the 'problem' of becoming lost may be differently defined, prescribed, or even ameliorated in some contexts (Rowe and Glover 2001).

It is not surprising then that older adults who are reported missing have not been the focus of much policy attention. Canada does not have a national response strategy for missing persons nor does it have a national Silver Alert strategy. These biases extend to media reporting of missing occurrences as well. Despite media being considered an important tool for locating and recovering missing persons, older adults appear to receive the least media attention of all age groups (Fyfe, Stevenson, and Woolnough 2014; Jeanis and Powers 2017; Ferguson and Soave 2020). Not only do older adults receive fewer articles as well as smaller word counts, but Jeanis and Powers (2017) have also found a one unit increase in age is associated with a 4.41 decrease in odds for article word count. This finding is consistent with the results of Ferguson and Soave's (2020) study which found older adults, aged 75 and older, received the least amount of media

attention compared to all other age groups. Additionally, despite the high incident rate of persons with dementia being reported missing, only three persons with dementia were reported missing on police social media accounts over a two-year period (Neubauer et al. 2019). The limited media coverage of missing older adults could thus be considered a consequence of public perceptions of the aging process which conceal, or indeed, erase older adults from the narrative.

Environmental Incongruence: Theories of aging and the environment

Within the field of gerontology there has been a concerted effort to develop an understanding of environmental factors that act as barriers or facilitators to typical and atypical aging (Putnam 2002; Wahl, Iwarsson and Oswald 2012). Research efforts in this area have considered how individuals respond to their environment and have further examined which resources are available to inoculate older adults from a person-environment mismatch (ibid). Theoretical work on the source of incongruence between a person's capabilities and the demands of their environment has led to several theoretical models, two of note being Lawton and Nahemow's (1973) ecological model of aging and Kahana's (1982) model of person-environment congruence.

The dynamic interplay between the aging individual and their environment was first posited by Lawton and Nahemow (1973). In their influential work, the ecological model of aging, they conceived the physical environment has both the potential to impose constraints and opportunities in later life. In particular, they contest that aging well is not solely defined by aging without a pathology but rather the degree of congruence between a person and their environment. From this perspective, an individual must be able to satisfy both their behavioural and psychological needs in their environment for optimal functioning (Putnam 2002). The congruence between the individual and the environment can be considered a match if either: (a) an individual's capabilities are congruent with their environment; or (b) the demands of an environment are congruent with the individual. An individual can either meet the demands of

their environment through individual adaptations or the environment can meet their demands through environmental adaptations. Suboptimal functioning occurs when the environmental demands exceed the capabilities of the individual (Wahl et al. 2012).

Individual capabilities and functioning fluctuate across the life course. Some fluctuations are anticipated, such as age-related declines including hearing or vision loss, challenges with cognition or working memory, as well as declines in overall strength and mobility. There are also unpredictable fluctuations as well, such as the onset of dementia or an abrupt change in physical mobility resulting from a fall or accident. These age-related changes as well as aging pathologies make it challenging for older adults to successfully meet the demands of their environment. In the context of persons with dementia, there appears to be both anticipated and unanticipated changes that are relevant to missing occurrences. Individual changes, such as the onset and severity of dementia, as well as physical impairments are believed to be factors relevant to becoming lost (Alzheimer's Association 1998; Hope et al. 2001). The Alzheimer's Association (1998) for example estimates 60% of persons living with Alzheimer's disease will become lost at one point during the course of the disease. Further, there is research to suggest there may be a period of increased activity among persons with dementia which makes them more susceptible to missing occurrences during a period of several years (Hope et al. 2001).

Older adults are not the only aspect of the model that is prone to change as our environments fluctuate too. The physical environment may have predictable changes, such as the need for regular upkeep on a home, as well as unpredictable changes brought on by environmental or culture changes. In the context of this research, environmental changes such as weather, climate and neighborhood composition may be relevant to becoming lost. Koester and Stooksbury (1995) found weather and climate impact both the prevalence of becoming lost as well as the likelihood of an unfavourable outcome. Because winter is associated with a fear of falling (Olsson, Lampic, Skovdahl and Engstrom 2013), some persons with dementia thus report

staying indoors more often during the winter months. There are also unpredictable environmental changes such as changes in one's neighbourhood, including the opening and closing of businesses, the changing appearances of homes, new traffic lights or even unrecognizable vehicles (ibid). These environmental changes, both anticipated and unanticipated, can thus produce challenges for persons with dementia who experience disruptions in spatial processing.

The second model explicating the relationship between aging individuals and their environments is Kahana's (1982) person-environment congruence model. This model concentrates on the overall person-environment fit as a barometer for "successful aging" (Rowe and Kahn 1998). She emphasizes the greater the person-environment fit, the greater psychological well-being of the aging individual. Kahana's central hypothesis is that "the more congruent, or well matched, the person's physical capabilities are with the demands of the physical environment, the more favorable the outcome of the person-environment transaction" (Putnam 2002:802). What is unique about Kahana's model is that she uncovers how the social and moral pressure to maintain activity and autonomy in old age, without environmental or social supports to do so, can be debilitating. She suggests that the cultural pressure to age well which is constructed by media and age-related policy can produce unrealistic expectations on the aging individual to maintain control and efficacy throughout old age (see Rowe and Kahn's 1987).

The incongruence between an individual's competencies and their environment can have catastrophic consequences when the demands of their pathology or the pressure of their environment expects them to do or be successful at something they are not capable of (Karuza et al. 1986; Fry 1990). Indeed, Fry (1990) suggests older adults may become convinced it is their 'moral responsibility' to be completely self-sufficient with respect to their own cognitive and physical functioning. Otherwise they may be labelled as 'dependent' or a 'burden' when they are unable to manage their own aging processes. Karuza et al. (1986) further proposes that being

unable to live up to these unrealistic self-expectations oftentimes produces feelings of shame, anxiety and even depression. Harm can thus be expected when older adults either take responsibility for navigational challenges inappropriately or if they are expected to perform tasks or social roles beyond the limits of their individual functioning (Rowe and Kahn 1987).

Existing literature on becoming lost from the perspective of persons with dementia who experience navigational challenges has not received much focus. However, one novel study sheds some light on the challenges persons with dementia experience negotiating their lived environment. For example, Olsson and colleagues (2013) find that persons with dementia strive to persevere or 'keep on' despite barriers to navigating their neighborhood or outdoor environment. Indeed, some of their participants suggested they would rather brave the cold and risk falling instead of being "limited and forced to stay indoors" (ibid: 797). Others expressed the great lengths they take to prevent becoming lost while walking outdoors, such as using landmarks, road signs or familiar houses. One participant even trained her dog to know the way home so if she became lost, her dog would lead her to safety. Lastly participants also alluded to the profound fear that should their cognitive impairment progress they may lose the ability to go outside. One participant stated "when that happens and I don't know where I am, I'll be extremely unhappy" (ibid:797).

Despite these foundational writings about aging and the environment, there remains a strong focus on rehabilitation of the individual rather than on modifications of the environment in aging scholarship (Fougeyrollas and Beaugard 2001). In Bengston and colleagues (2009) eminent *Handbook of Theories of Aging*, the ecology of aging is not mentioned nor is it discussed in classic models of successful aging, such as Rowe and Kahn's (1998) formative work. The role of the environment in aging has thus not been clearly defined (Wahl et al. 2012). Gerontologists have looked elsewhere for support in understanding the aging process and the environment, particularly with respect to aging with a pathology (Putnam 2002). Given that this thesis is equally

predicated on typical and atypical aging as it relates to missing persons, I now turn my attention to the theoretical foundations of social models of disability.

Constructing Dependency: Theories of disability and society

Social models of disability are premised on the belief that disability is not inherent to an individual but is instead a function of the interaction between the individual and their environment (Hahn 1994; Verbrugge and Jette 1994; Brandt and Pope 1997). That is, disability is rather the resultant gap between an individual's abilities and the demands placed on them by their environment. An individual's competency itself does not constitute a disability. Persons with a physical impairment demonstrate an example of this. It is not their physical impairment that creates a disability but rather the incongruity between their abilities and the environment. Indeed, for adults with a physical impairment their disability is rather constructed by their inability to meaningfully and successfully negotiate their environment and perform social roles.

This mode of thought can be extended to older adults aging with a cognitive impairment. Cognitive impairments have been and continue to be defined solely in terms of the *individual*. The impairment is rendered an individual problem and the interventions are prescribed at the individual-level. Early strategies to prevent missing occurrences involving persons with dementia are an example of this. Initial responses included physical barriers, such as locks and posey restraints, and medications such as trazodone, quetiapine, and zaleplon (Alexopoulos et al. 2005; Hermans, Htay and McShane 2007). Although the use of these interventions have subsided, it does not negate that the 'social problem' of persons with dementia being reported missing has and continues to be constructed as a problem that needs to be addressed at the individual level regardless of the harm caused to persons living with dementia.

It is the relationship between the *individual* and *society* that constitutes a disability. Jette and Keysor (2003) describe an example of this through their conception of the disability profile, which suggests that for two individuals with comparable impairments, the disability profile may

be remarkably different. One individual's disability profile may be marked with disengagement, where they disengage from life and simplify their routines; whereas another individual's disability profile may be hallmarked by engagement insofar as they engage in social activities and receive some monetary or physical support from others to modify their environment. From this perspective, dependency is not a 'given' but a product of both *intrinsic* and *extrinsic* associations of disability — that is, an undetermined but significant amount of dependency is “modifiable, preventable, or even reversible” (Estes 2001:138).

Verbrugge and Jette (1994) provide a useful framework for conceiving of and responding to disability through their disablement process model. Their model emphasizes that disability is connected to the dynamic interplay of individual and environmental risk factors that predispose an individual to disability. Such risk factors include demographic, biological, behavioural, psychological and social factors, as well as lifestyle and ecological factors. Verbrugge and Jette (1994) emphasize that intra-individual and extra-individual interventions can help buffer the disablement process. Intra-individual interventions include lifestyle and behavioral changes, psychosocial and coping activities, and activity accommodations. Extra-individual interventions are medical care and rehabilitation, medications and other therapeutic regimens, external supports, and built physical and social environments.

In the context of persons living with dementia, intra-individual adaptations include the use of landmarks, road signs or familiar houses to aid with navigation while lost (Olsson et al. 2013). Additionally, persons with dementia may use the following resilience and coping strategies to prevent becoming lost, such as walking along the same route, not going to unfamiliar places, or being cautious about who they ask for help (Gambier-Ross 2020). Some persons with dementia also use the “the stop and think approach” whereby they stop and think for a while, and then make a decision about which way to go or ask someone for directions. An example of this is a disclosure from one participant: “I usually stop, stand there and think ... look around, relax”

(Olsson et al. 2013). A final strategy that persons with dementia sometimes employ is to work their way through their neighbourhood, going from one house to another (Olsson et al. 2013). Although for some participants trusting others did not come easy, with one participant suggesting, “I find people very intimidating now ... I’ve lost trust in people” (Gambier-Ross 2020).

Brandt and Pope (1997) also identify another useful framework for conceiving of the social construction of disability. Their theoretical framework is advanced through the enabling–disabling process model which evokes the image of an “environmental mat” as a conceptual apparatus for understanding the disabling process. In their model, Brandt and Pope (1997) reference the “environmental mat” as the physical and sociocultural spaces an individual operates within. If the mat is strong, such that an individual has strong physical, social and cultural supports, then the degree of disability they experience is small. However, if the mat is weak, such that an individual has weak physical, social or cultural supports, then the degree of disability they experience is quite large. In this model, disability is situated within the environment, not the individual, and is instead, created when the physical capabilities of an individual and the demands of their physical or social environment are not aligned (ibid).

Other writing on the social models of disability have their roots in critical theory with the most prominent being Hahn’s (1994) minority group model of disability. In this model, Hahn conceives of disability as being situated within the political economy and rooted in cultural hegemony. He argues that social attitudes are the underlying cause of disability. According to his model: (a) the source of the majority of problems confronting persons with disabilities can be attributed primarily to social attitudes; (b) that almost every facet of the environment has been shaped or fashioned by public policy, and (c) that, in a democratic society, policies are a reflection of pervasive attitudes and values. (Hahn 1994:4). From this framework, Hahn has argued that disabilities are constructed through negative perceptions which result in stigma, followed by overt and less overt forms of discrimination. He suggests altering public policies can in turn alter

public opinion, as well as characteristics of the social and physical environment, which in turn can alleviate disability.

Becoming lost and living with dementia

All persons with dementia who are ambulatory, as well as those who continue to drive, are at risk of going missing or becoming lost (Furumiya and Hashimoto 2015). According to Lai and Arthur (2003), the person most likely to wander is an older man, who is relatively young in the older adult population, with a moderate to severe cognitive impairment, who may have experienced sleep problems, and who has been prescribed sleep medication. Some additional risk factors for becoming lost as it relates to persons with dementia are: having anxiety or depression (Logsdon et al. 1998), high energy levels; unmet needs or pain (Futrell, Melillo, Remington and Butcher 2014); resistance to care and difficulty with activities of daily living (Logsdon et al. 1998; Schonfeld et al. 2007); residing at home (Furumiya and Hashimoto 2015); and moving, either from one's family home to institutional care, or repeat moves within a care setting (Albert 1992).

The term wandering has been used to encompass a wide range of behaviours, such as aimless locomotion, lapping, or pacing, as well as frequent, repetitive walking (Algase, Moore, Vandeweerd and Gavin-Dreschnack 2007; Futrell et al. 2014). It is associated with absconding from care, becoming lost in the community, and is considered to be one of the most difficult behaviours to manage in dementia-related care (Algase et al. 2007; Lai and Arthur 2003; Brittain et al. 2017). Although individuals who exhibit dementia-related wandering behaviours are at an increased risk of becoming lost alone in the community, the perceived risk appears to be greater than the actual risk in most cases. Brittain and colleagues (2017) found for example, wandering only results in death in about 5% of cases. Likewise, Bowen and colleagues (2011) found 48.6% of dementia-related missing cases were solved by caregivers locating the missing person with

dementia and 10.3% of dementia cases were resolved by the missing person finding their way back home.

A distinguishing feature of dementia-related wandering is aimless locomotion, however, often what is referred to as “aimless wandering” it is not aimless at all (Algase et al. 2007). Often times wandering is a purposeful, goal-oriented task motivated by the desire to leave an unfamiliar environment, revisit an old memory, or find a place of the past (Algase et al. 2007; Brittain et al. 2017). Purposeful wandering can become problem wandering when an individual becomes confused or experiences difficulty in navigation, as is often the case with more advanced forms of dementia (Hope et al. 2001). Instances of wandering can escalate into a high-risk missing incident if the risk factors identified above are present and the person with dementia is unable to be located within 24 hours. Koester (1998) finds that half of all people with dementia who go missing for more than 24 hours are either seriously injured or found dead. Thus, even though wandering is frequently conflated with going missing, it is important to distinguish between the behaviour we perceive to be wandering and the resulting problem behaviour of going missing –acknowledging that wandering behaviours are often the precipitating factor for a missing incident (Rowe and Glover 2001).

Location is also known to be a risk factor for going missing among persons with dementia (Bowen, McKenzie, Steis and Rowe 2011). Both community and institutional dwelling persons with dementia are at risk for both wandering and becoming lost (Futrell et al. 2014), although research suggests community-dwelling persons with dementia may be at an increased risk for becoming lost. Findings from McShane et al. (1998) 10-year study found that 35% of people with dementia get lost at least once in the community while 5% get lost repeatedly. Additionally, community-dwelling persons with dementia are more likely to have a missing occurrence than those living in institutional care (Futrell et al. 2014). The only exception to this is persons with dementia who are in hospital care (Rowe 2008). Rowe (2008) suggests this is because dementia

impairs short-term memory and may contribute to a person forgetting why they are sitting in a waiting room or waiting for treatment, which can lead them to search for a familiar face or location.

Some explanations as to why individuals with dementia may go missing more from private residences than institutional care is that there have been considerable efforts to safeguard people with dementia from going missing in these settings. In particular, there is a wealth of health literature on safe wandering and wayfinding in dementia-wards. On the alternative, research examining preventing missing occurrences in the community and among community-dwelling people with dementia is in its infancy (Bowen et al. 2011). It is also difficult to examine how to prevent missing occurrences in the community, given that existing research finds most persons with dementia have missing occurrences while performing everyday activities they normally performed without incident. Another possible reason for why people go missing more frequently from private residences is the greater frequency of independent living and the reduced capacity to care by family caregivers.

Unlike general missing persons' cases, what we do know about people with dementia who are at risk of going missing is that the majority (87.1%) were unsupervised by their caregiver at the time they went missing, almost half being unsupervised for 10 minutes or less (Bowen et al. 2011). Indeed, in all of these cases the individual who went missing was engaged in activities they previously conducted independently and without incident. Thus, the typical warning signs of a missing incident, such as the person acting 'out of character' or engaging in some unusual behaviour, does not appear to apply to missing person cases involving persons with dementia (ibid).

Chapter 3: Research Design and Methods

In this chapter, I first discuss the characteristics of mixed methods used in this research, followed by my epistemological and ontological approaches. I then discuss my sampling techniques. Following this, I provide a detailed description of my quantitative methods, including an explicit description of the sample, key variables, as well as my analytic strategy. Lastly, I provide a detailed description of my qualitative methods, including a discussion of my coding strategy and resulting analysis.

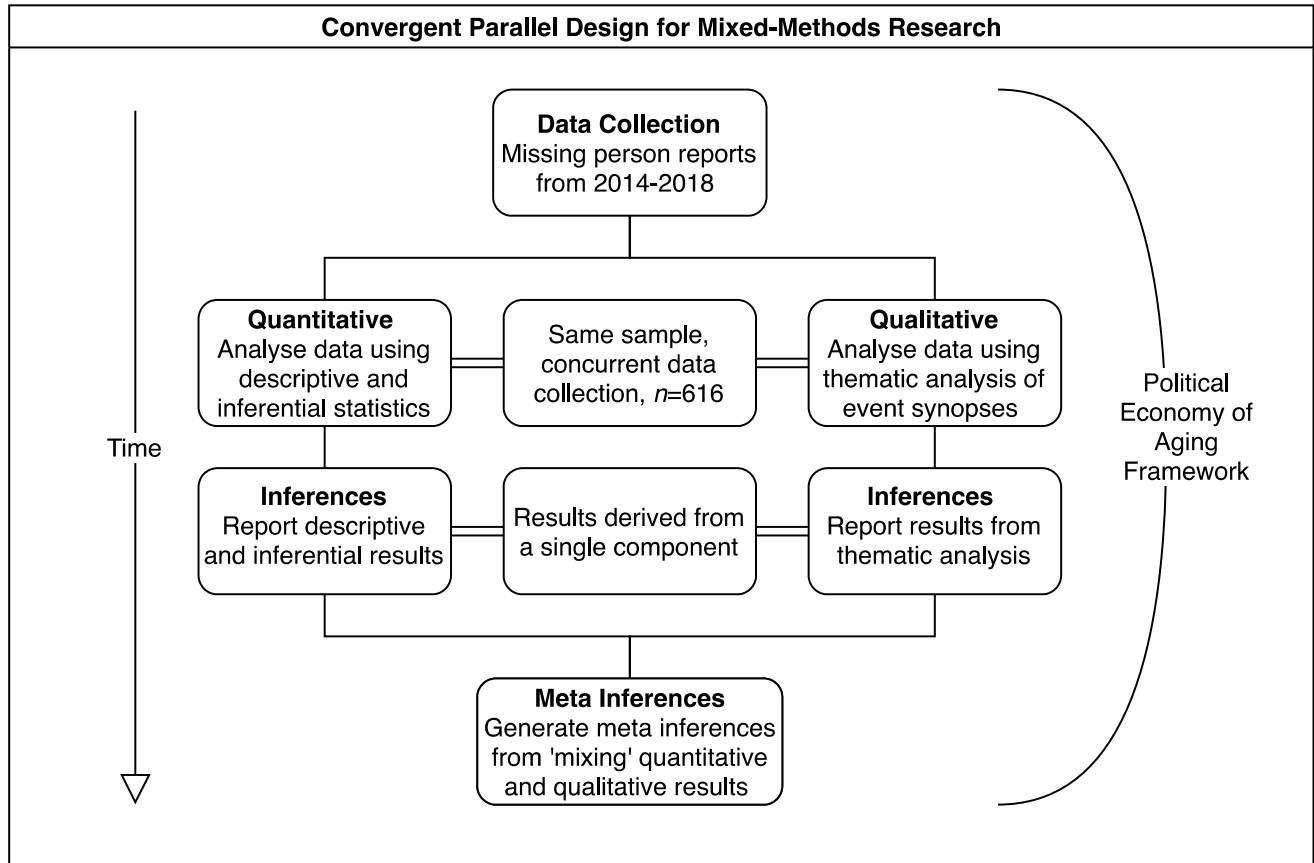
Characteristics of Mixed Methods in this Research

This thesis employs a mixed research design to examine the prevalence of and antecedents for missing occurrences in the older adult population, as well as individual and environmental factors that contribute to missing occurrences. I use a convergent parallel design which involves concurrent data collection, wherein the data are analyzed during the same phase of the research process and both components are assigned equal weight. I report the results of both components independently, and then interpret them together (Creswell and Plano Clark 2017). In Figure 1, I provide an illustration of the mixed methods design to identify the phases in which the data were collected, analyzed, and discussed.

I employ a convergent parallel design for several reasons. First, it allows me to assign equal weight to both the quantitative and qualitative data. Assigning equal status to both components ensures that no data are given priority or temporal precedence over the other, as is common with other mixed methods designs. Second, a convergent parallel design allows me to report and analyse the findings of each method in isolation from the other data. Because becoming lost in old age is a phenomenon that has been understudied, analyzing each data separately allows me to capture the strengths of both epistemological approaches and later synthesize them to provide a more thorough examination of missing occurrences (Grant 2019).

A convergent parallel design further allows me to identify points of convergence and divergence in the quantitative and qualitative data which helps to present a more comprehensive understanding of the phenomenon under study (Creswell and Plano Clark 2017).

