Understanding Spatial and Temporal Tensions of Iranian Immigrant Caregiver-employees for Home Environment Design Improvement

By

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

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Abstract

The growing number of seniors in Canada and worldwide has highlighted the significant role of people providing unpaid care to their loved ones, who are so-called “family caregivers”. A great number of family caregivers are employees working in the paid labor market, who experience additional difficulties as a result of multiple responsibilities in their daily lives. This group of caregivers have to cope with continuous work-related tensions in addition to their daily caregiving burdens. In multicultural nations such as Canada, a great number of caregiver-employees also belong to the immigrant community. While immigrant caregiver-employees (CEs) are faced with extra challenges compared to other CEs, limited research is available for this underrated and overlooked population. This group of CEs have the challenging task of working from home while providing intensive care for their loved one. Therefore, the home environment is an everyday space highly susceptible because of daily spatial and temporal tensions. The current research aims to explore the experience and tensions of Iranian immigrant caregiver-employees in order to assist them in managing their ever-growing responsibilities in the home environment by providing a set of specific home modification strategies.

Initially, CEs major tensions and management strategies are identified by in-depth qualitative interviews. A novel Photovoice methodology is implemented to illustrate these tensions exclusively through self-captured photos. Five major themes are identified for the tensions, which are categorized as: (*i*) personal, (*ii*) caregiving, (*iii*) spatial, (*iv*) family and social, and (*v*) temporal tensions. The management strategies utilized by caregivers to cope with these tensions are also organized into five additional themes: (*i*) spatial, (*ii*) personal, (*iii*) social, (*iv*) monitoring and control, and (*v*) assistive and supportive strategies. Although, these management strategies are effective in resolving some of the tensions, specific tensions remain unmanaged for immigrant CEs’. Unmanaged tensions are analyzed under the therapeutic landscape framework to improve CEs’ health and well-being. A comprehensive list of architectural home modification strategies is proposed to relieve CEs’ tensions in the home environment. Finally, an ideal home is pictured for Iranian immigrant CEs, considering their most significant spatial, natural, symbolic and social requirements.

The outcomes of the current research will assist immigrant CEs in managing their daily tensions while performing their working and caregiving responsibilities. The proposed home modification strategies will minimize CEs' tensions to a large scale, improve their level of mental and physical health, and increase their quality of life. Furthermore, the current research results in increased safety and independence for the care recipients.

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Dedication

To my dear Mohammad Hossein, whose been the best companion, friend and supporter through this journey and our little angel Behesht, who is the light of our life

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Chapter 1
Introduction

1.1 Motivation

Caregiver Employees (CEs) are family caregivers who provide unpaid care and support to their loved ones, while working in the paid labor force at the same time [1]. This population of caregivers is growing fast with an estimated population of 26.4 million caregiver employees working just in the US [2]. Compared to other employees, CEs are interrupted more often during working hours, which increases their chances of losing their paid employment. However, in order to address these issues, most CEs decide to telework from home rather than attend the workplace. This group of caregivers is obliged to work from home while providing care to their chronically ill loved ones. They cannot attend the workplace, since they have to provide informal/unpaid care to their loved ones at home. Therefore, "home" is a special place for caregiver employees. It has a special meaning in their daily lives. It is the space where they spend most of their time, and the place where they create most of their memories. However, since most of CEs' daily activities are performed inside the home environment, it is the place where most pressures from the workplace, society and family accumulate. CEs look to the home environment not only as a place of comfort, but also as a place of work and caregiving. As a result, they are confronted by a heavy burden of responsibilities each day, which may develop into tensions if not managed properly. Hence, the home environment is highly susceptible to becoming a source of tension and stress for CEs and their families. "Spatial" and "temporal" tensions are two of the most critical types of tensions that CEs have to cope with on a daily basis in their home environment. Spatial tensions are experienced by CEs as a result of having unsuitable spatial and architectural elements in the home's physical environment. On the other hand, temporal tensions are defined as pressures and challenges faced by CEs within specific time periods or over a long period of time. It is extremely challenging for CEs to control these tensions while managing their two roles. This is specifically the case for

visible minorities, such as immigrants who also face the difficulties and challenges of settling in a new environment. In the last decade, very little attention has been paid to caregivers, especially ones that work from home. Therefore, the need exists for research to be conducted on this group of immigrant caregivers in order to explore their spatial and temporal tensions, and attempt to help them with their daily activities. Assisting immigrant CEs has an even greater significance since they are more vulnerable to tensions. A substantial amount of spatial and temporal tensions can be eased and controlled with suitable housing design. Thus, it will be helpful to develop a set of design improvements or home modification strategies in order to improve the home environment and address the caring and working needs of CEs.

In the current research, the main aim is to explore spatial and temporal tensions of Iranian immigrant caregiver employees (CEs) in order to provide suitable home design modification strategies for assisting immigrant CEs with their caregiving and working roles. The research will be focused on understanding the current tensions and management strategies that CEs implement and how they can be improved.

1.2 Home as a Healing Environment

Home is an environment of healing due to its special meanings and characteristics. According to Marshall (2008) [3], "home provides the optimal and essential environment for healing". A growing body of research in the literature is devoted to exploring how modifications in the home environment can support residents with their daily tasks and independent living [4]. A substantial amount of research has been focused on home modification strategies for caregivers to assist them with caregiving of the elderly and physically injured in the home environment [5]–[9][10]. These home modification strategies are of critical importance, since informal (unpaid) caregivers usually experience numerous psychological, social and physical health issues when providing care to their loved ones at home ([11], [12], [13]). Research has shown that home environment modification can result in relief of tensions and improvement in quality of life for

caregivers [14]. On the other hand, caregivers who have to work are reported to experience diverse negative health consequences such as weight gain or loss, sleeping difficulties and frequent headaches, compared to the non-working caregivers [15]. A growing number of caregivers quit their jobs in order to better manage their caregiving roles [16]–[18]. Therefore, CEs are often confronted by financial difficulties and a heavy economic burden during the caregiving process. Alternatively, some caregivers decide to work from home and/or telework to be capable of earning a living and providing care for their elderly loved ones [19]. Feelings of isolation and depression are common amongst caregiver employees working from home, especially those who already have a limited social network such as immigrant caregiver employees [20]. Nonetheless, very limited research has been conducted to explore the experience of immigrant caregiver employees who work from home. The current research is unique in concentrating on a specific group of caregiver employees (immigrant CEs) who are in greater need of assistance and are often neglected by major research studies.

1.3 Research Questions and Objectives

As explained above, there is a substantial need for in-depth research on the subject of immigrant caregiver employees working from home. Iranian immigrant CEs are specifically chosen as the focus group in this research based on the researcher's nationality, since immigrant caregivers communicate better with people of their own culture and language. The main objective of the current research is to explore the spatial and temporal tensions that Iranian immigrant caregiver employees experience in order to develop suitable home design modification strategies. Consequently, the current research intends to:

- Study and determine the different types of spatial tensions faced by Iranian immigrant caregiver employees working from home.
- Study and determine the different types of temporal tensions faced by Iranian immigrant caregiver employees working from home.

- Understand how Iranian immigrant caregiver employees manage their working and caregiving roles in the home environment (considering their spatial and temporal tensions).
- Develop home design modification strategies for assisting Iranian immigrant caregiver employees with management of their tensions.

1.4 Thesis Overview

The current research is divided into six chapters. Chapter 2 provides a review of the literature related to the topic of immigrant caregiver employees. The chapter begins with outlining the different types of tensions and health consequences confronting immigrant CEs. It continues with a description of home modification strategies utilized by architects and geographers for assisting caregivers and teleworkers in their daily activities. Therapeutic landscape theory is described as a general framework for studying the home environment as a healing place. Finally, the significance of the research is clarified based on the current shortcomings in home environmental design for immigrant family caregivers.

Chapter 3 explains the Photovoice methodology as the primary methodological approach used in the current research. Recruitment methods, interviews and the Photovoice questions are described. The chapter also discusses the study context, research design, data analysis, and strategies employed to ensure rigor.

The results of the research interviews are described in Chapter 4. The characteristics of the research participants are laid out in this chapter. Tensions and managements strategies implemented by the caregiver employees are outlined and explained in detail. Photos obtained from the Photovoice methodology are also showed in this chapter to better illustrate CEs tensions and challenges.

Chapter 5 provides an in-depth analysis and discussion of the research results. The findings are studied in order to provide suitable home design modification strategies for developing a healing home environment for caregiver employees in the context of

therapeutic landscape theory. These modification strategies are developed considering four different home environments: (1) built environment, (2) natural environment, (3) symbolic environment, and (4) social environment.

Finally, the results and the contributions of the current research are concluded in Chapter 7. Study contributions and research limitations are highlighted. Possible future work and enhancements are also proposed to inspire the future development of an ideal home environment for immigrant caregiver employees.

Chapter 2
Literature Review and Background

The current chapter aims to provide the literature on family, immigrant, and caregiver-employees' every day challenges and burdens. Immigrant caregiver-employees vulnerability to caregiving and working tensions is described through the chapter. Various home modification strategies employed by researchers are also presented. The chapter continues by introducing the therapeutic landscape theory as an ideal framework for the research. Finally, the significance of the study is emphasized by describing shortcomings in home environment design for family caregiver-employees.

2.1 Family caregiving research

In the past few decades, extensive research has been conducted on the subject of family caregiving, particularly for elders and the terminally ill [21]. One of the most important reasons for the increasing number of research in this area is the exceeding population of seniors in the coming years [22]. According to the literature, the number of seniors requiring care is predicted to double in Canada between 2012 and 2031[23]. Worldwide, the United Nations (2013) projected this number will increase from 841 million people in 2013 to 2 billion by 2050 [1]. As a result of the growing number of seniors, an increasing need exists for people providing assistive care who are known as "caregivers". A caregiver or carer, is a paid or unpaid person who provides care and assistance for a(n) child, elderly, disabled or ill person [24], [25].

There are two types of caregivers; formal caregivers, who get paid for their services, and informal caregivers, who are mostly family members or friends providing care to their loved ones without any financial profits. In this research, the focus will be on informal or family caregivers, as they are reported to be more vulnerable to negative health consequences due to their overlapping roles and responsibilities [21].

2.1.1 Who is a family caregiver?

A family caregiver or an informal caregiver is an unpaid family member, friend or relative who provides care related to an underlying physical or mental disability in their loved one [25]. There has been an impressive progress in the investments and innovations in medical and health care services in the last decade leading to a healthier elderly population [26]. Nonetheless, the average living age of the elder people has increased. Therefore, the importance of a fundamental caring system sustained by family caregivers cannot be denied [26]. According to statistics, nearly half (46%) of Canadians aged 15 or above(approximately 13 million Canadians) have been a family caregiver at some point in their lives, providing care to a family member or friend with a long-term health condition, disability or aging need [23]. This group provide basic care and support in several domains, including: health, social, emotional, and financial support for their loved ones [26], [27].

Proot et al. [28] have specified "vulnerability" as one of the main themes in family caregiving research [26]: "caring for a terminally ill person at home requires continuous balancing between care burden and capacity to cope" [28]. Family caregivers are vulnerable to different types of burdens and stresses [21]. Several types of negative health consequences have been reported for family caregivers including physical, psychological and social [11]–[13], [29], [30]. Difficulties both within and outside of the caregiving role result in negative health consequences for family caregivers [31].

According to literature, one of the most common psychological health consequences of caregiving for seniors is depression [11], [32]–[39]. In addition, there are other negative side effects involved such as: loneliness, insecurity, fear, care burden, restrictions of normal activity, facing death, and lack of support [28]. Family caregivers can also go through difficult emotional experiences including guilt, and relationship conflicts with the care recipient [40]. These emotional experiences are especially observed among caregivers of the chronically ill, near-death, or dementia patients[21].

Within the described psychological health consequences, some of them tend to be more difficult to measure. These include “the reviving of unresolved emotional issues from childhood; the conflict between norms of reciprocity and solidarity [41], emotion work and perceived deviance from feeling rules, particularly for women [42], [43]; the mismatch or cognitive dissonance involved between caregiving expectations, ideals, and reality [42], [44]–[46] and the confusion of the caring about and caring for [47]” [21].

One of the most important social pressures experienced by family caregivers was the exhaustion caused by the lack of support and caregiving assistance from other family members [48]. Another social strain that this group experience is limited socializing time with friends and family members [26]. As a result, their emotional life and relationships with spouse, friends or family members are also negatively affected [49]. Generally, family caregivers have less time for vacations, resting and relaxing, since they spend most of their time on caregiving duties [26]. In light of these issues, it is clear that family caregivers are a vulnerable population. Thus, it is crucially important to provide assistance in their daily responsibilities.

Within family caregivers, specific groups experience greater hardships and strains due to their more complicated conditions, which include family caregiver-employees and immigrant family caregivers. Family caregivers who are employees go through numerous additional tensions because of the conflicts between their working and caregiving roles [50]. On the other hand, immigrant family caregivers also experience certain difficulties due to reduced resources and lack of accessibility [21]. In the following sections, characteristics and tensions of caregiver-employees and immigrant family caregivers are discussed.

2.1.2 Caregiver-employees

Caregiver-employees (CEs) are family caregivers who provide unpaid care and support to their loved ones while, working in the paid labor force [1]. As discussed, the population of family caregivers is increasing globally, as is the number of caregiver-employees. In the

United States, approximately 26.4 million caregiver-employees are working either full-time or part-time, whereas.in Canada, 5.6 million employees are reported to be informal caregivers [1], [19], [51]–[53]. The majority of caregiver-employees are middle-aged full-time skilled workers who play a key role in the economy [54]. If these employees are forced to leave their job because of caregiving responsibilities, there will be negative outcomes for employers and caregiver-employees. Leaving work will result in reduced productivity for employers, and loss of income for CEs [55]. Thus, employers have to support their caregiver-employees through benefits and policies, in order to prevent their disintegration from the labor force and society [56], [57].

Furthermore, caregiver-employees play an important role in the health care system by providing informal unpaid care services [1]. However, compared to their co-workers, CEs are reported to take more time off from work, get interrupted more by family matters, work fewer hours than they are supposed to, and miss more days at work [10], [18], [65], [66], [26], [58]–[64]. As a result, CEs get paid less and/or loose opportunities for salary increases, and promotion [26]. Sometimes they are forced to use their personal financial resources for paying caregiving expenses, resulting in extra pressure and financial burden [26]. The work-family conflict and difficulties experienced by CEs increases the chance of CEs leaving their work place [16], [17], [26].

Alternatively, caregiver-employees decide to “telework” or work from home to better manage their caregiving responsibilities [19]. Teleworking is defined as working from home, or the ability of working from anywhere at any time [19]. Telework is reported to be a suitable strategy for caregiver-employees to balance their caregiving and working roles [67]–[69]. There is extensive research on the effectiveness of teleworking in fulfilling CEs care responsibilities [19], [67], [70], [71]. Flexibility in working hours and having control over their schedules are the two main reasons for CEs teleworking [72]. There are occasions that caregiver-employees need to be close to care recipients for emergency or unexpected events [19]. Moreover, caregiver-employees save a lot of time in a day by teleworking, especially through cutting every-day commuting[19]. As a result of having more flexibility,

control and time in their lives, caregiver-employees who work from home are reported to experience less tensions compared to non-teleworking CEs [67], [71], [72]. According to Major [19], homeworking CEs have: greater job satisfaction, are able to work for longer hours each day, experience less stress and burden in their caregiving process, and have more general positive attitudes and behaviors [72], [73]. Major [19] indicates that teleworking is especially helpful for the so-called "sandwich generation" CEs, who provide care for both their kids and elderly loved ones [74], [75]. He claims that, 25% of working mothers were not satisfied with the working load in their lives and were looking for a job with more flexibility; 38% of them reported missing a minimum of two important events in their kid's lives in one year, and 26% believed their jobs were negatively influencing their relationship with their kids [76].

In conclusion, working from home or teleworking is proved to be beneficial for caregiver-employees in better managing their caregiving and working roles. Due to the increasing number of caregiver-employees working from home, it is necessary to study this population to better assist them in their daily activities.

2.1.3 Immigrant caregivers

Immigrant family caregivers are another group of CEs who have been neglected in the family caregiving research. The following section provides a detailed discussion of the importance of research on this population. In the past few decades, the migration rates have increased worldwide, specifically in North America, [20]. According to Statistics Canada [77], the number of immigrants in Canada has increased from a half a million (16.1% of the total population) in the year 1871, to 7.5 million (20.7% of the total population) in 2016. The numbers are getting higher each year, reflecting the importance of focusing and supporting the immigrant population. There is growing literature on family caregiving research in health geography, especially focusing on immigrant family CEs. In the research conducted on immigrant family caregivers, the attention has been mainly on the effects of caregiving on employment [26]. Given the cultural diversity of caregivers, there is a need

for studying the ways in which social and cultural factors shape the family caregiver experience [78]–[81].Studying the effect of caregiving on a visible minority is a significant first step for understanding the importance of culture in family caregiving [26]. Some of the difficulties that immigrant family caregivers experience include: financial restrictions, lack of access to resources, and tensions caused by cultural background [82].

In general, immigrants are at a greater risk of having low income compared to Canadians [83]. Immigrant family caregivers claimed that caregiving is more expensive in a foreign country compared to their home country, which leads to numerous economic consequences while providing care [84] [20]. It is reported that the majority of immigrant caregivers, especially female caregivers, are low-income families with less available time for caregiving [20]. Having low income limits the options of family caregivers to renegotiate their caregiving responsibilities through domestic labor or paid assistance [20]. Immigrant family caregivers attempt to provide economic support for caregiving through hard work; however, costs not all costs may be covered by their salaries [26]. Female immigrant caregivers may feel more economically vulnerable, since they have higher chances of leaving the workplace compared to men [26]. On the other hand, they also feel pressured in their caregiving role since they cannot completely fulfill their responsibilities in the limited available time [20]. Hence, immigrant family CEs experience great financial burdens through loss of income, loss of retirement benefits, leaving work, and providing out-of-pocket expenses.

All factors discussed above prove that immigrant caregivers are an economically vulnerable population. Immigrant caregivers do not have an extensive kin support and are left on their own when dealing with the caregiving process. Furthermore, they are reported to be unfulfilled with health care needs and unaware of their health services because of language barriers [20], [26], [81], [85]–[88]. Thus, immigrant caregivers usually do not use formal services such as nursing home facilities, home health or assisted living [89]. Cultural norms are the main reason for limited employment of resources assistance among immigrant family caregivers. As discussed by Lai and Leonenko [26], many cultures

including Latino [90], South Asian [90] and Korean [91], [92], value family and the cohesiveness of family members [26]. The importance of family and elder care are especially emphasized in Asian cultures such as Chinese, Japanese, Korean or middle-eastern societies including Arabs and Iranians [26]. In the Iranian culture, it is even religiously recommended to take care of the elderly and parents [89]. In addition, respecting the elderly is highly valued by children and the younger generations. Although, filial responsibility may decrease the caregiving burden and help family caregivers cope better with their difficulties, there is a high chance of caregivers experiencing negative psychological health consequences, which include feeling of guilt and stress as a result of the inability to meet expectations and fulfil social roles [20], [26], [81], [93]–[97].In such cultures, family caregivers constantly feel the pressure to provide care for their loved ones, as caregiving is normalized to be part of their individual, group or gendered identity [26], [86], [98]. In these cultures, women are usually perceived as natural caregivers who need to fulfil the cultural expectations [20], [99]–[101]. Although, these immigrant female caregivers have multiple additional roles besides caregiving, cultural values to renegotiate their caregiving responsibilities [20]. In some cultures, such as the Vietnamese and Japanese, if a caregiver does not properly take part in caregiving responsibilities or seek for formal support services, it can be considered a shameful failure [20], [102], [103].

All of the above financial and cultural burdens have a negative effect on the mental and physical well-being of immigrant family caregivers. Therefore, it is necessary to conduct research on this population as one of the most susceptible caregiver groups in Canada [26]. There are a few main reasons to focus on the Iranian family caregivers in this study. According to the 2016 census, number of Iranian immigrants has increased from 27,600 in 2006 to 42,070 in 2016, with 50% of them living in Ontario [104]. In addition to the increasing number of Iranian immigrants living in Canada, Iranians pay special attention to family and parental care, based on their cultural and religious believes. There is currently no research available on Iranian CEs in Canada under the discipline of health geography.

Caregiver-employees (CEs) and immigrant family caregivers are highly vulnerable groups who are in need of support and assistance in their caregiving processes. Nevertheless, caregiver-employees who are also immigrants are even more vulnerable. The immigrant family caregivers who work from home are a great example of this target group. Being a CE and an immigrant leads to highly accumulated strains and stresses. Having multiple roles increases the chances of depression, mortality and co-morbidities for the caregiver [31], [105]. Hence, there is a necessity for conducting research on this specific target group in order to support them in their caregiving journey, and reduce the tensions associated with their multiple roles.

2.2 Home Design for Health and Well-being of Caregiving Families

"Home" is central to the health and well-being of caregiving families since it is the environment where caregivers and care recipients spend most of their time. The physical home environment has a broad impact on the emotional, psychological and social well-being of its dwellers. In case of caregiver-employees, this effect intensifies even further, due to special health circumstances of family members receiving care, and work duties performed in the home environment. Consequently, the challenges and tensions caused by both tasks (providing care and teleworking from home) are developed and confronted in the home environment. Therefore, it is highly essential to provide a suitable home environmental design strategy in order to ease the tensions and respond to the needs of caregiver-employees. The first step in providing such suitable and correct home design strategies is to understand the meaning and concept of home from a broader multi-lateral perspective.

2.2.1 Effect of Home Space and Place on Health and Well-being

Although, most research on home design or improvement are focused on physical spatial changes of the home environment, it is extremely critical for architects to observe the home environment not just as a physical "space" but also as a dynamic "place" where meanings change continuously over time. In most scientific fields space and place are considered as synonyms, or preferred over another. In their simplest definitions, space is a location,

somewhere, which can be addressed, controlled and commanded, whereas, place is the occupation of that location, which can be lived in and experienced [106]. Therefore, "home" encapsulates both definitions of space and place. The former refers to the home built environment and its characteristics, and the later denotes the different every-day activities experienced inside the home environment.

What begins as an undifferentiated space in people's homes becomes a place as they get to know it better and fill it with values. Architects talk about the spatial qualities of place, and similarly they can also speak of the locational (place) qualities of space in homes. The place identity of a caregiver's home is developed by dramatizing the aspirations, needs and functional rhythms of personal and group life. In fact, Architecture is a significant factor in identifying different spaces and places in the home environment. Architectural spaces are important from different aspects. An important task for architects is to define spatial sensations more clearly through correct designs and modifications [107], which leads to improved self-recognition for people living in a human-designed environment. On the other hand, place is the core to social relations, affecting the health and wellbeing of occupants [108], [109]. Opportunities, resources and/or constraints are a few of the important factors that every place can offer. Therefore, place has to be considered as an essential structural determinant of health [110].

Two of the most critically important determinants of good health and well-being for caregiver-employees are socioeconomic and material conditions of residential places. These two conditions are important characteristics of CEs' "home". The social, demographic, economic and environmental factors influencing health status are distributed across the home space. Atkinson et.al (2012) state that: "health and well-being are interdependent; and prevention holds as an important role as a cure, and looking for long-term solutions rather than more immediately attainable treatments are more crucial" [109]. Staying healthy in caregivers' residential space and place is one way of limiting tensions for CEs. Thus, there is a great opportunity to improve the health and well-being of CEs by designing a suitable space and place for their home environment.

2.2.2 Home environmental modification

Since most housing environments are not primarily designed based on caregivers' or care recipients' needs, they often require so-called "home modification" [7] or "housing adaptation" [4] strategies to provide greater accessibility, safety and independence [111]. This is where architects have a pivotal role in understanding and defining the required modifications. Limited research has been conducted on home environment design for care recipients, caregivers or employees working from home.

The core meaning of "home" is shaped by the relationship between people and their living environment [112], which combines both characteristics of home as a space and place. These relationships are dynamic and are therefore affected by environmental characteristics in time. It is in the midst of this dynamic relationship that caregivers and their families seek a place of safety, control, sanctuary and privacy in the "home" environment [113]. Depending on the relationships experienced in time and space [113]–[115], the home environment can introduce significant personal and family peace and tension. Based on recent works in the field of home modification [74], [116], [117], the home environment can be conceptualized into three general modes of experience [118]:

- The physical home: encompasses the designs and layouts of the built environment and local spaces. The physical environment refers to the space that can be "measured and shaped by function, culture and history" [118].
- The social home: includes the relationships of inhabitants with other local inhabitants such as family members or individuals from outside the home physical environment. This mode of experience is a combination of the two characteristics of space and place in a home.
- The personal home: is the essence of home as a place for living. The personal home experience contains all central individual feelings of safety, control, sanctuary and privacy.

Although, all of the above three meanings co-exist for the home environment, home modifications are mostly defined by alterations or adaptations to the physical built environment that satisfy the physical needs of inhabitants [4], [7], [118]. Nonetheless, in order to provide a satisfactory and healthy experience for caregiving families, one should consider all of the three modes of the home experience from a general perspective considering the home space and place characteristics.

2.2.3 Home modification strategies for caregiving families

Despite the considerable amount of public budget spent on home modification, limited research is available on home environmental modification strategies for caregiving families. As an example, a total of 91 million Euros was spent on housing modifications in Sweden in 2003 [4], [119], while there is limited research on the implementation and effectiveness of these strategies. The focus of the current available research is mainly on the alteration of the physical home space to satisfy the needs of care recipients. Clients receiving housing modification support consist of a diverse group, ranging in age, degree of activities in daily living [ADL], and dependence [4], [120]. Clients with 65 years of age and above represent approximately 75% of the care recipients receiving support for home modification [121]. Consequently, current home modification research is focused more on the frail elderly and people with mobility impairment. Common home modification strategies for this group of people include the use of assistive technology [122]–[126] and rearrangement or removal of home furniture and dangerous household items [127], [128]. Examples of assistive technologies include implementation of wheelchair, bathtub, self-made bed, commode, electric bed, portable urinal bottle, walking stick, pressure relief equipment, and portable shower seat [129]. On the other hand, examples of home furniture modification and removal include installation of safe handrails on stair and entrance, removal of bathroom threshold, window replacement, flooring repair, entrance/exit ramps, non-slip mats, and non-slip socks [129].

According to Tanner et al. [118], home modifications are highly effective in reducing the difficulty and dependence of elders or impaired people in performing daily household activities [130], improving the functional performance in self-care [125], [131], [132], and reducing the need of caregivers [133]. The main goal of home modifications is to improve the independence, safety, and life quality of care recipients. The effectiveness and quality of home modifications has been studied [6] considering the type [8], cost [134], and purpose of modification [135], and also the type of impairment [124]. Hong et al. [129] summarized the root causes of home modification for the elderly into four main domains: (1) structural factors, spatial problems and insecure barriers typical of a traditional house, as well as home ownership status limiting rights to make home modifications, (2) care recipients' diverse needs driven by their health condition and lifestyle preferences, (3) socio-cognitive factors such as the extent to which they knew about home modification, or how they perceived previous experiences of home modification, and (4) economic affordability and family support. It has been revealed that home modification represents an important contribution to multidisciplinary care and therefore requires a comprehensive assessment and multidisciplinary decision-making processes [136].

Research on home modification strategies has been mostly focused on the physical limitations of the home environment, which is related to the spatial features of homes. On the other hand, the requirements of home as a place have been seldom looked at. Messecar et al. [6] studied home environmental modification strategies from the caregiving family's perspective. They identified forty-four home environmental modification strategies used by caregiving families, which were organized into seven groups based on the modification purpose[6] : (1) organizing the home, (2) supplementing the elder's function, (3) structuring the elder's day, (4) protecting the elder, (5) working around the limitations and deficits in the home environment, (6) enriching the home environment, (7) transitioning to a new home setting.

Caregivers' cultural beliefs and values are a highly influential factor in guiding and regulating their use of home modification strategies [6]. Tanner et al. [118] were one a few

to explore the environmental modification impact on the experience of home as a place of meaning, observing and identifying several key elements that may lead to the loss of a sense of home. Accordingly, "the experience of home can be diminished when the physical aspects of accessibility and functionality are emphasized and the personal and social meanings of home held by the home dweller are neglected or disregarded" [118].

In home modification research, a lot of emphasis has been put on studying the care recipients and their needs, whereas there is not much exploration on problems and challenges faced by the caregivers and their families. This is true while the caregivers' well-being and health is crucial to the long-term health status of the care recipient. It has been reported that families having a child with autism at home face great levels of psychological and social challenges including high levels of stress, anxiety, depression, isolation from friends and community, bad relationships with neighbors, and decreased marital happiness [137]. These challenges are found to be highly counter-productive on family members' and parents' daily activities in the home environment [137]. Similar reports are also available in literature confirming the daily struggles of caregivers and their family members in the home environment [138]–[140]. Barker et al. [141] observed that the stress and challenges among parents with impaired children does not only affect their own physical and mental health, but also intensifies the behavior of their children who need care. Consequently, it has been observed that if only one person in a family caregiving system becomes more healthy and comfortable, it can lead to highly positive behaviors in children with autism. Wertz (2012) states that the home environment should be friendly for not only the children with autism but also their family members [142]. Similarly, Wasan (2017) discussed the effectiveness of physical home modifications on wellbeing of children with autism and their family [143].

Therefore, improvement of caregivers' physical and mental health under the context of home modification is a highly effective tool that has been mostly neglected by researchers and needs further detailed attention. In order to be comprehensive however, the research needs to consider the positive role of the home environment based on all the physical,

personal and social experiences, which encapsulate the meaning of home both in terms of a physical space for living and a place for feelings and past experiences.

2.2.4 Home Design Strategies for Teleworking Employees Working from Home

Caregiving is only one of the two major roles that caregiver-employees perform while in the home environment. Teleworking is the other main task that this group of caregivers perform in the home environment. According to the 2005-2015 American Community Survey, 3.7 million employees (2.8% of the workforce) work from home at least half of their working time. This percentage is in fact much larger among caregiver-employees since their caregiving duties force them to spend more working time in the home environment. Design of a suitable home environment for effective home teleworking has been brought into attention more recently.

Some studies have used in-depth interviews, accompanied with time diaries, photographs, and physical observation of participants to examine workspaces of home-workers, including teleworkers, female teleworkers, and child care workers [144]–[148]. Teleworkers demand a broad set of physical and spatial requirements in their home workspace "in order to support the cognitive nature of their work" [149]. According to Montreuil and Lippel [150], teleworkers consider factors such as air quality, silence, and control over the temperature as advantages of the home working space compared to the corporate office working environment. Although, teleworking environments should meet general requirements such as physical isolation, privacy, control over working hours, and enhancing social support, researchers have also identified familial features important during home modifications [151]. Based on de Croon et al.'s [152] conceptual framework for the relationships between office concepts and worker health and performance, Fan Ng [149] presented three dimensions of office space development at home:

1. Office location (conventional or telework office at home)
2. Office layout (including workspace openness and the distance between workstations)

3. Office use (fixed workplace vs desk-sharing).

These home office concepts are formed by the physiological and psychological experience of teleworkers, and work-related conditions such as job demands and resources [149].

Size of the workplace, spatial requirements, home office location and ambient characteristics of the space are a few of the physical and psychological variables that affect the home office environmental design. Teleworkers working from home prefer to renovate and modify their home environment rather than move into new improved places [153], which signifies the importance of home modification for caregiver-employees. A highly influential factor in the home office space is the size of the work office, which according to some reports is the most important criteria in selection of office spaces inside the home environment [154]. The spatial location of the work space for the home environment is another highly effective factor. For example, proximity to other bedrooms may reduce the chances of using a spare bedroom as the home office [155]. Most homeworkers and teleworkers consider it desirable to have a separate home office [145]. Family caregivers however, are mostly forced to have a more open-concept office environment in order to fulfill their caregiving duties. This is also true for normal homeworkers whose primary concern is their family members [145]. Gender is also an effective factor influencing the choice of separate work rooms, with women (and mothers) less likely to find separate workspaces [156] and men (and fathers) having a greater chance and preference of using separate home offices [157]. Ambient features such as noise and lighting are also very influential on the selection of home office space. Teleworkers normally prefer to be away from noisy areas in the home environment, such as the kitchen and living rooms [144], [154]. Natural lighting is preferred to artificial lighting among homeworkers highlighting the importance of spaces with views and natural sunlight [154]. Poor lighting for work-related tasks has been reported to be a major problem in home workspaces [154].

Privacy of the work environment is very important for homeworkers [149]. Having “psychological privacy”, which is defined as controlled level of social interaction and information access is one part of the home working privacy [149]. On the other hand,

providing visual and acoustical privacy [154] through physical design of the work environment is another characteristic of the home working privacy, which is defined as "architectural privacy" [158], [159]. According to Altman [160], one means of achieving privacy is through establishing a territory. Personalization of the home physical work environment is a territorial behavior, which increases job satisfaction in normal work environments [161]. Work decor, home decor, or a mix of both are some means of providing such territorial personalization [162]. While privacy is important in increasing homeworking efficiency, social isolation is a concern and threat [163]. In fact, to some homeworkers, the home environment becomes a trap due to limited social interactions [155]. This sense of isolation may even be greater for caregiver-employees working from home. Talking regularly to clients, friends and co-workers in person, on the phone, or through e-mail is one way of satisfying social needs of the homeworkers [164].

Although, research in the field of environmental design for home teleworking has resulted in some useful design strategies, not much has been done to understand the tensions of caregiver-employees who are in need of special and dedicated attention. 60% of US caregivers in 2015 were employed at one point while providing care [National Alliance for Caregiving and AARP. (2015). Caregiving in the U.S.]. According to the National Alliance for Caregiving and AARP [National Alliance for Caregiving and AARP. (2015). Caregiving in the U.S.] 70% of caregiver-employees suffer work-related difficulties due to their dual roles. 39% of caregivers leave their job to have more time to care for a loved one. 34% leave because their work does not provide flexible hours [National Alliance for Caregiving and AARP. (2015). Caregiving in the U.S.]. Therefore, the challenges of working and giving care at the same time is very critical for caregiver-employees, leading to huge tensions. Since both of these two roles are majorly performed in the home environment, it is important for the working caregivers to feel established and relaxed while doing their work at home. The design of home workspace must meet the demands of caregiver teleworkers while, at the same time, reduce the tensions of caregiving and provide an overall better health status for caregivers and their recipients. However, there is currently

no literature providing home modification strategies for caregiving employees working from home. Hence, there is an urgent necessity to understand the environmental needs of caregiver-employees both in terms of caregiving and working from home, in order to provide suitable design solutions for alleviating tensions in the home environment.

2.3 Therapeutic landscape theory

Therapeutic landscape theory is employed in this research as the main analysis framework. In order to explain this theory, health geography needs to be defined first as the contextual framework. Health geography is one of human geography's sub-disciplines [51], [165], [166], which focuses on understanding the interactions between human and the environment, and how place, space and geography can influence well-being and health [51], [165], [166]. Therapeutic landscape theory also theorized under the concepts of health geography, which is based on the relationship between place and health [143]. The main concept of this theory recommends that particular places can have the power and capacity of improving the health and well-being of people [167]. According to Liamputtong and Suwankhong [167], this theory emphasizes on the importance of the interactions between natural, social symbolic and physical components in a place in order to get to a comprehensive understanding of health and illness [168]. Masuda and Crabtree [169] define therapeutic landscapes as "places where human thoughts, experiences, social circumstances, and physical milieus interweave to create an ambience which is instrumental in healing"[167]. Since its' emergence, two types of places have been defined as therapeutic landscapes; extraordinary places and everyday landscapes [167].

The original concept of therapeutic landscape theory is about specific landscapes with super-natural healing powers known as "extraordinary landscapes"[170]. Liamputtong and Suwankhong [167] define extraordinary landscapes as "those landscapes situated externally from the day-to-day lives of individuals, which are linked with extraordinary events in people's lives, for example, being hospitalized"[171]. They give an example of these landscapes including natural and religious places that are known for having healing

powers [80], [172]–[175]. There is an extensive study on the therapeutic aspects of extraordinary landscapes that include the healing role of natural environments, religious and spiritual environments and thermal springs [175]–[177]. Compared to the research available on extraordinary landscapes, not many studies have been conducted on everyday landscapes, which is a more recent field in the therapeutic landscape theory [171]. Williams [178] showed the important role of healing landscapes in health promotion programs among First Nations in Canada. Dyck and Dossa [179] defined religious practices and prayers as routine characteristics of therapeutic landscapes among immigrant women in Canada [175], [179], [180]. One of the most important everyday landscapes having a significant effect on the health and well-being of its residents is "home". Nonetheless, there is not much research conducted on the home environment and its significance on the health and well-being of the residents, specifically caregiver-employees.

2.3.1 Application of therapeutic landscape theory in home environmental design for caregivers

Most human beings spend most of their living time in a place they call "home". Thus, home has a huge influence and impact on its residents' health and well-being. According to Liamputtong and Suwankhong [167], English et al. [171] suggests several strategies for people to adopt to therapeutic landscapes in their home, including constructing personal spaces of healing, and reducing exposure to harmful agents, which have negative health consequences on residents. The healing role of the home environment becomes significantly important for residents with specific roles, such as CEs. This group of people require greater effect of home's healing environment since they share the same living and working environment with their ill family members. As mentioned in previous sections, many caregivers leave their workplace and decide to work from home in order to provide care for their loved ones, which makes the healing role of the home environment even more important [19]. As a result, according to Williams [80], "given that the therapeutic landscape concept encompasses a holistic understanding of place paying attention to the physical, individual, social and cultural factors in the maintenance of health and well-being

[175], it presents an idealized framework from which to explore the gendered experience and meaning of home by informal caregivers.". Thus, the therapeutic landscape theory is a highly suitable framework for the current study. But the question is how can the home environment be therapeutic for its CE residents?

Williams [80] states "in the specific case of family caregivers who provide care to their elderly and/or adult loved ones in the home environment, if the place is healthy and definitive, the home is deemed therapeutic as it contributes to well-being of both caregiver and patient". Naghib [137], has categorized diverse types of experiences in the home environment into three main subcategories: the physical, social and personal home [116], [117], [74]. Current research aims to maintain and improve the physical, mental and social health of caregivers in the home environment as a therapeutic landscape by paying attention to these several experiences in the home environment. This goal will be reached through exploring the spatial and temporal tensions of worker-cares and their expectations from the home environment. Eventually, numerous design improvement strategies will be provided to make their home a therapeutic landscape with healing capabilities, which maintains the health and well-being of caregivers.

2.4 Summary

In this chapter, the literature on family, immigrant and employee caregiving research was discussed. Each of these specific group of caregivers were introduced as a highly vulnerable population experiencing numerous caregiving burdens. Physical, psychological and social difficulties were discussed in detail as three main caregiving tensions. Immigrant caregiver-employees working from home were introduced as one of the most underrated and vulnerable populations among caregivers. This population experience accumulated strains and stresses because of their multiple roles. The necessity of conducting research on this population was explained in detail through the chapter. Realizing the demands of this targeted population, numerous approaches were discussed including different home modification strategies. One of the main sources of tension for immigrant caregiver-

employees' is working and caregiving in one environment at the same time. With creating an established and relaxed home environment, spatial and temporal tensions may be minimized. In the chapter's final section, therapeutic landscape theory was introduced as the best theoretical framework for the current research. Based on this theory, the home environment has the capacity to be therapeutic and maintain the health and well-being of CEs. This goal will be achieved through the suggestion of numerous design improvement strategies in the primary research presented herein. The current research is unique since it connects architecture and health geography to focus on a vulnerable caregiver population – Iranian immigrant caregiver-employees working from home.

Chapter 3
Methodology

The current study aims to answer the defined main question and objectives using a qualitative research approach. As mentioned in the first chapter, the main purpose of this research is: "to explore the experiences of immigrant Iranian caregiver-employees (CEs) providing informal care and conducting paid labor work from home". The current research also has the following objects:

- Determine the spatial and temporal tensions experienced by Iranian immigrant CEs working from home;
- Understand how Iranian immigrant CEs are able to manage both roles (work and caregiving) in the home environment, and;
- Understand how we can improve the design of the home environment for immigrant CEs in order to address their needs.

Photovoice was the primary methodological approach used, encompassing two main sessions. In the first session, the general caregiving and work experiences of the recruited CEs were explored using semi-structured, one-to-one, in-depth interviews. The second session required participants taking photos as answers to a specified set of questions, which provided a deep understanding of the phenomenon of concern. The main findings of the research were sent to participants in the end. (Appendix A-10) In the following sections, various aspects of the current research are explained including: study context, research design, data analysis, and strategies employed to ensure rigor.

3.1 Study context

The geographical context of the current research includes three Canadian cities: Toronto, Hamilton, and Waterloo. Each of these cities have been chosen for a specific reason. The city of Toronto was chosen as one of the main study areas, since it has the highest Iranian population in Canada. Statistics Canada estimated a population of 74,530 Iranian immigrants living in the Greater Toronto Area in 2016 [77]. The City of Hamilton is where the research institution (McMaster University) of the author is located. Hamilton has 1,190 Iranian immigrant residents.[104]. It was predicted that there will be more people willing to participate in this city, since the research institution (McMaster University) is well-known amongst the residents. The City of Waterloo was chosen because of the researcher's strong social network

and background in the city. Living in the Waterloo region provided the opportunity for the researcher to be introduced into the larger Iranian immigrant communities and find potential participants. Close to 2,580 Iranian immigrants live in Kitchener-Waterloo area, which was another important factor in selecting it as one of the places for conducting research [104].

Current research has focused on a specific group of caregiver-employees (CEs), who are Iranian immigrant CEs working from home. As discussed in the previous chapter, this group of CEs are vulnerable to various negative physical and mental health consequences. The current research aimed to find 5 Iranian immigrant family CEs who work from home. Accordingly, the inclusivity criteria for research participants are as follows:

- provide care for their elderly and/or adult loved ones at home;
- work from home;
- be Iranian immigrants over 18 years old, and;
- Live in either Toronto, Hamilton or Waterloo.

A larger sample size was not expected given these inclusion criteria. Moreover, the main aim of qualitative research is to deeply understand the phenomenon of study, which is achieved via a smaller sample size. All of the participants were chosen using purposeful sampling, which means they needed to meet all of the inclusivity criteria. Familiarity with photography was also one of the most influential factors in choosing participants, since the Photovoice methodology was the main approach employed in the research. In the end, one participant was selected from Toronto, two from Hamilton, and two from Waterloo. Participant recruitment was one of the biggest challenges in the research, as will be explained in below.

3.2 Research design

The qualitative research method is the most suitable approach for the current research, given the focus on the relationship between human experience (caregiving and work) and place (the home environment) [181]. Framed within therapeutic landscape theory, the current research explores the experiences of immigrant informal/family caregivers who work from home, using

qualitative methods. In order to gather a comprehensive understanding, Photovoice is employed as the main research technique. Two main sessions are considered in the current research for answering its main question and objectives, which are explained in the following sections, respectively.

3.2.1 First session: qualitative in-depth interviews with immigrant CEs

The main purpose of the first session was to explore the caregiving and working experiences of Iranian CEs in general. Choosing a suitable data collection tool for this vulnerable population was challenging, since they needed to feel respected and involved in the research process. Qualitative in-depth one-to-one semi-structured interview was chosen as the data collecting tool in this session for achieving this goal. According to Hay [181], interviewing is defined as a "verbal exchange of information, which the interviewer attempts to elicit information or expressions of opinions or belief from another person or persons" [182]. Interviewing is one of the best tools to collect a variety of opinions and experiences from a target group. Interviews can be face-to-face, or via in-direct access, using a phone or computer. Face-to-face interviews are more effective as they allow the potential development of a strong relationship between the interviewer and participant. As a result, participants will ideally trust the researcher and open-up about their personal life experiences easier. Considering the sensitivity of the research subject and participant's vulnerability, face-to-face interviews, as part as a larger Photovoice approach, was deemed the best method for the current research.

Three main types of interviews are outlined in qualitative research approach; structured, semi-structured and unstructured interviews [181]. Semi-structured interviews were the best fit for this research, allowing the interviewer to be more flexible while asking the research questions. These type of interviews are usually conducted using an interview guide, which specifies the general issues needed to be discussed during the interview. Having an interview guide helps the interviewer to stay close to the subject and not get distracted. Accordingly, an interview guide was provided by the researcher for the first phase of the study (see Appendices A-7). The questions in the interview guide are mainly focused on the

participant's daily caregiving and work activities. There are also some questions regarding their home and what they want from their physical living environment.

3.2.1.1 Recruitment

As the starting point, a research ethics approval was received from the McMaster University Research Ethics Board (see Appendix A-1). Several components were included in the current study's ethics application such as: a study protocol, recruitment materials (see Appendix A-3), a letter of information/consent (see Appendix A-5), a Photovoice guidance sheet see (Appendix A-6), an interview guide (see Appendix A-7), and a resource list (see Appendix A-9). After obtaining the research ethics approval successfully, participant recruitment was initiated. Several recruitment strategies were applied in order to find the potential participants who met all of the inclusivity criteria. Recruitment emails were sent to a wide list of related organizations and communities in Toronto, Hamilton and Waterloo, including: immigrant organizations, Iranian communities, employment services, Islamic populations, health services, caregiver services, and, YMCA organizations (see Appendix A-2). Follow-up calls were made by the researcher to make sure email messages were received, and to confirm willingness to assist. A face-to-face meeting with people from each organization was one of the most effective strategies in getting their assistance. Using recruitment posters was another strategy for finding participants (see Appendix A-3). Many recruitment posters were posted in Iranian super markets and shops, mosques, libraries and universities' information boards. All of the recruitment materials were provided in both English and Persian languages, in order to better attract attention of Iranian CEs. The researcher also attempted searching for participants, using her own network as an Iranian immigrant student. Snowball sampling was used as a form of purposeful sampling in the recruitment process. Snowball sampling was used by asking participants to suggest other cases of interest [181]. Among all of the implemented recruitment strategies, using personal networks and having face-to-face meetings with organizations concerned (as listed above) were the most effective approaches.

Several challenges existed in the process of recruitment, including: the lack of trust to the researcher; unfamiliarity of Iranian immigrants with the research process, and CEs extremely busy schedules. Many of CEs did not want to participate in the research since they were afraid to be exposed and lose their privacy. Although the researcher assured that their names, locations and identities would be kept hidden, they still preferred not to participate. Cultural factors had a significant influence on CEs unwillingness for participation. In the Iranian culture, it is very important to keep family issues within the family, and prevent strangers know about family difficulties. Furthermore, taking care of aged parents or other family members is one of the main cultural and religious beliefs among Iranians. Thus, complaining about caregiving burden is considered as an inappropriate behaviour in Iranian culture. Another recruitment challenge was Iranian CEs confusion during the research process. They sometimes did not understand research requirements and consequently got confused. CEs extremely busy schedules also exacerbated their unwillingness to participate in the research. Accordingly, Iranian caregiver-employees had limited personal times each day, and they did not want to give up those times for research. The indicated challenges made the recruitment process longer than expected. In the end, the researcher was able to find three participants using her own network and two participants through recruitment emails, follow-up calls and face-to-face meetings. Among the five participants, two CEs were from Waterloo, two from Hamilton and one from Toronto. Only one of the participants was a male CE, as the rest were female. Description of the research participants are described in detail in section 4-1 in the next chapter.