Figure 1. Mixed-Methods Design



Based on Greene and colleagues' (1989:259) identification of the five different purposes for mixed method studies, the purpose of this study was to "triangulate" the findings. Triangulation is an approach where researchers use two or more methodologies to identify convergence, corroboration, and correspondence between the results (Greene et al. 1989:259). It is believed to increase the validity of constructs, as well as their overall robustness and interpretability (ibid; Creswell 1994). Triangulating one's results is also thought to augment the analyses by optimizing the strengths of each component and minimizing their limitations. It has

also been referred to as “complementarity” by other mixed methods researchers, most notably Heap and Waters (2019). They refer to complementarity as an approach where two or more methods are used to investigate “distinct, albeit often overlapping, aspects of a phenomenon in order to produce rich, deep, understanding” (2019:19). Mixed methods research thus offers opportunities to elaborate on and enhance understandings of a phenomenon that has not received much attention (Creswell and Creswell 2018; Grant 2019).

I categorize the mixed methods analysis in this research as a two-phase approach (Creswell 1994). A two-phase approach has the advantage of the “two paradigms being clearly separate” which enables me to fully immerse myself in the paradigmatic principles and assumptions of each component (ibid:177). In the mixed analysis phase (Chapter 6), I am able to use the insights gathered from each method individually to produce a cohesive whole, where the integration of the data yields additional insight beyond the quantitative or qualitative data alone (ibid). Creswell and Plano Clark (2011:21) describe the strengths of mixed methods research in the following quote, which I used as a motivation when integrating the results:

The complexity of our research problems calls for answers beyond simple numbers in a quantitative sense or words in a qualitative sense. A combination of both forms of data provides the most complete analysis of problems. Researchers situate numbers in the contexts and words of participants, and they frame the words of participants with numbers, trends and statistical results. Both forms of data are necessary today.

Seeking to benefit from the strengths this methodological approach offers, I center this thesis around a central research question focusing on missing older adults and provide subsequent questions for both the quantitative and qualitative analyses. The central research question provided below defines both the overarching question guiding the study as well as delimits the “scope, scale and conduct” of the analyses (Heap and Waters 2019:19).

Mixed Methods Central Research Question

What is the prevalence of, and antecedents for, missing occurrences in the older adult population, as well as the individual and environmental factors that contribute to missing occurrences?

Quantitative Component

1. What are the demographic, health and incident characteristics of older adults who are reported missing?
2. Which demographic, health, and incident characteristics predict (a) the locations older adults are reported missing from, and (b) the locations they are found?
3. Which demographic and health characteristics predict repeat missing occurrences and classifications?
4. Which demographic and health characteristics predict being located within five hours from the time last seen and time reported missing?

Qualitative Component

1. Using a socio-spatial perspective, what are the circumstances that surround missing occurrences in both community and institutional dwelling older adults? In particular, what individual and environmental circumstances contribute to missing occurrences?

Epistemology, Ontology and Worldviews

Mixed methods research requires an epistemological framework that assumes reality is plural, and both subjective and objective realities can exist simultaneously. At the outset of this thesis, I intended to espouse a philosophy of pragmatism as I self-identify as a pragmatist and pragmatism is the dominant tradition in mixed methods research. However, when I began understanding how pragmatism has influenced mixed methods research, I came to realize it has lost its focus from its original conception.⁸ To elaborate, some writers have critiqued mixed methodologists for co-opting the *philosophy* of pragmatism into a *practical* pragmatism, where instead of interrogating the tensions of opposing ontological positions (i.e. post-positivism and interpretivism) they have sidestepped these difficult issues by simply asking the question of “what works” (Hesse-Biber 2015). In doing so, pragmatism has become estranged from its roots

⁸ See John Dewey's (1920) *Reconstruction in Philosophy* which was reprinted in 2012.

in philosophy and has become watered down in practice. Pragmatists thus conduct their research based on “what works” or would be feasible given the topic and their training, as opposed to examining the “best method” for eliciting understandings on a topic. For this reason, I espouse an epistemological and ontological approach that lends itself more to dialectical pluralism. However, I do acknowledge that my approach is akin to Foucault’s “conditions of possibility” which examines “what would work, be feasible, given the conditions of the situation” insofar as he accentuates what needs to be taken into account in our praxis (1991:84). From this perspective, Foucault suggests we need to answer the question of “what is to be done?” (ibid).

Dialectical pluralism at the ontological level assumes that reality is plural – that is, reality is both (inter)subjective and objective (Greene, Caracelli and Graham 1989). In particular, dialectical pluralism proposes there is no ‘correct’ ontological understanding of the social world, but rather there are multiple iterations of the social world which have their own merits and validity (Heap and Waters 2019:18). Johnson (2015:8) articulates this in his foundational writing on mixed methods where he suggests an individual practicing mixed methods must ask themselves: “What are my ontological commitments? What reality or truths of key importance do I see as existing?”. If the researcher’s approach is one that considers multiple realities concurrently – that is, there is no single way of conceiving of or comprehending reality then they are capable of overcoming ontological silos and engaging in pluralistic thought. From this perspective then, the presence of multiple ontologies and the tensions they evoke are not a weakness but rather dialectical pluralism’s greatest strength (ibid).

At the level of epistemology, dialectical pluralism asserts that “epistemological listening” should be practiced so that researchers can engage with multiple perspectives to produce new syntheses or “socially agreed-upon wholes” (Johnson 2015:3). Epistemological listening requires communicating dialectically both within and between epistemologies to overcome the incommensurability of these worldviews (Johnson 2008; 2011). Indeed, Mitchell (1982:614)

suggests epistemological listening requires “not just liberal toleration of opposing views from a neutral ground but transformation, conversation, or, at least, the kind of communication which clarifies exactly what is at stake in any critical conflict”. Dialogical listening requires moving beyond dualities in our praxis; it requires using ‘both/and’ logic where possible instead of ‘either/or’ logic (Johnson 2015). Dialectical pluralism asserts that we should actively engage with epistemological tensions and avoid reliance on a single methodology in constructing knowledge and examining its quality (Johnson 2015). From this perspective, researchers can and should use multiple epistemologies to determine what is “epistemically relevant and important” for each study (ibid:9).

Greene et al. (1989), whose formative work on the dialectical approach led to Johnson’s conceptualization of dialectical pluralism, articulate that at the level of epistemology, dialectical listening should create “spiraling conversations” between epistemological paradigms and the methodologies one adopts. Within these spirals, they articulate that researchers should interrogate all aspects of their research design to better express the strengths and limitations that arise from mixing methods (as cited in Hesse-Biber 2015). Indeed, they suggest that “the research design builds in moments when the two methods speak to one another, traversing but not breaking down epistemological perspectives that hold qualitative and quantitative methodologies apart from one another” (Hesse-Biber 2015: xxxvi). Equal-status mixed methods are thus an ideal fit for dialectical pluralism because it necessitates that one concurrently and equally value multiple perspectives and paradigms (Johnson 2015).

In conclusion, I adopt dialectical pluralism for this mixed methods study because I explicitly sought a “synergistic benefit” from integrating both post-positivist and interpretivist paradigms (Rocco et al. 2003:21). I believed that mixing these paradigms by first holding constant their individual assumptions, examining them dialogically and embracing their tensions, and later

integrating them would have innumerable gains – made most explicit by a more full and complete understanding of missing occurrences involving older adults.

Sampling

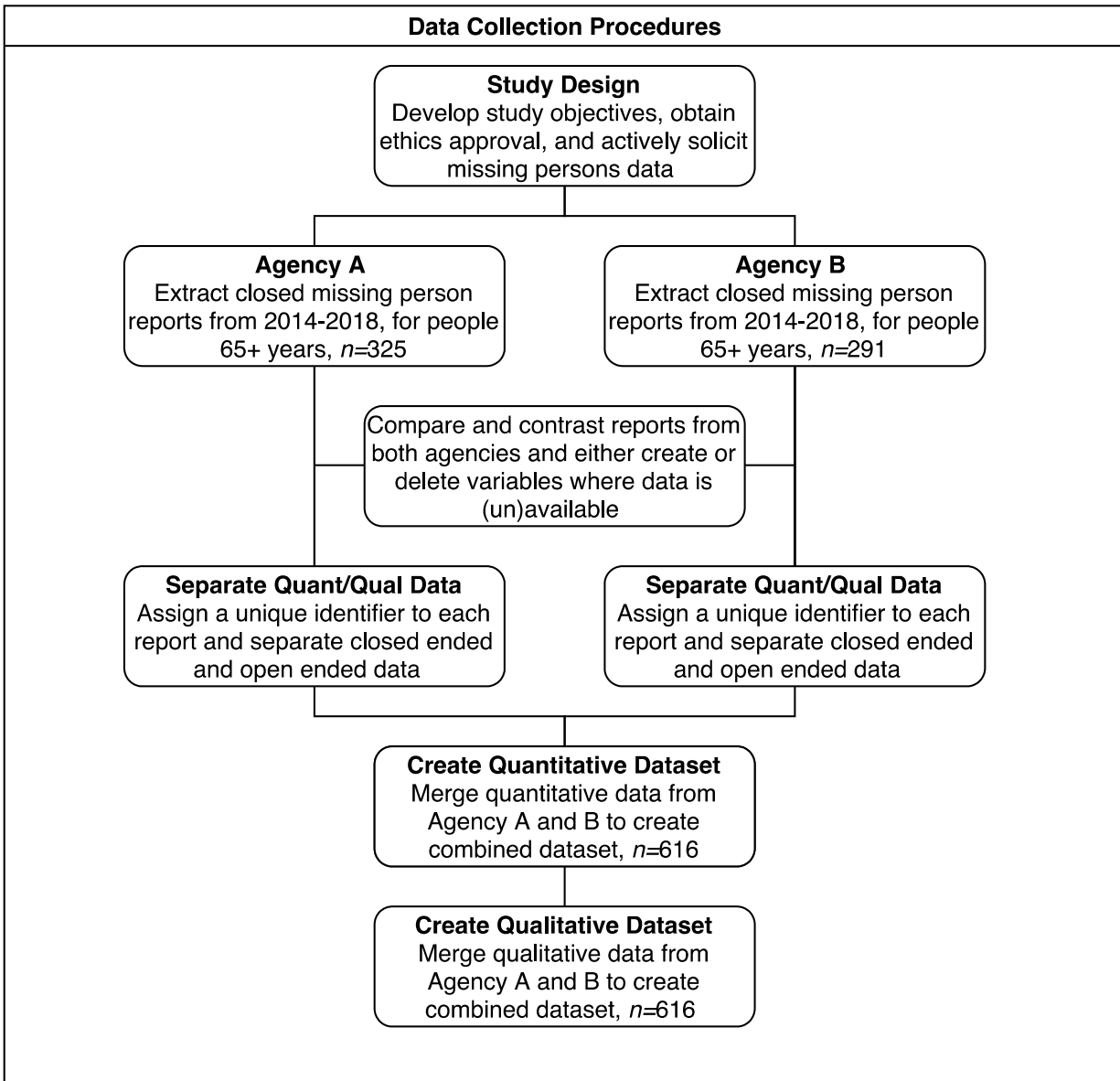
There is no central register for missing person cases involving older adults in Canada. Although data are collated in the Canadian Police Information Centre (CPIC), many missing person occurrences are not included in this registry if they are found within a short time frame or before an officer completes their shift⁹. Because population parameters for this sample are unattainable and given the practical issues of obtaining these data from across Canada, I opted for a non-probability sample of missing occurrences in Canada as my sampling frame (see Figure 2). I employed a two-stage sampling procedure which involved a process of targeted sampling based on geographical location, followed by asking participants for referrals to other agencies (Watters and Biernacki 1989). Targeted sampling is a purposeful and systematic method for sampling a specific or target population – it is thus not a random sample nor is it tantamount to convenience sampling. It is instead a strategy “to obtain systematic information when true random sampling is not feasible and when convenience sampling is not rigorous enough to meet the assumptions of the research design” (Watters and Biernacki 1989:420).

I use targeted sampling techniques because they are considered an appropriate technique for accessing hard to reach or hidden populations (Ellard-Gray et al. 2015). Indeed, as Grant (2019:59) states, it is often not possible to collect data from individuals involved in the phenomenon of interest, thus researchers often use official documents or statistics as “relics... or as testimonies of witnesses to the past” (Howell and Prevenier 2001:17). Police missing person reports are the earliest public records of missing occurrences and such statistics do not exist for

⁹ This information was gathered from personal communication with the Ontario Provincial Police’s Search and Rescue Coordinator.

public access. The police are therefore considered a hard to reach population because they are difficult for the researcher to access because of their outsider status.

Figure 2. Data Collection Procedures



Hard to reach populations are also populations that may be inaccessible for a researcher because participation is believed to produce vulnerabilities to the participants (Ellard-Gray et al. 2015). Fear of exposed vulnerabilities is one probable explanation as to why police agencies may be less inclined to participate in the research process. Although this was not true for the agencies

who participated, it is likely that some agencies declined to participate due to the vulnerabilities posed by participation. Additionally, while snowball sampling techniques are often fruitful with difficult to reach populations, this did not appear to be the case with the agencies I contacted. Likely, this was because some agencies are receptive to evidence-based policing whilst others are slower to adopt evidence-based practices. A memorandum of agreement was reached between the police agencies and my advisor to permit access to the data.

Quantitative Methodology

The Sample

Data for this study are drawn from missing person reports extracted from the record management system of two urban¹⁰ law enforcement agencies in two Canadian cities, accessed through a secure client-portal. The data contains all closed¹¹ missing person files from January 1, 2014 to December 31, 2018¹². I limited the sample to respondents who were 65 years or older¹³ at the time of the report which produced a non-probability sample of 325 reports from Agency A and 291 reports from Agency B. Data were then collated through an iterative recoding process to create a single, unified dataset of 616 reports.

The measures I include in the analysis are individual health and demographic characteristics, such as one's age, gender, race and health conditions, as well as comprehensive measures relating to one's missing incident(s), such as their probable cause for going missing, the location from which they were reported missing and subsequently found, as well as the

¹⁰ Both law enforcement agencies who participated in this study are situated in large urban centres with populations of 100,000+ residents, as advanced by Statistics Canada (2016) departmental standard.

¹¹ All missing person reports included in this sample were 'closed' meaning that the missing person had either been located or found deceased. Older adults who have not been found are thus excluded from this sample.

¹² Five years is the maximum retention period for data of this type.

¹³ Although an older adult can be classified as someone who is 50, 55 or 60+ years of age, I operationalize old age to include any individual who was 65+ years of age at the time of the report to maintain consistency with the extant literature on older adults in Canada (Statistics Canada 1999).

length of time they were missing. Due to a large volume of missing cases, measures concerning harm caused or sustained while missing were excluded from the analysis.

Retrospective police reports are well suited for predictive analyses insofar as they provide precise dates, times, and locations, as well as comprehensive individual-level data that can be distilled by age, gender, race, and health condition¹⁴ (Brimicombe 2016). However, police data confronts the problem of multiple authors and multiple techniques for data reporting. For most measures included in the analyses, there were differences with how each variable was measured and recorded. These problems were further exacerbated by differential recording procedures between agencies which made some data ripe for analysis and some inaccessible. As a result, some measures were excluded from the analysis because there were no measures of related equivalency. Transforming the data thus proved to be an arduous, but necessary task. Indeed, Brimicombe and colleagues (2007) suggest extensive cleaning of police-recorded data is not just important but *required* to maximize the analytical use of the data.

With respect to missing data, it was deemed that the loss of efficiency by ignoring missing cases did not warrant the use of imputation for several reasons. First, vonHippel (2007) suggests imputation can add 'needless noise' to analyses and introduce biases beyond those introduced by missing cases. Given more advantageous techniques for addressing missing data, such as (a) retrieving missing demographic data from repeat missing reports; (b) using data from the qualitative reports to fill data gaps; or (c) requesting additional data from each agency, imputation techniques were considered the least preferable option. Further, missing data in the sample were attributed to collection error, or more specifically, were considered missing completely at random because the missing cases were not a result of systematic variance but rather the competing demands of police work. Data that are missing completely at random

¹⁴ See Brimicombe (2016) for a discussion on the strengths of police-recorded data and its amenability to quantitative analysis. See Berk (2013) for an example of how police data has been used for predictive analysis.

contraindicate the use of imputation (Bhaskaran and Smeeth 2014; Pigott 2001). A list-wise deletion of missing cases was performed instead.

The analytic sample analysed in each model thus ranges from 601 to 616 reports, which represents 476 older adults who were reported missing from January 1, 2014 to December 31, 2018¹⁵. Although the data were inter-provincial, the sample is not representative because data are sampled from only two urban areas. I did not weight any of the analyses because the responses were obtained from a non-probability sample of missing older adults in Canada. This decision was further advanced by the absence of population parameters for the population of interest.

Measures

Location Missing From

For my first analysis, I examined the locations from which older adults were reported missing by making use of the location data available in the reports in two ways ($n=615$). First, I used the *missing from* variable to identify the locations from which the reports were generated, such as private residences, care facilities, and hospitals. Second, I cross referenced these values with the physical addresses older adults were reported missing from to amend any coding errors. On the occasion where there were discrepancies between these values, I utilised additional information obtained in the qualitative reports to identify the precise location from which an older adult was reported missing.

It is important to note there was some definitional ambiguity surrounding the locations from which an individual was reported missing. For example, was it the location where the report was taken; was it the location police attended; or was it the location where the missing person was last seen? Unsurprisingly, responses on each of these variables tended to be the same. For

¹⁵ The number of missing person reports are greater than the number of older adults included in the sample because of the high rate of repeat missing occurrences.

example, if someone was last seen at home, they were often missing from home insofar as home was where they were expected to be. Police then attended and took the report at their home which made responses on all three variables the same. However, in missing occurrences where a person was last seen in the community, they may have been reported missing because they failed to return to their residence. Thus, the location where a report was taken was often their residence while the location police attended was the community-based location.

To reduce confusion, I operationalized the location older adults were reported missing from as 'the physical location older adults are noticed and/or reported missing from' which as described above was best captured through the *missing from* variable. The *missing from* variable was most often synonymous with the *last seen* variable however there were cases where responses on the variable differ, such as the case where a person may be missing from home but last seen in the community. Some of the values of this variable included private residences, care facilities, which included nursing and retirement homes, hospitals, streets and roadways, open areas, and shelters. This variable also included other less frequent locations such as bars or restaurants, shopping malls, universities or colleges, and churches, synagogues, temples or mosques.

Given my small sample size, I included only the most frequently occurring values in the regression model which were 'residences', 'care facilities', and 'hospitals'. I recoded the remaining responses as 'other' which represented the other community-based locations. Following this, I created a series of dummy variables for the locations older adults were reported missing including 'missing from residence', 'missing from care facility', 'missing from hospital', and 'missing from other location'. These variables were coded dichotomously with a response of '1' indicating 'yes'. I also used this variable as a predictor for the second regression model.

Location Found

For my second analysis, I used the *location found* variable to identify the location types from which older adults were located ($n=612$). This variable was operationalized as 'the location type where a missing person was located'. For Agency A, this variable was readily available but had some coding errors. For this reason, I cross referenced the *location found* variable with the physical addresses in which older adults were located to fill data gaps and address any inaccuracies. In the event there were discrepancies between the attributes of these two variables, I referenced the qualitative report as the determining factor, given that the officer details these notes immediately. For Agency B, these data were not included in the first phase of data collection. I obtained this variable through a second phase of data collection by asking the agency's crime analyst to pull the location type where missing older adults were found. Once I received these data, which were coded as an open-response variable, I re-coded the *location found* variable to merge it with the responses derived from Agency A.

The values of the location found variable were: 'residence', 'care facility', 'hospital', 'street or roadway', 'open area', 'shelter', 'commercial location', 'different city, province or country', 'deceased', or 'other'. Given my small sample size, I only included the most frequently occurring values in the regression model which were 'streets or roadways', 'residences', and 'commercial locations'. I recoded the remaining responses as 'other'. Following this, I created a series of dummy variables for the locations in which older adults were found which were 'located at street or roadway', 'located at residence, and 'located at commercial location'. These variables were coded dichotomously with a response of '1' indicating 'yes'.

Repeat Missing History

For my third analysis, I examined older adults repeat missing history in two ways ($n=616$). First, I used the *missing history* variable to determine one's repeat missing classification both before and during the study period. For Agency A, this was a multiclass variable with three

responses: (1) no history of repeat missing occurrences; (2) repeat missing with more than one occurrence; and (3) chronic/habitual missing with multiple occurrences. However, for Agency B these data were coded as a binary variable with two responses: (1) no repeat missing history, and (2) repeat missing history. Because there was no equivalency for chronic/habitual missing for Agency B, I recoded the *missing from* variable for Agency A into a dichotomous variable with a score of '1' indicating 'repeat missing history'. I operationalized this variable as 'a classification of repeat missing history before and during the study period'.

Second, I used the number of times each person was reported missing during the five-year study period to generate a variable for repeat missing occurrences. I operationalized this variable as 'a history of going missing on more than one occasion during the years of 2014 to 2018'. I was able to generate this measure by connecting each report to each missing person through an identification number. This then allowed me to create a count of times an individual was reported missing. For any reports where the count was greater than one, the report was classified as having a repeat missing occurrence between 2014 and 2018. This variable was coded dichotomously with a response of '1' indicating 'yes'. I also used these variables as predictors for the first regression model.

Located within Five Hours

For my fourth analyses, I included two additional measures which examine the length of time older adults were missing. Specifically, I measured the elapsed time between when a person was last seen and when they were located ($n=603$). Second, I measured the elapsed time between when an individual was reported missing and when they were found ($n=601$). I measured each of these variables at the ratio level. Because responses on each variable were positively skewed, I reported the median and interquartile range in the descriptive results. To elucidate responses on these variables further, I measured each of these variables at the ordinal

level with the following levels: elapsed time ≤ 2 hours; elapsed time ≤ 5 hours; elapsed time ≤ 24 hours; elapsed time ≤ 48 hours; and elapsed time ≤ 1 week.

For the regression models, I focused specifically on being located within five hours because one of the assumptions of ordinary least squares (OLS) regression is that the data be normally distributed and my data were positively skewed. I thus used a binomial logistic regression to examine (1) being located within five hours from the time a person was last seen, and (2) being located within five hours from the time a person was reported missing. In particular, I created a dummy variable for being found within five hours of being last seen and being reported missing. I used five hours as the comparison group because 52.6% of the scores on the time last seen variable and 70.2% of scores on the time reported missing variable fell within the first five hours. A score of '1' thus indicates being found within five hours.