3.2.1.2 Interview

The data collection process started meanwhile research participants were recruited. A letter of information and consent form were sent to the participants through email prior to the face-to-face meeting. Participants were able to choose the time and place of the interview for their convenience. The rights, benefits and possible risks of the research were explained to the participants at the beginning of the interview. Participants were guaranteed by the researcher that their participation in the research was completely voluntary. They were told they could

withdraw from the research at any time up until one month after the first interview session. They were also told that they could choose not to answer questions making them uncomfortable or anxious. During the interview, if the participant broke down or felt bad in any way, the interview was paused and postponed to other time that he/she was ready to continue. The researcher made sure of participant being connected to someone that can assist him/her, as needed, by providing a resource list of diverse helping services (see Appendix A-9). The researcher guaranteed the confidentiality of participant's identity and information. After the researcher's explanation on the letter of information and consent form, participants were asked to sign the consent form. The shortest interview lasted 30 minutes and the longest one lasted for 3.5 hours. The interviews were conducted in Persian, for making participants feel at ease. All of the participants agreed to be audio-recorded, except one. Among the five participants in the research, two of them broke down during the interview due to emotional tensions. One of them was comfortable with continuing the interview after a break, while the other one (the male caregiver) requested to postpone the interview to another time. Overall, female CEs were more willing to talk and open up about their experiences and burdens compared to the male CE, since he had a higher pride. One of the challenges during the interview was to keep participants focused on the research questions, since they wanted to talk about their life and caregiving difficulties more generally. Some of the participants did not feel comfortable to talk about their personal life with a stranger at first, but as the interview went on, they were more willing to talk. Participants were given a $25 gift card in the end of interview for their precious time and effort. Three of the participants indicated they would like to check their transcripts later. In the end of the interview session, the researcher explained about the next session and let them know what they are supposed to do. The second session of the research, is explained in detail in the following section.

3.2.2 Session two: conducting the Photovoice methodology

For the second session, a modified form of the Photovoice methodology was used as the data collection tool. Photovoice is a qualitative methodology that was originally developed

within the health sciences, after which it spread to other sciences, including Geography [181]. Although there are many Photovoice projects in health geography [183]–[188][189], the method has not been widely used in informal caregiving research. Photovoice is qualitative method that seeks to examine and understand marginalized people's perspectives on their everyday life experiences, based on their photographs, which shows how they conceptualize their circumstances [189]. Wang and Burris [189] have outlined three main goals for the Photovoice methodology: (1) to enable people to record and reflect their community's strength's and concerns; (2) to promote critical dialog and knowledge about important issues through large and small group discussion of photographs, and; (3) to reach policy makers.

In Photovoice methodology, research participants act more like co-researchers, who are fully in control of the research process and the results, instead of being passive objects who are just studied by the researcher [189]. It is also one of the most flexible qualitative methodologies, which can be creatively adapted to researcher or participant's needs. For example, participants can use a digital, disposal or cellphone cameras, based on their choice and convenience. Photovoice methodology is the most suitable data collection method for the current research for several reasons. According to Wang and Burris [189], Photovoice is "a process by which people can identify, represent, and enhance their community through a specific photographic technique". Thus, the studied group of vulnerable immigrant CEs can have a 'voice' through the lens of a camera. This is specifically useful for immigrant CEs, since language barriers may prevent some immigrants to express themselves and their needs correctly and easily. This is because photos and pictures are an international means of communication that can be easily understood and transferred between people of different languages and cultures. Furthermore, since the aim of the current research is to provide design improvement strategies for the home environment, capturing caregiver's actual perspective and vision of their work and caregiving environment is highly beneficial. Another benefit with using this methodology is providing opportunity to establish rapport between researcher and research participants [190].

3.2.2.1 Photovoice design

At the end of first interview session, the researcher explained the Photovoice methodology to the participants and provided them with a list of a few questions they needed to answer by taking photos. A photo taking guide was handed to participants in the case they did not fully understand how the process works (see Appendix A-6). An email in English and Persian was also sent to the participants after the first interview session, which included the question list and a brief explanation on the Photovoice methodology. There was a total number of 6 questions/titles in the list, and one photo was required in the response to each question/title. Three of the questions/titles were about participants' experiences and tensions in their caregiving and working journeys. The other three were focused on their home environment and the physical assets they liked to change or keep in their home. Titles were listed as below:

- Me as a caregiver is like… (1 picture)
- Story of me and my care recipient…(1 picture)
- This is how my working times look like…(1 picture)
- This place is mine! (1 picture)
- Me and my tensions…(1 picture)
- Where to change and where to keep? (2 pictures)

Participants were asked to respond and express their feelings towards these sets of questions by taking photos using their cellphone or the digital camera provided by the researcher. Most of the participants preferred using their cellphones over digital cameras, since it was more easy and convenient for them. The photos could be taken of anything or anywhere, and included the spaces and places of the home environment that the participants spent most of their time when performing the two main roles of caregiving and working. Participants were forbidden from taking photos of other people without their permission. There was a two weeks gap between the first interview, where participants were asked to carry out the photography based on the questions concerned, and the follow-up, in order to give a sufficient photo-taking time to the CEs. Participants were asked to write down their intentions and ideas for their taken photos, to remember their instantaneous feelings at the time of photo taking.

The researcher and participants had the second one-to-one in-depth semi-structured interview sessions approximately 2 weeks following the first interview. Again, the interview took place in a location preferred by the participants. During the interview, participants explained their photos and the special meanings behind them, based on the questions provided by the researcher (see Appendix A-3). The second interview was conducted in Persian (Farsi) similar to the first interview session, since the researcher herself is originally from Iran and the participants could communicate more comfortably. Photos taken by the participants were used in the research and all of the interviews were audio-recorded with the CEs permission. After the interview session, a $25 gift card was given to the caregiver-employees as an honorarium of their time and effort.

3.2.2.2 Challenges & Assets of the Photovoice methodology

The Photovoice aspect of the research was associated with several challenges. One of the most common challenges was the participant's confusion about the methodology. While, the researcher explained the methodology orally, encouraged participants to ask questions about the method, gave participants the guidance sheets and emailed the list of questions following the face-to-face meeting, participants were still confused to some extent on the implementation of the method. Almost all of the participants called or contacted the researcher after a while to ask what they are supposed to do, or to check whether they were taking the right photos. CEs also insisted researcher to explain the questions through using examples. Although the researcher constantly emphasized on the importance of the participant's perspective, they still did not have complete confidence of their photos, their own perspective, asking the researcher "what she wants". Even after the researcher's detailed explanations, two of the participants showed up to the interview session with images downloaded from the internet. The male caregiver also got confused and thought that family photos were needed for the research. Another significant challenge that occurred for the participants during the project was selecting the photograph subjects. Several participants were challenged when they wanted to demonstrate a concept through a photo. For example, as a response to the first title, "Me as a

caregiver is like…", one of the CEs wanted to reflect "eternal exhaustion". She had the concept and she even described herself for the researcher as: "a tired runner who cannot see the finish line". However, it was hard for the CE to capture the exact concept in camera lens.

In addition to the described challenges, several assets or advantages were found from using this methodology. First of all, participants liked the Photovoice methodology, since it is a new, creative and unheard approach. They also reported the process to be enjoyable, engaging and therapeutic [190]. Doing a Photovoice project, participants felt they are valuable and have a very major role in the research process. One of the interesting points noticed by the researcher was that the participants went through a self-realization journey during the Photovoice project. Immigrant CEs were too busy and engaged in their daily lives to be concerned about their feelings and health. Focusing on the Photovoice questions encouraged them to think about their own lives. While discussing the photos, many of the participants told the researcher that they have realized the necessity of allocating private time for themselves. Overall, although participants went through several struggles at the beginning of the Photovoice methodology, all of them reacted positively in the end and considered Photovoice to be an educational, enjoyable and creative method.

At the end of second session of the research, the participants were asked if they wanted to be informed of the research results and possible solutions. All of the participants were interested in giving feedback on the research outcomes.

3.3 Data analysis

Data analysis was initiated after the two-month data collection period. In the first stage, all of the transcripts were translated to English, since interviews were conducted in Persian (Farsi). The thematic content analysis approach was implemented for analyzing collected data, which is a system of identifying, examining and recording patterns or 'themes' within data [191]. According to Hay [181], a theme is "an important process, commonality, characteristic, or theory that emerges from the data and can be used to analyze and abstract the data". Thematic analysis is performed through the process of coding since it provides categorization of data

into groups based on commonality or along thematic lines [181]. There are four main purposes for coding: data reduction (to help the researcher get a handle on large amounts of data by distilling along key themes); data organization; data exploration and; theory-building [181]. All of the transcripts were coded by the researcher using NVivo software, which is a specific form of computer-assisted qualitative data analysis software (CAQDAS). The analysis process was continued until reaching thematic saturation [181]. The coding process was kept in a code book. Regular meetings were held between the student researcher and the supervisor to discuss codes and emerged themes. The coding process began by finding descriptive codes at the very beginning and continued by finding analytical codes. Later, related concepts were categorized in several groups and were eventually divided into Macro and Micro themes. Micro themes are the smaller points found in the coding process, which are all sub-themes to broader themes; Macro themes [181]. This process was carried out using the following steps:

1. Developing a primary coding system: a list of emergent themes in the research were provided based on the literature and collected memos and comments during the data collection.
2. Transcript preparation: all of the transcripts were prepared in the required format for the NVivo software at the first stage.
3. Finding descriptive codes: using NVivo, descriptive codes were merged, which were later transformed into sub codes.
4. Creating the initial table of themes and subthemes: the themes with similar ideas were organized into groups to provide the initial list of Micro and Macro themes.
5. Finalizing Macro and Micro themes: all of the themes were revised in detail and any unnecessary or unrelated themes were removed.

3.4 Rigorous methodology

One of the most important issues in qualitative research is to ensure credibility and reliability of research results and outcomes. This is realized through applying numerous rigorous methodologies. According to Baxter and Eyles [192], ‘rigour’ is defined as “the satisfaction of

the conventional criteria of validity, reliability and objectivity within qualitative research". In order to accomplish this goal, the best rigorous methodologies should be chosen based on objectives and aims set in the research. Selected rigorous methodologies should accomplish four main criteria in the research: credibility, transferability, dependability and confirmability [192]. Credibility refers to the authentic representation of experiences in the research, while transferability is achieved when the study is able to fit into other contexts [181]. Research also should be dependable, having the minimum variability in interpretation of gathered data [181]. Researcher's perspectives, motivations and biases should not influence the interpretations, in order to insure the confirmability of the research [181]. In the current research, different methodologies such as: member-checking, purposeful sampling, peer debriefing, data triangulation and a few other methodologies were applied in order to enhance the reliability and trustworthiness of the results (see Appendix A-8).

Credibility was achieved in the research through several strategies including: purposeful sampling, member checking, peer debriefing, prolonged engagement and data triangulation. In the current study, purposeful sampling was conducted through choosing the information-rich cases who could open up easily to the researcher and also be familiar with the photography. Research participants were chosen from different cities with various age, sex, employment, and care recipients by the researcher. Member checking is one of the most significant methods to ensure rigor used to enhance the credibility of research results. It is basically a process in which the researcher returns to participants to check if the research results and interpretations of participants' explanations are correct. Moreover, it is a process whereby missing points can be understood from the participants' perspective. This process can be conducted with all of the participants in the research or only a specific group, based on the number of participants agreed to take part in this process. Member checking was conducted in this research in two steps: in the first step, participants were asked to review their transcripts and confirm their precision before the data analysis. In the second step, participants were asked to comment on the results and interpretations of the data analysis. Participants in the research were initially asked if they would be willing to participate in the member checking process via the consent form. Peer-

debriefing is another important method used to achieve credibility. Peer-debriefing involves the researcher sharing transcripts, general methodology and final results with the supervisor or colleagues who hold unbiased perspectives and have great knowledge of the subject. In the current research, peer-debriefing was identified as one of the best strategies to ensure rigor. As the author's research supervisor is well-known in caregiving research, and has published numerous related scientific publications, it was very useful to peer-debrief with her. Furthermore, research results were shared with colleagues before providing them to the supervisor in order to minimize general mistakes and errors.

The researcher spent a sufficient time collecting data in order to build trust and rapport with the participants, which resulted in better understanding of their culture and identification of possible distortions during the data-collection process [192]. This methodology is called prolonged engagement, yet another method for ensuring credibility. Data triangulation is known as one of the strongest methods for increasing the credibility of a qualitative research. The main concept of this methodology is convergence. gaining the same results using multiple strategies significantly strengths the credibility of the research [192]–[194]. Using quotations from different participants is one of the most important triangulation strategies applied in the research. The current study also used a combination of two qualitative methodologies, in-depth interviews and Photovoice, which ensures the credibility of the research through triangulation.

To ensure transferability of the study, two crucial strategies were implemented: thick description and purposeful sampling. Thick description was applied in the research, which is defined as detailed description of an event or occurrence in its context [181]. Accordingly, implemented qualitative methodologies and development of themes were described in detail. According to statistics [77], Asian immigrants are the largest immigrant group in Canada, which included 56.9% of the immigrant population in 2011. Since Iranian CEs were chosen as the sample group for the research, the research results are partly transferable to other Asian immigrants, based on cultural similarities.

Dependability was stressed by implementing various strategies such as: mechanically recorded data; low-inference descriptors and member checking. The dependability in a study is mostly related to documenting the research context [192]. All of the interviews were audio-recorded in order to prevent possible deviation in interpretations. Observations in the research were made to be as concrete as possible, including verbatim accounts of what participants said, accomplishing low-inference descriptors [195], [192]. Member checking was also employed, in order to make sure the researcher had captured participants' views correctly.

Finally, confirmability was accomplished in the research through several strategies such as: using audit trail; keeping a journal/notebook; using thick description of the audit process; triangulation, and; acknowledgement of researcher's beliefs and assumptions. Thick description was extremely effective in determination of credibility, transferability and dependability in the research [192]. Confirmability was ensured by the keeping a detailed notebook, which included explanations of the taken steps during the research and defined as audit trail [196].

3.5 Summary

In the current chapter, different aspects of the implemented qualitative research methodologies were described and discussed in detail. First, the study context was described by defining the research samples' inclusivity criteria, size, and geographical location. Two main sessions were specified as the designed stages for the research data collection process: qualitative in-depth interviews with immigrant CEs and conducting the Photovoice methodology. The qualitative face-to-face semi-structured interviews were described as the most effective, suitable and comprehensive qualitative data collection tool for the first session. Recruitment of the participants and its various challenges were discussed as the initial steps in session1. Purposeful sampling and snowball sampling were described as the two most crucial recruitment strategies employed in the research. The Photovoice methodology was introduced as one of the best qualitative strategies for the current research through emphasizing on its advantages, including: creativity, flexibility and ability to capture the specific perspectives of

the participants through their photos. The list of titles/questions for the Photovoice methodology was outlined in this chapter. Subsequently, the participants' reactions, challenges and strengths of the methodology were discussed in detail. Collected data through explained sessions will be analyzed in 5 major steps using thematic content analysis strategy by the NVivo software, which were also described in this chapter. Finally, several implemented rigorous methodologies were outlined ensuring credibility, transferability, dependability and confirmability of the research.

Chapter 4
Results

The current chapter provides a detailed explanation on the results and outcomes of the existing research. At the beginning of the chapter, a brief description is provided about the research participants. The chapter mainly focuses on the results of the two interview sessions conducted with the participants, using the Photovoice methodology. CEs main tensions and daily struggles are presented, followed by the diverse management strategies implemented to minimize their tensions.

4.1 Research participant's description

As mentioned in the previous chapter, five Iranian immigrant caregiver-employees who work from home were recruited using several recruitment strategies (see section 3.2.1). Table 4-1 shows the description of the research participants in detail. Participant's age, gender, occupation, dwelling information and relationship to their care recipient are specified in the table, including their care recipient's diagnoses, and the number of dependents living in the house. As noted in Table 4-1, two of the participants were recruited from Hamilton, two from Waterloo and one from Toronto. The research participants included four female and one male CEs. Three of the participants were employees of an organization and two of them were self-employed. The CEs' jobs required a lot of time on computers and laptops, or talking on cellphones. Four participants were currently living in a single house with 2 or 3 bedrooms, although they had lived in an apartment previously. Most of the CEs were giving care to their elderly mother or father, except for one female CE, who was caring for her young son. Care recipients' ages varied from 17 to 70, with four of them being above 60 and only one being 17. As specified in Table 4-1, three of the care recipients had Alzheimer's disease, one had Dorsalgia and the other one had Ulcerative Colitis disease. The mobility of the care recipients is also mentioned in Table 4-1, indicating that two of them were mobile and three being semi-mobile. A semi-mobile individual is defined as a recipient who can only move with the help of others. The dependants of the CEs and their ages are also listed in Table 4-1.

Table 4-1 Caregiver-employees description.

Participant's description	Age	Gender	Occupation (employment)	Relationship to care recipient	Dwelling information	Care recipient's diagnoses (Mobility)	Dependents in house (age)	City
Participant 1	40	Female	Translator (self-employed)	Daughter	Single house with 3 rooms	Alzheimer (Mobile)	Care recipient (70) Husband (50)	Waterloo
Participant 2	45	Female	Advertiser (employed)	Daughter	Single house with 2 rooms	Dorsalgia (Semi-mobile)	Care recipient (60) Daughter (17)	Hamilton
Participant 3	53	Female	Social worker (employed)	Mother	Single house with 2 rooms	Ulcerative Colitis (Mobile)	Care recipient (17) Husband (59) Son (10)	Hamilton
Participant 4	32	Male	Postdoc (employed)	Son	Apartment with 2 rooms	Alzheimer (Semi-mobile)	Care recipient (69) Mother (60)	Waterloo
Participant 5	61	Female	Computer programmer (self-employed)	Daughter	Single house with 2 rooms	Alzheimer (Semi-mobile)	care recipient (70) Husband (50)	Toronto

4.2 CEs Identified tensions and management strategies

Two sets of interviews were conducted with the participants in order to identify: the different types of spatial and temporal tensions faced by caregiver-employees, and; their respective management strategies. The interviews were conducted using the Photovoice methodology and collected data were coded to obtain the major themes and sub-themes of the tensions. As shown in Table 4-2, five major themes were identified for the tensions, which are categorized as: (A) personal, (B) caregiving, (C) spatial, (D) family and social, and (E) temporal tensions. Each of these tensions consist of several sub-categories (or sub-themes), also outlined in Table 4-2. In addition to tensions, the corresponding management strategies were also identified through the interviews. According to Table 4-2, for each tension group, a different set of management strategies was utilized. In general, the management strategies used by caregivers were organized into five major themes including: (A) spatial, (B) personal, (C) social, (D) monitoring and control, and (E) assistive and supportive strategies. Similar to the tensions, each major management strategy is characterized into several sub-categories. The interpretation of the key themes was summarized and sent to participants in the form of lay report. (Appendix X)

In the following sections, each of the identified tension groups and their corresponding management strategies are described in detail. The coding and quotations from the interviews are used to further explain each tension and its management strategy. Most importantly, the participant photos taken according to the Photovoice methodology are presented to illustrate the tensions and management strategies from the CEs perspective.

Table 4-2 Caregiver-employees tensions and management strategies.

Tensions	Sub-categories	Management strategies	Sub-categories
A. Personal	▪ Physical health ▪ Emotional health ▪ Self-care	***Spatial***	▪ Intelligent utilization of home furniture
		Social	▪ Having helpful communication
		Personal	▪ Indicating private relaxing times ▪ Acting based on personal faith ▪ Making realistic life choices ▪ feeling empowered by spiritual beliefs
		Assistive and supportive	▪ Receiving benefits from governmental programs
B. Caregiving	▪ Monitoring and control ▪ Responsibilities	***Spatial***	▪ Intelligent utilization of home furniture
		Social	▪ Having helpful communication
		Personal	▪ Having an adaptive personality ▪ Feeling empowered by spiritual beliefs ▪ Gaining assistive knowledge
		Monitoring and control	▪ Using smart monitoring equipment ▪ Being present and having in-person control
		Assistive and supportive	▪ Using assistive equipment ▪ Relying on other family members ▪ Getting help from friends ▪ Using safety equipment ▪ Benefiting from medical services

C. Spatial	▪ Safety ▪ Single or multi-level distribution ▪ Size and layout ▪ Furniture ▪ Ambient features ▪ Structural components ▪ Heating ventilation, and air conditioning (HVAC) and electrical systems ▪ Privacy	***Spatial***	▪ Intelligent utilization of home furniture ▪ Benefiting from natural elements and view ▪ Construction and use of suitable structural components ▪ Modification in internal sections ▪ Relocation in internal sections ▪ Having a portable working space
		Social	▪ Listening and watching media
		Assistive and supportive	▪ Using safety equipment
D. Family and social	▪ Support and assistance ▪ Culture and immigration ▪ Work-related activities ▪ Social isolation ▪ Relationship with family members* (*unmanaged*)	***Social***	▪ Having helpful communication ▪ Acting based on cultural norms
		Personal	▪ Having an adaptive personality
		Assistive and supportive	▪ Relying on other family members ▪ Receiving benefits from governmental programs
E. Temporal	▪ Monitoring and control ▪ Daily activities ▪ Morning time* (*unmanaged*)	***Personal***	▪ Having an adaptive personality

4.2.1 Personal tensions and implemented management strategies

Personal tensions were identified as the primary source of tensions, which are exclusively related to the caregiver as an individual. The identified personal tensions were categorized into three major groups; tensions related to caregiver's physical health, emotional health, and self-care. Personal tensions were managed to some extent by the caregivers, while a large portion of them were left unmanaged. Each of the identified personal tensions are described in the following sections including their management strategies.

4.2.1.1 Physical health

Most caregiver-employees were experiencing physical health consequences as a result of their caregiving or daily activities, such as: cooking, cleaning, working in an unsuitable condition, taking care of the care recipient and other dependents in the house. Physical health consequences experienced by the caregivers were related to several factors, including housing type and care recipient's diagnoses. For example, one of the participants explained how living in a single house with several floors resulted in knee pain:

"*My knees have started to ache these past weeks. I really wanted to live in a big house, which I had everything in one floor*."

Another participant described how she got Osteoarthritis disease as a result of constant cleaning due to her mother's Alzheimer's disease:

"*It is so much cleaning and washing! I have OCD a bit and I am constantly cleaning and washing. All of my hands got Osteoarthritis disease in this past year*."

Although, caregivers could not resolve these physical difficulties completely, they were able to manage some of them to some extent, using spatial management strategies such as intelligent utilization of home furniture. In order to manage the described personal tensions and ease their physical consequences, caregiver-employees used suitable furniture during the working and caregiving processes. For example, one participant explained:

"*I have a space in the living room which I have placed a chair and a table for myself to work on. I cannot sit on the sofa since I will get backache.*"

4.2.1.2 Emotional health

Caregivers were affected by emotional tensions because of their lifestyle and daily responsibilities. They were mostly experiencing a diverse range of negative emotions such as, frustration, dysphoria, stress, hopelessness, and sadness. Staying positive and motivated while being a caregiver-employee was almost impossible according to participants in the current research. This was especially the case for the CEs who were taking care of a person with an incurable diagnoses. When there was no hope for the care recipient's disease to get better, the caregiver envisioned the caregiving process as a long, frustrating, and non-ending sad journey. One of the participants explained his father's Alzheimer's diagnoses as follows:

"*You know, in this disease, it takes a long time. It takes something about 10 years and the disease get worse every day. And you do not have any hope about it getting better*!"

Caregivers usually felt tired and frustrated in their personal lives, since they were trying to handle numerous responsibilities as a caregiver, employee or spouse. They felt disabled in making their living conditions better. A female caregiver-employee expressed her exhaustion in the photo shown in Figure 4-1. She captured a picture of a long, snowy road, which has an unclear ending. The caregiver described herself as a tired runner who still needs to run without any hope of reaching the finish line.

Me as a caregiver is like…

"*Well, when I look at myself as a caregiver, I feel like I am a runner who tires but cannot see the finish line. And these responsibilities will not end. It's like I feel very tired, but this race would not end and it is continuing. I cannot change my job, or I cannot stop taking care of my mother and overall, I can't change anything. On the other hand, I feel bad of having these emotions. I cannot blame my mom for all of these feelings of tiredness, but she is a big part of it.*"

Figure 4-1 dealing with the unchangeable difficult life situation resulted in feelings of tiredness and exhaustion, causing the caregiver an extremely high personal tension.

Caregivers who had a care recipient with Alzheimer's disease or other serious disease were required to provide consistent control and monitoring. As a result, they were not able to get outside and whenever they did, they became stressful and full of anxiety. Being constantly at home made them feel like they are like prisoners and brought them feelings of envy. One of the participants expressed her feeling of envy in a photo shown in Figure 4-2. As illustrated in this photo, she felt like a prisoner who did not have freedom. She further explained:

"*From the start I was the type of person that was very social. I used to hang out with my friends a lot. But, when I saw that my mom gets stressful, I told everyone that I cannot have them in my house anymore and I cannot go to their houses either… I was always envying and thinking with myself that if my mom was healthy, we could go everywhere together. Well, you know, I became very limited in choosing where to go. I was under tons of pressure. For a person who likes to be outside all the time, it was very hard. So I had this feeling of envy all the time with me*."

Me as a caregiver is like…

"*As you can see in this photo, you can see outside but it is vague…you cannot…you don't have freedom…as I said, even when I go out or ask somebody to watch her, I still have that stress…because of that it really feels like being in a prison…I feel bad for her and I am anxious…and I have stress…all at the same time…all of them makes me feel like being in a prison…that I just envy going outside and being free…*"

Figure 4-2 Being constantly at home because of the care recipient resulted in feelings of envy, causing the caregiver experience extreme high personal tensions.

The lack of social communication with friends was one of the main sources of personal tensions for the participants in the current research. This was especially true for immigrant CEs and their families, since they were also suffering from language barriers. Compared to their home country (Iran) there were fewer chances for CEs to be socially active in the society. This isolation was indicated by one of the participants:

"*And here (Canada) is different compared to Iran where you can talk to people in the street and communicate easily with them. That is why the main pressure was on my mom. Well, I had lost my productivity but, I had the option to go out and gain some energy and come back, while my mom did not have this option. Thus, it is very hard for everyone.*"

Similarly, other participants described their feelings of dissatisfaction of life and frustration in the caregiving process. A male caregiver-employee explained the negative effect of these emotional difficulties as follows:

"*There were lots of times that I felt frustrated and hopeless. Both of us. Me and mom. I was frustrated, I could not concentrate on my work and I had a messed up mind …*"

In addition to the discussed emotional difficulties, immigrant CEs had an extremely high level of stress. Amongst all responsibilities, CEs' work-related responsibilities brought them most stress. Work-related pressures were especially high on the caregiver-employees who were not self-employed. These caregivers were required to do certain amount of work each day and work around different deadlines. As a result, they experienced an extreme level of stress on a day to day basis.

Caregiver-employees implemented several management strategies in order to decrease their personal tensions, including social and personal strategies. One of the caregiver-employees' major strategies for resolving their personal tensions was getting outside of the home environment and socializing with their friends, even for a very limited time. These social outgoings assisted them in shifting their mind from the personal tensions related to their daily lives. Accordingly, one of the participants described this management strategy as follows:

"*Sometimes, the mental pressure was so high on me that I just wanted to come out of home. Although when I came to office, I did not do anything and I was just hanging around. When I*

came to office, I saw couple of friends, talked to them and I forgot for some while about the situation in the house. But my mom did not have that opportunity."

Caregiver-employees were able to manage their personal tensions through relying on their faith and personal belief. The way CEs looked at life had a significant effect on accepting and dealing with their tensions. One of the participants explained her opinion on having a positive mind while facing hardships:

"*I think having a positive mind is very helpful. It is always important to see glass as half full.*"

Another major management strategy CEs implemented for minimizing these tensions were making realistic life choices. In many situations, caregiver-employees made a significant life choice in order to avoid possible tensions in the future. For example, a male CE explained the reason of his choice for remaining single as follows:

"*I have not married, so it was way easier for me. But if I was married, it was hard for me. Then, I needed to choose one of the sides (his wife or father).*"

CEs also felt empowered by their spiritual belief for decreasing their tensions. Spirituality and having a strong relationship with god is one of the most important aspects of many people identifying with the Iranian culture. Having strong spiritual beliefs was reportedly helpful for CEs while struggling with the life difficulties. Another participant explained her relationship with god in detail. According to her:

"*You know god has said that he gave his knowledge to us. And in this hardships in life, if you thank god instead of nagging, he will give you two other arms. If you thank god by saying: "god, thank you that my son got ill and he is resting on bed. Maybe if he had become a police man, he would have already died". And thus, you get stronger.*"

Most of the participants indicated that their praying times through a day were the most relaxing moments of the day. Nonetheless, CEs busy schedule could not always provide them with a personal praying time. Some of the participants had a specific place for praying within the house, while others did not have a dedicated space for praying. A female caregiver-employee expressed her positive feelings towards her praying space through an image shown in Figure

4-3 . She introduced this place as her ‘personal space’, although it was located in the living room.

Here is mine…

“*This is the place that I sit and do my meditation. I love this place. I say lots of prayers here. I do pray every day. I don’t have specific time though, I sometimes do it early in the morning or late at night. I like it the best when I do it in the midnight, before going to bed. There is rose water on the table. I like the smell very much. When I want to say my prayers, I spray it on my hands. It has kind of a spiritual smell. Or sometimes I put flowers here. I really like to have flowers here as well. Or lavender. It really makes me relax.*”

Figure 4-3 the ‘meditation space’ prepared by one of the caregivers in the living room for her praying and relaxing times.

The caregiver-employees who did not have a specific place for their praying times in their home environment, prepared a personal space using their praying mat. They prayed on their mat either in their bedrooms or living rooms.

4.2.1.3 Self-care

Self-care was one of the most significant sources of tension for the caregiver-employees. All of the caregiver-employees were struggling to find time for their primary needs, such as sleeping and eating. Having numerous responsibilities towards their care recipients and other dependents resulted in putting themselves last in most of the occasions. Thus, they felt pressured and unsatisfied during their journey. One of the female caregiver-employees visualized her tense caregiving situation through the picture of a sandwich shown in Figure 4-4. She wanted to illustrate how she is pressured by her numerous responsibilities, similar to the food inside a sandwich pack. She further explained:

"*So you become just like a sandwich who is pressed in the middle…between all the responsibilities…then you slowly forget yourself…because she only trying to help to the other people…*

Me as a caregiver is like…

"*I took photo of this sandwich, because I feel like I am pressured just like this. People who are in this situation like me are called 'the sandwich generation'. This is a concept that exists in sociology. It represents the generation who are stuck between two generations before and after them. So they need to take care of their parents and also look after their kids. This term belongs to the caregivers. It refers to the responsibilities that the middle generation has for the generation before them and after them.*

Figure 4-4 Being stuck between numerous responsibilities resulted in extremely high personal tensions for the CEs.

The lack of personal time for fulfilling their primary needs made the caregiver-employees feel un-satisfied with their lives. Although, they managed to do all of their daily routines and responsibilities, they were not happy at the end of the day. One of the participants explained her dissatisfaction of her typical lifestyle:

"*You know, I am the type of person that does all of her responsibilities and if I have a free time after all of that, I may spend some time for myself. I am not happy with that, to be honest. Sometimes I think with myself: how long do I have to live and enjoy my life?*"

Being a caregiver-employee, CEs were hardly able to even sleep as much as they wanted or needed, because of their care recipient diagnoses or expectations. For example, the male caregiver-employee who was caring for his father claimed:

"*My dad had his specific sleeping routines and it was very difficult. For example, he slept at 9 or 10 and woke up at 12. And then he wouldn't let us sleep.*"

Caregiver-employees were also forced to adjust their eating habits and daily meals to their busy daily schedules. One of the participants explained her eating schedule in a busy day as follows:

"*And how I ate? Through the day. A little bit here and there. It is possible for me to eat a bagel in 4 hours.*"

Caregivers managed these type of tensions mostly through personal management strategies, such as indicating private relaxing times, making realistic life choices and feeling empowered by spiritual believes. Caregiver-employees attempted to find a private time for relaxing whenever they were alone. They chose a specific place or time to be separated from caregiving or working space. They enjoyed these limited times doing their favorite activities such as eating, reading or listening to music. As an example, a female caregiver-employee explained about her relaxing times in her yard as follows:

"*I like my back yard because I like gardening and I like to sit in my backyard and relax and have my tea. It's out of the caregiving space.*"

Caregiver-employees generally tended to make compromised life choices in order to reduce personal tensions caused by their care recipients. For example, one of the CEs was troubled by his dad waking up in the middle of the night. As a solution, he and his mom decided to keep him awake through the day so that he would sleep at night:

"*Thus, we tried to keep him awake by taking him for a walk or etc. so that he slept at night*."

As previously explained, caregiver-employees were eager to find time for saying prayers and talking to god. They constantly highlighted the importance of their spiritual activities and how they improved their life quality. One of the participants explained her positive feelings during praying:

"*My bedroom is an empty place and I have privacy there. If I have time…if! I really like to pray and talk to my god there. It really makes me feel good. I feel like my mind is in peace at those times. My prayer carpet is always laid down on the floor and even looking at it makes me feel better*!"

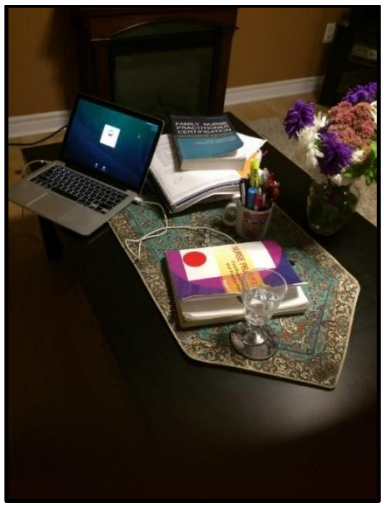
4.2.2 Caregiving tensions and implemented management strategies

A section of CEs' tensions were developed as a result of activities related to the process of caregiving. Most of these processes were directly or indirectly related to the care recipients. Normally, caregivers were required to provide constant monitoring and control of the care recipient. Based on their specific problems, the care recipients showed unexpected behavior, which required the careful attention of the CEs. Moreover, the caregiving process brought with itself, different levels of responsibilities. Therefore, CEs experienced specific tensions due to their main caregiving activities, which are described below:

4.2.2.1 Monitoring and control

The major tensions associated with caregiving activities were related to the consistent monitoring and control process required for the care recipients. Specifically for CEs, who perform both roles of caregiving and working, this consistent monitoring in some sort of adaptation or modification to their lifestyles, which developed specific tensions. One CE illustrated these tensions through a photo shown in Figure 4-5. This photo explains the constant need of monitoring the care recipient even during working hours. She experienced extreme tension, since she was required to get a lot of work done for her employer. The same participant described that she would rather not go outside since she cannot monitor her mother directly:

"*You know, it is hard. But I'd rather be home because if I go out, I will be still thinking about home and how my mom is doing.*"



Me as a caregiver is like…

"So, when my mom is in the first floor, I cannot go to the second floor, shut the door and study or do my work. So, I am forced to have my laptop and books there and do my work right there. But it is not that separate. You can see that I am here working or studying, mom is there on the sofa."

Figure 4-5 Forced modification of working place because of required monitoring and control of the care recipient.

The tensions caused by the caregiving monitoring and control process were managed by CEs through two main management strategies: monitoring and control, and assistive and supportive strategies. Some participants utilized safety equipment to reduce the efforts required for monitoring and control. In one case, a care recipient with an Alzheimer's disease used to wake up late at night to go to the washroom downstairs, which was unsafe and required to be monitored by the caregiver and her family. In order to monitor the care recipient at nights, the CE utilized a set of chairs and tables instead of a gate, to be alerted whenever the care recipient attempted to go down the stairs.

One of the most modern strategies to ease the monitoring and control tensions was the use of smart monitoring equipment. This type of equipment provide remote monitoring of the care recipient and deliver notifications in case any unusual behavior or movement occurs. As an example, one participant used a smart carpet in order to be notified whenever the care recipient started moving:

"*She (therapist) also told me to put a carpet under her feet which has an alarm, so that I understand when mom stands up and starts walking.*"

The most common management strategy for monitoring tensions was accompanying the person. In this strategy the CEs normally were present with the care recipient and had in-person control over the care recipient's actions. One CE who was taking care of her son with Ulcerative Colitis disease described how she and her younger son accompanied her older son wherever he went:

"*And for a while, he needed me to go everywhere with him while he driving since he had dizziness. Another thing is that me or his little brother needed to accompany him in most of the places to watch him not lose his cool and get angry (since he used Crotone at the time and sometimes he was extremely upset or got angry over things).*"

4.2.2.2 Responsibilities

One major source of caregiving tensions is the burden of broad responsibilities associated with the caregiving process. This is more evident for CEs who work and provide care at the same time. Consequently, CEs are usually under pressure due to their multiple responsibilities related to the care recipient, which include cleaning, cooking, monitoring, shopping, and providing medical care and assistance. For example, one participant described her multiple caregiving responsibilities as follows:

"*Mostly I need to take her to different appointments. I do cooking, cleaning, and I need to give her the pills on time, help her take a bath. First of all I help her to go to the bathroom in the second floor, and then I carry her to the first floor from the stairs.*"

One CE mentioned the unusual expectations of her care recipient (her mother-in-law) and how it resulted in extra responsibilities, wasted time and tensions:

"*She even did not liked to go and pick something from the fridge. She had a special character. We really tried to make her feel comfortable, but she did not want to do that. It made things really hard for me. If for example, she took fruits herself from the refrigerator, it made things easier for me, compared to the situation where I needed to bring her fruit and tell her: please eat, grandma."*

Another participant compared herself to a "robot" that is "programmed" to do different responsibilities without having any other choice. She provided the following explanation of herself:

"*They are my responsibilities that I have to do and I cannot do anything else. Does a robot have a choice when it is programmed? No…I exactly have that for my mom…I need to change her…feed her…because everything is upon me right now. If I don't feed her, she would not understand that she is hungry…There is no other choice.*"

In order to overcome the pressure of multiple caregiving responsibilities, the CEs utilized personal and assistive and supportive management strategies that are explained below:

Instead of making changes to their responsibilities, CEs often changed their own behavior or personality to adapt to the situation. They tried to show greater patience towards their responsibilities and provide better planning in order to manage them more easily. CEs not only increased their own patience but also tried to improve the degree of patience in their care recipients. One CE described how she improved her son's patience towards his disease by talking to him. She demonstrated this strategy through the photo shown in Figure 4-6.

Story of me and my care recipient…

"Owl is a symbol of knowledge and wisdom. So, this is a knowledgeable owl, an owl which has high patience. So, I sat here next to my son every night and talked to him. Because he had become very thin. So I talked to him that being a man is not about having a strong body, but is to have a big heart. I told him that the important thing in eyes are not the color and beauty of them, but it is for them to see beauties in the world."

Figure 4-6 Having an adaptive personality and patience in order to overcome caregiving tensions.

Spirituality was a great source of support for CEs when they were confronted with different caregiving responsibilities. This spirituality was defined by having belief in god, having a positive mind, and being strong from the inside. One CE provided an understanding of her positive beliefs through the photo shown in Figure 4-7. While, she mentions all her different

responsibilities and how she has to cope with them with multiple arms, she has a positive view of the hardships because of her strong belief in god.

Me as a caregiver is like…

"… You see yourself like god, but you are a person who has thousands of hands. You do your caregiving responsibilities, you do your work, you take care of your other son, you do this, and doing all of this needs you to have 100 hands… And god gives you that power at that moment. he gives you energy and power as much as he gave you hardship and pain. And when you have strong beliefs, and you have that connection with god, this is what happens. You will have lots of arms.

Figure 4-7 Positive beliefs of a caregiver for overcoming caregiving tensions.

Having adequate knowledge of caregiving responsibilities was another factor that eased some of the caregiving tensions. These included information regarding the care recipient's illness and activities associated with the caregiving process. Knowledge was usually obtained through reading books or examining. As an example, one CE tried to increase her care recipient's understanding and knowledge of his illness in order to reduce some of the caregiving tensions:

"*I spent lots of times on choosing what book to read for him or what story to tell him so that he looks at life in a different way. And I did all of these instead of sleeping or resting. Now, I am happy that I did it.*"

Family members had an important role in assisting CEs with their multiple responsibilities. However, family assistance was found to be a temporary help for the tensions rather than a permanent one. The husband of one CE changed his job to provide assistance for their caregiving responsibilities, however, he was not able to provide satisfactory support:

"*He actually changed his job for this matter and came back home to be with the family and give help. But, you know, it was not helpful at all, since he could not do anything. It was always me who did all of the house work, thus, he couldn't do anything. Well, it was good at some points, because he talked to my son and tried to spend more time with him.*"

Another group of people who CEs normally turned to for receiving assistance were their friends. Whenever family members were absent, CEs seek support from close friends. One CE described how he received assistance from a friend while he needed to accompany his mother to the hospital:

"*I needed to go to hospital with her (mother) as well. And we did not have someone that could stay with my dad. So, I had no choice but to ask from one of my friends to come and stay with my father. He came to our house early in the morning. We needed to be in the Toronto hospital at 7 in the morning, and he was at our house at 6.*"

4.2.3 Spatial tensions and implemented management strategies

Spatial tensions were identified as one of the most important group of tensions, which were experienced by CEs as a result of having unsuitable spatial and architectural elements in the home physical environment. CEs struggled with this group of tensions, since they made their caregiving, working and everyday duties harder, longer or more frustrating. The main spatial tensions faced by the CEs include: safety, size and layout, single or multi-level distribution, furniture, structural components, ambient features, and privacy tensions. Caregiver-employees attempted to minimize the negative effect of these tensions by implementing spatial, social, and assistive and supportive management strategies. The major spatial tensions are described in the following sections, as well as the management strategies needed to minimize their impact.

4.2.3.1 Safety

Ensuring safety of the care recipient was identified as one of the main concerns and sources of tension for CEs, especially when they were busy doing other activities. This was especially the case for CEs who had care recipients struggling with Alzheimer's, since they were not conscious of danger and forgot things very easily. CEs had experienced several negative consequences as a result of having these tensions. For example, they could not concentrate on their work or were not able to sleep easily at night. This brought serious consequences for CEs workwise, especially for those who were not self-employed. Most of the pressures and

anxieties were caused by unsuitable housing design, or deficiency of safety features in the physical home environment. Accordingly, one of the participants expressed her concern for her mother's safety, and indicated that she is constantly worried even during night time:

"*I am constantly worried about her even in the midnight. You know, one time she went down from the stairs in that darkness and I was very worried, although we had changed the locks. But I was still worried for her to fall from the stairs in the darkness. She went downstairs and poor her, she stood there in the darkness wandering around…The bad thing was that we could not use gates. Because we were afraid that she may fall down*…"

For this female CE, having stairs was one of the main sources of spatial tension, since they were unsafe for her elderly mom. Other participants also indicated having safety concerns because of the low height of their balcony's fences, of their doors locking system, or the type of window they had in their houses. Spatial, and assistive and supportive management strategies were used by CEs for minimizing safety tensions.

One of the implemented management strategies by CEs were construction and use of suitable structural components. Structural components in a house are defined as architectural components, which form the home's structure, such as: doors, windows, walls, stairs, and ramps. CEs emphasized the importance of the correct design and use of these elements for ensuring the safety of their care recipient. For example, the male CE who was caring for his father explained the significance of having the appropriate locking system for apartment doors:

"*Since my dad had Alzheimer's, he got lost several times, with going out of home all of the sudden by himself. Then, we would wonder where we should find him...Thus, when we were at home, we locked the main door*."

Another management strategy was the intelligent utilization of home furniture. These sets of strategies refer to the creative changes in the use of home furniture for minimizing different type of tensions. As mentioned previously, one of the CEs had anxiety about her mom with respect to falling down from the stairs in the night without her noticing. She described her unique resolving strategy as follows:

"*So at nights, we placed number of tables and chairs in front of the stairs so that she can not go downstairs. The bad thing was that we could not use gates either. Because we were afraid*

that she may fall down. So, when we had that tables and chairs, we understood when she wanted to go downstairs and woke up."

It was realized that safety equipment was used by CEs in several locations of their home environment (especially bathrooms), in order to guarantee the safety of their care recipient. A participant described the use of specific safety equipment in the bathroom as follows:

"*In the bathroom, it is necessary to have a grab bar so that my dad will not fall. And we placed a stair for him to easily go into the tub or we placed a plastic chair so that he can sit in the tub.*"

4.2.3.2 Single or multi-level distribution

The type of housing had a significant effect on increasing or decreasing CEs' tensions. Having multi-level spaces in two or three floors increased internal commuting distances and resulted in waste of time. On the other hand, having all of the spaces in a single floor was favored by CEs, since it made their operations easier. One of the participants expressed her disapproval of second floor stairs, in a photo shown in Figure 4-8. She further explained the most difficult part of living in a single house as:

"*Having the stairs. The stairs and that the bedrooms are in the second floor is a bit difficult. And then not having a room in the first floor. If I had a single house which was bungalow, I was very comfortable. Bungalow single houses are very easier for the people who have disability*."

Where to change and where to keep…

"I want to change it! It is really hard going up and down from this stairs everyday for several times…It really makes me tired…Especially some days that my mom stays in her bedroom upstairs…I need to go up and down thousands of times…My knees have started to ache these past weeks…I really wanted to live in a big house, which I had everything in one floor."

Figure 4-8 the existence of stairs and distribution of spaces in several floors results in increased caregiving and working difficulties.

Living in a single house having stairs are specifically challenging and difficult while operating several tasks at the same time, such as caregiving, working and domestic management. One of the participants explained how it was difficult for her to stay in the second floor in order to do her work:

"*I am forced to be upstairs because I need to work on my computer instead of my laptop. But before having this job, I spent most of my time downstairs on the kitchen table with my laptop. I personally prefer to work downstairs of course, because my knees hurt if I want to go up and down on the stairs constantly*."

This specific caregiver was employed in an organization, which required her to make phone calls most of the time. Thus, she needed to work upstairs in a quiet environment for making calls. She was extremely distracted because of going up and down the stairs numerous times in a day.

Caregivers managed these types of tensions mostly through spatial management strategies. CEs could manage their spatial tensions and save their time by creatively changing the use of their furniture. For example, one of the CEs explained her management strategy while describing her morning routines:

"*In the first floor in the living room, I made a sofa like a day bed, I have placed a blanket, pillow and etc. on it. I take her downstairs so that she won't feel bored, since I am in the kitchen. And she sits there in front of the TV.*

CEs attempted to build a ramp in front of their house or chose living in a house with an elevator, in order to minimize the stairs difficulties. Participants also emphasized the necessity of having an elevator in the house, especially when there are a semi-mobile care recipient in the household.

Making spatial modifications in home internal spaces including the: living room; kitchen; washroom; bathroom, and; bedroom was another implemented management strategies. As an example, a participant explained how they managed their struggles with the stairs below:

"*Well, this house has lots of problems, like it only has one washroom in the second floor. And grandma cannot use it, since she can't go up from stairs. Thus, the big change that we made after we moved into the house, was that we made a temporary washroom for grandma in the living room at the first floor*."

In addition to making changes in internal sections, CEs also attempted to relocate several spaces in their house to better manage their spatial needs. One of the CEs described how dedicating the family room to her in-laws resolved the problem of stairs. According to her:

"*What we did there was to give the living room in the first floor to my mother and father-in-law and it became a little bit easier for my younger son since he did not need to carry his grandmother up to stairs anymore*."

As previously discussed, CEs wanted to be close to their care recipient most of the time in order to monitor and control them. As a result, they were unable to work in their home offices or bedrooms, which were mostly located in the second floor. Having a portable working space enabled them to be in the proximity of their care recipient. One of the participants described her changed working space as follows:

"*And sometimes that I see I have so many things to do, I take my laptop downstairs, and I sit on the kitchen table. I do my work on my laptop and I check on mom at the same time from the kitchen and see if she is doing well."*

4.2.3.3 Size and layout

In addition to housing type, the size of house and its internal spaces are significantly important for fulfilling CEs physical environment needs. Having a small house resulted in several negative consequences for the CEs, such as lack of a working place, privacy, concentration, and personal space. Each of these elements made CEs feel unsatisfied with the physical environment. One participant explained her biggest spatial tension as:

"*Not having space! Not having space! Deficiency in number of rooms, having lots of noises, too much traffic everywhere…because I could not afford a bigger place and I did not have the money*"

She continued to explain how having a bigger house would help her workwise:

"*Because our first home was an apartment and it did not have any space to turn it to a working place…Well, if you have a bigger house, you may have more space for yourself and less noise and more concentration*."

Furthermore, CEs could not have a personal space just for themselves because of space deficiency. This was indicated by a participant as follows:

"*Yes, maybe if I had a bigger house, I could have a space for my own and told everyone that this place is completely mine. But my husband did. When he wanted to do his things, he picked his laptop and went to the basement to have his 'peace of mind'*."