Health Characteristics

I used health characteristics as predictors for all four regression models. In particular, I used the following dichotomous variables —dementia, mental disability, physical disability, medical dependency, suicide risk, escape risk, drug/alcohol dependency, and history of violence— to assess the health characteristics of the sample of missing persons. In the original datasets, these variables were values of a health characteristic measure which had multi-responses. Because responses were not mutually exclusive, I created dummy variables to make the values of 'mental disability', 'physical disability', 'medical dependency', 'suicide risk', 'escape risk', 'drug/alcohol dependency', and 'history of violent behaviour' amenable to analysis. For each variable, I cross referenced the qualitative reports to ensure each variable was appropriately measured.

Mental disability. Mental health disorders, such as anxiety and depression, as well as a range of psychological disorders, including bipolar disorder and schizophrenia, are thought to be a factor contributing to missing occurrences in approximately 40 to 80% of adult missing person

cases (Gibb and Woolough, 2007; Woolnough, Alys and Pakes 2016; Holmes 2017). In my analyses, I wanted to examine if having a mental disability may increase one's odds of going missing from and being located at particular places, as well as their odds of having a repeat missing incident. I included mental disability as a dichotomous variable measuring if an individual has one or more mental health conditions or psychological disorders. A limit of this measure was that it also includes dementia. Despite my efforts, I was unable to separate dementia from the mental disability variable for two reasons. First, there tended to be a high comorbidity rate between explicit mentions of dementia and other mental health conditions. Second, there were instances where a mental health condition was not detailed in the qualitative reports, but the mental health condition was listed in the dataset.

Dementia. Dementia is believed to be a significant factor affecting missing occurrences among older adults (McShane et al. 1998; Hope et al. 2001; Rowe and Glover 2001; Rowe 2008; Bowen et al. 2011; Petonito et al. 2012; Neubauer et al. 2019). This is because disruptions in cognitive processing are believed to increase the occurrence of dementia-related wandering as well as a host of behaviours associated with becoming lost (Algase et al. 2007). I generated a binary variable of whether or not an individual has dementia from the qualitative reports. In particular, I queried the following terms 'dementia', 'Alzheimer', 'Alzheimer's', 'Dementia' [sic], and 'Dimensha' [sic], as well as specific types of dementia such as Lewy body or vascular dementia. I did not query for any dementia-related behaviours such as memory loss, confusion, or agitation, although it was common for these behaviours to be included. I made this decision because memory loss or any dementia-related behaviours cannot be equated with a clinician diagnosis of dementia. I therefore only included cases where dementia was explicitly mentioned and excluded cases where dementia may have been suspected but not confirmed. Lastly, each report was read comprehensively to ensure the query produced valid results. On occasions where the responses were not valid, such as the case where officers probed with questions such as 'does

[the missing person] suffer from dementia or Alzheimer's' and the response was 'no', I coded these responses as '0'.

Physical disability. Existing research suggests that those who have a physical disability may travel shorter distances while missing than those who do not (Furumiya and Hashimoto 2015). I extended this research by assessing if having a physical disability was also a factor in the locations older adults were reported missing from, where they were found, repeat missing occurrences, and being located within five hours. In the literature, physical disabilities are measured through various scales, such as clinician-rated disability (Palmore 1979) or through difficulties with activities of daily living such as having difficulty walking across a room, dressing, bathing, eating, getting in and out of bed, and using the bathroom (McLaughlin et al. 2010). For this study, the measure of physical disability was less robust. It simply measured if an individual had one or more physical disabilities as described in the reports. Physical disabilities included visual and hearing impairments, respiratory disorders, breathing issues, Parkinson's disease, multiple sclerosis, cerebral palsy, epilepsy, and stroke.

Medical dependency. Older adults who take medication at regular intervals may be at a greater risk of harm while missing if they experience disruptions in their prescribed regimen. I included this measure to assess whether medical dependency was a factor for going missing. I defined medical dependency as the reliance on medication for physical or emotional health and it was measured as being medically dependent or not.

Suicide risk. To assess whether suicide may be a factor contributing to going missing from particular locations and being subsequently found at different locations, I included suicide risk as a dichotomous variable measuring whether an older adult was at risk of suicide or not. It was defined as any concern for, or mention of, suicide, such as thinking about, contemplating, or planning suicide. It encompasses both suicide ideation and the physical act of planning or attempting suicide (Nydegger 2014:27).

Escape risk. I included escape risk as a predictor in each regression model because it is a measure concerning whether an older adult is at risk of absconding from care, such as hospital care or a treatment centre, and thus likely affects where they go missing from, where they are found, and repeat missing occurrences. This variable was measured as being an escape risk or not, and it was assessed by the investigating officer at the outset of the investigation.

Drug/alcohol dependency. I included drug or alcohol dependency as a measure in the analyses because I was interested to see if having a drug or alcohol dependency may predict the locations in which older adults were reported missing from and subsequently found, as well as the likelihood of having a repeat missing incident. It is defined as having a drug/alcohol dependency or not. In most cases, this measure referred to alcohol dependency given that illicit drug use among older adults is considerably low (Wu and Blazer 2011).

History of violent behaviour. To assess a missing person's history of violence over the study period, I included a dichotomous measure of having a history of violence or not. This measure was defined as an older adult who has a history of violence insofar as they were known to be violent and/or aggressive.

Previous and Probable Causes for Going Missing

I used previous and probable causes for going missing as predictors for both the first and second regression models. The values for these variables were the same although the first variable measured the previous cause for going missing and the second variable measured the probable cause for going missing. The values of these variables were 'wandered and/or lost', 'eloped', 'ran away', 'other', and 'unknown'. 'Wandered and/or lost' measured if an individual had a history of, or was predicted to have become lost while away from care. In the reports, it generally referred to any occurrences where an individual became lost unintentionally. 'Eloped' referred to occurrences where an individual may have had a history of, or was likely to have eloped or absconded from care. An example of this was when someone left hospital care on an

approved absence but failed to return. 'Ran away' was a measure of intentionality (Biehal, Mitchell and Wade 2003). When an individual was reported missing who did not wish to be found, they were generally thought of as having ran away. 'Other' was a measure of occurrences where an individual was thought to have neither wandered/became lost, eloped, or ran away; whereas 'unknown' referred to occurrences where the previous and probable causes for going missing were simply as such – not known. Each of these responses were dummy coded as 'wandered/lost', 'eloped', 'ran away', or 'other'.

Season reported missing

International evidence suggests that individuals living with dementia may be more likely to go missing during the warmer months (Bantry White and Montgomery 2014). Thus, I generated a measure for the season older adults were reported missing to examine if the time of year they went missing was a significant predictor for single and repeat missing occurrences. The season older adults were reported missing had the following values: (1) 'spring' or March to May; (2) 'summer' or June to August; (3) 'fall', or September to November; and (4) 'winter', or December to February. For the regression models, each of these responses were dummy coded as 'spring', 'summer', 'fall', and 'winter'.

Covariates

In the regression models, I controlled for age, gender, and race as covariates. In particular, age was measured at the ratio level and referred to the age of the respondent at the time they were reported missing. Gender was measured as a binary variable with a score of '1' indicating 'female'. I controlled for race in two ways. First, race was controlled for in the first and second models through the creation of a dummy variable with a score of '1' indicating 'ethnic minority'. I used 'white' as the reference category. For the third model, I created several dummy variables for race: 'Aboriginal', 'Black', 'Middle Eastern', 'Asian', 'Hispanic', and 'other'.

Descriptive variables

For the descriptive analyses, I included additional variables to provide a preliminary understanding of older adults who were reported missing in these two cities. These variables included: age¹⁶, total number of health conditions¹⁷, number of times reported missing in the previous five years, and the reported risk¹⁸. The additional variables also included time specific variables, such as the time a missing person was last seen or heard from, the time they were reported missing, and the time they were located by police or others. Each of these variables were measured at the interval level. I also measured the elapsed time between when an individual was last seen and when they were reported missing. I used this variable to examine if there were any delays in reporting someone missing because existing research suggests any delays can increase the length of time an individual is missing and negatively impact search outcomes (Bantry White and Montgomery 2014; Shalev Greene et al. 2019). I measured this variable using the following levels: ≤ 10mins; ≤ 30mins; ≤ 1 hour; ≤ 2 hours; and ≤ 24 hours.

Analytic Strategy

To address my first research question, I compared the percentage distributions and means of the demographic and health characteristics of the sample to provide a preliminary understanding of older adults who were reported missing in the two cities. In particular, I disaggregated the age variable to provide a clearer understanding of age groups which may be

¹⁶ Age is coded at the ordinal level using age classifications. I use the age classifications advanced by Neugarten (1974), Setterson and Ulrich (1997) and Laslett (1991) which classify old age as 'young-old' (65-74 years), 'old-old' (75-84 years) and 'oldest-old' (85+ years).

¹⁷ I measure the total number of health conditions by including any individuals who reported 'yes' to any of the following health conditions: mental disability, physical disability, medical dependency, drug/alcohol dependency, and suicide risk. I exclude dementia because it co-occurs with the mental disability variable. I also exclude escape risk and history of violent behaviour because although those variables are included with the health characteristics they do not measure health conditions per se.

¹⁸ The reported risk is generated from a search urgency score which is a measure used by the investigating officer. It measures for a variety of different factors, such as physical or mental health conditions, that may place someone at a greater risk for going missing. Responses on this variable are either 'general occurrence' (indicated by a score of '0') or 'high risk' (indicated by a score of '1').

over-or underrepresented in missing person reports. I further aggregated responses on the length of time variables to elucidate responses on these variables that were not captured by the median and interquartile range alone.

To address my second research question, I examined the spatial dimensions of missing occurrences by examining the locations older adults were most likely to be reported missing from and subsequently found. First, I estimated the odds of going missing from private residences, care facilities, and hospitals through a series of logistic regressions. Using these methods, I was able to compare reports where older adults have been reported missing from: a) residences as opposed to all other locations; b) care facilities as opposed to all other locations; and c) hospitals as opposed to all other locations. This approach is often referred to as one-versus-all logistic regression and is a recognized method for reducing multiclass classification problems into a set of binary classifications. I used these methods because the loss of efficiency in running a series of models as opposed to fitting one model simultaneously is considered negligible although the analyses produce slightly larger standard errors (Begg and Gray 1984; Agresti 2002:273). I controlled for age, sex, and ethnic minority as covariates.

Second, I estimated the odds of being located on streets or roadways, residences and commercial locations through a series of logistic regression models which allowed me to compare a) reports where older adults had been located on streets or roadways as opposed to all other locations; b) reports where older adults had been located at residences as opposed to all other locations; and c) reports where older adults had been located at commercial locations as opposed to other locations. Again, I used a one-versus-all logistic regression model and further controlled for age, sex, and ethnic minority.

To address my third research question, I estimated the odds of having a repeat missing occurrence among the older adult population using two measures capturing repeat missing history. The first variable measured repeat missing classifications and the second variable

measured repeat missing occurrences during the five-year study period. Given that responses on these variables were dichotomous, I ran two logistic regressions to examine which demographic and health characteristics increased or decreased the odds of having a repeat missing occurrence. I controlled for age, sex and race as covariates.

Lastly, to address my fourth research question, I estimated the odds of being found within the first five hours of being considered missing. I assessed the effect of demographic and health characteristics on being located within the first five hours through two measures capturing the length of time missing. First, through a variable measuring the length of time missing from when someone was last seen; second, through a variable measuring the length of time missing from when one was reported missing. In the first step of the model, I included age, sex, and race. In the second step, I controlled for age, sex, and race as covariates and then examined which health characteristic increased or decreased the odds of being located within five hours.

Qualitative Methodology

Thematic Analysis

For the qualitative component of this research, I used a thematic analysis to identify salient themes relating to becoming lost among older adults ($n=616$). In particular, I employed a socio-spatial analysis to examine (a) individual factors and (b) environmental factors that were relevant to becoming lost. It is important to note that at outset of the analyses I did not adhere to the aging and environment framework discussed above. Instead, I read through the reports piecemeal to identify any salient themes relevant to missing occurrences.

Thematic analysis is a method for “identifying, analysing, and reporting themes within data” (Braun and Clarke 2008). It organizes and describes data in rich detail. However, it goes beyond organizing and describing data by interpreting various aspects of the research topic (Boyatzis 1998). There are two types of thematic analysis described by Braun and Clarke (2006)

which include inductive and deductive approaches. An inductive thematic analysis allows for themes to be generated during the analysis, which is often conceived of as a 'bottom-up' approach for analysing the data (ibid). Most importantly, an inductive approach implies that the only pre-defined framework a researcher adopts is that of pre-existing knowledge. It often requires reading and analysing without a theoretical motivation. By contrast, a deductive analysis is a 'top-down' approach which allows for themes to be pre-conceived and allows the researcher to ensure the data explicitly answers the proposed research question. In practice, I used an approach that was both inductive and deductive: I began reading the texts with little idea of what the important themes would be and then revisited the data using a deductive thematic approach by adding additional codes relevant to theories of aging, disability, and the environment (Grant 2019:48).

In the first phase of the analysis, I generated themes in their entirety by what the data revealed or the analyses necessitated. However, I must acknowledge that these themes resonated with the political economy of aging; a framework I find so intimately coupled with my thoughts on aging that there was no plausible way for me to separate them from my analysis. I emphasize this here because when undertaking thematic analysis, it is necessary to be cognizant of and acknowledge the influence of our pre-existing ideas and motivations before constructing our results. In particular, one common pitfall of reporting thematic analysis is to "see the analysis as a passive, as opposed to an active, process, where themes 'emerge' from the data" (Grant 2019). Within a thematic analysis, it is difficult to disentangle the interests of the researcher from the themes they construct within the data; researchers do not simply find 'the truth' of the data but rather they 'create a truth' by imparting their experiences and pre-existing knowledge onto the data. The themes are rather constructed, and in turn, legitimized by the literature a researcher has reviewed and their theoretical motivations.

As previously stated, I endeavoured to analyse the data without any theoretical

motivations aside from those I previously adopted in other research. My inductive approach was similar to Braun and Clarke (2006:12) in that:

An inductive approach means that the themes identified are strongly linked to the data themselves (Patton 1990) and as such, this form of thematic analysis bears some similarity to grounded theory. In this approach, if the data have been collected specifically for the research (e.g., via interview or focus group) the themes identified may bear little relationship to the specific question that were asked of the participants. They would also not be driven by the researcher's theoretical interest in the area or topic. Inductive analysis is therefore a process of coding the data without trying to fit it into a pre-existing coding frame, or the researcher's analytic preconceptions. In this sense, this form of thematic analysis is data driven.

After identifying the theoretical fit between the data and theories of aging, disability and the environment, I undertook a systematic approach to analyzing the data on the basis of these theories. In contrast to inductive approaches, deductive or theoretical thematic approaches are driven by a researcher's theoretical or analytical interests (Braun and Clarke 2006). It is conceived of as "analyst-driven" and provides an in-depth analysis of several aspects of the data but a less rich description of the overall data (ibid). My experiences analysing the data suggests this is a rightly defined construct. Because the quantitative data covered some of the same ground as the qualitative reports, i.e. where older adults were reported missing from and where they were found, I was able to concentrate my focus on the more nuanced, contextual factors of becoming lost. Some of these themes may have been overwhelmed by larger, manifest themes or lost in the noise of objective readings. Indeed, Braun and Clarke (2016:10) attest that the "keyness" of a theme is "not necessarily dependent on quantifiable measures, but in terms of whether it captures something important in relation to the overall research question".

Coding

Throughout the coding process, I created and developed a coding scheme to guide my analysis. In particular, I relied on Folger and colleagues (1984) definition of a coding scheme

which “includes the process and rules of data analysis that are systematic, logical, and scientific” which are believed to increase the trustworthiness or validity of the study (as cited in Hsieh and Shannon 2005:1285). Because coding in thematic analysis takes place in six distinct phases, I thus engaged in six phases of coding which are discussed below (Braun and Clarke 2006).

In the first phase, I familiarized myself with the data by immersing myself in the reports to the extent that I was familiar with “the depth and breadth of the content” (ibid:17). I engaged in a process of active and repeated reading, such that early on I read for context, established meaning, and identified patterns. Following this, I generated initial codes in the qualitative software NVivo 12 by creating top-level nodes and connecting them to lower level nodes. Some of the preliminary nodes I identified were police notes about reasons for going missing, search techniques, and police closures of missing occurrences. In practice, I coded initially for manifest content and in latter phases I coded for latent content.

It was at this stage of the coding process that I engaged in the process of abstraction. The abstraction process is the stage where concepts are created either through insight, experience, or intuition which can sometimes be difficult to explain to others (Elo et al. 2014). For this reason, I want to elucidate that throughout the abstraction process, I was guided by the following principle of qualitative research put forth by Schreier (2012:13):

Data never ‘speaks for itself’, it does not ‘have’ a specific meaning. Meaning is something that we, the recipients, attribute to the words that we hear or read, to the images that we see. This is a complex process in which we bring together our perception of the material with our own individual background: what we know about a topic, the situation in which we encounter it, how we feel at the time, and much more. Meaning is not a given, but we *construct* meaning. Meaning is not something that is inherent in a text. Recipients take an active part in constructing meaning.

In the third phase of the coding, I began generating some preliminary themes by bridging and collating all relevant codes under the umbrella of one general theme. It was in this stage that some initial codes I deemed relevant were discarded if they were not pertinent to the qualitative

results or if they were better captured in the quantitative data. For example, one code I discarded centered on police using physical descriptors to locate missing persons. It soon became apparent this was such a common practice that it rarely produced any notable information relevant for the compilation of the qualitative results section.

In the fourth phase, I engaged in a process of reviewing and refining my selected themes. I used Patton's (1990) criteria for evaluating categories of internal homogeneity and external heterogeneity to ensure that there were (a) enough data to support each theme, (b) clear and identifiable distinctions between themes; and (c) the data cohered together meaningfully. In the fifth phase, I defined and refined the themes to tease out the "essence" of each theme (Braun and Clarke 2008:22). At this stage, I was able to identify what was unique about the data and each theme, and relate it to the overarching theoretical framework. In my experience, I used both theories of aging and the environment, as well as social models of disability to explicate my findings.

Alongside these phases, I maintained a notebook for analytical thoughts that came to mind while I was reading. I further noted any questions or contemplations that related to what I was reading, its relation to the quantitative data, and in the second iteration of the analysis, i.e. the deductive phase, any related literature that strengthened or challenged my findings. Although this is not considered an explicit stage in thematic analysis, Grant (2018:50) suggests it is a good practice.

Chapter 4: Quantitative Results

In this chapter, I describe the demographic, health and incident characteristics of older adults who were reported missing from 2014 to 2018 in two Canadian cities ($n=616$). I then examine the demographic, health and incident characteristics that predict (a) the spatial dimensions of missing occurrences, (b) repeat missing occurrences and (c) being found within five hours through a series of binomial logistic regressions. The research questions I address are identified and elaborated below.

Quantitative Research Questions
<p>Descriptive</p> <ol style="list-style-type: none">1. What are the demographic, health, and incident characteristics of older adults who are reported missing?
<p>Multivariate</p> <ol style="list-style-type: none">2. Which demographic, health and situational characteristics predict (a) the locations older adults are reported missing from; and (b) the locations older adults are found?3. Which demographic and health characteristics predict repeat missing occurrences within the five-year study period (2014-2018) and repeat missing classifications?4. Which demographic and health characteristics predict being located within five hours from the time an older adult was last seen and the time they were reported missing?

Descriptive Results

Table 1 presents the sample characteristics of older adults who were reported missing during the five-year study period. With respect to age, the mean age for going missing was 78 years of age ($SD = 8.6$ years) with a range of 65 to 104 years. To elucidate responses on age further, I aggregated responses on age to identify if there was an uneven distribution of reports by age group (Neugarten 1974). The ‘young-old’ and ‘old-old’, or adults ranging in age from 65 to 84, constituted almost three-quarters of the reports (73.9%). The ‘oldest-old’, or those 85 years and older, were thus only a small portion of older adults who were reported missing (26.1%). The

sample was unevenly distributed by gender as well with men outnumbering women by a ratio of 3:2 (61% for males; 39% for females). These findings are interesting given that women outnumber men in old age and more women are believed to have Alzheimer's than men (Rowe and Glover 2001). The majority of the sample was white (84.7%) and a small portion were Aboriginal (4.4%), Black (3.2%) and Asian (3.7%). Other less common race categories included Middle Eastern (1.1%), Hispanic (0.5%) and other (2.4%).

Persons living with dementia comprised just over half of all the reports (53.1%). Given the extant literature on dementia and going missing, it was surprising that not more individuals living with dementia were reported missing. However, the low rates may be explained by McShane and colleagues' (1998) finding that approximately two-thirds of missing person cases involving persons with dementia are not reported missing to the police. Interestingly, the most frequently occurring health condition was not dementia but rather mental disability (64%). Because persons with dementia were included in the mental disability category, I unfortunately do not know if these high rates can be attributed to mental disability alone or both the presence of dementia and mental disability. Additionally, a considerable share of older adults had a physical disability (22%) and were considered medically dependent (24.6%). These results indicate almost one-quarter of older adults may be at a heightened risk while missing if they experience interruptions in their prescribed regimen. With respect to physical disability, these findings may also yield important insights into the locations in which older adults are found. Rates of drug use and alcohol dependency were also considerably high with approximately 15% of the sample having a drug or alcohol dependency. Very few older adults were believed to be suicidal (3.4%), at risk of escaping (3.6%), or had a history of violent behaviour (2.6%).

With respect to repeat missing history, 41.4% of older adults in the sample were considered repeat missing persons and 33.4% had become lost multiple times within the past five years. On average, older adults had been reported missing 1.3 times (SD = 0.8) with the highest recorded number of times missing being 15 times. For older adults with a repeat missing history, the most common cause for repeatedly going missing was wandering off or becoming lost (17%) which lends some credence that dementia is an antecedent for repeatedly going missing (McShane et al. 1998). Other common reasons for previously going missing included eloping (2.8%), or more specifically, absconding from care, and running away (3.6%). Again, running away in these occurrences generally referred to a missing occurrence whereby a person was not truly missing in that they were acutely aware of their location but lost from others in that they did not want to be found (Hill 1998).

Table 1: Percentage distributions and means (with standard deviations) of missing older adults demographic and health characteristics, and repeat missing history ($n=616$)	
Characteristic	% or <i>M</i>
Age (<i>M</i>)	78.07 (8.591)
Age Class	
65-74 years	37.7
75-84 years	36.2
85+ years	26.1
Sex	
Male	61
Female	39
Race/Ethnicity	
White	84.7
Aboriginal	4.4
Black	3.2
Middle Eastern	1.1
Asian	3.7
Hispanic	0.5
Other	2.4

Health Characteristics	
Dementia	53.1
Mental Disability	64.1
Physical Disability	22
Medical Dependency	24.6
Drug or Alcohol Dependency	13
Suicide Risk	3.4
Escape Risk	3.6
Violent Behaviour	2.6
Number of Health Conditions (M)	1.27 (0.799)
Repeat Missing Classification	
Yes	41.4
No	58.6
Repeat Missing in the Past 5 Years	
Yes	33.4
No	66.6
Number of Times Reported Missing (M) In Past 5 Years	1.29 (1.011)
Previous Cause of Missing Incident	
Not applicable	66.6
Wandered off / Became lost	17.0
Eloped	2.8
Ran Away	3.6
Other/Unknown	10

Table 2 presents the missing incident characteristics from the retrospective missing person reports involving older adults in the two urban areas. With respect to the probable cause for going missing, the most frequently occurring cause for going missing was wandering off or becoming lost (49.5%). In this regard, wandering off and becoming lost were believed to be resultant of an older adult losing their spatial orientation and not having an effective means to reorient themselves (Hill 1998). The other common reasons for going missing were eloping from care (14.4%) or running away (6.2%). A considerable share of older adults also went missing for no known reason (21.4%). With respect to the relative risk for going missing, there was roughly

an even share between high risk (43.3%) and general occurrence reports (56.7%). This was not surprising given that 53.1% of the sample had dementia which has been considered a risk factor for missing occurrences in the literature (Robinson et al. 2007; Bowen et al. 2011).

Most older adults were reported missing from their residences, such as their family homes or dwelling units (23.7%). The second common location older adults were reported missing from was a care facility (19.8%) which is of note given previous research indicates older adults are less likely to go missing from institutional care because of protective measures put in place to reduce missing occurrences (Bantry White and Montgomery 2014). The other common locations for missing occurrences included hospitals (11%) and community-based locations (18.7%). With respect to community-based locations, the results indicated missing occurrences often originated from streets or roadways (7.5%), open areas (2.9%) and other community-based locations (8.3%) such as shopping malls, restaurants, or coffee shops. Together, these results indicate older adults may be at a heightened risk for going missing in the community (Bowen et al. 2011).

With respect to the report years, it appears the number of older adults who have been reported missing may be increasing with the exception of 2017 where there was a slight drop in reports (18.2% to 22.6% as opposed to 16.9%, respectively). Most older adults went missing during the warmer months than the colder months with approximately 10 to 12% less reports during the winter months than the fall (26.5%), spring (28.1%) and summer (28.8%) months. Most older adults were last seen during the afternoon at 2pm ($M = 13:52$, $SD = 5:01$) and were reported missing about an hour later ($M = 4:46$, $SD = 5:43$). In particular, the median length of time

between when an older adult was last seen and when they were reported missing was just under an hour (Mdn = 0.82/hour, IQR = 0-5.2).

Police efforts focused on locating missing older adults appeared to be quick and successful with most older adults being found within two and a half hours of being reported missing (Mdn = 2.17, IQR = 0.8-7.3) and four and a half hours from when they were last seen (Mdn = 4.47, IQR = 2-13.2). One-third of older adults were located on streets or roadways, followed by approximately one-quarter located at residences (32.2% and 23.7%, respectively). The reports did not differentiate between an older adult’s residence and someone else’s residence, thus sometimes older adults were located at an unrelated residence, such as the home of a stranger or the residence of a loved one. The other common locations older adults were found at were commercial locations (13.7%) such as shopping malls, coffee shops, or restaurants, followed by hospitals (8.2%), and care facilities (6.5%). Although uncommon, some older adults crossed police jurisdictions and were found in another city, province or country (4.7%). Only several reports in the sample were for older adults who were found deceased (0.5%).

Table 2: Percentage distributions and means (with standard deviations) or medians (with interquartile ranges) of older adults missing incident characteristics (<i>n</i> =616)	
Characteristic	% or <i>M</i> or Mdn
Probable Cause of Missing	
Unknown	21.4
Wandered off / Became Lost	49.4
Eloped	14.4
Ran Away	6.2
Other	8.5
Location Missing From	
Residence	48
Care Facility	19.8
Hospital	11.1
Street or Roadway	7.5

Open Area	2.9
Shelter	2.4
Other	8.3
Year Reported Missing	
2014	20.8
2015	18.2
2016	21.5
2017	16.9
2018	22.6
Season Reported Missing	
Winter	16.6
Spring	28.1
Summer	28.8
Fall	26.5
Time Last Seen (M)	13:53 (5:01)
Time of Report (M)	14:46 (5:34)
Risk	
General Occurrence	56.7
High Risk	43.3
Time Located (M)	15:11 (6:01)
Hours Missing by Time Last Seen	4.47 (2-13.2)
Hours Missing by Report Time	2.17 (0.8-7.3)
Hours between Time Last Seen and Time of Report	0.82 (0-5.2)
Place Located	
Street or Roadway	32.2
Residence	23.7
Commercial Location	13.7
Hospital	8.2
Care Facility	6.5
Different City, Province or Country	4.7
Shelter	3.9
Open Area	3.3
Other	3.3
Deceased	0.5

For a more detailed description of the length of time older adults were missing, as well as the elapsed time between when they were last seen and reported missing, I include a percentage

breakdown for these variables in Table 3. One-quarter of the sample was found within two hours from when they were last seen (25.2%) and over half were found within five hours (52.5%). Within a day of being last seen, 83.4% of missing older adults were found. These results indicate police efforts to locate missing older adults tended to be very prompt for both agencies. Indeed, the length of time missing was even shorter when measuring police responses after they were notified. Specifically, I used the length of time missing from the time of the report to estimate the length of time older adults were missing once police were involved. In this respect, almost 50% of older adults were found within two hours of them being reported missing. Strikingly, over 70% of older adults were found within the first five hours.

Additionally, there did not appear to be any significant delays in reporting older adults missing in most cases, with almost half of older adults reported missing within the first half hour of being last seen (46%). However, the rate appeared to slow as the hours increased with roughly one-in-nine older adults reported missing within 24 hours of when they were last seen (92.9%). These results imply most older adults may be receiving some form of care or supervision that allows for them to be noticed missing within fairly short time periods. However, this was not the case for all older adults as just over 7% were not reported missing within the first 24 hours. Given that any delays can hamper search investigations (Rowe and Bennett 2003; Bantry White and Montgomery 2014; Shalev Greene et al. 2019) it is thus concerning some older adults were missing for longer than 24 hours and police were not notified until hours or even days later.

<p>Table 3: Percentage distributions for the length of time missing by time last seen ($n=603$) and time of report ($n=601$), as well as elapsed time between time last seen and time of report ($n=602$).</p>
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Characteristic	%
Length of time missing from time last seen	
Within 2 hours	25.2
Within 5 hours	52.6
Within 24 hours	83.4
Within 48 hours	90
Within 1 week	96.7
Length of time missing from time of report	
Within 2 hours	48.9
Within 5 hours	70.2
Within 24 hours	90.2
Within 48 hours	94.7
Within 1 week	98.8
Elapsed time between time last seen and time of report	
Within 10mins	37.5
Within 30mins	46
Within 1 hour	53.7
Within 2 hours	62.3
Within 24 hours	92.9

Multivariate Results

In the following sections of this chapter, I present the results from logistic regression analyses which examine the effects of demographic, health and incident characteristics on (1) the spatial dimensions of missing occurrences, in particular (a) the locations older adults are reported missing from and (b) the locations in which older adults are found; (2) repeat missing occurrences and classifications; and (3) being found within five hours of being last seen and reported missing.

Spatial Dimensions of Missing Occurrences

I first examined the locations older adults were reported missing from through a series of binomial logistic regressions. In particular, I examined the effects of demographic characteristics on being reported missing from a residence, care facility, hospital, or other location in the first step of the model. In the second step, I controlled for these demographic variables as covariates and included all other relevant predictors in the analysis. The predictors I included in the second step of the model were: health characteristics, history for going missing, previous cause of missing, probable cause of missing, and season reported missing. I present the results of these analyses in Table 4 by first discussing factors relevant to going missing from a residence, followed by factors relevant to going missing from a care facility, hospital and then other locations.

Age, sex and race were not significant factors for being reported missing from a residence for older adults. With respect to health characteristics, older adults with a physical disability were 44% less likely than those without a physical disability to go missing from a residence ($p < 0.05$). Given that difficulties with activities of daily living often trigger nursing home admissions, it is not surprising older adults with a physical disability were less likely to go missing from residences (Van Rensbergen and Pacolet 2012). Older adults with a medical dependency were 1.699 times more likely to go missing from a residence than those without a medical dependency which indicates they may be at a heightened risk while missing ($p < 0.05$). Interestingly, older adults who had a previous history of wandering or becoming lost were 2.752 times more likely to go missing from residences ($p < 0.05$). These results were somewhat novel in that they suggest older adults who have previously wandered and/or become lost are likely to go missing from residences again. Unsurprisingly, older adults who were believed to have eloped were 94% less likely to go missing from a residence given that eloping is a measure of absconding from care ($p < 0.001$). Lastly, older

adults who were reported missing during the fall months were 1.872 times more likely to go missing from residences than those who go missing during the summer months.

With respect to going missing from a care facility, females were 44% less likely to go missing from care facilities than males ($p < 0.05$). Individuals with a repeat missing classification were 81% less likely to go missing from care facilities which suggests preventative measures to reduce repeat missing occurrences in care facilities appear to be successful ($p < 0.05$). The odds of going missing from a care facility were increased by 13.529 times for older adults who had a previous history of eloping ($p < 0.01$) which supports existing research that suggests the principal reason for residents becoming missing is eloping from care (Chung and Lai 2011). Not surprising then, older adults whose probable cause for going missing was 'eloped' were thus 10.139 times more likely to go missing from a care facility ($p < 0.001$).

In relation to going missing from a hospital, the results indicated every one unit increase in age is associated with a 7% decrease in the odds of going missing from a hospital ($p < 0.001$). Older adults with a physical disability were 2.171 times more likely to go missing from a hospital than those without a physical disability ($p < 0.01$). Again, as with going missing from a care facility, older adults who were considered an escape risk were 7.133 times more likely to go missing from a hospital than other location ($p < 0.05$). Interestingly, older adults who had a previous history of running away were 16.012 times more likely to go missing from a hospital than those who did not ($p < 0.05$). Because running away is often considered a measure of missing intentionally, this finding illustrates that older adults in hospital care are likely dissatisfied with being in hospital and may even feel as if they are being held there against their own will (Halek and Batholomeyczik 2012). Given the high incident rate of patients in psychiatric hospitals who are mandated to be

there under the Mental Health Act, running away appeared to be a conceivable reason for going missing. An additional finding was that older adults who were suspected to or thought to have eloped were 20.469 times more likely to go missing from hospital care ($p < 0.001$). Lastly, the odds of going missing from a hospital as opposed to all other locations were decreased by 63.9% for older adults who were reported missing during the spring rather than summer months ($p < 0.05$).

With respect to going missing from other locations, the results suggest older adults with a medical dependency were 45.7% less likely to go missing from other locations, such as shopping malls, coffee shops or restaurants ($p < 0.05$). Interestingly, older adults who had a previous history of wandering off or becoming lost, and suspected to have eloped were 82.2% and 34.1%, respectively, less likely than those who did not to go missing from other locations, respectively ($p < 0.001$).

To further examine the spatial dimensions of missing occurrences, I examined the locations older adults were found through a series of binomial logistic regressions. In particular, I examined the effects of demographic characteristics on being located on streets or roadways, residences, commercial and other locations in the first step of each model. In the second step of each model, I controlled for age, sex and race as covariates and included all relevant predictors in the analysis. The predictors I included in the complete models were: health characteristics, previous causes for going missing, probable causes for going missing, and the locations older adults were reported missing from. I present these results in Table 5 by first discussing factors relevant to being located on streets or roadways, followed by factors relevant to being located at residences, then commercial locations, and lastly other locations.

With respect to being located on a street or roadway, age was a significant factor insofar as a one-year increase in age was associated with a 1.027 increase in odds for being found on a street or roadway ($p < 0.001$). One striking finding was that older adults with dementia were 1.961 times more likely to be found on a street or roadway ($p < 0.01$) which suggests missing occurrences involving persons with dementia may originate from several locations but conclude on a street or roadway. In particular, older adults who were reported missing on a street or roadway as well as open area were considered 3.842 times and 4.668 times more likely to be found on a street or roadway, respectively ($p < 0.01$, $p < 0.05$). An additional health factor was having a drug or alcohol dependency such that the odds of being located on a street or roadway were decreased by 66% for drug or alcohol dependent older adults ($p < 0.01$).

A further interesting finding was that older adults who had a previous history of wandering off and becoming lost were 2.386 times more likely to be found on a street or roadway ($p < 0.001$) which lends credence to the belief that persons with dementia who wander and become lost are more likely to be found on a street or roadway. Not surprising then, the results indicate older adults whose probable cause for going missing was wandered off or became lost appeared to be 1.648 times more likely to be located on a street or roadway ($p < 0.1$). Other factors relevant to being located on a street or roadway include: a previous cause of missing being 'other' as well as a probable cause of running away. In particular, older adults whose previous cause of missing was 'other' were 4.818 times more likely to be found on a street or roadway ($p < 0.05$), and older adults whose probable cause for going missing was 'ran away' were 2.669 times more likely to be found on a street or roadway ($p < 0.05$).

Turning attention to being located at residences, older adults who had a drug or alcohol dependency were 2.832 times more likely to found at a residence than other location ($p < 0.01$). The other health characteristic of note was suicide risk. In particular, the results indicated that older adults who were at risk of suicide were 75% less likely to be found at a residence, however, these findings were only significant at the $p < 0.1$ level. The odds of being located at a residence decreased by 60% for older adults who had a history of wandering or becoming lost ($p < 0.01$). Interestingly, older adults who were reported missing from a residence or hospital were 3.750 times and 3.760 times more likely to be located at a residence ($p < 0.01$, $p < 0.05$, respectively).

Focusing next on being located at commercial locations, the analyses reveal that gender was significantly related to being found at commercial locations, such as shopping malls, restaurants, bars and coffee shops in both steps of the model. In particular, the odds of being located at commercial locations were decreased for females in comparison to males ($p < 0.1$). In relation to health characteristics, the only significant predictor in the model, controlling for age, sex, and race, was being considered an escape risk. Such that, older adults who were deemed an escape risk were 12.479 times more likely to be located at a commercial location ($p < 0.01$). These results suggest older adults who abscond from care, much like those in psychiatric care, often elope because they desire to leave the facility and attend to other emotional or social needs which may alleviate feelings of being 'trapped' and allow them to 'feel a part of the outside world' (Halek and Batholomeyczik 2012; Olsson et al. 2013; Holmes 2017). Other factors relevant to being located at commercial locations included having a previous cause of missing being 'other' as well as a probable cause of 'wandered and/or became lost' and 'eloped' (OR = 0.037, $p < 0.05$; OR = 3.283, $p < 0.1$; and OR = 3.951, $p < 0.1$).

The locations older adults were reported missing from were also significantly associated with being located at commercial locations. Specifically, older adults who were reported missing from a residence were 79.4% less likely than those who were reported missing from 'other' locations to be located at a commercial location ($p < 0.01$). This downward trend extended to older adults who were reported missing from hospitals and streets or roadways with a decrease in odds by 92.7% ($p < 0.01$) for older adults missing from hospitals and 91.4% for older adults missing from streets or roadways ($p < 0.05$).

The last location included in the regression model were being found at 'other' locations, which focus specifically on being located at hospitals, care facilities, shelters, open areas, another city, province or country, as well as deceased. With respect to being located at these locations, age was significantly associated with a slight decrease in odds ($OR = 0.961$, $p < 0.001$) as well as dementia ($OR = 0.614$, $p < 0.1$) which was associated with a decrease in odds but only at the $p < 0.1$ level. Other factors relevant included being reported missing from a residence ($OR = 0.406$, $p < 0.05$), open area ($OR = 0.400$, $p < 0.1$), and shelter ($OR = 14.089$, $p < 0.05$). Strikingly, being reported missing from a shelter increased one's odds of being located at 'other' locations by over 14 times.

Table 4: Odds ratio (and regression coefficients) from logistic regression analysis of the location older adults are reported missing from by their demographic and health characteristics, previous history of going missing, probable cause of going missing, and season reported missing (n=615).

	Residence		Care Facility		Hospital		Other	
	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)
Demographics								
Age	1.016 (0.016)	1.012 (0.012)	1.020 (0.020)	1.012 (0.012)	0.926 (-0.077)***	0.956 (-0.045)	0.998 (-0.002)	0.992 (-0.008)
Gender (Female)	1.243 (0.217)	1.298 (0.261)	0.651(-0.429)	0.573 (-0.558)*	1.121 (0.114)	0.938 (-0.064)	0.987 (-0.013)	1.056 (0.054)
Race (Ethnic Minority)	0.995 (-0.005)	0.977 (-0.023)	0.802 (-0.221)	0.788 (-0.239)	0.468 (-0.758)	1.188 (0.173)	1.709 (0.536)	1.125 (0.118)
Health Characteristics								
Dementia	-	1.124 (0.117)	-	0.899 (-0.107)	-	1.225 (0.203)	-	0.881 (-0.127)
Mental Disability	-	0.866 (-0.144)	-	1.434 (0.360)	-	0.997 (-0.003)	-	0.926 (-0.077)
Physical Disability	-	0.557 (-0.587)*	-	1.220 (0.199)	-	2.171 (0.775)*	-	1.312 (0.272)
Medical Dependency	-	1.699 (0.530)*	-	0.610 (-0.495)	-	2.185 (0.782)	-	0.543 (-0.610)*
Suicide Risk	-	1.349 (0.299)	-	0.794 (-0.230)	-	0.225 (-1.491)	-	1.329 (0.284)
Escape Risk	-	0.113 (-2.180)**	-	2.033 (0.710)	-	7.133 (1.965)*	-	0.680 (-0.386)
Drug/Alcohol Dependency	-	1.188 (0.172)	-	0.672 (-0.397)	-	1.708 (0.535)	-	0.825 (-0.192)
Repeat Missing History								
Repeat missing occurrences	-	0.433 (-0.836)	-	0.986 (-0.014)	-	1.398 (0.335)	-	2.345 (0.852)
Repeat missing classification	-	1.930 (0.657)	-	0.188 (-1.669)*	-	1.182 (0.168)	-	0.917 (-0.086)
Previous Cause of Missing (Ref=Not applicable)								
Wandered/Lost	-	2.752 (1.012)*	-	2.900 (1.065)	-	0.751(-0.286)	-	0.178 (-1.724)***
Eloped	-	0.346 (1.061)	-	13.529 (2.605)**	-	0.316 (-1.153)	-	0.369 (-0.998)
Ran Away	-	1.125 (0.188)	-	0.000 (-19.268)	-	16.012 (2.773)*	-	0.519 (-0.657)
Other	-	0.619 (-0.480)	-	21.373 (3.062)**	-	0.000(-19.260)	-	0.535 (-0.626)

Probable Cause of Missing (Ref=Unknown)								
Wandered/Lost	-	0.886 (-0.121)	-	2.082 (0.734)	-	2.744 (1.010)	-	0.659 (-0.417)
Eloped	-	0.061 (-2.790)***	-	10.139 (2.316)***	-	20.469 (3.019)*	-	0.051 (-2.969)***
Ran Away	-	1.518 (0.417)	-	0.710 (-0.342)	-	0.000 (-19.415)	-	0.851 (-0.161)
Other	-	1.962 (0.674)	-	1.415 (0.347)	-	0.000 (-17.437)	-	0.510 (-0.673)
Season Reported Missing (Ref=Summer)								
Spring	-	1.074 (0.071)	-	1.250 (0.223)	-	0.361 (-1.019)*	-	1.035 (0.034)
Fall	-	1.872 (0.627)*	-	0.664 (-0.409)	-	0.732 (-0.312)	-	0.705 (-0.350)
Winter	-	1.668 (0.512)	-	0.659 (-0.418)	-	0.358 (-1.028)	-	0.935 (-0.067)*

Note: *p<0.05, ** p<0.01, p <0.001

Table 5: Odds ratio (and regression coefficients) from logistic regression analysis of the locations missing older adults are found by their demographic and health characteristics, previous history of going missing, probable cause of going missing, and location reported missing from (n=612).