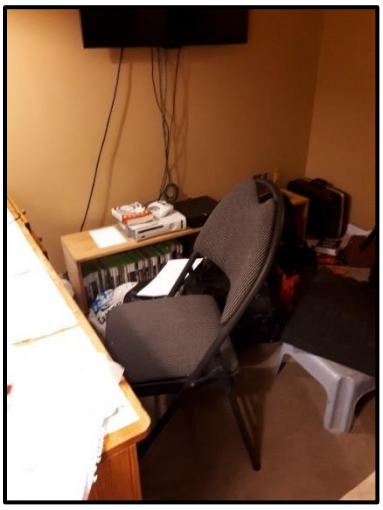
To manage these type of tensions, CEs normally used spatial management strategies such as having a portable working space. For example, one of the participants claimed:

"*Because I did not have any space to call it my 'working place', I placed my laptop wherever I could, and worked on it*."

4.2.3.4 Furniture

House furniture were either used as assistive equipment to ease CEs tensions, or they were the source of tension themselves. It was realized that using suitable furniture can help CEs manage their responsibilities better. On the other hand, dealing with unsuitable furniture brought them different difficulties. The hardship of caregiving responsibilities were also doubled as a result of using inappropriate furniture. In addition to domestic management and caregiving tasks, CEs productivity in their working times was greatly influenced by the quality of the furniture. One female caregiver showed her unsuitable working place through a picture shown in Figure 4-9. It is observed in this photo that the caregiver is using a dining chair as her working chair. She also explained about the times she needed to work on the dining table because of her caregiving and domestic responsibilities:

"*I was forced to sit in a corner and work on my projects, it was hard. It was hard to sit on the chair in the kitchen to do my work on the dining table…my chair was not comfortable*"



This is how my working times look like…

"*Here we have two lamps on the table and a ranch chair which is not a computer chair. So, I need to put this chair back to the dining table when I am finished doing my work. So you can see how it is messy. This is the condition which I study and do my work. This is my working place*."

Figure 4-9 unsuitable furniture results in decreasing productivity in CEs and increasing spatial tensions.

The described spatial tensions, which were caused by the use of unsuitable furniture were managed to some extent. CEs attempted to manage these tensions with changing the unsuitable furniture to suitable ones, while paying attention to the needs of their care recipient and themselves. A female CE explained the reason for changing her mom's chair as follows

"*But after some while, we saw that mom made the sofa messy, so we decided to have a specific chair for her. And we decided that she sits there which is a little bit more separated. And I can clean that area easier*."

4.2.3.5 Ambient features (lighting, view, noise)

It was realized that ambient features such as view, lighting and noise have a significant effect on CEs' quality of life. CEs collectively agreed on the important role of these features on their daily activities, including caregiving and working. Insufficient amount of natural lighting and view had several negative consequences for CEs. Most importantly, experiencing too much noise during working hours was reported to be extremely stressful, since CEs were not able finish their work-related responsibilities for their jobs. One of the participants emphasized the importance of lighting quality and windows as follows:

"*I say we did not have many windows, that is what I mean…for the view, you can make view for yourself, but for the natural lighting, it was not complete. When it is dark in the house, you become depressed*."

In addition to natural lighting, artificial lighting was also a significant source of tension for CEs. A participant described her idea on the importance of having quality lighting especially in Canada:

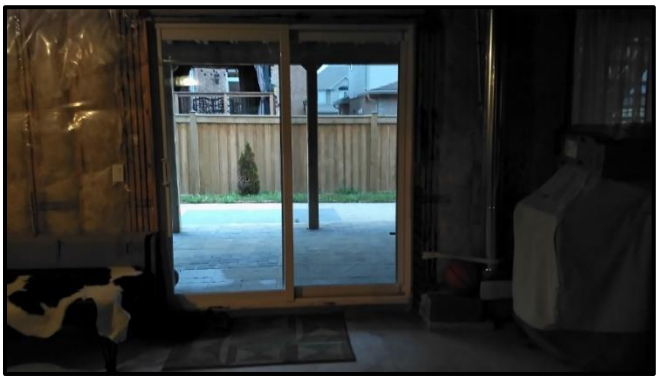
"*Especially here in Canada, since we do not have sun for 6 months, it has to become a policy in that lamps in the houses become daylight ones, instead of regular ones. Become daylights. At least, the living room should have that. Well, if bedroom does not have it, I don't care. One room in the house should be equipped*."

Sufficient natural and artificial lighting was significantly important especially for CEs' working places. CEs were mostly pressured in the case of having a bad lighting in their working space. A participant who was forced to work on the dining table complained about the quality of lighting:

"*The lighting on the kitchen's table was not good…because of that, I could not concentrate on my work…"*

Seeing natural elements and beautiful view in home environment was one of the most important factors for CEs. This was especially true for spaces where they spent most of their times in, including kitchen, living room and working place. One of the participants expressed her disappointment in lack of natural view in a photo shown in Figure 4-10. Although she had this view from the basement, she was hoping to have it in the first floor instead.

"*For the view, it will affect me so much if I could see a green view from the kitchen or living room or from the place that I am working…Right now we have lot of windows in the home but you could only see neighbors houses from it…I really would love to see a good view mostly from my kitchen*…"



Where to change and where to keep …

"*Well, for the place that I want to change, as I said before, I love to see nature when I am working. But you know because my first floor is not next to the backyard, I don't have that view. My backyard is next to the basement. I really wanted my first floor to be next to the back yard. I can not say how much I would have loved that."*

Figure 4-10 having the natural view from the basement instead of the first floor brought disappointment and high spatial tension for the caregiver-employee.

In addition to the quality lighting and natural view, having surrounding noise was reported to be a major source of tension for the CEs. Resting and having a good night's sleep is highly critical for CEs, since they have a very busy schedule throughout a day with caregiving, working and other daily responsibilities. This was indicated by one of the CEs as follows:

"*I wanted it (the walls) to be more sound proof…since I slept very little and I did not want to hear neighbor's voice when I was trying to sleep…*"

When CEs did not have the natural view from the outside, they attempted to make the view themselves with gardening and planting in their backyards, sunrooms or etc.. One of the participants explained how she made her sunroom one of the most beautiful places in her house, which provided the best view for her kitchen:

"*Sunrooms have large windows which is perfect for raising flowers. In my previous house I had a sunroom and I kept lots of flowers in it. I also had a daybed in there to rest. This sunroom was right next to the kitchen and it provided the best view for me when I wanted to wash the dishes. Sun light came in the kitchen through those flowers and it was beautiful*!"

Listening and watching media was another management strategy implemented by CEs in order to minimize the negative effect of un-wanted noises. According to a female caregiver-employee, using headphones assisted her with ignoring the surrounding noises and increased her working productivity:

"*Since I worked in the living room, I used headphones to have better concentration and avoid the voices from TV*."

4.2.3.6 Privacy

Having privacy is one of the most essential needs of all human beings. Caregiver-employees are not exceptional in this need. They need private times for themselves, especially while they are working. Lack of privacy was one of the major spatial tensions pointed out by the CEs. Most of them needed to have a place for themselves, in order to relax or do their work without being disturbed. One of the participants explained her level of privacy in working times as follows:

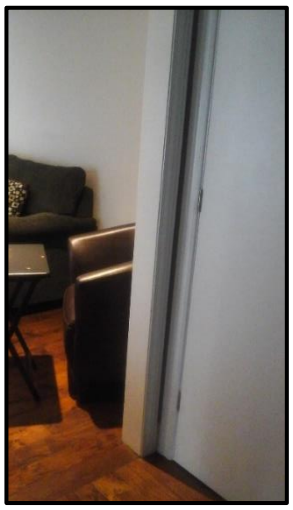
"*My working space is not that separate. Because it's out there*. *You can see that I am here working or studying, mom is there on the sofa. I want more privacy when I work, but I will be nervous if I cannot watch mom. If I could have a more private space for my work that is near to my mom, it would be perfect*!"

Other caregivers had the same problem, not only for their working space, but also for their personal space.

In order to provide privacy to some extent, structural components were reported to be used by CEs. For example, one of the female caregiver-employees explained how having a small wall between kitchen and living room provided her with more privacy:

"There is a little wall between the place that my mom sits in the living room and the kitchen table. *I don't like to remove the wall. I feel like it brings some kind of privacy. And at the same time, it does not block my view to mom and I can check on her*."

This caregiver-employee was able to have a semi-private area for herself, with the assistance of the wall between kitchen and living room. She expressed her satisfaction in the photo shown in Figure 4-11:



Where to change and where to keep…

"*I took a picture of this wall to say that I want to keep it. I don't like to change it. It brings me privacy and at the same time I can totally check on her (mother). I can see half of her actually. Because there is a little wall between the place that my mom sits in the living room and the kitchen table. That is why I can see half of my mom and know what she is doing."*

Figure 4-11 existence of the wall results in having privacy while checking on the care recipient.

Listening and watching media was a social management strategy implemented by the caregivers for providing privacy. This method was especially used by the group of caregivers who did not have any space for themselves and forced to be with other family members all the time. One of the participants listened to music in her headphone while working or doing daily activities, to provide a personal atmosphere for herself.

4.2.3.7 Structural components

The last group of identified spatial tensions are the tensions caused by structural components in a house. As previously defined, structural components refer to the architectural elements in a house, forming the structure of the building, such as: walls, stairs, ramps, windows, doors and floor. The unsuitable design, size, location, color, quantity and safety of each element play a significant role in increasing spatial tensions for the caregivers.

It was realized that the color and existence of walls are significantly important in CEs home environment. It was crucial for the caregivers-employees to have a wall color they liked, since they were spending most of their time within the home environment. According to one of the participants:

"*And I wanted the color of my home to be a little bit friendlier…for example instead of the painful not washable garbage red color, we had the sky blue. You know when you have the brighter color, it makes you feel way better*."

Sometimes having a wall separating two places from each other could be a major source of tension for caregivers, since they could not check on their care recipient all of the time. One participant expressed his wish for removing kitchen's wall in a photo shown in Figure 4-12. It is observed in this photo that person in the kitchen can barely see the living room, because of the wall.

Where to change and where to keep…

"*Well, the place I like to change is the kitchen. Our apartment is an old apartment. Thus, the kitchen was not open and it had walls. So, it was difficult for me and my mom to check on dad when we were in the kitchen. I believe it was way better if the kitchen did not have the walls. That way, you feel more relaxed and you become less anxious*."

Figure 4-12 having wall between the kitchen and living room resulted in less control of caregiver on the care recipient, causing him an extremely high spatial tension.

The importance of stairs as one of the main structural components in a house cannot be overlooked. Caregivers mentioned their home's stairs as a major source of spatial tension. Accordingly, a female caregiver-employee explained the difficulties of having stairs in house as follows:

"*Just imagine you have to clean and vacuum all of these stairs. Imagine that carrying someone from the living room to dining room in one floor is much easier than carrying them to another floor*."

She also expressed her dissatisfaction of the basement stairs in a picture shown in Figure 4-13. As it can be observed in this photo, the stairs' treads are extremely narrow and there are no hand trails.

Where to change and where to keep…
"*This is the photo I took in the answer of where I want to change in this house. As you can see, there are lots of stairs that go to the basement. Can you see that how each stair is narrow? Two people can not go down from this stairs at the same time. I really don't want to have stairs in the house. Or if there want to be stairs, I want it to be wider or at least there should be a hand-rail next to the stairs. We want to place a hand-rail ourselves*."

Figure 4-13 unsuitable stair design resulted in high spatial tension for the caregiver-employee.

The color and material of the floors were found to be significantly important for CEs from a cleaning standpoint and caregiving responsibility. One of the participants stated:

"*In our house, the floor has a red color and it is very bad, since you can clearly see the dirt. I wanted to have a bright color for the floor, so that it will appear cleaner*."

The above spatial tensions were mostly unmanaged, however, there were few spatial management strategies implemented by the CEs to minimize these tensions, such as Construction and use of suitable structural components. CEs were able to partially manage their spatial tensions by modifying or re-building the unsuitable structural component. For example, one participant explained how she attempt to put a hand rail for the basement stairs:

"*well, we cannot change the house, you know, so I decided to put a hand rail on for the basement stairs so that grandma can use it…I guess there is nothing else I can do…*"

4.2.4 Family and social tensions and implemented management strategies

Family and social tensions are defined as tensions that are developed by the relationships existing between the caregiver and the elements of a family or society. These elements are either the people who shape the caregiver's family and society, or the familial and social regulations and norms. The relationships between the caregiver and his/her family members (e.g. son and husband) and friends are the basis of different type of expectations from both

sides. These social expectations are the root cause of many family or social tensions. On the other hand, familial and social frameworks including culture, social environment and work-related activities are also pivotal in development and advancement of specific type of pressures and tensions amongst the CEs. Family and social tensions are categorized into five sub-categories, which are described in the following. The management strategies of each tension group are also explained respectively.

4.2.4.1 Support and assistance

It was realized that most CEs had an expectation from their family members or society to have an understanding of their situation and responsibilities. They also expected some sort of support and assistance from others. When these expectations were not satisfied or only partially satisfied, the caregiver was let down and felt pressured from the inside. These supportive expectations were sometimes from the workplace and the working environment. For example, in response to what type of major temporal tensions they face when managing their two roles, one CE responded:

"*My work. My work brings about the most pressure for me. I feel like in my company, they do not consider my situation and the fact that I am a caregiver for my mother. I wished they had more companionship. Because if I do not care for my mother, there is no one who takes care of her.*"

Self-employed caregivers experienced less stress associated with their work in comparison to others, since they had more flexible working schedules. In addition to their work place, CEs expected an understanding from their family members regarding their responsibilities. They often expect family members to support them in other extra activities. One CE who took care of her son described the extra requests of her father-in-law as follows:

"*When my father-in-law nagged about going for a haircut, I told him: "dad, please wait till Hamid goes to sleep. Then I will cut your hair myself". Then, I cut his hair in the midnight instead of going to sleep.*"

To manage these types of tensions, CEs normally used assistive and supportive strategies, such as relying on other family members and receiving benefits from governmental programs.

Although, some family tensions are caused by the inaction or limited understanding of the family, the assistance and support of specific family members played an important role in easing some of these tensions. A participant described the positive feelings of a support she received from her daughter as:

"*Unless the time that my daughter came home. I cried sometimes because the atmosphere was so sad and tiring. I had a very hard time. Then, when she came, she told me: go, go. I am here you can go. There were times that she was home at 7 p.m., and I told her: Sara, I am going. I went out for 1 hour, drank a coffee and walked home and I could get a little relief.*"

The extremely difficult caregiving and working responsibilities forced family members to provide extra support for other responsibilities in the home environment. These supports were mainly performed in order to reduce familial tensions and support the CEs. For example, one CE responded to a question on extra responsibilities as follows:

"*I don't want any extra responsibility. Even giving water to the flowers. I can't!" Even now, I don't have their responsibility. My husband gives water to them.*"

Assistive governmental programs are a great source of support for CEs, which resulted in partial satisfaction of from the society and external environment. A participant described the advantages of daily care programs provided by the government accordingly:

"*But this daily program really helped me in my situation. I could go out with my friends several times without being worried for my mom.*"

4.2.4.2 Culture and immigration

Cultural factors and norms were found to be highly effective on CEs' actions and their respective tensions. Cultural norms are defined as a set of regulations and behaviors that are common in a specific cultural group. Iranian CEs stated that they felt obligated to take care of their older parents since it was common in the Iranian culture. One CE explained this cultural obligation as:

"*You know, for us as Iranians or generally as eastern people, it is very hard to do something like keeping your loved one in the nursing home. So, she (senior nurse) asked us and we answered we want to keep him (his dad who is the care recipient with Alzheimer's disease) till we can and are able to.*"

Caregiver-employees were sometimes forced to get help for taking care of their loved ones, in order to better manage their other responsibilities, which included work-related responsibilities. This was specially the case for CEs who were not self-employed, since they had to cope with a predetermined and inflexible working schedule.

On the other hand, specific cultural behavior of family members or friends also resulted in certain familial and social tensions. A CE described how continuous visits from Iranian family members and friends (quite common in the Iranian culture) limited her personal free time:

"*As you know our culture, Iranian people really like to visit ill person and show their respect and love for them. So lots of times, I have people coming over and it makes me even busier. Thus, I don't have time for myself.*"

Furthermore, being an immigrant or coming from an immigrant family introduced different types of social challenges and tensions for the caregiver.

Caregivers managed these type of tensions mostly through social management strategies. Iranian immigrant CEs generally tended to act and conform to the norms of the Iranian culture. For example, one CE described the difference between Iranian immigrant and native Canadian caregivers from his own perspective, accordingly:

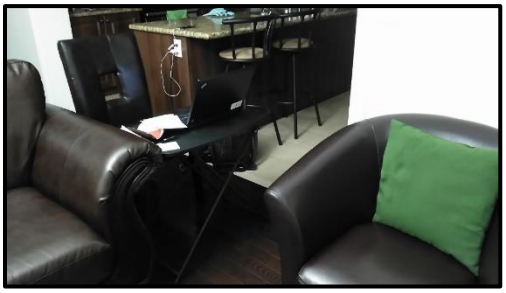
"*Most of the Canadians when it gets to this stage (extreme stage of Alzheimer's disease). Because doctors say that someone is already gone, but other people are in danger as well and we should not let that happen. We should rescue the caregiver. But for us Iranians and especially eastern people, it was totally unacceptable. We could not accept that because he is gone, we leave our dad there so he dies. Because we knew he was going to die way sooner if we left him there.*"

4.2.4.3 Work-related activities

One of the most significant categories of family and social tensions were related to working activities. CEs were all claiming that their work became their second priority and the

caregiving was their first priority. CEs were mostly working to provide the caregiving expanses, not for their own identity or success. As a result, they preferred not to work and working brought them stress and tension. A lot of the CEs described high levels of stress and nervousness, which led to lack of concentration and reduced productivity. Caregivers who worked for an organization struggled with their managers, since they were inconsistent with their working hours because of their care recipient's condition. One participant illustrated her high levels of stress during working times in a photo shown in Figure 4-14. It is observed in this photo that the close distance between the CE's working table and the location where the care recipient usually sits results in a "distracted" mind for the CE. The same participant further described her difficulties during working times:

"*Having my work place really close to where my mom sits brings me stress. I need to see my mom for most of the time or I would be nervous, but sitting that close to her and watching her sitting silent all the time is such a pressure.*"



This is how my working times look like …

"I have placed this table and chair so that I can work on them with my laptop and also I am near to the kitchen. My mom sits right in front of me so I can see her all the time. Well, I can't say I have the best working place… sitting right in front of her all the time, I become distracted. But, I don't have any choice. Because I don't have any other place."

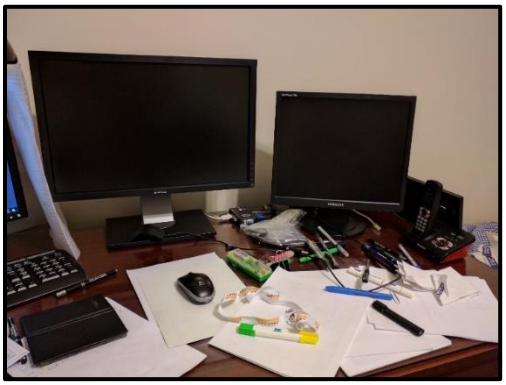
Figure 4-14 the close distance between the working and caregiving places results in distraction and extremely high work-related tensions.

Similarly, another CE expressed how difficult it is to conduct her studies while having to consistently monitor the care recipient:

"*The most critical issue is that I need to study, which gives me a lot of stress. So, when my mom is in the first floor, I cannot go to the second floor, shut the door and study or do my work.*"

Based on the conducted interviews, female CEs were less likely to have a separate working space, while the male CE went to a separate room for working.

Another participant demonstrated his "mixed-up" mind during working through a messy working desk in the photo of Figure 4-15. The CE described that while his desk was not actually that messy, his mind was completely messed-up during working times.



This is how my working times look like …

"I believe it shows a disorganized and mixed-up mind. My working times was like this…I was frustrated…I had a crowded mind and I could not focus on doing anything…everything was messed up…it doesn't mean that my desk was messy like this…it was completely clean. But my mind was messed-up. This desk being crowded shows my busy mind and that I was lost and didn't know what to do."

Figure 4-15 Demonstration of a CEs mixed-up and messed-up mind during working times.

The above work-related tensions were unmanaged to some extent, however, some of these tensions were eased temporarily using mostly social management strategies such as having helpful communications. These strategies included getting some time off from work and caregiving in order to temporarily clear the mind. CEs often went outside for a while or had a chat with their friends in order to ease some of the work-related tensions. For example, one CE described how he retained some of his lost productivity by getting away from the home environment:

"*Well, I had lost my productivity but, I had the option to go out and gain some energy and come back…Thus, it is very hard for everyone.*"

4.2.4.4 Social isolation

Multiple responsibilities performed by CEs results in partial or complete social isolation. This sense of isolation was mostly recognized by CEs when they attended social events or met their friends. One CE illustrated his sense of isolation from others by taking a photo of a dark tree in-between multiple bright ones, as shown in Figure 4-16. He described how he felt isolated and different when he attended a Christmas party with his friends.

Me as a caregiver is like…

"… it is a picture of 4 trees next to each other. Three of them are lighten up, and one in the middle is covered with snow without any lights. This was how I felt being a caregiver … one time there was a new year party in one of my friend's house … We all took a photo … when I saw the photo, I realized that everyone were smiling and seemed happy in the photo, other than me. I was sad, and different from my other friends."

Figure 4-16 Social isolation of a caregiver-employee amongst his friends.

Similar to work-related tensions, CEs managed social isolation tensions through social management strategies. Getting outside and having some time away from home was a suitable method for some CEs to overcome their social isolation tensions. One CE mentioned that in order to reduce his sense of social isolation he would rather go outside sometimes:

"… sometimes I wanted to come out of home, sometimes."

4.2.4.5 Relationship with family members

Some CEs explained the permanent or temporary tense relationships between themselves and other close family members as a result of the caregiving and working processes. One participant who was simultaneously taking care of her son and in-laws described her communications with her husband as:

"*As a result, I felt like my relationship with my husband was affected as well. When he came back from his work, the first 2 or 3 hours I was just complaining about the things I had done for his parents. And he was a father and also a son of his parents, so maybe he did not want to hear what I had done for his parents, especially from me. Maybe. I don't know. But I felt guilty.*"

For the above participant, these tense spousal relationships were not managed properly and resulted in a divorce after a period of time. Similar uncomfortable and tense familial relationships were reported by other participants with other family members such as their

siblings. Nevertheless, most of these tensions were left unmanaged without any specific management strategy.

4.2.5 Temporal tensions and implemented management strategies

Temporal tensions are defined as pressures and challenges faced by CEs in specific time periods or over a long period of time. These tensions were mostly in the form of different activities that CEs had to confront in different time periods. Temporal tensions were organized into three main categories that are described in detail:

4.2.5.1 Monitoring and control

As explained earlier, one of the most important caregiving responsibilities associated with the CEs was monitoring and control of the care recipient. This monitoring and control was either conducted constantly throughout a long period of time or temporarily. Most caregivers highlighted that they needed to provide monitoring and control "all the time", which was very difficult and challenging. For instance, one CE emphasized the need to take care of her mother who had Alzheimer's disease:

"You know, she is exactly like a one or two year old kid. You need to look after her all the time! … I always have that concern and stress in my head. And I am watching and looking out for my mom all the time…so the stress is always there…even in silence..."

Similarly, other CEs also expressed their concern regarding the consistent monitoring that was required "all the time". Overall, the temporal monitoring and control tensions were managed by the same management strategies explained in Section 4.2.2.1. Therefore, in order to reduce the amount of time required for monitoring and control, CEs utilized smart monitoring and safety equipment in addition to being present alongside the care recipient.

4.2.5.2 Daily activities

Daily activities occupied a major portion of CEs' time during the day. Main activities included caregiving, working and cooking. CEs often mentioned how limited their time is in a day

because of the numerous daily activities they perform. One CE expressed her limited time for daily activities accordingly:

"*I feel like in 24 hours, the hours are not enough for me to do all of my responsibilities. I really have this stress with me all the time. From the midnight and while I am doing the last things for my mom before going to bed, I am already thinking about the next morning and how I should manage all of the things I am supposed to do. And my mind is always concerned when I go out to do something although I know that my husband and kids are there. So I really have this stress even though it might not show itself in my face.*"

A great portion of CEs' daily activities were caregiving responsibilities, which were described in the previous section. Some of these responsibilities were strictly time-dependent, such as providing medicine to the care recipient at specific times in a day. These strict timings developed temporal tensions, which are illustrated in a photo shown in Figure 4-17.