	Street/Roadway		Residence		Commercial Location		Other	
	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)
Demographics								
Age	1.037 (0.036)***	1.011 (0.011)	1.006 (0.006)	1.013 (0.013)	0.998 (-0.002)	0.977 (-0.023)	0.961 (-0.040)***	0.986 (-0.014)
Gender (Ref=Male)								
Female	1.189 (0.173)	1.185 (0.170)	1.131 (0.123)	1.070 (0.068)	0.544 (-0.609)†	0.494 (-0.706)†	0.912 (-0.093)	0.993 (-0.007)
Race (Ref=White)								
Ethnic Minority	1.032 (0.032)	1.218 (0.197)	1.144 (0.134)	0.911 (-0.094)	1.298 (0.261)	1.832 (0.606)	0.792 (-0.233)	0.744 (-0.296)
Health Characteristics (Ref=No)								
Dementia	-	1.961 (0.674)**	-	0.858 (-0.153)	-	0.972 (-0.028)	-	0.614 (-0.488)†
Mental Disability	-	0.900 (-0.105)	-	0.783 (-0.244)	-	1.892 (0.638)	-	1.193 (0.176)
Physical Disability	-	0.999 (-0.001)	-	0.924 (-0.080)	-	0.726 (-0.320)	-	1.101 (0.096)
Medical Dependency	-	1.166 (0.153)	-	0.732 (-0.312)	-	0.349 (-1.052)	-	1.345 (0.296)
Suicide Risk	-	1.135 (0.127)	-	0.250 (-1.385)†	-	0.349 (-1.053)	-	1.950 (0.668)

Escape Risk	-	1.042 (0.041)	-	0.196 (-1.628)	-	12.479 (2.524)**	-	0.991 (-0.010)
Drug/Alcohol Dependency	-	0.338 (-1.084)**	-	2.832 (1.041)**	-	0.820 (-0.199)	-	0.991(-.009)
Previous Cause of Missing								
<i>(Ref=Not applicable)</i>								
Wandered/Lost	-	2.386 (0.870)***	-	0.390 (-0.942)**	-	0.899 (-0.107)	-	0.707 (-0.347)
Eloped	-	2.801 (1.030)	-	1.317 (0.276)	-	0.478 (-0.739)	-	0.516 (-0.662)
Ran Away	-	1.246 (0.220)	-	0.759 (-0.275)	-	4.041 (1.397)	-	0.761 (-0.273)
Other	-	4.818 (1.572)*	-	0.577 (-0.550)	-	0.037 (-3.305)*	-	0.658 (-0.419)
Probable Cause of Missing								
<i>(Ref=Unknown)</i>								
Wandered/Lost	-	1.648 (0.499)†	-	0.717 (-0.333)	-	3.282 (1.188)†	-	0.653 (-0.425)
Eloped	-	0.754 (-0.282)	-	0.387 (-0.949)	-	3.951 (1.374)†	-	1.381 (0.323)
Ran Away	-	2.669 (0.982)*	-	0.325 (-1.123)	-	0.682 (-0.382)	-	1.066 (0.064)
Other	-	0.541 (-0.615)	-	0.713 (-0.338)	-	3.658 (1.297)	-	1.728 (0.547)
Location Missing From								
<i>(Ref=Other)</i>								
Care Facility	-	1.261 (0.232)	-	0.632 (-0.458)	-	0.575 (-0.553)	-	1.283 (0.250)
Residence	-	0.810 (-0.210)	-	3.750 (1.322)**	-	0.206 (-1.582)**	-	0.406 (-0.902)*
Hospital	-	1.672 (0.514)	-	3.760 (1.324)*	-	0.073 (-2.623)**	-	1.053 (0.052)
Street/Roadway	-	3.842 (1.356)**	-	1.648 (0.500)	-	0.086 (-2.453)*	-	0.417 (-0.874)
Open Area	-	4.668 (1.541)*	-	0.586 (-0.534)	-	0.517 (-0.660)	-	0.400 (-0.916)†
Shelter	-	0.284 (-1.258)	-	0.000 (-19.662)	-	0.000 (-19.293)	-	14.089 (2.645)*

Note: † <0.1, *p<0.05, **p<0.01, ***p<0.001

Repeat Missing History

In Table 6, I report the results from a series of binomial logistic regressions assessing the effects of demographic and health characteristics on being reported missing repeatedly within the five-year study period. In particular, for the first step of the model, I assessed the effects of age, sex and race on having a repeat missing occurrence within 2014 to 2018. The results indicated the odds for having a repeat missing occurrence were 33.5% less for females than for males ($p < 0.05$). Interestingly, race was of note in one case where Black older adults were 2.607 times more likely than white older adults to have a repeat missing occurrence within the study period ($p < 0.1$).

In the second model, controlling for age, sex, and race as covariates, the odds of having a repeat missing occurrence for sex were still significant with a decrease in odds by 37% for women as opposed to men ($p < 0.05$). Additionally, Black older adults were significantly more likely than whites to have a repeat missing occurrence from 2014 to 2018. Specifically, Black older adults were 2.970 times more likely than white older adults ($p < 0.05$). With respect to health conditions, older adults with a mental disability were 2.636 times more likely to have a repeat missing occurrence than those who did not ($p < 0.001$). Interestingly, I did not find any significant effects for dementia. For older adults who had a physical disability, it was noteworthy that they were 34% less likely to have a repeat missing occurrence, although this result did not meet the $p < 0.05$ threshold of significance ($p < 0.1$). Lastly, older adults who were considered an escape risk were 6.4 times more likely than those who did not to have a repeat missing occurrence within the study period ($p < 0.01$).

To further assess repeat missing history, I assessed repeat missing occurrences using the repeat missing history classification available in the reports. This included a repeat missing history inclusive of both the study period and any years prior (i.e. pre-2014 to 2018). In the first model, I examined the effects of age, sex and race on the likelihood of having a repeat missing classification. The results were not significant for age or sex; however, they were significant for race. In particular, the odds of having a repeat missing occurrence for Black individuals were increased by 3.097 times than for white individuals ($p < 0.05$). In the second model controlling for the previously mentioned covariates, the odds for having a repeat missing classification for Black older adults were slightly increased by roughly 50% (OR = 3.529, $p < 0.05$). Interestingly, sex was not significant in the second model either which indicates sex may be a factor predicting repeat missing occurrences within the previous five years but not for a repeat missing classification.

Other notable findings included that older adults with a mental disability were 2.689 times more likely to have a repeat missing classification ($p < 0.001$). Indeed, these findings were significant at the $p < 0.001$ level for having both a repeat missing occurrence within the five-year study period as well as a repeat missing classification. Thus, the association between having a mental disability and repeat missing occurrence appeared to be very robust. Another health characteristic relevant was being considered an escape risk – that is, being an escape risk increased one's odds of having a repeat missing classification by 4.292 times ($p < 0.05$). Other findings of note at $p < 0.1$ were: older adults with a physical disability and those who were considered a suicide risk were less likely to have a repeat missing classification (OR = 0.642, OR = 0.388).

Table 6: Odds ratio (and regression coefficients) from logistic regression analysis of repeat missing history by older adults' demographic and health characteristics (n=616).

	Repeat Missing Occurrence From 2014-2018		Repeat Missing Classification Pre-2014-2018	
	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)
Demographics				
Age	0.983 (-0.017)	0.982 (-0.018)	0.991 (-0.009)	0.990 (-0.010)
Gender (<i>Ref=Male</i>)				
Female	0.665 (-0.408)*	0.633 (-0.457)*	0.764 (-0.269)	0.734 (-0.310)
Race (<i>Ref=White</i>)				
Aboriginal	1.191 (0.175)	1.905 (0.644)	0.860 (-0.151)	1.385 (0.325)
Black	2.607 (0.958)†	2.970 (1.088)*	3.097 (1.130)*	3.529 (1.261)*
Middle Eastern	0.000 (-20.697)	0.000 (-20.701)	0.237 (-1.440)	0.235 (-1.449)
Asian	1.200 (0.183)	1.329 (0.284)	0.809 (-0.213)	0.951 (-0.050)
Hispanic	0.000 (-20.632)	0.000 (-21.255)	0.622 (-0.474)	0.349 (-1.054)
Other	0.349 (-1.052)	0.378 (-0.972)	0.350 (-1.049)	0.382 (-0.963)
Health Characteristics				
<i>(Ref = No)</i>				
Dementia	-	0.737 (-0.306)	-	0.816 (-0.203)
Mental Disability	-	2.636 (0.969)***	-	2.689 (0.989)***
Physical Disability	-	0.638 (-0.449)†	-	0.642 (-0.443)†
Medical Dependency	-	0.701 (-0.356)	-	1.111 (0.106)
Suicide Risk	-	0.572 (-0.559)	-	0.388 (-0.947)†
Escape Risk	-	6.436 (1.862)**	-	4.292 (1.457)*
Violent Behaviour	-	1.667 (0.511)	-	1.997 (0.691)
Drug/Alcohol Dependency	-	1.159 (0.148)	-	1.407 (0.341)

Note: † <0.1, *p<0.05, **p<0.01, ***p<0.001

Located within Five Hours

To address my final research question, I assessed the effects of age, gender, and race on older adults being located within the five hours of when they were last seen in the first step of the model. Age was a significant factor for being located within five hours ($p<0.001$). In particular, for every one unit increase in age, the odds of being located within five hours was increased by 1.605 times. Women were also more likely than men to be found within five hours from the time they were last seen. In particular, the odds were increased by 2.042 times for women as opposed to men ($p<0.001$). Race was also a significant factor. Aboriginal older adults were 72% less likely

than white older adults to be found within five hours of the time they were last seen ($p < 0.05$). On the contrary, Black older adults were 3.568 times more likely than white older adults to be located within five hours ($p < 0.05$). Lastly, Asian older adults were 70.1% less likely than white older adults to be found within the five-hour period.

In the second step of the model, controlling for age, sex and race as covariates, older adults with dementia were 2.462 times more likely than older adults without dementia to be found within five hours of when they were last seen ($p < 0.001$). This finding is of note because it indicates police responses to locate persons with dementia are more efficient than for those without dementia. Further, older adults who were considered an escape risk were 75% less likely to be found within five hours from when they were last seen ($p < 0.05$). Finally, older adults who were considered drug or alcohol dependent were 56.5% less likely to be found within the initial five hours ($p < 0.01$). A final note is that older adults with a medical dependency were roughly 32.4% less likely to be found within five hours of the time they were last seen ($p < 0.1$).

To further examine being found within five hours, I assessed the effects of age, gender, and race as well as health characteristics on being located within five hours of being reported missing. I did so because I wanted to examine police responses to missing persons once police were aware of the case by asking questions, such as: how prompt were police at responding and were there any factors that facilitated or inhibited police responses? To address these questions, I ran two sets of binomial logistic regression models. In the first model, I examined demographic characteristics that were significantly related to being found within five hours of being reported missing. In the second model, I controlled for these demographic variables as covariates, and

then examined which health factors were relevant to being located within five hours of police involvement.

In the first model, age was significantly related with an increase in odds by 1.089 times for every one-year increase in age ($p < 0.001$). Gender was also of note with females being 1.498 times more likely than males to be found within five hours of being reported missing ($p < 0.1$). Race was also significant – however, only for Aboriginal older adults. Aboriginal older adults were 65.3% less likely to be located within the first five hours of being reported missing ($p < 0.05$). For the second model, age, sex, and race were still considered statistically significant, however, there was a slight drop in the strength of the relationship for Aboriginal older adults. In particular, an increase in age was associated with an increase in being found within five hours, as well as being female as opposed to male (OR: 1.062, $p < 0.001$; OR: 1.331, $p < 0.1$). Aboriginal older adults were 60% less likely to be found within the initial five hours in contrast to whites ($p < 0.1$).

With respect to health conditions, older adults with dementia were 2.265 times more likely to be found within five hours than those who were not living with dementia ($p < 0.001$). Additionally, older adults who were considered an escape risk, and drug or alcohol dependent were less likely to be found within five hours of being reported missing. In particular, those who were considered an escape risk were 60% less likely ($p < 0.1$) than those who did not and those who had a drug or alcohol dependency were 52.7% less likely than those without a drug or alcohol dependency ($p < 0.05$).

Table 7: Odds ratio (and regression coefficients) from logistic regression analysis of elapsed time between missing incidences by older adults' demographic and health characteristics (n=603; n=601).

	Located within 5 hours From Time Last Seen		Located within 5 hours From Time Reported Missing	
	Model 1 OR (β)	Model 2 OR (β)	Model 1 OR (β)	Model 2 OR (β)
Demographics				
Age	1.605 (0.063)***	1.038 (0.038)**	1.089 (0.085)***	1.062 (0.060)***
Gender (<i>Ref=Male</i>)				
Female	2.042 (0.714)***	1.963 (0.674)***	1.498 (0.404)†	1.331 (0.209)†
Race (<i>Ref=White</i>)				
Aboriginal	0.280 (-1.272)*	0.327 (-1.117)*	0.347 (-1.059)*	0.402(-0.910)†
Black	3.568 (1.272)*	2.554 (0.934)	2.354 (0.856)	1.587 (0.462)
Middle Eastern	3.748 (1.321)	3.911 (1.357)	1.550 (0.438)	1.174 (0.161)
Asian	0.299 (-1.206)*	0.266 (-1.324)**	0.692 (-0.369)	0.714 (-0.337)
Hispanic	1.632 (0.490)	1.397 (0.334)	0.686 (-0.378)	0.522 (-0.650)
Other	1.341 (0.294)	1.614 (0.479)	1.861 (0.621)	2.066 (0.726)
Health Characteristics				
<i>(Ref = No)</i>				
Dementia	-	2.462 (0.901)***	-	2.265 (0.818)***
Mental Disability	-	1.401 (0.337)	-	1.168 (0.155)
Physical Disability	-	1.168 (0.155)	-	1.179 (0.165)
Medical Dependency	-	0.676 (-0.392)†	-	0.764 (-0.269)
Suicide Risk	-	0.789 (-0.237)	-	0.507 (-0.680)
Escape Risk	-	0.250 (-1.388)*	-	0.404 (-0.906)†
Violent Behaviour	-	1.230 (0.207)	-	1.982 (0.684)
Drug/Alcohol	-	0.435(-0.833)**	-	0.473 (-0.750)*
Dependency				

Note: † <0.1, *p<0.05, **p<0.01, ***p<0.001

Chapter 5: Qualitative Results

Throughout this chapter, I use a socio-spatial perspective to explain missing occurrences in both community and institutional dwelling older adults. I draw on theories of aging and the environment, as well as social models of disability to explain how individual and environmental incongruence is a precipitating factor for missing occurrences. In particular, becoming lost appeared to result from both individual and environmental factors that placed older adults at a heightened risk for either going missing or being found. Becoming lost further appeared to be a function of aging within an environment unfit to support older adults needs. That is, the processes associated with age-related decline, such as short-term memory loss as well as declines in mobility coupled with an aging pathology (i.e. stroke or the onset of dementia) produced resultant gaps between the aging individual and their lived environment.

Individual Competencies and the Demands of the Environment

Both aging and disability scholars have developed theoretically sound arguments to propose that dependency and disability in old age are social constructions, and the product of an unseemly match between an individual's abilities and the demands of their environment. In analysing the reports, Hahn's (1994) writing on the minority group model of disability was particularly useful in framing missing person reports. In his model, Hahn articulates that social attitudes are the underlying cause of disability and that almost every facet of the environment has been shaped or fashioned by public policy which reflect these pervasive attitudes and values (Hahn 1994:4). From this framework, much can be gathered about how dependency and disability are constructed in old age and the processes in which negative perceptions of aging and living with dementia result in stigma, followed by overt and less overt forms of discrimination in the provision of public services. At the individual level, (i) aging with a pathology, (ii) striving to

maintain independence, and (iii) requiring enhanced person-centred care presented barriers to living safely and securely for older adults which in turn increased their risk of becoming lost.

Aging with a pathology

The physical and cognitive losses associated with aging and dementia have been well-documented as has the relationship between dementia and becoming lost (Rowe and Glover 2001; Robinson et al. 2007; Bowen et al. 2011). It is of little surprise then that the challenges arising from living with dementia in both the community as well as residential settings were frequently referenced in the reports. However, it was not living with dementia that solely posed challenges for living safely within these settings, but rather the provision of services at the community and residential level that failed to meet their distinctive and variable needs.

A considerable body of literature has examined how the proliferation of anti-aging rhetoric has fueled negative images of aging and living with dementia (Sun and Smith 2017). Some scholars, Walker and Walker (1998) of note, have written explicitly on how anti-aging rhetoric and living with a disability has doubly exposed individuals aging with a pathology to unnecessary risks. They contend that aging with a pathology has positioned older adults in a context of “double jeopardy” whereby they experience “double doses” of prejudice and discrimination as well as an ensuing set of barriers to accessing healthcare resources (Sheets 2005:37). Because aging and living with dementia presented risks for becoming lost, I first discuss how age-related declines produced anticipated and unanticipated challenges for living safely within one’s community. In the following sections, I map how negative cultural perceptions of aging and living with dementia, or more explicitly ageism, has permeated onto the individual, such that self-ageism appeared to affect missing occurrences as well.

What is unique about living with dementia that positions older adults at risk for becoming lost? The following quotes allude to several disruptions in cognitive and spatial processing that heighten persons with dementia’s risk of going missing. For example:

Amos had not returned home from his walk. Olive stated that her husband suffers from early stage Alzheimer's. Olive was under the impression that her husband went out for a walk, and when he returned home there were significantly more cars parked on the street due to an Earth Day party. Olive thinks that all the extra vehicles confused her husband and he walked away.

Over the past few months, Wallace has been waking up in the night almost in a daze and would do odd things such as shave in the middle of the night. He has been a bit more forgetful lately and has these "sleep walking" episodes more frequently.

Bernard, responds to "Bernie", is in the later stages of Alzheimer's. He is unaware of his surroundings and would not realize he had wandered away. He also would have no concept of how to return home or seek safety. He suffers from Parkinson's as well and visibly shakes.

In another example involving an older adult living with dementia named Takayuki, the reports indicated that although "Takayuki is very independent" he can become spatially or temporally unaware. For example, his family reported that he sometimes leaves their home because he does not believe it is *his* home. In each of these occurrences, it appeared that becoming lost emanated from dementia-related changes, such as gradual, persistent or progressive changes in cognition, functioning and behaviour (Lai and Arthur 2003). Although the presentation of dementia varied greatly by each person and the type of dementia, some changes salient to becoming lost were: memory loss, apraxia and agnosia¹⁹, as well as impairments with reasoning, judgment, and planning (Duong, Patel and Chang 2017).

In the following example involving Bradford it was evident there was some degree of executive function impairment (Duong et al. 2017) such that he did not appear to plan his walk by the water or have the judgment to know his clothing was not appropriate for the weather.

¹⁹ Apraxia is difficulty performing tasks previously learned and agnosia is difficulty recognizing objects previously known to an individual (Duong et al. 2017).

Bradford has Alzheimer's and was out for a walk with his wife, Rosa. Bradford wanted to continue walking and Rosa wanted to go home. Rosa left Bradford at intersection of [street redacted] and [street redacted] at 9:00pm. Bradford wanted to walk by "the water". Rosa feared the most likely explanation for Bradford's departure was that he had sat down somewhere to rest while he was confused/disoriented and had fallen asleep. Bradford's clothing was felt to be insufficient for the weather.

In similar cases, care providers expressed concern about persons with dementia's impaired decision-making. It was common for care providers to cite being concerned about them wearing inappropriate clothing or walking long distances without the ability to navigate themselves home. Other factors relevant to becoming lost were consistent with previous research which suggests that environmental and psychosocial factors may place older adults with dementia at a heightened risk of becoming lost (Lai and Arthur 2003). The example of Amos' lost occurrence highlights how environmental factors, such as the presence of unknown vehicles, can generate confusion for persons with dementia while away from home. Psychosocial factors also appeared to be relevant insofar as older adults who were considered to have lifelong walking preferences were more likely to be among the missing person reports (Algase et al. 1997, Lai and Arthur 2003, Dewing 2005).

More often than not, most persons with dementia were found safely and within short periods of time. In more severe cases, however, living with dementia posed immediate dangers to the individual living with the impairment. For example, some older adults left their residences during the middle of the night and were subsequently found in the early morning hours:

Ben was in good spirits, jovial with officers. He appeared in good physical health, despite having chilly feet. He was lucid, aware that he was lost and wanted to go home. Ben could not explain why he was out, but acknowledged it was "silly", stating "This is no good! I'm in my pajamas and I have no shoes!

Police located Walter on [street redacted] between [street redacted] and [street redacted] in the construction site while en route to the complainant's

residence at [redacted]. Walter told police he had just been out for a walk but could not remember how long he was gone or where he had been. Walter believed the year was 1981. Walter was not injured and appeared to be on his way home.

At 0508hrs Michelle was located by security at [redacted] road. Michelle not making much sense was transported back home. She was no longer wearing shoes and was unable to articulate where she was.

In these cases, persons with dementia were often located by police or an unknown individual who was driving at night and noticed someone who appeared lost. In almost all of these occurrences, the missing person was unable to articulate where they were, why they were there, or how they had arrived there.

In these more severe cases, persons with dementia appeared to be experiencing significant disruptions in cognitive processing that not only increased their risk for going missing but finding their way after becoming lost. Becoming lost thus appeared to be a function of not being able to identify or orient one's location as well as having no effective means or method for reorienting oneself (Hill 1998:2). In particular, it can be gathered from the reports that going missing among persons with dementia is two-fold; it is a process by which (1) an individual with dementia experiences some degree of confusion with respect to their geographical location; and (2) does not have the appropriate means or resources to situate oneself in both time and place (Hill 1998).

Persons with dementia are thus at an increased risk of becoming lost because unlike general missing person's cases they experience unique disruptions in spatial processing that do not permit them to know where they are in relation to other locations. This lends some support for Hill's (1998) work on the psychology of being lost which finds that "staying found" or "becoming lost" is a psychological state. The process of becoming lost is a combination of (a) *perceptual experiences*, such as recognizing buildings or landmarks; (b) *beliefs* about the direction and distance of 'known' locations; (c) having the *knowledge* to identify a path to a 'known'

location; and (d) *feelings* about safety and security to the extent that they are confident in their abilities to find their way to safety.

Although dementia was frequently cited as a factor for becoming lost, the reports also highlighted that missing occurrences were common among older adults who experienced age-related decline, such as short-term memory loss or declines in overall strength and stamina (Alzheimer Society 2020). In examining the reports, it was important not to conflate short-term memory loss or general confusion with dementia. Indeed, despite dementia affecting a significant proportion of the older adult population in Canada²⁰, “typical” aging can also present challenges for negotiating one’s environment, particularly among the 40% of older adults who experience short-term memory loss (Alzheimer’s Society 2020). In the following examples, typical aging appeared to present risks for becoming lost:

The male was confirmed as Forrest who told the officers he was at the pool until closing. When he realized the buses were no longer running, he decided to walk home via the long way. Forrest admitted he got lost a couple of times but knew where he was going in general. The officers walked with Forrest back to [redacted] street.

Constable [redacted] arrived and spoke with Betty who was confused on how she got so far away from her home. Betty told the officer that she was finding it more difficult to make her way around and often forgot things.