Story of me and my care recipient…

"This is my mom's room. She sleeps here at nights… I took photo of this bed because this is the place that is only for my mom… there are many days that she cannot move from here and she rests here on the bed all day long… the pills are my mom's medicines. She needs to take them every day."

Figure 4-17 Temporal tensions associated with daily caregiving activities (e.g. providing medicine at specific times in a day).

Another major group of temporal tensions was associated with activities concerning daily meal preparations. All female CEs were responsible for preparing breakfast, lunch and dinner on a daily basis. None of the female CEs received help and assistance in cooking and food preparation, which resulted in high amount of temporal tensions at these times. In Figure 4-18,

one CE has provided a photo during her cooking times in the kitchen. The extreme degree of tensions can be observed through the messy conditions in the kitchen.

Me and my tensions…

"My messy kitchen when cooking dinner for the family… it makes me stressful at times…"

Figure 4-18 Temporal tensions of a female CE while preparing dinner for the family.

Temporal tensions associated with daily activities were mostly tolerated by the CEs rather being managed. However, a small portion of these tensions were controlled using personal management strategies such as having an adaptive personality. In order to manage their temporal tensions, some CEs carefully organized and planned their activities. The organization of a CE's daily activities were photographed in her daily calendar, which can be observed in Figure 4-19. According to the CE, this planning enabled her to better remember and organize her daily activities so that she would not forget anything.

Me and my tensions…

"The picture is from my calendar. I note all the things I need to do in my calendar or otherwise, I forget them. This calendar reminds me of time and the things I need to do …"

Figure 4-19 Management of temporal tensions through planning of daily activities.

4.2.5.3 Morning time

It was observed that CEs' temporal tensions were normally intensified during the morning time when all other family members wanted to leave for school/work and female CEs were required to prepare breakfast and help others leave for school/work. The challenges and pressures of the morning time are described by one CE as follows:

"*Especially in mornings that everyone wants to go to work and I also want to start doing my work as soon as possible. My mom gets up late in the morning and I need to take her to the washroom, give her breakfast and etc. So, it takes lots of time. I feel stressful mostly in the mornings.*"

Similarly, other CEs also expressed their concern regarding the accumulated responsibilities in the morning. Nevertheless, the temporal tensions associated with morning times were mostly unmanaged by the CEs. In other words, the participants coped with these tensions rather than trying to manage them through a specific strategy. In general, many of the identified temporal tensions were unmanaged by the CEs, which emphasized the importance of management solutions for this specific group of tensions.

4.3 Summary

This chapter provided answers to the main questions and objectives of the current research by identifying caregiver-employees' major spatial and temporal tensions, and their corresponding management strategies. The characteristics of the research participants were described at the beginning of the chapter. Interviews with the participants were coded in order to identify the themes and subthemes of CEs' tensions. The identified tensions were categorized into five major groups: (A) personal, (B) caregiving, (C) spatial, (D) family and social, and (E) temporal tensions. The corresponding coping and management strategies of these tensions were also identified accordingly and organized into fiver major themes including: (A) spatial, (B) personal, (C) social, (D) monitoring and control, and (E) assistive and supportive management strategies. The interview quotations and photos taken through

the Photovoice methodology were used to describe each tension group and its' corresponding management strategies in detail. Unmanaged or partially-managed tensions were also recognized, which will be further discussed and addressed in the following chapter by using the therapeutic landscape theory.

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Chapter 5
Discussion

This chapter discusses CEs' tensions and provides corresponding management strategies using the therapeutic landscape theory. The chapter first addresses the most significant unmanaged tensions of caregiver-employees, which are extracted from the research interviews and photos provided by the participants. Several home modification strategies are proposed to minimize these tensions. These strategies are based on the four major elements of the therapeutic landscape theory, which include the built, natural, symbolic and social environments. In the final section, the ideal physical environment for the immigrant family caregiver-employees is presented, taking into account their most significant spatial, natural, symbolic and social requirements.

5.1 Caregiver-employees' main unmanaged tensions

It was realized in the current research that CEs suffer from five major types of tensions: spatial, family and social, personal, caregiving and temporal. Each of these tensions and their corresponding management strategies were discussed in detail in the previous chapter. Management strategies for the groups of tensions mentioned include: spatial, social, assistive and supportive, personal, and monitoring and control strategies. Although, CEs implemented various management strategies, some tensions remained unmanaged, which led to additional tensions.

One major unmanaged group of tensions was composed of spatial tensions. As mentioned in the previous chapter, caregiver-employees had numerous spatial demands from their home environment in order to better manage their caregiving and work responsibilities. For example, ensuring safety in the home's structural components such as windows and doors was one of the main concerns for caregiver-employees, especially for those who were caring for a person with Alzheimer's disease. CEs were also unsatisfied with living in a house with multiple floors, since they were forced to go up and down stairs many times each day to keep up with all of their daily activities. Another spatial concern for CEs was achieving privacy during working

hours while having to care for their care recipient at the same time. CEs also requested better lighting, improved natural views and soundproof walls and windows.

Personal tensions were the second group of unmanaged tensions for CEs, which included physical health, emotional health and self-care. Although CEs allocated time for themselves, they were mostly unsuccessful in achieving such personal time due to their extremely busy schedules. CEs were unable to completely manage their family and social tensions. They especially had problems managing their work-related tensions, since caregiving responsibilities were always the top priority. They had extremely high levels of stress because of their caregiving duties, which led to a lack of concentration in work-related responsibilities and resulted in reduced productivity. Caregiver-employees were mainly isolated from society since they worked from home and spent the majority of their time within the home environment. Relationship problems with family members, specifically spouses, were common in this group of caregivers, and these problems remained largely unmanaged. Many tensions were caused by broad responsibilities associated with the caregiving process since they all worked and provided care for their loved ones at the same time. Thus, CEs were usually under pressure due to their multiple responsibilities related to the care recipient, which included cleaning, cooking, monitoring, shopping, and providing medical care and assistance. The final group of unmanaged tensions were related to temporal tensions. Caregiver-employees had difficulties managing their time for daily activities, especially while monitoring the care recipient. The pressure was intensified at specific times of the day such as mornings, when all other family members wanted to leave home. In the following section, it is explained how the collected data was analyzed using the therapeutic landscape framework.

5.2 Home modification strategies

As explained in the second chapter (see section 2.3), therapeutic landscape theory is one of the most suitable theories for analyzing the results of the current research. The main question and objectives of this research perfectly match the main concept of the theory. Therapeutic landscape theory is primarily focused on interactions between physical, natural, symbolic and

social elements of a place in order to understand its effects on the residents' mental and physical health [168]. Numerous helpful solutions are developed by focusing on the four main domains of landscape theory. The living context of immigrant caregiver-employees and their interactions are important for specifying solutions, in addition to their unmanaged tensions. While immigrant caregiver-employees spend most of their time at home, they are strongly connected to and affected by the society, which includes their family members, friends, employment and government. It is significantly important for caregiver-employees to have open and honest communication with their family members, especially their spouses. They should talk about sharing responsibility, expectations and cultural norms. As discussed in the previous chapter, some of the caregiver-employees were able to successfully decrease their tensions by implementing this strategy. Explaining possible negative mental and physical health consequences can also be helpful for increasing family participation and assistance in daily activities. If family members assist CEs regularly, their tensions will decrease and their level of health will improve. Socializing with people that have the same living conditions as caregiver-employees is also helpful, since they feel less lonely knowing there are others who are struggling with same difficulties and challenges. In addition to family members, friends can also help caregiver-employees with their daily duties in several ways. For example, friends could help CEs by looking after their care recipients for short periods. Most importantly, caregiver-employees employment plays an important role in increasing or decreasing their level of stress. For caregivers who are not self-employed, employees should support and assist them with several services, policies and benefits, such as carer-inclusive and accommodating policies [197] Caregiver-employees can also receive financial assistance from the government mainly in the form of federal tax credits and insurance benefits. There are also other services available to assist family CEs with their caregiving responsibilities. Many research participants used CCAC assistance to better manage their multiple responsibilities. In addition to social interactions, CEs' living environment is an extremely effective factor that can reduce their level of tensions. Although there is a wide range of assistive strategies for CEs to choose from, the main focus of the current research is on physical home modification strategies. As shown

in Table 5-1, a list of home modification themes is presented based on the following four therapeutic landscape theory domains: (1) built environment, (2) natural environment, (3) symbolic environment and (4) social environment. It is noteworthy to point out that the home modification strategies outlined in the following table are directly focused on the physical aspect of home modifications. Cultural factors and modification strategies also have a significant importance in the development of a therapeutic landscape. Accordingly, physical home modification themes and their brief descriptions are presented in the Table 5-1. A detailed explanation of each modification strategy is provided in the following sections.

Table 5-1 Identified home modification strategies for Iranian caregiver-employees based on the therapeutic landscape theory.

Therapeutic landscape domains	Home modification themes	Description
Built environment	▪ Safety for residents	Ensuring safety of home residents by using safe equipment and spatial elements.
	▪ Proximity and easy accessibility	Providing easy and close access to main operating spaces for caregivers.
	▪ Multi-functional spaces	Designing spaces for multiple uses.
	▪ Multi-functional furniture	Using furniture for multiple operations.
	▪ Bright and washable spatial elements	Implementing bright and washable spatial elements (e.g. flooring and furniture) for easy cleaning.
	▪ Increased artificial lighting	Providing better and improved artificial lighting for the home environment.
	▪ Improved heating, ventilation and air conditioning (HVAC)	Enhancing the heating, ventilation and air conditioning process by implementing suitable HVAC systems and procedures.
	▪ Dedicated space for care recipients	Allocating dedicated spaces for the care recipients and their activities.
	▪ Design for monitoring and control	Improving spatial design for better monitoring and control of care recipients.

	▪ Design for assistive self-care	Improving spatial design for assisting caregivers in self-care.
	▪ Dedicated working space	Allocating a dedicated space for caregiver's work activities.
	▪ Assistive smart equipment	Utilizing smart equipment for assisting caregivers in their daily responsibilities.
Natural environment	▪ Noise cancelation	Removing surrounding spatial noise by means of noise cancelling hardware and software.
	▪ Increased natural lighting	Providing better and improved natural lighting for the home environment.
	▪ Healing with natural elements	Improving connection with nature using natural elements.
Symbolic environment	▪ Healing music	Playing special music in the home environment for healing and relaxing caregivers and care recipients.
	▪ Dedicated spiritual space	Design of dedicated spaces for spiritual or religious activities.
	▪ Identity endorsement	Endorsing personal, familial and cultural identities by using special home décor and furniture.
	▪ Relaxing space	Allocating a special space for rest and relaxation.
	▪ Promoting care recipient's independence	Enhancing the feeling of independence amongst care recipients through modification of spaces, furniture and spatial elements.

	▪ Cultural elements	Having spatial elements specific to the Iranian culture for promoting cultural identity
Social environment	▪ Socializing spaces	Design of specific spaces for social communication and gatherings.
	▪ Privacy	Ensuring acoustical and visual privacy for caregivers.
	▪ Enhancing social communications	Enhancing internal communication between family members by modifying spaces and implementing assistive equipment.

5.2.1 Built environment

The first and most important therapeutic landscape domain for the current research is the built environment. The built environment is generally defined as the human-made surroundings lived in and experienced by people every day [198]. The home's structural components, indoor and outdoor spaces, furniture and lighting all influence the mental and physical well-being of family caregiver-employees and their care recipients. Several built environment themes emerged as home modifications strategies, which are listed and described in Table 5-1.

One of CEs' major concerns was the home environment's safety with respect to their care recipient. CEs experienced anxiety if their living environment was not completely safe for their loved one. Furthermore, constant monitoring of their care recipient was a necessity in these homes. As a result, CEs were not able to completely concentrate on their employment and had lower efficiency during working hours. Using safe equipment and spatial elements are one of the possible solutions for this group of tensions. It is important to ensure the safety of structural components in the home by implementing several strategies. According to caregivers, stairs were one of the most dangerous spaces in the house due to the danger of slipping and falling especially during night time. There are several ways to prevent such potential incidents, such as using automatic lighting at the top and bottom of stairs, having well-fastened stair covers and installing proper assistive handrails. Installing a stair lift can be extremely helpful for CEs who take care of semi-mobile or non-mobile care recipients. Another potential dangerous space in the home environment is the balcony. Balcony doors should be locked safely with suitable locking mechanisms and damaged components like rusty rails should be replaced. Windows and doors should be locked as well, with their keys being kept out of reach of care recipients. It is also important to block electrical sockets in the home, so that care recipients do not hurt themselves.

Another major problem facing CEs was the constant need to go up and down stairs numerous times a day between spaces located on different floors for caregiving, working, going to the washroom or bedroom, doing laundry, etc. As a result, time was wasted and CEs experienced several negative health consequences such as knee pain. A reasonable solution would be to locate the main operating spaces in the home environment based on proximity and easy accessibility. According to the interviews, the most important spaces for CEs are the caregiving space, working space, kitchen and washroom. If these spaces are located near each other, caregiver-employees can perform their responsibilities with a minimum of wasted time. The caregiving space is improved if designed as a separate space dedicated to the care recipient and close to the working space, kitchen and washroom. The caregiving space needs to have safe, washable and durable furniture and flooring. Carpet tiles and cork flooring are two of the most suitable floorings for the caregiving space. It would be better to locate this space either in the living room, family room or wherever family members gather for social activities such as listening to music, eating and watching TV. Having a specific washroom for the care recipient near the caregiving space is extremely helpful, since most care recipients have special conditions and therefore need special toiletry equipment. If there are no washrooms close to the caregiving space, locating a temporary washroom for the care recipient might be a suitable temporary solution. Dedicating a separate space and washroom to the care recipient decreases CEs caregiving, spatial, temporal and personal tensions.

Similar to the caregiving space, CEs need to have a defined working space, although they might sometimes be forced to work in other spaces. Designing a suitable working space for CEs is a necessity for increasing their level of motivation and concentration. CEs' working spaces should be located close to electrical sockets so that computers and laptops can be charged easily. Being close to the kitchen is also important for female CEs, since they usually cook for lunch and dinner, and need to provide food and snacks for the care recipient and themselves. Most importantly, while the working area needs to be close to

their caregiving space, it should also provide them with visual privacy. Caregiver-employees should be able to monitor their care recipient from their working space, but not necessarily in person or visually. Most CEs claimed in the interviews that hearing their care recipient is enough for them to acknowledge their needs. Observing the care recipient visually seemed to develop additional personal tensions in caregiver-employees. One possible solution for CEs is to use smart monitoring equipment such as webcams or microphones to reduce tensions related to care recipient monitoring and control. The quality of natural and artificial lighting in the CEs' working space is significantly important. Using different lighting sources is recommended for the working space, such as task lighting and accent lighting. Utilizing suitable furniture for the working space is also an influential factor for CEs' comfort and level of productivity. Caregiver-employees collectively agreed on the importance of exposure to natural views and scenery in spaces that they spend most of their time in, including their working space. Having personal photos, cultural symbols and other meaningful and beautiful objects in the working space are encouraging for CEs. Caregivers' desks and working spaces should be well-organized and tidy, to help clear their crowded minds and decrease personal tensions. For noise insulation of the working environment, suitable floorings should be chosen, such as carpet tiles and cork floorings. Developing a dedicated working space with suitable monitoring and control capabilities decreases spatial, familial and social tensions in the home environment.

Some CEs complained about the size of their home and compared it with their houses back in Iran, which were bigger. As a result of living in a smaller house, CEs did not have a specific working or resting space for themselves. Thus, they were forced to work in other spaces like in the kitchen, living room or the bedroom. Working in such unsuitable spaces led to lower productivity and physical health problems. Designing home spaces for multi-purpose applications is one practical solution for such problems. Even a small corner in the living room or kitchen can turn into a working space for CEs. Similarly, other spaces like balconies and basements can be used for personal relaxation or hangout spaces for spending

time with friends and family. Using multi-purpose furniture is also helpful for maximizing the use of space. As an example, dining and kitchen tables can be used as temporary working surfaces, or living room sofas can be used as day beds for the care recipients. Having multi-functional spaces and furniture in the home environment results in a cleaner and more organized environment for CEs, who have very busy and crowded lifestyles. Consequently, some of the spatial and caregiving tensions are alleviated.

Cleaning and washing the home environment was realized to be one of the most difficult responsibilities for caregiver-employees. This was especially the case for CEs who had to care for those with Alzheimer's disease. Caregiver-employees were required to spend much of their time during the day cleaning. As a result, they experienced extreme temporal tensions. Using smart cleaning equipment helps CEs perform the cleaning process faster and save time. A number of these gadgets include robot vacuum cleaners, cordless vacuum cleaners, self-cleaning ovens and dishwashers. Another solution for reducing tensions related to cleaning is to have bright and washable spatial elements. Walls, furniture, flooring, and other spatial elements all need to be in bright colors to hide dust and be easily washed. Furthermore, bright walls help CEs feel better, as well as enhancing natural lighting.

The absence of a suitable air conditioning system especially in apartments was another major problem for CEs. In some homes, the living room and washrooms did not have proper ventilation systems. As a result, some living rooms had a bad smell and washrooms were always moldy. Constant cleaning of the vents is helpful in preventing odours. Therefore, vent covers should be removed and cleaned regularly. Installing ceiling vents and fans are good options for better air circulation in older homes. However, if it is not possible to install fans, there are a few other ways to keep washrooms dry. A number of these solutions are opening doors and windows, hooking up an external fan, wiping down the walls and using a dehumidifier.

CEs have an extremely busy daily schedule, which leaves them almost no time to spend on self-care. In the current research, CEs struggled to find time to fulfil their primary needs such as sleeping and eating. There are several ways to help CEs satisfy their primary needs to some extent. Spatial design of the home environment can be improved for assisting caregivers in self-care. As an example, CEs could have an accessible food box close to spaces they spend most of their time. This food box could be placed on the worktable, kitchen table, or in the living room, for example. It is important to make sure that this food box can be accessed and is easily visible. The food box should contain healthy and energetic snacks, which are easy to eat such as protein bars, fruit and nuts. If the living room, caregiving or working spaces are located far from the kitchen, having a mini-refrigerator close by will provide CEs with easy access to all kinds of foods and drinks. In addition to healthy eating, getting enough sleep was another major struggle for caregiver-employees. CEs often had anxiety when they slept far away from their care recipient. Having a day bed or resting area near their caregiving space will provide CEs the opportunity to take a nap during daytime.

5.2.2 Natural environment

All natural living or non-living elements in the environment are significantly important for the development of a therapeutic landscape. In the current research, it was realized that natural elements have a significant effect on CEs' level of health and well-being. Several home modification themes were identified in the context of the natural environment, which are presented in Table 5-1.

Some of the research participants in this study complained about the level of home environmental noise, often caused by the care recipient, family members or neighbours. Such noises prevented CEs from concentrating on their work-related and daily activities, which resulted in inefficiency and longer working hours. This inefficiency exists while time is by far the most precious commodity for CEs. Noise cancelling solutions and technologies

can be implemented to assist CEs with reducing home environmental noise. One practical solution for CEs is to use common headphones during working hours; either playing calming music or using them as earplugs to passively block the surrounding noise. With advancements in technology, active noise canceling headphones are also available, which are a more expensive option but provide a greater amount of noise canceling. Another option is to produce background white noise in the working environment to cancel out environmental noise. A wide range of cell phone apps can be used to produce such white noise.

The natural lighting level of the home environment was found to be an important factor in improving CEs' daily moods and spirits. This was especially true for Iranian CEs since they love being close to natural light due to cultural norms. Having large windows is extremely helpful for collecting and distributing natural sunlight in various locations of the home environment. However, if enough windows do not exist, there are several design solutions that can be implemented to maximize the amount of natural light. It is important for the windows to be clean all the time so that light can come in easily. Removing interior and exterior plants or vegetation that are shading the home environment will increase internal natural lighting levels. Having bright coloured (e.g. white or bright yellow) walls, ceiling and furniture will be extremely helpful to reflect greater amounts of light throughout the home environment. A suitable method for maximizing and even intensifying the amount of natural lighting is to use mirrors in front of windows. The reflection of natural lights in the mirror will increase internal lighting and make the home environment look larger. It is also important to locate furniture properly so that it does not block windows and prevent natural light from coming in.

Interacting with the natural environment is extremely helpful for motivating and encouraging CEs, especially during the caregiving process. Communication with nature is helpful in reducing some of the temporal tensions faced by CEs. Therefore, it is essential to increase caregivers' interactions with nature through a variety of elements. Consistent

exposure to natural views is useful in intensifying the sense of nature amongst caregivers. This exposure can be achieved either through real natural views provided by windows or installing paintings of nature on the walls. If natural views are limited, plants, vegetation and flowers can be used inside the home environment. On the other hand, for CEs living in houses, a well-designed garden with natural elements such as fountains, is highly motivating and calming. Furthermore, keeping pets such as birds and dogs can be therapeutic and healing. Installing aquariums could also provide a sense of nature and life in the home environment. Finally, playing natural sounds will remind people of natural habitats and can be very relaxing in the home environment.

5.2.3 Symbolic environment

Symbolic environments are defined as meaningful environments, which help people express themselves and promote their identities. Thus, being in such environments results in increased mental and physical health. The home environment is one of the most private and meaningful places for human beings. Despite working and caregiving pressures, CEs need to be able to self-express and feel relaxed in their home environment. It is specifically important for immigrant CEs to promote their identities and feel more 'at home' while being far away from their home countries. Home modifications can help create a meaningful environment within the home for immigrant family caregiver-employees. A number of spatial suggestions leading to the enhancement of the home symbolic environment are outlined in Table 5-1.

Spirituality and religion are two of the most inseparable characteristics of the Iranian culture. Consequently, it is very beneficial for Iranian CEs to have a defined space for daily spiritual and religious activities and prayers. This space can be designed with spiritual and religious signs and elements to further expand the sense of attachment and identity. Such a space will help relieve temporal tensions of Iranian CEs and strengthen their beliefs towards their difficult caregiving path. On the other hand, preserving personal, familial and cultural

identities is of significant importance for Iranians. Therefore, it is highly important to endorse personal and cultural identities of Iranian CEs by using special furniture and home décor. For example, family photos or photos from Iran can be used inside the home environment to prompt a sense of closeness and unity amongst family members. Iranian handicrafts and cultural symbols could also be used to design the home environment to endorse cultural identities of the caregiver and care recipient.

In Iranian culture, respect towards parents and older people is of considerable importance. Sometimes, the busy schedules of CEs make it hard for them to comply with all of these cultural norms. For example, one CE had to always prepare and bring food and snacks for her older mother-in-law, as it was expected of her. Her mother in-law had these expectations since she felt like a guest at their house. One possible solution for such cultural impressions is to promote the sense of independence amongst care recipients. For example, allocating a small refrigerator for the care recipient in the living room or the caregiving space will assist the care recipient in fulfilling her needs by herself.

It is also extremely important to have Iranian cultural elements in the home environment, including Persian rugs, art, and traditional musical instruments. As a result of having these elements, cultural identity will be promoted. Immigrant CEs who are far away from their country need to find different ways to feel like being at home. They can also listen to Iranian music, watch Iranian TV channels and eat Iranian food.

Providing CEs with a dedicated relaxing space will be highly influential in easing their daily tensions and stresses. This relaxation space can be furnished with personal and comforting furniture to provide a high degree of comfort. Such a “cave” or “cozy hangout” space will offer periods of relief from the difficulties and pressures that CEs face throughout the day. Playing relaxing music in the home environment also has a comforting effect on both the caregiver and care recipient. One CE described how playing traditional Iranian music had a calming effect on his father who had Alzheimer’s disease. Similarly,

playing relaxing music or favourite musical tracks during working and caregiving duties can provide a more relaxing environment for CEs.

5.2.4 Social environment

The home environment plays a pivotal role in defining the social interactions of its residents. A great portion of CEs' relationships with their family members, friends and the care recipient are shaped within the social context of the home environment. Consequently, a suitable social design of the home environment can help ease social tensions and reduce CEs' temporal and spatial tensions. Having a healthy relationship with family members and friends inside the home environment while maintaining personal privacy results in the well-being of CEs and prevents them from experiencing social isolation. A few home modification themes related to the home social environment are listed in Table 5-1.

Caregiver-employees are highly susceptible to social isolation due to their numerous responsibilities. During the interviews, it was discovered that CEs were seeking to further socialize with their friends. Nevertheless, they were constrained in their external social interactions by their caregiving responsibilities and care recipient's health status. These limitations often resulted in feelings of isolation and frustration among CEs. This was especially the case for female caregiver-employees who had to spend more time at home in order to provide primary care as well as do housework. Being an immigrant further intensified this feeling of isolation. One solution to such social challenges would be to develop better means of remote monitoring and control for care recipients so that CEs can participate in social gatherings with less concern and stress. As an example, specific spaces can be designed in the home environment for remote monitoring and control of the care recipient during social gatherings. While providing easy remote monitoring of care recipients, these spaces need to be located farther away from social gathering locations. Paid caregivers could also be employed during social gatherings for easier control of the care recipient. On the other hand, CEs can make up for the lack of social interaction with

the outside world by developing better familial interactions. It would be helpful to have a specific family gathering space in the home environment. It is common for Iranian families to spend more time in the living room rather than their own bedrooms. Thus, the living room can serve as a family gathering space to spend quality time with family members as well as eating, talking, watching TV or listening to music. These familial interactions reduce daily temporal tensions and the sense of isolation.

Since caregivers have to work and provide care at the same time, they have very limited privacy, which results in increased levels of stress and psychological tensions. Therefore, it is essential to maintain and improve CEs' privacy in the home environment. Different types of privacies exist for home residents, including visual and acoustical privacy. It was observed that acoustical privacy is a necessity for CEs, whereas visual privacy is not as essential. Since most caregiver-employees have to constantly monitor care recipients, their working space has to be close to the caregiving space. However, direct monitoring is not necessary during working hours, and in most cases indirect monitoring of the care recipient is enough. CEs working and caregiving spaces have to be defined by taking into account the above privacy considerations. Home spaces can be categorized into three different types based on their level of privacy: (1) private spaces like bedrooms, (2) semi-private spaces like the kitchen, and (3) public spaces like the living room. Caregiving spaces are mostly located in public spaces of the home environment (e.g. living rooms). Alternatively, working spaces should be located in a private space; whereas, in the case of CEs, they need a semi-private space to provide some level of indirect monitoring (e.g. hearing) of the care recipient. In order to achieve acoustical privacy, the working space can either be in a corner location near the kitchen, living room or caregiving space, or in the kitchen and living room if a corner or a room is not available. It was very important for female caregiver-employees to be close to the caregiving space and the kitchen. This preference was not the case for male caregiver-employees who demanded greater working privacy. Furthermore, it is possible to change the direction of the worktable or laptop in order to improve visual

privacy and prevent loss of attention due to direct monitoring of the care recipient. It is also possible to separate the caregiving or working areas with noise canceling partitions.

CEs were normally confronted with overwhelming expectations from their family members, which they were not able to fulfill. These expectations were even higher for female CEs since they are expected to handle the majority of the household responsibilities in the Iranian culture. Most CEs also ran into difficulties with their spousal relationships. Multiple responsibilities limited CEs' time with their spouses and resulted in emotional conflicts. In order to resolve such extreme internal tensions, CEs need to have consistent communication with other family members. The correct design of the home environment and use of assistive communication tools can help enhance family connections and relationships. For example, it will be beneficial to have a "calendar" or "responsibility board" installed in the kitchen, which outlines the weekly or daily responsibilities of each family member. Such a board will inform every one of the CEs numerous responsibilities on a daily basis. Therefore, expectations will be balanced and temporal tensions will be better managed.

5.3 Research contributions to therapeutic landscape theory

As explained, the current research data was analyzed using the therapeutic landscape framework. As a result, this research advanced the therapeutic landscape theory and its applications. The theory benefited from this research, especially in the social and symbolic domains, since the current research was related to the experience of immigrant CEs. The detailed explanations of these contributions are provided in the following sections.

5.3.1 Social environment

It was realized that the healing role of home's social environment is extremely important when it comes to immigrant caregiver-employees. Generally, this domain of the therapeutic landscape theory needs a special attention when conducting research on immigrants, since this group of the society experience greater social isolation compared to others. This

isolation was specifically the case for participants of this research, who work from home and stay at home most of the time. Multiple characteristics should be considered when studying a therapeutic social environment for immigrants in general, and immigrant CEs specifically. It is crucial to provide a social environment based on immigrants' cultural preferences. For example, Iranians prefer to spend most of their time around their family members, although they also need their privacy to some extent. However, spending time with friends may be considered to be of greater importance in other cultures. Moreover, healthy relationships with family members is extremely important for achieving a therapeutic home environment. When immigrants feel emotionally fulfilled by their family members, they will feel less socially isolated. As a result, their health level increases significantly. In the specific case of immigrant CEs, having a good relationship with the care recipient matters the most. Developing a positive emotional relationship with the care recipient reduces the degree of caregiving tensions for the caregiver, which leads to a better level of mental health. Socializing with friends is also extremely important for immigrants, as it will keep them motivated and happy in daily life. It was realized that immigrants prefer to spend their time with other immigrants who have similar conditions and experiences. It is also important to provide immigrants dedicated private times when designing a therapeutic landscape. All of he discussed social elements need to be considered for studies while implementing the therapeutic landscape framework for immigrant communities. In addition to the social environment, the homes' symbolic environment plays an important role in immigrant's health sustenance or improvement, which is explained in the following section.

5.3.2 Symbolic environment

As discussed in section 5.2.3, it is crucial for immigrants to live in a meaningful environment, which enables them to express themselves and promote their identity. As a result of living in such an environment, immigrant's mental and physical health will significantly improve. Thus, paying additional attention to this specific domain of the

landscape theory is necessity when conducting immigrant research. Current research participants kept themselves attached to their original home country and promoted their identity in different ways. For example, according to one of the CEs, she bought her house because the previous owner was also an Iranian immigrant. She explained how much she likes her house, because it is built considering "Iranian's taste". Although each of the participants lived in different cities and neighborhoods, they had similar cultural elements in their home, such as Iranian rugs, arts, paintings and so on. Having photos of family members around the house can also make immigrant's living environment more meaningful. Moreover, eating Iranian traditional food can be therapeutic for immigrant CEs and makes them feel closer to their home country. Despite immigrant caregivers having very busy daily schedules, cooking and eating traditional meals always made them feel better after a long and hard day. Listening to Iranian music can also be therapeutic for immigrants, since it will remind them of their memories. Accordingly, most of the immigrant CEs who participated in the research claimed that listening to Iranian music brought them joy when they had to cope with caregiving difficulties. In general, it is crucial for immigrants to have their cultural routines or norms in their lives in order to have a healing environment. Many of these cultural norms and traditions are common amongst immigrants, while some may be specific to each family. For example, having a family gathering time is an important cultural routine, which is common amongst all Iranians. On the other hand, there were specific family routines such as dancing together on the weekends. Another participant claimed that all family members go to mosque together on weekends. Although these examples may seem very different, they share the same meaning of "having a cultural tradition". There are numerous ways for making a meaningful environment for immigrants, which are different for one individual to another. The important factor is to pay attention to these elements while using the therapeutic landscape framework for immigrant research.

5.4 The ideal home for Iranian immigrant caregiver-employees

Based on the therapeutic landscape framework and developed home modification strategies, an ideal home for Iranian immigrant caregiver-employees was proposed It should be noted that the physical features of such an imaginary home environment were based on the needs and conditions of the participants of the current research.

The first and most important feature of an ideal house for CEs is to have all of the different necessary spaces on one floor. The ideal housing type can either be an apartment unit or a bungalow. The current research participants preferred to live in a house rather than an apartment so that they could have direct access to outdoors and be subjected to less environmental and structural noise. The home should be big enough to include the following spaces:

- Defined working space
- Outdoor space connected directly or indirectly to the outdoors such as a balcony, yard or sunroom
- Relaxing space
- Socializing or hangout space
- Bathrooms and bedrooms with one dedicated bathroom and bedroom for the care recipient
- Kitchen, living room and laundry.

In all of these spaces, the safety of the care recipient should be assured by using safe equipment and spatial elements, which were explained in detail in Section 4.2.3.1. Walls and flooring in the home should be bright and washable. There should not be any walls between the main operating spaces, since CEs need to remotely monitor their care recipient from different spaces. Having big windows and plenty of natural light is a necessity in the CEs' ideal home, mostly because of the Iranian culture love for natural light. The ideal home needs to have windows with a natural outdoor view to keep CEs motivated and refreshed during the day. There should also be an outdoor space in the home, such as a yard

or balcony, which connects CEs to the outdoor environment. Having a sunroom in the house is highly advised, especially in Canada where the outdoors is inaccessible during the cold period of the year. Having a pet, aquarium, natural plant or water fountain will increase CEs' connection with nature and provide a therapeutic effect in the home environment. The CEs' home environment should be organized and tidy, with a minimum of furniture. CEs' home furniture should be chosen according to their main functionality and the space they are going to be used in. For example, caregiving space furniture should be washable, safe and comfortable for the care recipient. Similarly, working space furniture should be comfortable for CEs to work on for several hours a day. To minimize the amount of furniture and have less crowded environments, multi-purpose furniture can be used.

As previously discussed, the caregiving space, kitchen and working space all need to be close to each other. It is important to have meaningful objects in each of these spaces, such as family photos, cultural symbols or photos from Iran to make CEs feel more attached to home (see Section 5.2.3). There should always be a food box in each of these spaces to help caregiver-employees eat properly. Defined smaller spaces should be included in the home environment, such as praying, family gathering and relaxing spaces. The praying space can be located in private or semi-private areas in order to satisfy spiritual needs and increase the mental well-being of CEs. Family gathering areas should be located in public spaces of the home environment, similar to living rooms. In the Iranian culture, all family members usually gather in the living room in the evenings and perform social activities such as eating, listening to music or watching TV. Thus, having a space dedicated to family gatherings in the home environment improves family bonding and reduces the chances of social isolation. It is also necessary to have a personal space for CEs in their home environment. Based on the CE's personality, this place can be located in private, semi-private or public spaces of the home environment. CEs need to have a relaxing space such as this to relax, listen to their favorite music or read a book after long and tiring busy days.

5.5 Summary

The current chapter studied the research findings using the therapeutic landscape framework. CEs' main unmanaged tensions were described in the first section of the chapter, which included spatial, personal, family and social, caregiving and temporal tensions. A list of home modification themes were identified accordingly for alleviating unmanaged tensions, which were shown in Table 5-1. Home modification themes were categorized based on the following four therapeutic landscape theory domains: (1) built environment, (2) natural environment, (3) symbolic environment, (4) social environment. Each of these domains and their sub-themes were explained in detail throughout the chapter. Finally, an ideal home for Iranian immigrant caregiver-employees was developed and described, based on CEs' major needs from the home environment.

8

Chapter 6
Conclusion

In this research, spatial and temporal tensions of Iranian immigrant family caregiver-employees working from home were specified, followed by their corresponding management strategies. The main goal of the study was to propose various spatial home modification strategies, which will result in increasing the comfort and wellbeing of CEs in the home environment. The Photovoice methodology was the main qualitative data collection method used in the research, which was implemented through two in-depth one-to-one interview sessions with each of the five participants. During the interviews, participants explained their daily struggles while performing caregiving, working and domestic management responsibilities. In a novel approach, caregiver-employees also illustrated their personal tensions in the photos they took as part of the Photovoice methodology. Therefore, CEs' main tensions and their unique management strategies were identified, as described in Chapter 4. In chapter 5, research results were analyzed using the therapeutic landscape framework. Accordingly, numerous spatial home modification strategies were suggested for improving CEs' home environment design. Finally, CEs' ideal physical home features and characteristics were listed based on the research findings.

The following sections include explanations of major findings of the research, contributions, as well as the research limitations. A few research suggestions are given to further extend the primary work conducted in this research.

6.1 Overview of the research

In the first step, caregiver-employees' major tensions were specified in qualitative one-to-one in-depth interviews using the Photovoice methodology. A thematic content analysis strategy was implemented using the NVivo software for extracting the main tension themes. The identified tensions were categorized into five major themes including: (A) spatial, (B) personal, (C) family and social, (D) caregiving and (E) temporal tensions. These tensions are listed in Table 4-2, accompanied by their corresponding management strategies. CEs' management strategies were also identified and organized into five main themes: (A) spatial, (B) personal,

(C) social, (D) monitoring and control, and (E) assistive and supportive strategies. Each of these tensions and management strategies were grouped into several sub-themes. The significant findings of the research were summarized and sent to research participants in order to gain their feedback on the research results.

Spatial tensions were the most significant group of tensions for caregiver-employees, which resulted from unsuitable spatial design of the home environment. The main identified sub-themes of spatial tensions among CEs were tensions related to safety, size and layout, single or multi-level distribution, furniture, structural components, ambient features, and privacy. Each of these spatial features had a significant effect on caregiver-employees' level of satisfaction pertaining to their home environment. Spatial, social and assistive, and supportive management strategies were implemented by CEs to alleviate these tensions, which were listed and described in Table 4-2.

All of the participants collectively agreed on the importance of care recipient's safety in their home environment. When the physical home environment was partially safe or unsafe, CEs were continuously anxious and unable to concentrate on their other daily responsibilities. Spatial elements of the home including structural components and furniture need to be safe for care recipients. It is important to consider care recipient's diagnoses in the safety assuring process. Caregiver-employees implemented several strategies for minimizing tensions such as intelligent utilization of home furniture, construction and use of suitable structural components, and using safety equipment. The home size and spatial layout was another important spatial tension identified in the research. Iranian immigrant CEs were mostly dissatisfied with the size of their home since houses in Iran are usually bigger in size. Not having a specific working space, private relaxing space and enough bathrooms were a few of the problems caused by smaller homes. Caregiver-employees attempted to solve these issues with various strategies such as having a portable working space. CEs that lived in houses with multiple floors experienced various tensions such as physical pain, time wastage and anxiety. In order to better manage life in a multi-floor home environment, caregiver-employees implemented several strategies such as intelligent utilization of home furniture, relocation of internal spaces, making

spatial modifications to the home environment, and having a portable working space. According to CEs, one of the most influential factors in the process of caregiving, working and performing other activities was having suitable furniture. Using unsuitable furniture resulted in reduced working productivity, hindered caregiving responsibilities, and led to more difficult management of domestic responsibilities. Home structural components also resulted in spatial tensions for the CEs. Caregiver-employees complained about the size of windows, flooring material, existence of stairs, and wall color during their interviews. Furthermore, spatial factors such as the home environment's lighting, view and noise played a significant role in creating a suitable living environment for immigrant CEs. Having sufficient natural lighting was extremely important for Iranian immigrant CEs since homes in Iran generally have bigger windows. Some of the participants complained about not having suitable natural views inside their home environment. This was especially important since CEs spent most of their time indoors. Caregiver-employees improved their connection with nature by installing indoor plants and redecorating their sunrooms. Unwanted environmental noise was also one of the main sources of tension for CEs since it prevented them from concentrating on their work and resting well during busy days. CEs reduced the level of environmental noise by listening to music and using headphones. Finally, the lack of privacy, which was left unmanaged by CEs made it more difficult for them to focus and relax during working hours.

CEs were also strained by their personal tensions including their level of physical health, emotional health and self-care. CEs were often confronted with negative health consequences as a result of their heavy daily activities. For example, frequently going up and down stairs throughout the day resulted in knee pain for CEs. While there was not much CEs could do in order to resolve these tensions, they used strategies such as portable working spaces and intelligent home furniture to limit the tensions. In addition to physical health, CEs' mental health was also affected due to their difficult circumstances. In order to increase their level of personal happiness, immigrant CEs tried different solutions such as: socializing with friends and family, seeking healing through spirituality, making realistic life choices, and benefiting from personal beliefs. Having extremely busy daily schedules left almost no time for immigrant

caregiver-employees to spend on themselves. Most CEs used whatever free time they had for relaxing or praying in order to remain positive.

A specific group of the identified tensions were related to family and social matters, which consisted of several sub-categories including tensions related to support and assistance, culture and immigration, work-related activities, social isolation, and relationships with family members. The participants complained about the level of support they received from their family members, friends and society. Thus, they tried to convey their expectations to others in several different ways. For example, one female CE refused to take care of the natural plants her daughter bought for her and indicated clearly that she could not take any additional responsibilities apart from her caregiving and working roles. Iranian people have specific cultural norms that sometimes increase the level of stress among caregiver-employees. Even though caregiver-employees could not change cultural norms drastically, they sought to execute these norms differently in order to match their specific living conditions. Work-related tensions were one of the most significant tensions for immigrant caregiver-employees. Caregiver-employees were always struggling to reach a balance between their two important roles: caregiving and working. Nonetheless, they always prioritized caregiving over working. CEs generally were unable to concentrate on their work because of caregiving activities that required consistent monitoring of the care recipient. Participants indicated that it was helpful for them to take some time off from work in order to socialize with family and friends. Socializing with others had a positive impact on CEs, since most CEs were socially isolated and often experienced conflict with family members during their caregiving journey.

Numerous tensions were associated with CEs' daily caregiving responsibilities, which were categorized as caregiving tensions. Caregiving tensions were related to either the caregiving monitoring and control process, or specific responsibilities associated with caregiving. CEs were often required to constantly monitor their care recipients. They used smart monitoring and safety equipment in order to reduce the amount of time required for monitoring. Other daily caregiving responsibilities were also extremely broad, demanding, and tedious, which resulted in high levels of stress among CEs. In order to better handle the pressure associated

with the caregiving responsibilities, several management strategies were implemented by CEs including: spiritual empowerment, relying on family members and friends, gaining assistive knowledge, and acting based on personal faith.

The final group of tensions identified for immigrant caregiver-employees were temporal tensions. According to the interviews, these tensions were categorized into the following sub-themes: monitoring and control, daily activities and morning time tensions. As explained earlier, monitoring the care recipients was one of the most time consuming responsibilities for CEs. Using smart monitoring and safety equipment, immigrant CEs reduced the time spent for monitoring the care recipient. Daily activities such as caregiving, working and cooking occupied a major portion of CEs' time in a normal day. This was especially the case for female CEs, who were in charge of the home domestic responsibilities. They did not receive any assistance managing household chores, and were expected to handle them all by themselves. Immigrant caregiver-employees adapted themselves to these expectations and were patient while facing these daily tasks. Preparing main meals were difficult at specific times of the day, especially in the mornings, since all family members wanted to leave home at that time. At these times, temporal pressures greatly affected immigrant caregiver-employees.

Although immigrant caregiver-employees attempted to manage the identified tensions to some extent, many of them were still left unmanaged. Using the therapeutic landscape framework, a set of home modification strategies was proposed in chapter five to better manage immigrant CEs' tensions. In Table 1-1, a list of home modification strategies was presented based on four therapeutic landscape theory domains: (1) built environment, (2) natural environment (3) symbolic environment (4) social environment. Explanations were provided for each home modification theme in detail. Major spatial home modification strategies in the context of the built environment were described such as safety for residents, proximity and easy accessibility, multi-functional space and furniture, bright and washable spatial elements, and having dedicated relaxing and working space for caregiver-employees. Each of the proposed strategies resolved different temporal, spatial, caregiving, family and social tensions for caregiver-employees. As explained in Chapters 2 and 5, natural elements had a significant

influence on creating a therapeutic landscape for residents. Noise cancelation, increased natural lighting and healing with natural elements were the developed home modification plans, which can be implemented to provide a more suitable natural environment for CEs. For immigrant caregiver-employees to experience a therapeutic environment, it is necessary to fill up their home environment with meaningful concepts. Healing music, dedicated spiritual space, identity endorsement, relaxing space, and promoting care recipient's independence were the major home modification themes proposed to fulfill the symbolic element of the home. There is also a significant need for immigrant caregiver-employees to develop healthy social interactions with family members and friends in the context of the social home environment. The proposed themes for advancing the home social environment were: socializing spaces, privacy and enhancing social communications.

The tensions and proposed management strategies identified in this research explore the experience of Iranian immigrant caregiver-employees who are working from home. The recommended spatial home modification strategies will assist immigrant caregiver-employees in developing a therapeutic home environment for themselves. As a result of implementing these strategies, the spatial characteristics of the home environment will help CEs better manage their three main roles: caregiving, working and home domestic management. Finally, by implementing the ideal home design developed in this research, CEs will have an idea of a standard home design when renting or buying a home.

6.2 Participants feedback

In order to better understand the practicality of the suggested home modification strategies, participants were asked to provide their opinion on the research results. All participants agreed to provide their feedback by signing the consent form at the beginning of the first interview session. After data analysis, the main research results were sent to the participants through email in the form of a lay report (see appendix A-10). All of the participants responded to the email, and agreed to discuss their opinion on the research results through a phone interview. Participants were extremely proud to see their photos and quotations and felt honored to be a

part of a research, which provided information on their daily lives as Iranian caregiver-employees. Overall, Iranian CEs confirmed the identified tensions, management strategies and suggested home modification strategies. They were asked to indicate which of the strategies they would implement and which they would not. According to the caregiver-employees, most of the modification strategies were easy to apply in the home environment. Increasing home's natural lighting and dedicating a specific spiritual space for themselves were two most favorite home modification strategies for the CEs. All immigrant caregivers emphasized on the importance of the strategies provided to improve home natural lighting, which were explained in detail in section 5.2.2. Research participants indicated that these strategies were all practical and applicable. Moreover, CEs highlighted the significance of a dedicated spiritual space in their home environment for meditation, praying and relaxation.

On the other hand, there were few strategies that Iranian CEs were least likely to apply, including noise cancellation and identity endorsement strategies. According to the participants, although unwanted noise is disrupting, especially during working or resting times, most of the time it is necessary. Immigrant caregiver-employees spend most of their time in a day inside the home environment. Consequently, they were happy to hear different noises from the outside environment or TV, in order to feel less isolated. The other strategy that was not welcomed by immigrant CEs was identity endorsement in the home environment. Having only Iranian cultural elements in the home environment did not necessarily promote CEs' identity. Living in a multi-cultural country like Canada, immigrant CEs indicated that they would also like to include items from other cultures as well. As an example, a female caregiver-employee explained about how she did not care to have only Iranian cultural elements in her home, since she believed all cultures have the same roots. It was further explained by the CE that she even raised her children not to only believe in one culture or nation. Another participant also claimed that she only selects spatial elements based on their aesthetics and does not pay much attention to their cultural or national characteristics.

6.3 Research contributions

The current research is unique in its use of therapeutic landscape theory for improving the mental and physical health conditions of Iranian immigrant caregiver-employees within the home environment. The use of the Photovoice methodology for family caregiving research is another novel aspect of the current research. This research contributed to the Photovoice methodology and highlighted its applications in research focused on CEs' and housing. The current study contributes to two major research fields: health geography and architecture.

The significance of home design for the physical and mental wellbeing of caregiver-employees was highlighted as a contribution to the field of architecture. This contribution will eventually improve the health of care recipients. The study also illustrates the central role of culture in shaping immigrant CEs' home environment, healing and adapting process. The importance of home office design for immigrant CEs was well documented in the current research. Finally, based on the findings of this research, immigrant CEs will be able to independently apply home modification strategies to improve their current home design.

This research contributes to the field of health geography by advancing the therapeutic landscape theory and its applications. One of the major outcomes of the research was the in-depth study of immigrant CEs' daily experiences, tensions and struggles, through their own perspectives rather than a researcher's perspective. This outcome will enhance the mental and physical wellbeing of immigrant CEs. Additionally, the current research has focused on the health of immigrant caregiver-employees as an underrated vulnerable population, providing a base for future research in this field.

6.4 Research limitations

The current research was faced with several limitations and difficulties, which were mostly dealt with in advance in order to minimize their effect on the final research findings. A few of these limitations are described below.