Michelle had returned home. Police attended to confirm Michelle's safe arrival and she was thankful for the response. She stated that her daughter always worried about her and that she was slow moving.

²⁰ Currently, there are 5.9 million people aged 65 and older living in Canada, and of those, approximately 7% to 17% have dementia (Statistics Canada 2016; Alzheimer’s Society 2016). Conservatively, this puts the number of older adults with dementia in Canada at 421,429 individuals (CIHI,2017; Alzheimer’s Society 2016; Public Health Agency of Canada 2017). However, a number of reports suggest there are approximately 750,000 people living with dementia in Canada (Alzheimer’s Association of Canada 2019; Alzheimer’s Society of Canada 2012; Chang, Patel and Schulz 2015). Due to inconsistencies in dementia diagnoses and reporting, it is unclear how many people are aging with dementia in Canada.

Other occurrences where typical aging appeared to be a factor for becoming lost were represented by both Emilia and Rennie being reported missing. In Emilia's case, she was cooperative and immediately advised she needed assistance as she had gone for a walk and got lost trying to return home to her address. Similarly, in Rennie's missing occurrence, he was located across from a park walking along the sidewalk by the police. Rennie said he was "okay and that he didn't need an ambulance but was lost and would like a ride home". Other missing occurrences also seemed to be precipitated by ill health, such as difficulty walking or decreased stamina. These results suggest that older adults often go missing for multiple and diverse reasons which may be distinct from any other age groups of missing persons.

Alternatively, there were some circumstances in which reasons for becoming lost were consistent with those referenced in general missing person's literature. Pamela's reason for going missing, for example, was related to her living with a mental disability which echoed existing literature suggesting that mental health may be a significant "push factor" for going missing (Holmes 2017):

On arrival, I met with the complainant and daughter of the missing female Pamela. Daughter commenced providing information about her mother leaving their house around 3:00pm, after exhibiting aggressive and angry behaviour yelling at her at the dog and throwing food around the residence. She was talking delusionally [sic] about persons coming for dinner and screaming and yelling before she departed. She took bags of clothing and her entire Lithium packets [for her bipolar disorder] of which it is believed she has not been consuming her pills in over a week as her behaviours have become progressively worse. It was found that she is Type II Diabetic and has failed to return home with a family member last seeing her around 10:30pm at a bus stop on [street redacted]. The buses are no longer running and she walks with a walker and is not able to care for herself, in that she also failed to take her diabetes insulin injection with her which she would require immediately in the morning and is a point of potential harm to herself for this factor.

There were several other reports where mental health, including drug or alcohol dependency, factored into missing occurrences, such that alcohol dependent older adults were "not missing,

not lost – just not wanting to be found for a while” (Holmes 2017:5). Rather they were missing because they wanted to engage in behaviours not permissible to their living arrangement:

A male fitting the description and verbally identified himself as Daniel came to the door after several door knocks. It was evident Daniel had been drinking but was not intoxicated. He was not overly friendly with police and did not wish to be bothered. Flora [Daniel’s wife] attended the [redacted hotel] and was advised by police that she return home for the evening or find a place to stay in [redacted city] for the night. Daniel showed no concern that he took off on his wife, had his wife scared, and several police officers looking for him and at his door.

The notion of intentionality, or the degree to which people go missing deliberately, has been a common theme discussed in general missing person’s literature (Biehal, Mitchell and Wade 2003). However, the relationship between intentionally going missing and older adults, particularly those with an alcohol dependency, has not been clearly defined. Given that Holmes (2017:71) has emphasized missing occurrences are likely “precipitated by a problem in the person’s life” it is not surprising that factors relating to mental health, such as depression or mood disorders (Biehal et al. 2003; Holmes 2017; Stevenson et al. 2013) and substance use problems (Sowerby and Thomas 2016) contributed to missing occurrences in the reports.

Striving to maintain independence

Social pressures to “age successfully” have implied that many older adults often place great importance on maintaining independence in old age (Rowe and Kahn 1987). The promotion of “successful aging” models are predicated on the belief that one must be self-reliant and maintain complete physical, emotional, and cognitive functioning or otherwise be conceived of as dependent (ibid). Many older adults, especially those aging with a pathology, are thus at risk of experiencing a “spoiled identity” or feeling burdensome when they are unable to perform activities of daily living independently (Kelley-Moore, Schumacher, Kahana and Kahana 2016). As such, an emerging body of literature has examined how the internalization of age-based

stereotypes has had a host of negative effects particularly when older adults strive to maintain independence inappropriately (Swift, Abrams, Lamont and Drury 2017; Sun and Smith 2017). One example of particular relevance to this research is that previous studies have demonstrated that the more negative perceptions an older adult has of their own aging process, the more likely they are to delay or constrain help-seeking behaviours (Sun and Smith 2017).

Given the wide array of negative stereotypes that define aging and aging with dementia, as well as the overwhelming predominance of ageism at a global level, one recurring theme throughout the reports was older adults often alluded to a strong desire to maintain independence. Although the desire to maintain their independence did not immediately contribute to missing occurrences per se, it did sometimes prevent older adults from asking for assistance while lost (Sun and Smith 2017). In particular, the thought of having to report one's whereabouts to their care staff or loved ones was considered reprehensible to some and a direct violation of their autonomy. This was evidenced by the following two occurrences involving Arjun and Han:

Arjun wishes to remain independent but feels [his son] monitors him too much. It is expected similar calls will continue to [police agency] and thus, the complainant was suggested to get Arjun an item equipped with a GPS especially with his medical concerns.

Police noted some details regarding Han. He expressed a strong desire for independence and believed [his sons] watch him too much. Han is still very physically capable and knows his way around the city. Han commonly carries approximately [redacted] cash on his person.

More concerning is that oftentimes the strong desire for independence and fear of being considered dependent implied that some older adults, most often men, would resist asking for help while lost. Because health is often considered a marker of social status (Twaddle 1974), it appeared that those who were seemingly ill or less healthy were more likely to engage in techniques of impression management to distance themselves from their "spoiled identity"

(Goffman 1963). Sometimes these techniques implied that older adults would perform activities beyond their individual capabilities or refuse to ask for help when needed.

Edmund has early indications of dementia and is a diabetic. He has had two heart attacks in the past and is on numerous medications. While police were working the investigation at his residence, Edmund arrived home in his vehicle. He stated that he was in [another city] visiting a friend however he was unable to provide details and his story is therefore unbelievable. It is believed that he got lost and was too embarrassed to ask for help.

Vincent has the early stages of dementia with some short-term memory issues, however he is still able to do his daily routine with ease. He walks with a bit of a limp due to a hip replacement and bad knees. He knows the area fairly well but has difficulty with his directions when it gets dark. Vincent is proud and would not admit he was lost or ask anyone for help.

Adair is 85 years old and just ended his 14-year relationship with [his partner]. He has been depressed as of late and suffers from moderate memory loss. He is very independent, refuses to ask for help or seek medical advice. He has no friends and his moods have gone up and down recently. He is not on any medication.

These results were consistent with existing research which implies that gender influences help-seeking behaviours insofar as men were less inclined to ask for help while missing or seek medical attention (Thompson et al. 2016). Indeed, it could be argued that cultural perceptions of aging with dementia, as well as notions intertwined with hegemonic masculinity create a “triple jeopardy” for men living with dementia who become lost – that is, asking for help is not simply just a question of need but requires confirming age-related defeat and disability status which is in direct violation of being a “real man” (Katz and Earp 2002). On other occasions, personal characteristics such as stubbornness or feelings of pride also appeared to prevent help-seeking behaviours. One example of this is:

Neither Abbot nor Penina carry a cell phone or have a GPS device. Penina’s brother [name redacted] believes that they are most likely lost as Abbot is too stubborn to ask for help. Penina is not familiar with travelling in [a different state] and would be listening to Abbot's directional instructions.

In other occurrences, these personal characteristics were perceived to affect one's ability to safely interact with their environment, such that they may overestimate their abilities and fail to negotiate their environment securely.

Potentially not missing, is stubborn and may not tell anyone he left to go for a walk. Used to live at [address redacted] and sometimes gets confused and could potentially attend. He enjoys walking with no destination. He was located on this date walking on the sidewalk almost 8 hours after [he was reported missing].

Indeed, the threat of losing one's autonomy was substantial enough for some older adults that it impacted their interactions with police. In one particular example, Nathaniel had become lost after he left his residence following an argument with his wife and was subsequently located by police. Police reported he was "extremely stubborn and refused to listen [to them] about staying in the house" and not going for another walk unaccompanied. However, after a short period of time he indicated he would "only stay in the backyard". Indeed, despite police stating they were very concerned for his safety and his family reporting they were concerned he may "pass out" while exerting himself on a walk, he was determined to maintain control over his own faculties. He instead emphasized that he was able to make his own decisions whether he could to stay or leave his residence.

There were also cases where older adults felt a strong responsibility for their actions despite being affected by the onset of a pathology. In one extreme case, Mateo, who was experiencing the early stages of dementia felt a strong responsibility for his inability to successfully perform his role as an investment advisor. The report stated:

For the past month, Mateo has been showing signs of depression with decreased appetite and sleep disturbance but within normal limits. The depression is related to the volatile stock market with personal losses affecting [his and his wife's] retirement income. He is also an investment advisor and felt responsible for financial losses affecting his clients.

In this occurrence, Mateo appeared to be fraught with concern about burdening others to the extent that both his wife and police were concerned he might be at risk of self-harm. These feelings are actually quite common for older adults, particular those living with an impairment (McPherson, Wilson, and Murray 2007). They are referred to as self-perceived burden and are believed to arise from care-recipients' feelings of frustration and worry about being dependent and the ensuing feelings of guilt about being responsible for other's hardship (McPherson et al. 2007: 111). As with Mateo's experience, the fear of burdening others in previous studies has been ranked as one of the greatest reasons for not wanting life-extending medical treatment and desiring a hastened death (Cahill et al. 2011).

These negative feelings about one's own aging process and the perceived 'inconvenience' on others extended to their responses after being found as well. For example, some individuals reported feeling embarrassed for inconveniencing police or others by having them search for them.

Constable [redacted] returned to the residence and spoke with Calvin who appeared to be in good health and in complete control of his faculties. Calvin appeared very embarrassed at the police response to his departure. Calvin did not elaborate on where he had been, but stated that he had just been out walking.

Constable [redacted] went back to the residence and determine that Michael was safe. He was tired and had sore feet and apologized for having to have the police look for him.

Sarah was calm and was able to tell police her full name, date of birth, and address. She advised she did not need an ambulance and was just worried as she knew her family would be out looking for her.

In other occurrences, older adults tried to "pass" as non-impaired by leaving walking aids at home or refusing to use vision or hearing aids in an attempt to dissuade detection of one's impairment (Goffman 1963). Although in most cases these decisions did not result in overt harm to the missing person, the absence of these aids sometimes hastened missing incidences insofar as the

individual became injured while away from home which prevented them from returning safely. Because using a wheelchair or walking aid can be considered physical limitations that are easily detectable, Kelley-Moore and colleagues (2016) suggest they may be stigmatizing for older adults because they are outward signs of supposed ill health and thus, older adults may employ a variety of techniques to conceal their impairment.

Requiring enhanced person-centred care

Another salient theme that emerged from the missing person reports was the need for more person-centred care approaches in both community and residential settings. Indeed, there were multiple reports where missing occurrences appeared to result from the discrepancy between an older adult's care preferences and their receipt of care. In particular, the reports implied that older adults were often dissatisfied with their care-environment which sometimes pushed them to exit-seek or leave their place of residence (Biehal and Wade 2000). The following notes from Geoffrey's missing occurrence illustrate how becoming lost was a direct result of his discontent with his care environment:

Geoffrey advised he hated the nursing home and would continue to leave whenever he wants. He complained about the nursing staff being pushy and intrusive. Geoffrey barricades his door during the day so that he is not bothered by anyone. After speaking with Geoffrey, it was apparent he is very much aware of his surroundings and was pretty much impossible to detect he has dementia [even though he does have dementia]. Geoffrey found it amusing that the nurses need to call the police to come find him.

These results are somewhat novel in that the relationship between person-centred care and becoming lost has not been established. However, research on caregiving and care-receiving for older adults residing in the community as well as residential settings have often pointed to the need for more person-centred care approaches (Ekman et al. 2011). Person-centred care approaches integrate the aging individual into the care model, such that their desires, needs, and preferences are advanced above all other factors (ibid).

Research suggests that person-centred care can enhance the relationship between the caregiver and care-receiver, increase satisfaction with the type and degree of care provided, as well as increase health outcomes (Ekman et al. 2011). However, studies have also shown that despite the benefits of person-centred care approaches, it oftentimes dissolves into caring relationships that are “routinized, ritualistic and afford few opportunities for meaningful patient–provider relationships” (ibid: 249). Further, because the success of person-centred care hinges on the position of the individual, if they are generally dissatisfied with their place of residence and the type of care provided, it can have a direct bearing on their health outcomes.

With respect to missing persons, the absence of person-centred care can push older adults to leave or retreat from care settings (Biehal and Wade 2000). An example of this was Joseph’s missing occurrence where he “walked away from his residence and returned after three days. Joseph told staff that he had gone camping in the woods. Joseph was a new resident and was unhappy with being in a [public health care] facility”. In another case, the quality of the food at a nursing home was believed to be a reason why one older adult left the care facility and was later found by police in the community. A further example of this centers on Jonathan’s experiences of being discontented with care because the environment prohibited him from engaging in behaviour that would otherwise be harmful:

I work here as a Community Outreach Worker. Jonathan sleeps at the [shelter] but he comes here every day to sleep. I see him every day. We give him space because of his age and because he is homeless. He has been angry because he has to obey rules here at the [shelter name redacted]. He has only been missing one hour. I deal with him every day as does [another city care facility]. The receptionist [at the other care facility] saw him get into a taxi at 3:45 PM. He is not suicidal but angry. He probably got into a cab and will go out to a hotel and drink. He has been known to binge drink.

Missing occurrences also appeared to be resultant of both frustration and dissatisfaction with the perceived level of care. For example, in Bradley’s experiences his missing occurrence

was not necessarily a result of him becoming lost but rather vis-à-vis his frustrations about his license being suspended:

Today, he got a cab at the front of the hospital, took it to [the grocery store] and then home. Bradley is not happy that his license is suspended and made slight indications that he would drive again if allowed access to his vehicle.

In Bradley's experience, it appeared that having his license suspended signaled a loss of independence and a departure from his personal autonomy. He even went as far to say that he would keep driving if allowed access to his vehicle despite knowing that it was not safe for him to do so because of his deteriorating health. Some scholars have studied the relationship between driving and receiving care, and have found that the nexus between stopping driving and beginning care enhances perceived disability amongst older adults (Kelley-Moore et al. 2016).

Discontent with care was also particularly common in family caregiving contexts. In particular, there were several occurrences in which domestic disputes resulted in someone 'storming off', disappearing for the night, or even exiting a moving vehicle when the care receiver perceived the provision of care to be intrusive. These results indicate that negotiating the caregiving relationship for husband and wife dyads can be particularly challenging – where the relationship which was once hallmarked by reciprocity has now shifted into a new dynamic whereby one person becomes the primary care provider. The following occurrence involving Christine and her husband demonstrates an example of what Christine's husband deemed to be invasive checking up on him:

I attended and spoke with the complainant Christine. She advised her husband of 50 years suffers from dementia, as well as from diabetes and has had three strokes in the past. She advised that her husband gets angry very easily and today got upset when she asked if he locked the door and stormed out. He has never done this before. He had never left by himself prior to today. Numerous officers were sent to check the area for her husband and he was located outside the entrance to the [redacted] casino. He had some minor injuries from falling while walking but otherwise was in good spirits.

The shift in caregiving roles also presented challenges for child-parent dyads. From the perspective of older adults, there appeared to be some fears surrounding “role reversal” or that their children were now “parenting the parent” (Funk 2008:127). Indeed, there has been some interesting writing on ambivalence in intergenerational caring relationships (most notably Connidis 2001) which suggests older adults may use a variety of strategies to overcome ambivalent feelings, such as minimizing the help they receive or resisting sharing information with their children (Spitze and Gallant 2004). In this vein, it was clear that some older adults desired to enhance their privacy or autonomy by withholding information. One particular example of this was Bruno’s experience of going missing:

Bruno advised he had no medical issues or concerns at this time and EMS was not required. Bruno advised he enjoys going for walks and had no specific destination. Bruno was fully aware of his current location in [city name redacted] and advised of the exact route he took. When questioning Bruno about not letting his daughter know where he went, Bruno advised he's a grown man and does not need to let people know.

Aronson (2002:401) has suggested that beliefs surrounding “familialism” which are supported by policy imperatives favouring the home as the best site for care have positioned older adults at the nexus of “public and private”, “formal and informal” and “independence and dependence” by which aging at home has become fraught with contradictions, as older adults navigate feeling both independent and supported in old age (Aronson, 2002, p. 401). Interestingly, older adults’ experiences of becoming lost appear to validate these claims as several older adults in the sample often alluded to how these contradictions presented challenges to living safely both within residential and institutional settings.

The Built Environment and Individual’s Needs

In this section, I discuss how limitations of the built environment were an antecedent for missing occurrences. I contend that Brandt and Pope’s (1997) “environmental mat” is an appropriate framework for understanding how environmental pressures to “age successfully”

within an environment that is not designed or prepared for older adults' needs, precipitated missing occurrences (Rowe and Kahn 1987). That is to say, the environmental mat which was in theory supposed to provide strong physical, social or cultural supports, failed to provide such supports. The degree of disability older adults experienced was thus quite large. Older adults' residential environments presented challenges for 'safe aging' as conceptualized as the prevention or absence of missing occurrences. In particular, there were many unmet needs as well as extensive waitlists for supervised care – with one of the most frequently occurring themes being that many older adults who were reported missing were aging in place without ample supports to do so. Lastly, shortcomings with existing safeguarding efforts, such as the use of technology, seemed to magnify rather than minimize challenges relating to the successful location of missing persons. The two common sub-themes in this area are thus (i) unmet needs and health care shortages; and (ii) shortcomings of existing safeguarding efforts.

Unmet needs and health care shortages

Home and community care has long been considered a poorly funded and marginal area of health and social care programming for older adults living in Canada (Aronson 2002). These limitations have only been exacerbated by recent shifts in the provision of care from the institutional to individual level. Clark and Clark (2015) refer to this as the “Great Risk Shift” and they explain it as the ways in which responsibility for health has been offloaded from the state onto the individual in the name of personal responsibility. Models of “successful aging” paired with retreats in government provisions of home and community care have thus placed older adults, especially those living with a pathology, at an increased risk of becoming lost. With the locus of responsibility for preventing ill health being placed on the individual, it is of little surprise then that unmet needs and healthcare shortages were an emergent theme relevant to becoming lost.

Several reports alluded to older adults being unfit to age at home or receiving insufficient levels of care which in some cases either directly or indirectly underscored missing occurrences. For example, only a small fraction of the reports identified community supports, such as the Alzheimer Society or similar community-based public support services, and even fewer mentioned having home care. It was also common for health care shortages to be frequently cited as a factor for why older adults were not receiving care congruent with their medical needs (Aronson 2002). Most often the reports referenced discrepancies between the care older adults were receiving in contrast to the care they were requiring:

Aiden is involved with the Community Care Access Centre; however, he does not receive any assistance and/or care from them. He is very mobile, able to maneuver quickly. He is cared for solely by his daughter.

Gemma [wife of missing person] phoned the police department to report that her husband had wandered away from home and was nowhere to be found. She added that he suffered from advanced dementia and was unfit to be by himself.

Wife called [police agency redacted] to report that her husband had gone missing from home but suffers from severe dementia and is not able to care for himself. He is unfit to live at home.

In other examples, the reports indicated some older adults were on waitlists for home and community care but were not receiving it due to shortages. An example of this was when Michelle disclosed to police that “her father was on an urgent waiting list with community care”. Although it was not stated in the reports, one can estimate these waitlists were likely a result of home and community care operating within “tight and unpredictable budgets” (Aronson 2002:401). Eligibility for subsidized care was also marked by precarity. Only older adults with medically defined needs appeared eligible for subsidized home care. In a particularly telling example:

Neighbour from [redacted] located Iris in his backyard and drove her home. He said he heard his dog bark in the backyard and when he looked out, he

saw Iris sitting on his deck. She had entered through a wooden gate with a latch she had to open. He said he knew her from the neighbourhood because she wanders quite often. I [the officer] then spoke with Iris who was very friendly and polite. She said she got lost and saw a dog. The dog scared her. She then told me that she was lost and wanted to go home. Her husband, Robin, told her "you are home" and she looked around the house and said "oh I am." She then patted Robin's cheek and told him he's a good husband. I asked Robin if they had resources in place and Robin said the Community Care Access Centre was supposed to come this week but they cancelled.

It was evident from Iris' missing report that becoming lost was a regular occurrence and her husband and neighbours were responsible for her care due to home care shortages. Managing care for an aging loved one thus proved to be exceptionally difficult when family, particularly partners and spouses who were aging themselves, did not have the support they needed. For example, in Cryus' case it was emphasized that:

Cyrus is 83 years old and has trouble dealing with the ongoing care issues and the fact that it is becoming more and more unmanageable to keep his wife, Margret, from going missing. Cyrus stated that he did not wish for Margret to return to the residence since he fears she will leave and go missing again.

In this occurrence, the disparity between the need and receipt of care not only increased demands on Cyrus but situated him within the difficult position of knowing his wife was not safe and he was unable to sufficiently care for her at home. He thus felt it necessary to tell police that his wife's living circumstances increased her risk of becoming lost and he no longer wanted her to live with him. Additional cases where older adults were aging in place without ample supports include the following excerpts:

Mikayla had gone to meet her father at his residence at [location redacted] and found he was not home. Her father, Clyde, who was born in 1929 is wheelchair-bound and missing a leg. He regularly makes his way to [location redacted] and then forgets his way home. He lives alone and does not have home care.

83-year-old Bernadette lives alone at [location redacted] and has Alzheimer's that seems to be progressing. Her daughter, Annie lives in

[another city roughly two hours away] but comes to visit Bernadette as often as she can.

Daughter confided that [her missing father] was on a waiting list for supervised care but was still living independently due to facility shortages. He was however supported by [redacted company name] nurses that attend four times a day. He is elderly, has dementia and habitually makes his way to the [redacted] mall and forgets how to get home.

In Canada, these occurrences may be explained by the role of the public sector in assessing the medical needs of older adults and contracting outpatient care to non-profit and for-profit home care providers (Aronson 2002). The majority of home and community care is provided by family, and non-profit and for-profit agencies (Barua 2017). Because of the nature of this model, many older adults who are low-income²¹ or those without family caregivers²² may be neglected or pushed out of the system. Mounting evidence shows that such policies create devastating inequality within a country –where the vast majority of the population is underserved while a small group is over serviced –because they are able to pay for services out of pocket (Benoit and Hallgrimsdottir 2008). This is referred to as the “medical poverty trap” and it is demonstrated by the fact that some older adults, like the case above, are able to afford private services, i.e. nurses working for profit, which can fill service gaps before their publicly funded equivalent.

Another factor affecting unmet needs were the extensive waitlists for residential care placement. Waiting for long-term care was mentioned explicitly in the reports as a factor relevant to missing occurrences in that it created challenges for older adults to live safely in their communities. It also presented challenges for their family members to support them. Two reports that elucidate this are: “Eliza suffers from Alzheimer’s and is currently waiting for secure housing at a facility for her dementia”; and “Anton suffers from Alzheimer's and he has started

²¹ One-third of Canadian older adults are considered low-income (Waldoch 2006)

²² The rate of older adults without surviving kin has risen in the last decade (Keefe, Légaré, and Carrière 2004)

to wander off more and more. We are in the process of having him placed in a long-term care facility but the waiting list is so long". In both of these occurrences, waiting for care placement presented challenges for family care, whether it be with respect to the degree or duration of supervision. Two more nuanced examples are detailed below.

Arthur's reasoning for attending [care home redacted] was due to the fact that he is on a waiting list for this home and he was simply going to look at the facility. Arthur was last seen at approximately 4:30pm leaving the [care home name redacted] by staff members there. His wife advised that Arthur has been diagnosed with the early stages of Alzheimer's, and that he has "good and bad days". On today's date, his wife stated that Arthur was having a "very good day" and that he seemed in high spirits when she last had seen him. His wife stated that Arthur always carries money, does not use bank cards, and does not have a cellular phone. At 2121 hours, [another] police service [contacted investigating police service]. Sergeant [name redacted] contacted Arthur's wife advising that they located Arthur. Police spoke to Sergeant from [other police agency] and they advised that Arthur was taken to [redacted] Airport [which is two and a half hours away] by [redacted] taxi and he had approximately [large sum of cash] on him.

Martin stated that Bernard suffers from intermittent bouts of dementia and becomes annoyed with them when they continually ask his whereabouts. He further added that his father is currently on a waiting list for a long-term care facility, but advised the process is slow going. He expressed his frustrations, as Bernard is physically independent and becomes irritated at his sons regarding his condition.

These reports elucidate the inconsistent and uneven distribution of long-term care across Canada. That is, Arthur and Bernard were on waitlists for long-term care because their health necessitated it, however the supply of beds failed to maintain pace with the demand. A study from Toronto found that older adults may wait up to eight years for care placement, which they state is a direct result of several social and cultural factors affecting eligibility (Wellesey Institute 2016). In particular, they pinpoint several social determinants of health that affect care placement in the Greater Toronto Area, such as: financial resources, geographic location, as well as race and ethnicity (ibid). They suggest that with "Toronto's increasingly diverse aging

population we are facing a serious equity issue in how we deliver long-term care to meet the health, financial, and cultural needs of Torontonians” (ibid:1).

Being on a waitlist for residential care also extended to being on waitlists for mental health services. For example, the following excerpts from the reports indicate that adults living with complex mental, physical and social care needs were often residing in hospitals or shelters because there was not enough availability.

I arrived on scene and spoke to the complainant Doctor [redacted] who was the last to see Gerard before he went missing. Doctor advised that Gerard is an involuntary patient due to the fact that he will not comply with taking medication prescribed to him. He receives an injection every two weeks to assist with controlling the symptoms caused by his diagnosis of schizophrenia and COPD. Gerard is also on a waiting list for a permanent care facility and is awaiting a bed.

Constable [redacted] met Christopher and observed he closely matched the reported description from the hospital. Constable [redacted] chatted with Christopher and explained to him that staff at the hospital were worried about his well-being. Christopher was completely compliant with police and agreed to go back to the hospital. Constable [redacted] transported Christopher to hospital and escorted him back to his ward. Constable [redacted] observed Christopher to be cheerful and in good physical health. Christopher admitted to having a brain injury and was hoping to get housing soon.

These results confirm that arranging care placement for older adults from mental health units into assisted living facilities can be a difficult and drawn out process (Lane, McCoy and Ewashen 2010). Lane and colleagues (2010:4) suggest that the difficulty in placing older adults in care facilities is often attributed to stigma; that is, personnel in nursing homes may be reluctant to accept older adults with mental health conditions because of fears surrounding the nature of the condition, as well as the opportunities it may present for violence. The results suggest those who are awaiting care placement may be at a greater risk of missing occurrences given that the settings in which they reside do not support their mental, emotional or social needs.

Shortcomings of existing safeguarding efforts

Although care providers often employed various techniques and technologies to prevent missing occurrences and facilitate their timely resolution, they were not immune from error. Most often, these shortcomings were related to the use of technology, degree of supervision while at home or in the community, as well as health care facility designs. Indeed, a recurring theme within the reports was that despite family's efforts to prevent missing occurrences through various technologies, older adults were somehow able to bypass these safeguarding efforts – whether it be through a disarmed system, a sensitivity issue with an alarm, or simply that one of the exits were left unlocked. The following excerpts on the use of household alarm systems illustrate how older adults sometimes bypassed these safeguarding measures:

Rachelle told Constable [redacted] that Ernest [her father] going missing is a recurring problem due to his Alzheimer's. The house has an alarm system to alert Rachelle should the front door open but the rear door had been bypassed to take the dog out. Ernest had gone out the back and a side gate. Rachelle said that Ernest often wanders looking for his old house, located on [redacted street] in [redacted area]. Previously he had been found at the [redacted] grocery store. Often Ernest will go for walks and forget how to get back.

Constable [redacted] and Constable [redacted] transported Michael back to his family residence at [redacted] where his wife and daughter were standing by. Family explained his dementia onset and that they were doing their best to manage. Emily [his daughter] moved back home to help out and they installed alarms so he could not wander away; however, it was disabled tonight. They were grateful for the police assistance. Michael made his way inside, still in good spirits.

Husband, Timothy, and daughter, Carolyn, were transported to the [redacted address] to meet with Carol [wife and mother]. Carol appeared confused, however was well and was in good spirits. She was dressed appropriately for the moderately cool and windy weather. Carol responded well to her name, however was unable to provide any other personal particulars, i.e.: address and phone number. Husband, Timothy, advised of the front door alarm to their residence, however insisted that it did not go off when Carolyn walked out this date.

In each of these examples, older adults were at a heightened risk of exiting the home and becoming lost when the alarm systems were either (a) disabled; or (b) malfunctioning. Indeed, in the last example, the ineffectiveness of the household alarm resulted in Carol being reported missing on three occasions during the study period. These difficulties demonstrate a known problem with audible alarms that centers on sensitivity issues (Applegarth et al. 2013). That is, audible alarms are expected to emit a high pitch sound when someone exits a door – however, they must be both ‘sensitive enough’ and ‘not too sensitive’ that they activate precisely when needed. These findings are consistent with Applegarth and colleagues (2013) systematic review which examined technologies for preventing persons with dementia from exiting their home. They found that no technologies were entirely effective at preventing missing occurrences and “false positives” and “false negatives” were rather common (ibid:485).

Another common challenge with safeguarding and technology centered on locating devices. Some technologies mentioned in the reports were the use of radio frequency identification (RFID) bracelets, as well as global positioning systems (GPS) which were purchased from a host of suppliers. Although there were reports where these technologies proved useful in locating missing persons, it was more common these technologies failed during times when they were needed most. For example, one report stated “family had a Bluetooth tile tracker in [missing person’s] wallet and it was last seen at [redacted location]” but it failed to provide a more updated location. In another example, police attempted to use the GPS service in a missing person’s vehicle and called the service. However, on this occasion “the service was not active on the vehicle and was unable to be tracked”. In a further example, the police report indicated that a missing man had “a track bracelet that revealed him on the 7th floor but [it] was not accurate”. A police search of the area confirmed that the missing person was not at that location. In each of these occurrences, the use of locating devices negatively impacted police search efforts, in that,

it often brought them to inaccurate locations or caused them to spend considerable time and resources attempting to locate a missing person to no avail. A further example is detailed below.

He was also apparently registered with [name redacted] a locating service; however, attempts to contact them and deploy them were slow moving. Constable [redacted] made thorough patrols in the area, Constable [redacted] took a nurse on board his vehicle to assist in the search as she was very familiar with Bert. At 17:47hrs Daniel [an individual unknown to Bert] contacted the police to report seeing a male matching Bert's description walking west on [redacted street] five minutes ago. The male had a bracelet on and appeared confused. Bert was returned to [redacted facility] into the care of staff. He appeared well and in good spirits. [Locating service] was advised to disregard call.

Previous studies have also found the use of technology may not always be effective at reducing the risk of missing occurrences for persons with dementia (Applegarth et al. 2013; Neubauer et al. 2018; Olsson et al. 2015). However, there are few experimental studies evaluating the effectiveness of such technologies – thus, their overall efficacy has not been established in the literature (Olsson et al. 2015). What we do know is that the use of tracking technologies allows persons with dementia to experience more freedom outdoors and their care providers report being less concerned about missing occurrences (ibid). However, the results yielded from this study suggest that the overall success of tracking devices was mixed at best and thus, care providers lack of concern may be misplaced.

Problems were also noted with cellphone use for tracking purposes, such that when a person went missing their phone was either turned off or left at their residence. This is evidenced by the following:

Constable [redacted] called Jerry's cell phone at [redacted number]. The phone call went straight to a generic voice mail. Constable [redacted] had dispatch ping the cell phone number to try and determine a location for it. The ping yielded negative results, coming back that the cell phone had been turned off for 48 hours.

Together, these results indicate that using a sole source of technology may not be sufficient to

prevent or facilitate the successful resolution of missing occurrences. Rather, a total systems approach must be adopted wherein multiple technologies and safeguarding efforts need to be used in a concerted effort (Applegarth et al. 2013).

Missing occurrences were also resultant of human error, such as inappropriate supervision of older adults while in the community. Sometimes care providers underestimated the capabilities of older adults with a cognitive impairment by asking them to wait in the car or store while they performed other tasks, such as grocery shopping or going to the bank. For example, in one occurrence Catherine, the wife of a man who was reported missing, suggested that her husband “suffers from dementia and Parkinson’s disease and she did not think he was capable of leaving the store on his own and couldn't locate him”. In this occurrence, Catherine believed Fred was unable to leave the store on his own, which in turn triggered a missing occurrence. Other examples of this are detailed below.

Police were dispatched to the area [location redacted] for a missing elderly male suffering from dementia. Lillian reported that she and her husband, Vincent were in [city redacted] in [city region] for a show at the theatre. After the show, Lillian went to get the vehicle and Vincent wandered off.

Frederick suffers from dementia and has been known to wander. On this particular day, Frederick followed Rose to her appointment on the third floor, at which point she instructed him to take their dog and go wait in the car. After noticing he wasn't in the car, she walked around the area for approximately 2 hours before having staff at her doctor’s office call the police on her behalf. This was the last time she saw him.

Victor had been left at the pet store [location redacted] at 1313 hours while his wife ran errands. When she returned at 1445 hours he was gone.

These results support Bowen and colleagues (2011) study which found that in almost one-quarter of cases involving persons with dementia who went missing, they were left alone with instructions to wait for the caregiver to return or were told to meet the caregiver at a predetermined location.

Missing occurrences also stemmed from care providers being preoccupied at the time of the missing event which was evidenced by the following case: “On [date redacted] Jacob was being moved into a care facility located at [redacted] when he walked away without letting anyone know”. In Jacob’s example, he was unfamiliar with the new care environment which likely led him to leave the facility while his daughter was assisting with moving him in. Research on persons with dementia becoming lost has indeed suggested that missing occurrences often emanate from the desire to leave an unfamiliar environment, revisit an old memory, or find a place of the past (Algase et al. 2007; Brittain et al. 2017). Two additional examples of this are:

Daughter woke up just before 0800 hrs. Asked her mother if she would like breakfast to which she declined. Mother advised she was sick and needed to go to the doctor. Has been fixated on going to see the doctor recently. States she will go see her daughter and have her take her to the doctor. Does not know she is living with her [only] daughter. Daughter laid back down for approximately 15mins. When she woke up, she was not able to find her mother in the home. She observed the back door open and went outside and observed the back, side gate unlocked. Both the back door and gate had child proof locks on them and the front door is equipped with an alarm.

On [date redacted] at 1900hrs Peter wandered off from the backyard of his family residence at [address redacted] while his daughter, Lisa, was inside the house changing the laundry. Lisa brought Peter home three weeks ago from [nursing home name redacted] to live with her. Peter is suffering from the early stages of dementia.

These results lend support for Bowen and colleagues’ (2011) study which found that in the majority of cases (87.1%) persons with dementia were unsupervised by their caregiver at the time they went missing, and almost half were unsupervised for only 10 minutes or less. Together, these results suggest that even a short lapse in supervision can give way to a missing occurrence. It should be noted that in the majority of cases, the reasons as to why older adults were left alone for short periods of time was often because they previously conducted these activities independently and without incident (ibid).

Other challenges related to the built environment and the needs of older adults, such that persons with dementia were often living in facilities that did not meet their needs. I repeatedly read cases where persons with dementia were living in facilities that did not have secure exits or video surveillance which were believed to be incongruent with their needs. Although this was most frequently referenced with respect to aging with dementia, it was also common for older adults living in psychiatric facilities. In each of these cases, there were clear examples of individual-environmental incongruence:

I later spoke with Jeremy, who is a staff member, who advised that [care facility name redacted] is not a "locked" facility however they do have security codes on the exit doors which will prevent most from exiting. However some people will get others to let them out. Care staff also advised that they have begun to house more patients with dementia recently and their calls for assistance will likely increase.

According to security who viewed video, Louis exited [redacted] hospital through the [redacted] entrance which is on the west side of the hospital and continued northwest towards [redacted] street. The floor Louis was on is not a locked area and anyone can just come and go as they please as they are not on any mental health form.

During the day, he does like to walk around the building and around [redacted] area. He does walk with a noticeable limp. He has never gone missing before, but he has been diagnosed with dementia. Residents don't require a pass or an access code to leave the building.

As mentioned above, older adults frequently went missing while away on leave from health care facilities. Sometimes this proved concerning, although most often, older adults simply overstayed their leave, such as when an engagement went beyond the scheduled end time. In more severe cases, the design of a facility was not suited to older adults needs. Jeremy explicitly told police that their calls for service would likely increase because persons living with dementia were living in the unsecured facility he was employed at. In some cases, there were minor adaptations that could have minimized the risk of harm for older adults living within these settings, such as having

video surveillance of all exits or simply ensuring all exit and entrance routes required a passcode upon entry or exit. These challenges are elucidated in the following examples:

As there aren't cameras capturing all exits, it took some time to narrow down that Rebecca came down the elevator and out an East exit at 2:25am. It is believed that Rebecca travelled northbound towards [redacted] and her direction is unknown after that.

The camera showed that the female had exited the [redacted area] at 15:19hrs and started to head eastbound; however due the limited camera angle Kathleen was lost at the corner of the [redacted location]. No other footage was available.

In these occurrences, police efforts to locate Rebecca and Kathleen would have been enhanced if the cameras were better positioned to capture all exits.

A further recurring issue was persons with dementia were sometimes able to 'sneak out' of secure facilities when someone else was leaving or after returning from an outside activity. A particular example of this is when "Constable [redacted] attended the facility and spoke with staff who informed that Andrew had walked out of the building while a family that had been visiting another resident was leaving". Other examples of this were:

April, care home staff, stated Margery is in a secure unit in their facility and has lived at [redacted] for two weeks now. However, today she was in church service that started at 1430 hrs and finished at 1520 hrs and went missing shortly after... I [police officer] then attended the security office where staff had access to video footage of the facility and was able to determine that Margery left the facility through the front lobby doors at 1505 hrs heading South walking at a fast pace.

A personal support worker went to check his room and he wasn't there. As it was time for his hourly check because he has gotten out before, [the staff] checked the building and checked the security camera too. They saw that he followed another resident out of the front door at 8pm. They knew that he wasn't there so they started to check the stores and corner but didn't see him. Then they called the police as they couldn't find him and then they called his daughter, Lorraine.

Sneaking out was also common at hospitals not just nursing homes or retirement facilities. For example, “Police were dispatched to [redacted] hospital to speak with the floor staff in regards to a missing person. This is Wayne’s fourth time to go missing since December and he has a habit of removing his security alarm so the floor door alarm does not ring as he sneaks out”. Collectively, these results suggest there needs to be a concerted effort by both retirement home staff and police to better prevent missing occurrences and enhance safeguarding efforts.

Chapter 6: Insights from Mixing Methods

After analyzing the quantitative and qualitative data, the results from both phases of this research were compared at the point of interpretation to identify areas of convergence and divergence (Creswell and Plano Clark 2017). In this section, I address the central research question and elucidate how each component of the results develops and contributes to understandings of missing older adults in Canada, as well as provides a comprehensive analysis of individual and environmental factors which contribute to missing occurrences. In the following section, I use side by side comparisons to simultaneously integrate the quantitative and qualitative results as well as elaborate on how these results are situated within the existing literature (Creswell and Plano Clark 2017). In most occurrences, the quantitative and qualitative results validate one another, or make explicit the relationship between aging individuals and their lived environment. I find support for both the overarching framework, the political economy of aging, as well as theories of aging and the environment supplemented by social models of disability. These theories collectively help to understand missing occurrences by exposing the insidious nature of anti-aging rhetoric which not only affects the provision of care for older adults at the individual and institutional level, but furthers the behaviours of older adults who are lost themselves. The following question is thus addressed through the synthesis of the quantitative and qualitative results. In this chapter, I thus present the meta-inferences from the mixed analysis which emphasize the value of ‘multiple realities’ and dialectical pluralism (which borrows from the paradigmatic principles of the post-positivist and interpretivist tradition) as a paradigm for understanding under-researched social phenomena.

Mixed Methods Central Research Question

What is the prevalence of, and antecedents for, missing occurrences in the older adult population, as well as the individual and environmental factors that contribute to missing occurrences?

Synthesizing the Results

Existing research on becoming lost for older adults in Canada has focused exclusively on persons living with dementia and how various technologies can intervene (Hanna et al. 2018; Daum et al. 2019). At present, we know very little about the characteristics of missing older adults, as well as the percentage of persons with dementia who are reported missing. Beyond this, we also know very little about the circumstances that surround missing occurrences and what factors may help prevent or facilitate their timely resolution. My thesis work thus addresses this gap by using a mixed analysis of police reports involving older adults in two urban areas to examine the scope and characteristics of missing occurrences using both descriptive analysis of the quantitative data, as well as a thematic analysis of the qualitative data. I then went a step further by examining factors that predicted the spatial dimensions of these occurrences, specifically the locations older adults were reported missing from and the locations in which they were found. I concluded these analyses by assessing the demographic and health characteristics of repeat missing occurrences, as well as being located within five hours of being missing.

To provide an interrogation of these findings, I first discuss how becoming lost appeared to be a function of aging within an environment unfit to support older adults needs. That is, the processes associated with age-related decline, such as short-term memory loss, as well as declines in mobility, coupled with an aging pathology, produced resultant gaps between the aging individual and their lived environment. However, before I go on to discuss this, I first answer the questions of (1) the percentage of persons with dementia who were reported missing, as well as (2) any notable health characteristics of the sample population.

Through descriptive analysis, I found persons living with dementia comprised just over half of all missing reports involving older adults (53.1%) which was a lower rate than I anticipated at the outset of the analysis. Even more surprising was that dementia was not the most

frequently occurring health condition but rather it was mental disabilities which affected most older adults (64%). Although no existing research has been conducted on older adults who have been reported missing, a similar study using police reports to examine missing occurrences among persons with dementia found similar results. To be specific, they found that the number of persons with dementia reported missing was considerably lower than estimates from caregiver reports which indicate persons with dementia sometimes get lost as often as once daily (Bantry White and Montgomery 2014). My results thus raise questions about missing occurrences for those living with dementia. For example, (1) are most missing occurrences involving persons with dementia resolved by caregivers without police involvement? (2) is there a brief period in the course of dementia of about two years within which getting lost is most likely to occur? and (3) would incidences of dementia be higher in a sample of adults aged 50 and older rather than those aged 65 and older? Existing research suggests it may be a mixture of all three.

McShane et al. (1998) found that approximately two-thirds of missing person cases involving persons with dementia were not reported to the police, as did Bantry White and Montgomery (2014). They found only 0.5% of the total population of persons with dementia were reported missing to the police which suggest either (a) a low incident rate of dementia-related missing occurrences, or (b) a low rate of police involvement. On the contrast, some researchers contend there is a short period of hyperactivity associated with an onset of dementia that increases one's risk of becoming lost. It usually passes within two years as persons with dementia become less active (Hope et al. 2001). Young onset dementia may also explain the lesser incident rate of dementia in the sample. Roughly 2 to 8% of all dementia diagnoses are for young onset dementia which occurs from 40 to 64 years of age (Alzheimer Society 2020). These results indicate missing occurrences involving persons with dementia not only warrant more attention but improved data collection procedures. Without improved data collection, official statistics may be askew and any conclusions may be erroneously made. These results further

indicate it is equally important to examine missing occurrences for older adults without dementia and will likely yield as many important insights because roughly half of the sample went missing for factors unrelated to dementia.

Within the qualitative reports, there also appeared to be an increasing number of older adults and persons with dementia living inappropriately in acute settings or being cared for in the community while awaiting long-term care placement (Moyle et al. 2010). Indeed, a salient theme that emerged was that unmet needs and health care shortages were contributing factors to missing occurrences. These results were consistent with existing research which suggests persons with dementia are often living in acute settings due to waitlists for long-term care entry (ibid) as well as Canadian estimates which suggest that 61% of persons with dementia are living in private residences (CIHI 2018)²³. In keeping with this, it was not surprising then that the quantitative results confirmed a large majority of older adults were reported missing from residences (48%) and community-based locations (18.7%). However, what is interesting about these results is that dementia was not significantly associated with being reported missing from any of these locations. Rather, dementia was only significantly related to the locations older adults were found.

Results from the logistic regression analyses revealed older adults with dementia were roughly two times more likely to be found on a street or roadway than those without dementia (OR = 1.961, $p < 0.01$). These results imply that missing occurrences involving persons with dementia may originate from several locations but conclude on a street or roadway. The thematic analysis substantiated these claims with the vast majority of persons with dementia becoming lost while on a walk and being found on a sidewalk, intersection, near a neighbour's residence, or sitting on a park bench. Additionally, one striking finding was that despite existing research

²³ The rate of persons living with dementia who reside in the community is likely considerably higher than 61% because these rates exclude the province of Saskatchewan (CIHI 2018).

suggesting persons with dementia may be at risk of a repeat missing occurrence, results from this study revealed that dementia was not associated with repeat missing occurrences (McShane et al. 1998). Instead, older adults with a mental disability were more likely to have a repeat missing occurrence (OR = 2.636, $p < 0.001$). The qualitative results further support these mixed results. In particular, the reports alluded to mental health being a recurring factor for going repeatedly missing although there were also several reports of persons with dementia going missing on more than one occasion. Because of these results from the qualitative reports, as well as the challenges with data collection previously noted, these results should be interpreted with caution.

Another notable result from the quantitative analyses related to the length of time persons with dementia were considered missing. I found the odds of being found within five hours were almost 2.5 times greater for older adults with dementia than for those without dementia (OR = 2.462 by time last seen; OR = 2.265 by time reported missing, $p < 0.001$). These results suggest police efforts to locate missing persons are more expedient for persons with dementia than other categories of missing persons, such as those with substance use problems or mental health conditions. Indeed, drug or alcohol dependent older adults were significantly less likely to be found within the initial five hours, both by the time last seen and by time reported missing (OR = 0.435, $p < 0.01$, and OR = 0.473, $p < 0.05$, respectively). These findings yield important insights about the degree of supervision older adults with complex and variable health needs receive. For example, the qualitative reports suggested persons with dementia who reside in the community most often had strong filial ties and support. If they did not have strong filial ties, they often supplemented their care with other provisions, such as paid home-care or security systems; whereas older adults with mental health conditions, such as those relating to drug or alcohol dependency, often did not have as many protective measures in place, both at the familial and institutional level.

Older adults with a drug or alcohol dependency appeared to slip through the cracks of the system. One older adult was reported missing on fifteen occasions and was never the subject of any safeguarding efforts by either mental health professionals or police. These results shed light on some of the demands placed on mental health professionals as well as police. They also uncover how both occupational groups exercise a degree of complacency when adults with substance problems are reported missing (Sowerby and Thomas 2016). An analysis of the reports for latent content also hinted at limited support for older adults with drug or alcohol dependencies at the family level. For example, when persons with dementia experienced deteriorating health, their children often moved home or restructured their living arrangements to make it more amenable to their parent's needs. On the other hand, because substance abuse was generally conceived of as a 'preventable problem', older adults with substance problems were not afforded the same provisions, i.e. family did not move home or visit as often.

Gender was another factor that significantly affected missing occurrences through a variety of means. First, gender became a key variable in the study when it was revealed that men outnumbered women in the sample by a ratio of 3:2. This drew my attention because women outnumber men in old age and more women are believed to have Alzheimer's than men (Rowe and Glover 2001). However, what drew my attention more was when I found gender was significantly related to having a repeat missing occurrence. In particular, I found that women were 33.5% less likely to have a repeat missing occurrence than men ($p < 0.05$). It was further revealed that women were found within shorter time frames than men. Specifically, I found women were roughly two times more likely to be found within five hours of the time they were last seen as opposed to men (OR = 2.042, $p < 0.001$). Although there could be a variety of interpretations for these findings, I argue these results illustrate the continuity and proliferation of "rescue narratives". These narratives support the notion that women are in need of saving and thus, appear to be enacted upon and reproduced through police responses to missing women.

Put more simply, traditional beliefs about women being in need of ‘protection’ or ‘saving’ appears to have significant implications for safeguarding and response protocols. Although these stereotypes advantage women – to the extent that, they are less likely to go missing repeatedly and more likely to be found within shorter time periods – they disadvantage men.

The nuances of how gender impacts behaviour while missing was also identified in the qualitative reports. In particular, I found men may be less inclined to ask for help while missing or seek medical attention. This was consistent with existing research which has identified gendered differentials in help-seeking behaviours (Thompson et al. 2016). In the qualitative results, I therefore proposed that cultural perceptions of aging with dementia, as well as notions intertwined with hegemonic masculinity create a “triple jeopardy” for men living with dementia who become lost – that is, asking for help is not simply just a question of need but requires confirming age-related defeat and disability status which is in direct violation with being a “real man” (Walker and Walker 1998; Katz and Earp 2002). Interestingly, these results suggest that although aging has long been considered a women’s problem –in that, women tend to live longer than men and women are the principal caregivers for older adults– going missing as an older adult may be better framed as “men’s problem” to the extent that they are disproportionately affected by missing occurrences and further disadvantaged by both safeguarding and search efforts (Judd et al. 1999).

Another salient theme that emerged from the missing person reports was the need for more person-centred care approaches in institutional settings. These results were substantiated by the quantitative results which showed a relatively high rate of older adults who were either (a) an escape risk; (b) had a history of eloping; or (c) were believed to have eloped from care. Indeed, there were multiple reports where missing occurrences appeared to stem from a person-environment mismatch whereby older adult’s care preferences and their receipt of care were not matched. For example, some reports implied older adults were dissatisfied with their care-

environment which sometimes pushed them to exit-seek or leave their place of residence (Biehal and Wade 2000). These results were somewhat novel in that the relationship between needing more person-centred care approaches and becoming lost has not been established. The logistic regression models confirmed some of these findings.

In examining the demographic and health characteristics that factored into going missing from care facilities and hospitals, I found a significant association between eloping and going missing from care. To be precise, the results indicated that older adults who were believed to have eloped were over 10 times as likely than those with no known reason for going missing to be reported missing from a care facility (OR = 10.139, $p < 0.001$). Although these findings have not been replicated in existing missing person's literature, there is a general consensus that a sizeable share of persons with dementia abscond from care (Halek and Batholomeyczik 2012; Olsson et al. 2013). Further intriguing, I found older adults who were presumed to have eloped from care were over 20 times more likely to be reported missing from hospitals (OR = 20.469, $p < 0.001$). This gave support for the qualitative results which found that some older adults often left hospital care when they were dissatisfied with the care environment. For example, it was noted in one report police were dispatched to a hospital where a missing older adult with complex mental health problems had gone missing four times within the span of five weeks. The report indicated "he had a habit of removing his security alarm so the floor door alarm does not ring [when] he sneaks out". These results were consistent with existing research on caregiving and care-receiving which have often pointed to the need for more person-centred care approaches (Ekman et al. 2011) and further suggest the absence of person-centred care can push older adults to leave or retreat from care settings. Indeed, a final noteworthy finding was that older adults who were deemed an 'escape risk' were almost 6.5 times more likely to have a repeat missing occurrence within the study period ($p < 0.01$).

Some racial groups were over-or-under-represented within missing reports which suggests there may be some biases that filter into missing occurrences and response protocols. Race was relevant to missing occurrences, such that Black older adults were just under 3 times more likely than white older adults to have a repeat missing occurrence within the study period (2.970, $p < 0.05$) and over 3.5 times more likely to have a repeat missing classification (OR = 3.529, $p < 0.05$). Because there is no research on older adults who have been reported missing in Canada, there is no means of comparing these results to Canadian estimates. However, one study found Black adults in Canada were over-represented in repeat missing reports (Huey, Ferguson and Kowalski 2020). Race also factored into response protocols. That is, being Aboriginal as opposed to white decreased one's odds of being found within five hours, both from the time they were last seen and the time they were reported missing (OR = 0.280; OR = 0.347, $p < 0.05$).

A final theme that emerged from the qualitative reports was the need for enhanced safeguarding. Indeed, with a repeat missing rate of 33.4% within the study period, as well as a repeat missing classification of 41.4%, the reasons for older adults repeatedly going missing warranted increased attention. Most often, shortcomings in safeguarding were related to the use of technology, degree of supervision while at home or in the community, as well as health care facility designs. It was frequently reported that older adults were living in facilities ill-suited for their needs and that lapses in supervision precipitated missing occurrences. Although the literature on preventing repeat missing occurrences is in its infancy, Hedges and Shalev Greene (2017) see 'missingness' as a symptom of a much larger problem and point to the need for addressing the root cause of going missing.

In the older adult population, the root cause of going missing appeared to be an incongruence between an individual's needs and the demands of their environment. To be specific, most often older adults in the sample would have never been reported missing if their environments were better suited for their needs. To further elucidate what I am referring to as a

person-environment mismatch, I must make explicit that I am not suggesting older adults be institutionalized in long-term care facilities to prevent missing occurrences. Certainly, the lengthy waitlists for institutional care were not the only contributing factor to missing occurrences nor were they an infallible solution. Rather, I am advocating for significant investments in both home and community-based care, as well as long-term care in Canada, which has too long been an underfunded and neglected area of social programming. Beyond housing, there are also opportunities for safeguarding that have not received much uptake in Canada. For example, exploring the use of return-home interviews might be a worthwhile investment. Return-home interviews present the opportunity for police to attend a missing person's residence to develop an intervention strategy to prevent future missing occurrences and they have been adopted in the UK. Further, Stevenson et al. (2013) have emphasized that police's handling of returns is also important; suggesting that feelings of guilt and shame associated with going missing may be reduced if the officers are non-judgmental and sensitive to the returned person's needs. These intervention strategies collectively could be used to reduce repeat missing occurrences and provide more enhanced person-centred care for older adults within our communities.

Chapter 7: Conclusion

I began this thesis with the hope that I might be able to advocate for an increased public and policy response to older adults who have been reported missing by (i) identifying the prevalence of and antecedents for going missing and (ii) situating missing occurrences within socio-spatial theories which point to the incongruence between an individual and their environment as central to the construction of both dependency and disability in old age. I used the political economy of aging as a framework for encompassing the ways in which anti-aging rhetoric has contributed to both limited scholarly attention on missing persons as well as the absence of policy responses. Given my results suggest older adults have many unmet needs as evidenced by lengthy waitlists, it seems older adults have been neglected by provisions of care at the individual, community and institutional level. The results of the qualitative component further give voice to theories that suggest older adults have been designated the status of ‘invisible others’ and framed as a disposable population unworthy of adequate health and social programming (Estes, Linkins and Binney 1996; Estes 2001). These failures to respond promptly and sufficiently to older adults’ needs have resulted in otherwise preventable missing occurrences. As Kernaghan and Siegel (1995:133) make clear, “public policy is what government choose to do or not to do”. Indeed, one incredibly formative mentor always reminds me that “policy is inaction too”.

In the following sections, I provide a brief overview of the results of my mixed analysis through a summary of my findings. I then discuss the limitations of this work and opportunities for future scholarship. I close with a brief, but nevertheless significant discussion of the practical and policy imperatives of this work – in doing so, I make explicitly clear the implications my thesis has for police responses, areas of future scholarship, and the public who heeded this call to action.

Summary of Findings

Throughout my mixed analysis of both the quantitative and qualitative data ($n=616$), I learned that older adults go missing for a multitude of reasons. Although their reasons for and experiences of becoming lost are notably different, they also share several common threads. I first learned that aging with a pathology or more specifically, aging with a cognitive impairment, is particularly difficult within an environment that is not designed nor prepared for older adults' distinctive needs. Just over half the sample were believed to be living with dementia and experiencing disruptions in cognitive and spatial processing that heightened their risk of becoming lost. It was through this examination that I also became aware that aging, in and of itself, in an environment ill-suited for an older adult's needs can present risks for becoming lost. Age-related declines such as impairments in mobility as well as short-term memory presented challenges for navigation within one's community. It further became abundantly clear that provisions of care, both at the communal and institutional level, and the policies they are situated within did not anticipate the needs of older adults nor were they prepared to respond to them. These findings echoed Lawton and Nahemow's (1973) ecological model of aging which proposes that the physical environment can impose both constraints and opportunities in later life. Access to the good life or being ascribed the status of "aging well" seems to only be made possible through an efficacious match between an individual and their environment.

I further learned that aging with a pathology presented challenges for informal caregivers most notably, family, as they negotiated evolving relationship dynamics that created imbalances in reciprocity. These shifts were exemplified through parent-child dyads in which parents appeared to be reconciling the tensions between being the principal provider to now needing to be 'provided for'. Dependency was habitually met with responses of disapproval and disdain. That is to say, the desire for independence and autonomy was so naturalized that it became a rationale for concealing need. On several occasions, fears surrounding being considered

dependent meant some individuals attempted to “pass” as able-bodied (Goffman 1963). It was also common for older adults to frequently refer to breaches in appropriate “social boundaries” or privacy when they explained their rationale for not providing information on their whereabouts (Aronson 2002:409). The results also alluded to older adults’ desires for more person-centred care approaches. Indeed, I found a significant association between eloping and going missing from care. That is, there was a significant increase in odds of going missing from care facilities as well as hospitals for older adults who were believed to have eloped. Together, these results imply older adults often left institutional care when they were dissatisfied with the care environment.

I engaged with Walker and Walker’s (1998) concept of double jeopardy in framing missing occurrences. I used this concept to elucidate how older adults who are aging with a pathology, such as those brought on by a stroke or fall, experience a “double jeopardy” with respect to their overall social status. Health is often considered a marker of social status and thus, ill health is a marker of failing to achieve success in one’s own aging process. What’s more is I also explored the utility of “triple jeopardy” as a concept that takes into account both the stigma associated with aging and aging pathologies, paired with cultural perceptions that define what it means to enact gender in a socially agreed upon way. For men, enacting one’s masculinity and conforming to the pressures to act, think and talk ‘like a man’ constrained help-seeking behaviours while missing in the community. Beyond this, gender was also a significant variable in the quantitative dataset. Men outnumbered women in the missing person reports and women were less likely to have a repeat missing occurrence. Interestingly, women were also more likely to be found within the median length of time missing. I have thus proposed that going missing in old age may be better framed as a “men’s issue” rather than a “women’s issue” as most age-related problems tend to be (see Judd et al. 1999).

A final theme that emerged from the qualitative reports was the need for enhanced safeguarding efforts. This was mirrored by the quantitative results which found over one-third of the reports were for repeat missing persons and just over 40% had a repeat missing classification. One example of this was that despite family's efforts to prevent missing occurrences through various technologies, older adults were somehow able to bypass these safeguarding efforts – whether it be through a disarmed system, a sensitivity issue with an alarm, or simply that one of the exits were left unlocked. Some other notable shortcomings in safeguarding were related to the degree of supervision while at home or in the community, as well as health care facility designs. These results thus pointed to the need for enhanced safeguarding at the micro-meso-macro level.

Limitations

I hope at this point I have already made the limitations of this research clear; however, in this section I am intentional about the limits of both the data I have used and conclusions I have drawn. As with all research, I believe it is important to construe the results with careful thought. The principal and most obvious limitation of this research is its sample size. Because I was not able to access data from across Canada, I solicited missing person reports from agencies I had pre-existing relationships with. Another agency did express interest in participating but given the feasibility of drafting a memorandum of understanding, obtaining a signed copy of it, and accessing the data, it was not possible to ensure all these steps within my study's time frame. I should also make clear that although this study is not representative of any province or Canada more broadly, this study is representative of two urban areas within these regions and that alone has merit. There has been no research of this nature in Canada and thus, having two agencies participate enhanced the overall quality of the results and the inferences I was able to make.

Beyond generalizability, this research is limited by issues of representation. I believe Parr and Fyfe (2012:617) illustrate this best when they suggest that being missing is “indelibly

relational". For someone to be reported missing, they must be missed from somewhere or someone. Situating missing occurrences within their relational status gives us a glimpse into how "powers of visibility" can render some groups invisible (ibid). Older adults without surviving kin, who live alone or do not receive subsidized care, may not be 'missed from anyone' and therefore, they may not be reported missing. Extending on this thought, I should stress that disadvantage is cumulative; that is, older adults who were disadvantaged early in life continue to be disadvantaged in old age. The cumulative process of disadvantage coupled with the continuity of aging implies that older adults who are marginalized by race, class, gender, disability, or health status may further be absent from missing person reports. Indeed, Huey and Ferguson (2020) have emphasized that missing person reports, particularly for homeless persons, may not gauge the full extent to which people go missing because not all cases are reported missing to police. A final limitation relating to representation is that my results may underreport missing occurrences involving persons with dementia because I used 65 years of age as the study inclusion criteria.

Aside from issues of generalizability and representation, achieving the quantitative results of this thesis were not unencumbered. I had to rely on the accuracy of police reports which are not immune from error (Malm et al. 2005). Police data confronts the problem of multiple authors for a single data source and multiple techniques for data reporting. Using data derived from two agencies only exacerbated this problem. Each agency had their own method for data collection which made some data ripe for comparison but also a significant portion not amenable to analysis. Collating data across provinces also presented challenges as both agencies had different record management systems and a different governing body for those systems. Some data could only be retrieved by one agency and in several cases, there were delays accessing data on key variables. An example of this was the 'race' variable I included. One agency had almost no missing cases for this variable while the other agency had a large quantity of

missing cases. I thus worked closely with the second agency's crime analyst in a second phase of data collection and used the qualitative reports to amend any coding errors.

Apart from the challenges that arose from matching the datasets, like Brimicombe (2016), I also found police data are often imperfect in several ways. First, I had to vet the data carefully for coding errors, missing information, as well as duplicate entries. On three occasions, I also had to create reports where there was only one entry when two were needed (i.e. cases where two residents from a care facility went missing). The collection of data also made some information more or less clear. For example, police used the category 'mental disability' for any mental condition as opposed to having separate categories for different types of mental disabilities, such as those brought on by traumatic brain injury, dementia or related cognitive impairment, as well as psychological disorders, such as bipolar disorder or schizophrenia.

With respect to my results, my results may be biased towards critical missing incidences in that police are generally only notified of a missing incident when family or care providers are unable to locate a missing person on their own (Bantry White and Montgomery 2014). An extension of these limitations is related to agency participation. The two agencies who participated in this study agreed to share a large volume of missing person's information with me. This was likely due to an established relationship of trust between both the agencies, myself and my advisor, who oversaw this work. Other agencies who did not have the time or resources to participate were not included in this research. I also experienced some challenges recruiting agencies because of my 'outsider' status. Indeed, Wells and Falcone (1997:729) suggest "the impression is that the more important, invasive, and risky the practice, the more inaccessible, incomplete, and invalid the data are". There is a chance then that some agencies did not participate in this study because of the perceived vulnerabilities of their participation.

Implications

Despite these limitations, my thesis has numerable implications for policy and practice. In this thesis, I drew attention to older adults who have been reported missing which is a social problem that has not received much research or policy response. I do so by situating missing occurrences within the Canadian context and examining missing occurrences involving older adults with a range of aging pathologies. In examining this understudied group of missing persons, I find that older adults go missing for several reasons and their experiences of becoming lost warrant greater attention. My analysis also identifies some risk factors for going missing and more importantly, identifies some preventative measures for reducing these occurrences. Specifically, my results point to the need for a collaborative inter-agency and multi-sectoral response. Because many risks for becoming lost were related to both individual and environmental factors, there is a need for intra-individual and extra-individual adaptations (Verbrugge and Jette 1994). For example, there needs to greater investments in home, community, and long-term care at the provincial level. At a cultural level, there is also a pressing need to unearth the deep-seated history and manifestation of ageism in health care policy that is reproduced through self-ageism at the individual level. Other adaptations include investments in long-term care to ensure facilities remain appropriately secure.

In terms of areas for future scholarship, my thesis identifies that missing occurrences involving older adults are an untapped area for scholarly potential. This program of research could be extended by including more police agencies or speaking directly with older adults about their experiences of becoming lost. Future studies should also identify service provision gaps and examine how enhancing person-centred care approaches can reduce missing occurrences. I also found a clear and discernible need for sociologists of aging and disability to fuse connections. Researchers are often critiqued for writing and reading in disciplinary silos. Throughout the body of this thesis, it became clear that the frameworks to address the nuances of aging with a

pathology were not sufficiently explained by social models of aging. I thus found myself reading *between* disability and aging theories rather than reading *within* them. Fusing connections between aging and disability theories could thus produce a richer, more complete understanding of the disablement process as it relates to aging with an impairment.

My results also have very practical implications – that is, these data can be used by police agencies to make adaptations to their missing persons responses. For example, one area that can be improved upon is police responses to missing persons with drug or alcohol dependencies. Another area of focus could be improved safeguarding efforts, such as adopting the use of return home interviews to prevent repeat missing occurrences. Although before this is to be implemented, scholarship in this area needs to first be developed to examine the overall efficacy of these practices. There are also improvements that can be made with respect to data collection. Interestingly, I found that it is rather commonplace for police to either not enter or remove a missing person from the Canadian Information Police Centre (CPIC). This means the official data on missing persons are drastically underreported.

Beyond this, a goal of mine from the outset of this thesis has been focused on advocacy. I have made a tangible effort to disseminate my findings to broader audiences than the scholarly community. I have worked with the Alzheimer Society of Canada by attending conferences and giving presentations to their staff. I have also been involved with the International Consortium on Dementia and Wayfinding where I have worked alongside other researchers, police, persons with dementia, and health care practitioners to see how we can use international evidence to better support persons with dementia who are at risk of becoming lost. In addition to this, I have worked with Ontario's Police College to include more information about older adults, living with dementia, and becoming lost into new recruits' curriculum. My hope is that I will also be able to engage in a similar practice with the Justice Institute of British Columbia.

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