The first major challenge of the research was finding participants that met the numerous inclusive criteria set for the samples. The snowball sampling method was utilized as a method of finding participants in order to assist the search process. Accordingly, the first few participants were asked to provide information on other caregiver-employees who they knew would be willing to participate in the study. Since the caregiver and immigrant communities often prefer to be a hidden population, the use of the snowball method provided easier and closer access to potential participants. Most importantly, visible minorities are highly attached to their communities, which made the snowball method a highly effective tool since it provided a connection channel with CEs through their trusted friends and family members.

It was extremely challenging to encourage immigrant caregiver-employees to participate in this research as the home is a highly personal environment to be studied for research purposes. Moreover, since most caregiving experiences were highly personal, participants were hesitant to share such information. In order to address these concerns, participants were ethically assured that their identity and home address would be kept hidden throughout the research.

The Photovoice methodology was confusing for some of the participants since it was a new method that they did not know how to implement correctly. Therefore, a clear explanation sheet was provided to the participants, which explained the methodology in detail with case studies, examples and implementation strategies.

The research findings and solutions may not be generalizable given that the research focuses on Iranian immigrant caregiver-employees. However, the results can be extended and generalized for immigrant populations that have similar cultural identities. For example, immigrants from other Middle Eastern countries such as Turkey, Afghanistan and Arab countries can also significantly benefit from this research due to their close cultural ties and backgrounds.

Although a brief gender analysis was also provided in the research, the universality of these findings is very limited since only one male CE participated in the research. Hence, a more in-depth gender analysis is required, with greater participation of male CEs.

Finally, one major challenge of this research was the negative effects of specific cultural beliefs on CEs' final responses. Iranians do not express their life challenges and difficulties very easily. They would rather put on a good face and show the more positive aspects of their lives to others. Such a behavior was an obstacle at times in receiving complete information from the CEs.

6.5 Future Work

In order to provide the best home environment design for immigrant caregiver-employees, a few suggestions are provided in this section, which will advance the primary work conducted in this research.

- It was realized that Iranian cultural norms were significantly influential on home spatial design requirements for immigrant CEs. Nevertheless, only the effect of the Iranian culture was studied in this research. It is necessary to include immigrants from other nationalities and cultures in order to have a general and complete understanding of the overall effect of cultural norms on home environment design.
- Several spatial home modification strategies presented in the current research were based on the diagnoses of the care recipient's specific illness, which were mostly Alzheimer's disease. Therefore, some of the proposed solutions were only suitable for tensions associated with Alzheimer's disease. However, different diseases will demand different home design modification strategies. Therefore, in order to generalize home modification design strategies based on the care recipients' disease type, it is suggested to study CE participant groups with at least three different care recipient disease types.
- Residing in an apartment, detached house, attached house or any other housing type will need different spatial home modification strategies and designs. Different housing types were not considered in the current research. In order to advance the current research, analyzing and studying CEs' home environment based on topology is necessary and helpful.

- Although the current research included male and female participants, there was only one male Iranian CE who participated in the research. Consequently, gender differences were specified while identifying CEs' tensions, management strategies and other factors. An in-depth gender analysis with a greater number of male participants is an important method to extend and verify the outcomes of the current research.

Appendix A

Appendix A-1

Certificate of Ethics Clearance to Involve Human Participants in Research

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
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McMaster University Research Ethics Board (MREB)

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CERTIFICATE OF ETHICS CLEARANCE TO INVOLVE HUMAN PARTICIPANTS IN RESEARCH

Application Status: New ☑ **Addendum** ☐ **Project Number:** 2017 106

TITLE OF RESEARCH PROJECT:

Understanding spatial and temporal tensions of Iranian immigrant worker-carers for home environment design improvement

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The application in support of the above research project has been reviewed by the MREB to ensure compliance with the Tri-Council Policy Statement and the McMaster University Policies and Guidelines for Research Involving Human Participants. The following ethics certification is provided by the MREB:

☐ The application protocol is cleared as presented without questions or requests for modification.

☑ The application protocol is cleared as revised without questions or requests for modification.

☐ The application protocol is cleared subject to clarification and/or modification as appended or identified below:

COMMENTS AND CONDITIONS: Ongoing clearance is contingent on completing the annual completed/status report. A "Change Request" or amendment must be made and cleared before any alterations are made to the research.

Reporting Frequency:	Annual: Jul-05-2018	Other:

Date: Jul-05-2017 **Chair, Dr. S. Bray**

Appendix A-2

Recruitment list for finding Iranian Immigrant Caregiver-employees

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

NAME OF ORGANIZATION	ORGANIZATION TYPE	ADRESS	EMAIL	PHONE	WEBSITE
Immigrant Working Centre	immigrants job finding centre	8 Main St E #101, Hamilton, ON L8N 1E8	Minoo.moslehi@wesley.ca	289-933-7888	iwchamilton.ca
Kitchener-Waterloo Multicultural centre	Immigrants cultural centre	102 King Street West, Kitchener, ON N2G 1A6	fariba@kwmc-on.com	(519) 745-2531	https://www.kwmc.on.ca/contact
Alzaimer society of Toronto	support organization	unknown	gtorys@alzheimertoronto.org	(866) 333-0104	https://www.senioradvisor.com
Iranian Woman Organization of Ontorio	Immigrant organization	761 Sheppard Ave. East, Ground Floor Toronto, ON M2J 0A5	info@iwontario.com	416-496-9566	www.iwontario.com
Alzaimer society of Waterloo	care for caregiver	831 Frederick St. N2B 2B4	asww@alzheimerww.ca	519-742-1422	http://www.alzheimer.ca/en/ww
Alzaimer society of Cananda	care for caregiver	20 Eglinton Avenue West, 16th Floor Toronto, Ontario, M4R 1K8	info@alzheimer.ca	416-488-8772	http://www.alzheimer.ca/en
Ontorio caregiver coalition	care for caregiver	unknown	jbertrand@alzheimeront.org	unknown	http://www.ontariocaregivercoalition.ca/
Brain injury association of peel and halton	Support group	PO Box 47038 Sheridan Mall PO Mississauaga, Ont., L5K 2R2	supportgroups@biaph.com	(905) 823-2221	http://biaph.com/support-groups/
acclaim health	community care	Acclaim Health 2370 Speers Rd. Oakville ON L6L 5M2	generalinquiries@acclaimhealth.ca	905-827-8800	https://www.acclaimhealth.ca/contact-us/
2 Spirited People of the 1st Nations	cultural centre	145 Front Street East Suite 105 Toronto, Ontario M5A 1E3	info@2spirits.com	416-944-9300	http://www.2spirits.com/
Ontario Partnership on Aging and Developmental Disabilities	support group	c/o Reena Toby And Henry Battle Centre 927 Clark Ave W Thornhill, ON L4J 8G6	sstemp@reena.org	905-889-6484	http://www.centralesthealthline.ca
Woolwich community health centre	Health centre	10 Parkside Dr, St. Jacobs, ON N0B 2N0	genmail@wchc.on.ca	(519) 664-3794	www.wchc.on.ca
Hospice Wellington	Health centre	Hospice Wellington 795 Scottsdale Drive Guelph, ON, N1G 3R8	info@hospicewellington.org	519-836-3921	https://www.hospicewellington.org
Hospice of waterloo region	Health centre	298 Lawrence Ave, Kitchener, ON N2M 1Y4	hospice@hospicewaterloo.ca	(519) 743-4114	www.hospicewaterloo.ca
Young carers initiative powerhouse project	care for young caregivers	318 Ontario Street, Unit 7A, St. Catharines, ON L2R 5L8	mlewis@powerhouseproject.ca	(905) 397-4201	www.powerhouseproject.ca

Wellwood - Juravinski House	community based resource centre	Juravinski House 501 Sanatorium Rd Hamilton, ON L9C 0C3	wellwood@hhsc.ca	905-667-8870	www.wellwood.on.ca
Well spring support foundation	cancer supporting organization	4 Charles Street East Suite 400 Toronto, Ontario, M4Y 1T1	info@wellspringniagara.ca	416-961-1928	https://wellspring.ca
caregiver support and programs	care for caregiver	VON Adult Day Centre and Caregiver Services 414 Victoria Ave N Hamilton, ON L8L 5G8	Miriam.cahn@von.ca	905-523-1055 ex 408	www.von.ca
St. Leonard's community services	Mental Health Crisis Line	P.O. Box 638 133 Elgin St. Brantford, ON N3T 5P9	jsmith@st-leonards.com	519-759-7188	https://www.st-leonards.com
positive living Niagara counselling	HIV supporsive organization	120 Queenston Street St. Catharines, Ontario L2R 2Z3	LPurves@positivelivingniagara.com	905-984-8684	http://positivelivingniagara.com
In communities	service department	1815 Sir Issac Brock Way Thorold, ON L2V 4T7	jenny.shickluna@niagararegion.ca	1-800-263-3695	https://niagara.cioc.ca
Deer parks and villas	service department	150 Central Ave, Grimsby, ON L3M 4Z3	deerpark@niagararegion.ca	905-945-4164	https://www.niagararegion.ca
Metis Nation of Ontario	Friendly Outreach Programs	3250 Schmon Pkwy, Unit 1A Thorold, ON L2V 4Y6	wellandltc@metisnation.org	905-682-3487 ext 303	https://niagara.cioc.ca
Jeseph brant hospital	Health centre	1230 North Shore Blvd E, Burlington, ON L7S 1W7	wellnesshouse@josephbranthospital.ca	905-632-5358	http://www.josephbranthospital.ca
Haldimand Norfolk Community Senior Support Services	senior support services	73 Parkview Rd Hagersville, ON N0A 1H0	lthompson@seniorsupport.ca	905-768-3076	www.seniorsupport.ca
Alzaimer society of Niagra region	alzaimer support community	1-403 Ontario Street, St. Catharines, ON L2N 1L5	niagara@alzheimerniagara.ca	(905) 687-3914	http://www.alzheimer.ca/niagara
Alzaimer society of Hamilton	alzaimer support community	6 Bell Lane, Suite 701 Located in the John Noble Home Building Brantford, ON N3T 0C3	administration@alzhh.ca	1-888-343-1017	https://www.alzhn.ca/
Haldimand Abilities Centre	community information	42 Main St S Hagersville, ON N0A 1H0	hac@alzhn.ca	905-768-4488	https://haldimand.cioc.ca
Alzaimer society of Halton	alzaimer support community	645 Norfolk St. N. Simcoe, ON N3Y 3R2	info@alzbrant.ca	1-888-343-1017	https://www.alzhn.ca
Adult recreation therapy centre	adult support community	ARTC 58 Easton Road Brantford, ON N3P 1J5	lsantilli@artc.ca	519.753.1882	http://www.artc.ca

WoodGreen Community Services	community service system	unknown	ccwscentralintake@woodgreen.org	416-572-3575	http://www.211toronto.ca
West neighborhood house	sectarian social services agency	248 Ossington Avenue	info@westnh.org	(416) 532-4828	http://www.westnh.org
well spring westerkrik house at sunnybrook	cancer supporting organization	105 Wellness Way Mailing Address: 2075 Bayview Avenue Toronto, Ontario, M4N 3M5	info@wellspring.ca	416-480-4440	https://wellspring.ca/westerkirk/
The Teresa Group	HIV support organization	124 Merton St, Toronto, ON M4S 2Z2	info@teresagroup.ca	(416) 596-7703	https://www.teresagroup.ca
SPRINT senior care	senior support services	140 Merton Street, Second Floor Toronto, ON M4S 1A1	info@sprintseniorcare.org	416-481-6411	https://sprintseniorcare.org
Kengiston Health	Health centre	25 Brunswick Avenue Toronto, ON M5S 2L9	mpersaud@kensingtonhealth.org	1-888-668-4616	https://www.kensingtonhealth.org
SCHIZOPHRENIA society of Ontorio	Schizophernia supporting organization	130 Spadina Avenue, Suite 302 Toronto, Ontario M5V 2L4	asktheexpert@schizophrenia.on.ca	1-885-449-9949	http://www.schizophrenia.on.ca
St. Clair West Services for Seniors	support organization for seniors	2562 Eglinton Ave W #202, York, ON M6M 1T4	info@servicesforseniors.ca	(416) 787-2114	www.servicesforseniors.ca
Philip Aziz Centre for Hospice Care	a non-profit hospice providing respite, practical, emotional, spiritual and bereavement care for adults and children living with life-limiting illnesses	558 Gerrard St E, Toronto, ON M4M 1X8	info@philipazizcentre.ca	(416) 363-9196	http://www.philipazizcentre.ca
Native Canadian centre of Toronto	membership-based, charitable organization	16 Spadina Road (Bloor & Spadina) Toronto, ON, M5R 2S7	caroline.francis@ncct.on.ca	(416) 964-9087	http://ncct.on.ca
My health care concierge	seniors care organization	unknown	concierge@myhealthcareconcierge.ca	1-877-660-0585	http://www.myhealthcareconcierge.ca/
Mount Sinai Hospital	Health centre	60 Murray St, L1-012 Toronto, ON M5T 3L9	Reitmaninquiries.msh@sinaihealthsystem.ca	416-586-4800 ext 5882	www.mountsinai.on.ca/care/psych/patient-programs/g…
LOFT community services	community health care provider	LOFT Community Services 15 Toronto Street, 9th Floor Toronto, Ontario M5C 2E3	info@loftcs.org	416-979-1994	http://www.loftcs.org
Family service Toronto	supprting organization for families in Toronto	128 Sterling Rd Suite 202, Toronto, ON M6P 0A1	sau@familyservicetoronto.org	(416) 595-9230	https://familyservicetoronto.org

Heritage centres	Contributing to the development of elders in French	33, Hahn Place, Suite 104 Toronto, Ontario M5A 4G2	dprovo@caheritage.org	416-365-3350	http://caheritage.org
Carefirst Seniors & Community Services Association	charitable community services agency	300 Silver Star Blvd Scarborough, Ontario Canada, M1V 0G2	sto@carefirstseniors.com	(416) 502-2323	http://www.carefirstseniors.com
Imam Ali Islamic Centre	Iranian religious center	120 Bermondsey Rd, North York, ON M4A 1X5	imaiali@gmail.com	416-836-9222	www.imamali.ca
Imam Mahdi Islamic Centre	Iranian religious center	7340 Bayview Ave, Thornhill, ON L3T 2R7	info@imammahdi.ca	(416) 762-8200	imammahdi.ca
Khorak supermarket	Iranian supermarket	6125 Yonge St, North York, ON M2M 3W8	none	(416) 221-7558	www.khoraksupermarket.com
Arzon supermarket	Iranian supermarket	6103 Yonge St, North York, ON M2M 3W2	none	(416) 590-1234	https://www.yelp.ca
Iranian community association of Ontorio	Iranian organization	unknown	info@iranianassociation.ca	416-900-8581	http://www.iranianassociation.ca/
Tirgan Iranian festival	Iranian festival(Tirgan is the world's largest celebration of Iranian art and culture, taking place at the Harbourfront Centre of Toronto, Canada)	685 Sheppard Ave E #505, North York, ON M2K 1B6	unknown	(416) 640-2412	https://www.tirgan.ca
Toronto Central Grosvenor Street YMCA Centre	YMCA organization	20 Grosvenor Street Toronto, ON M4Y 2V5	memberservices@ymcagta.org	1(416)975-9622	https://ymcagta.org
Scarborough Finch Avenue YMCA Centre	YMCA organization	5635 Finch Avenue East, Unit 6 Scarborough, ON M1B 5K9	memberservices@ymcagta.org	1(416)335-5490	https://ymcagta.org/find-a-y/scarborough-finch-avenue-ymca-centre
Mississauga Dundas Street East YMCA Centre	YMCA organization	333 Dundas Street East Mississauga, ON L5A 1X1	memberservices@ymcagta.org	1(416)538-9412	https://ymcagta.org/find-a-y/mississauga-dundas-street-east-ymca-centre
Scarborough Galloway YMCA Centre (PlayON)	YMCA organization	192 Galloway Road Scarborough, ON M1E 1X2	tina.diamond@ymcagta.org	1(647)967-3856	https://ymcagta.org/find-a-y/scarborough-galloway-ymca-centre-playon
Scarborough Milner Business Court YMCA Centre	YMCA organization	600-10 Milner Business Court Scarborough, ON M1B 3C6	unknown	1(416)609-9622	https://ymcagta.org/find-a-y/scarborough-milner-business-court-ymca-centre
Etobicoke Albion Road YMCA Centre	YMCA organization	83-1530 Albion Road Etobicoke, ON M9V 1B4	memberservices@ymcagta.org	1(416)741-8714 x 205	https://ymcagta.org/find-a-y/etobicoke-albion-road-ymca-centre

Etobicoke Albion Road YMCA Centre	YMCA organization	83-1530 Albion Road Etobicoke, ON M9V 1B4	memberservices@ymcagta.org	1(416)741-8714 x 205	https://ymcagta.org/find-a-y/etobicoke-albion-road-ymca-centre
North York Dufferin Street YMCA Centre	YMCA organization	4580 Dufferin Street, Suite 200 North York, ON M3H 5Y2	memberservices@ymcagta.org	1(416)635-9622	https://ymcagta.org/find-a-y/north-york-dufferin-street-ymca-centre
North York Finch Avenue West YMCA Centre	YMCA organization	578 Finch Avenue West North York, ON M2R 1N7	immigrantservices@ymcagta.org	1(647)400-4730	https://ymcagta.org/find-a-y/north-york-finch-avenue-west-ymca-centre
Toronto Consumers Road YMCA Centre	YMCA organization	110-251 Consumers Road Toronto, ON M2J 4R3	immigrantservices@ymcagta.org	1(416)502-2484 x 33401	https://ymcagta.org/find-a-y/toronto-consumers-road-ymca-centre
Toronto 789 Yonge Street YMCA Centre	YMCA organization	789 Yonge Street Toronto, ON M4W 2G8	unknown	1(416)917-6717	https://ymcagta.org/find-a-y/toronto-789-yonge-street-ymca-centre
Mississauga Dundas Street East YMCA Centre	YMCA organization	333 Dundas Street East Mississauga, ON L5A 1X1	memberservices@ymcagta.org	1(416)538-9412	https://ymcagta.org/find-a-y/mississauga-dundas-street-east-ymca-centre
Mississauga David Leeder YMCA Centre (Play ON)	YMCA organization	6900 Gooderham Estate Blvd Mississauga, ON L5W 1B4	tina.diamond@ymcagta.org	1(647)298-1409	https://ymcagta.org/find-a-y/mississauga-david-leeder-ymca-centre-play-on
Brampton Union St. YMCA Centre	YMCA organization	20 Union Street Brampton, ON L6V 1R2	https://ymcagta.org/find-a-y/brampton-union-st-ymca-centre	1(905)451-9622	https://ymcagta.org/find-a-y/brampton-union-st-ymca-centre
Iranian association at the university of Toronto	Iranian student association	Iranian Association at University of Toronto, 12 Hart House Circle, Toronto, ON M5S 3J9	info@iaut.org	unknown	http://iaut.org/contact-us/
Iranian association at the university of Toronto	Iranian student association	27 King's College Circle Toronto, Ontario M5S 1A1 Canada	gradschool@utoronto.ca	416-978-2190	https://www.ulife.utoronto.ca/organizations/view/id/2334
Iranian students association of Waterloo	Iranian student association	unknown	unknown	not mentioned	http://isaw.clubs.feds.ca/
University of Waterloo-Muslim student's association	Iranian students association	unknown	execs@uwmsa.com	not mentioned	www.uwmsa.com
MUSLIM STUDENT ASSOCIATION AT OCAD U (MSA)	Muslim astudents association	unknown	ocadu.msa@gmail.com	not mentioned	https://twitter.com/ocadumsa
Iranian student association of Ryerson university	Iranian students association	55 Gould St., Student Campus Centre Room : SCC-B09	Iranian@Ryerson.ca	(416) 979 5000 ex. 2388	http://www.isaru.org

McMaster Kurdish Students' Association	Kurdish students association	unknown	salahrl@mcmaster.ca	unknown	https://www.msumcmaster.ca/clubs-directory/849-mcmaster-kurdish-students-association
Middle Eastern Students' Association (MESA)	Middle Eastern students association	unknown	alhamla@mcmaster.ca	unknown	https://www.msumcmaster.ca/clubs-directory/821-middle-eastern-students-association-mesa
Mcmaster Iranian students association (MISA)	Mcmaster Iranian students association	McMaster University 1280 Main St W, Hamilton, ON L8S 4L8	maciranianstudentassociation@gmail.com	647-625-7211	http://maciranian.wixsite.com/misa
Canadian society of Iranian engineers and architects	Iranian community	P.O.Box #217, 6021 Yonge St., North York, ON, Canada M2N3W2	Kanoon@mohandes.com	(905) 771-7147	http://www.mohandes.com/
Canadian Society of Iranian Food and Nutritional Scientists	Iranian community	PO Box 10088 Yonge & Finch PO North York, ON M2N 0B6	info@csifns.ca	unknown	http://www.csifns.ca/contact/
Iranian-Canadian Association of Immigration Consultants	Iranian community	7191 Yonge St. Suite 913 Thornhill, On, L3T0C4	info@icaic.ca	unknown	http://www.icaic.ca
Canadian Iranian Medical Association (CIMA)	Iranian community	3443 FINCH AVENUE EAST SUITE 310 TORONTO M1W 2S1	info@cima.ca	unknown	https://opencorporates.com/companies/ca/4301374
ImmigrantInfo.org	Immigrants organization	70 W. Hedding St., East Wing, 11th Floor San Jose, CA 95110	oir@ceo.sccgov.org	unknown	http://www.immigrantinfo.org/about/
Ontorio Zoroastrian community foundation	Iranian Zoroastrian community	Zoroastrian Religious and Cultural Centre (OZCF Centre) 1187 Burnhamthorpe Road East Oakville, Ontario L6H 7B3	president@ozcf.com	647-294-6462	http://www.ozcf.com
Bayview Glen Alliance Church Farsi Ministry	Iranian farsi church community	300Steeles Avenue East, Thornhill, Ontario, L3T 1A7, Canada	mohabat.org@gmail.com	1-905-881-5252 ext. 225	http://mohabat.org/wordpress/?page_id=34
Toronto Iranian Christian church	Iranian Christianity community	7 Concorde Place. Unit # 509. North York, Ontario. M3C – 3N4 Canada	ticchurch@hotmail.com	416-443-9996	http://tigchurch.org
Shahrema newspaper	Iranian newspaper	30 Wertheim Court Richmond Hill, L4B 1B9	info@shahrema.org	905-370-0616	http://shahrema.org/
SHAHRVAND PUBLICATION	Iranian newspaper	SUITE 304 – 505 HIGHWAY 7 EAST, THORNHILL,	news@shahrvand.com	1 905 764 7022	http://shahrvand.com/

		ONTARIO, L3T7T1, CANADA			
Iranstar newspaper	Iranian newspaper	169 Steeles Ave E, North York, ON, M2M 3Y5, Canada	iranstar@iranstar.com	905-763-9770	http://iranstar.com/
Iran javan newspaper	Iranian newspaper	301-6075 Yonge Street, North York ON, M2M3W2	info@iranjavan.net	416-730-0203	http://iranjavan.net/
Iran salam newspaper	Iranian newspaper	7398 Yonge Street, Unit D22 Thornhill, Ontario L4J 8J2	info@salamtoronto.ca	(905) 889-2526	http://salamtoronto.ca/
ITC Iranian television	Iranian television	unknown	web@itcv.ca	unknown	http://itctv.ca/
Newcomer Women's Services Toronto	Newcomer services	745 Danforth Avenue, Suite 401 Toronto, ON, M4J 1L4	jobinfo@newcomerwomen.org	416-469-0196	http://www.newcomerwomen.org
catholic cross-cultural services	crross-cultural service	55 Town Centre Court, Suite 401 Scarborough, Ontario M1P 4X4	uknown	416.757.7010	http://cathcrossscultural.org/locations/
Masjid Toronto	mosque	168 Dundas St. West, Toronto, ON M5G 1C6 Canada	info@masjidtoronto.com	(416)-596-0507	http://www.masjidtoronto.com
St Joseph's Immigrant Womens Centre	immigrants centre	8 Main St East, Suite 101, Hamilton, ON L8N1E8	irios@stjosephwomen.on.ca	905-529-5209	http://www.stjosephwomen.on.ca/
Islamic school of Hamilton	Islamic education centre	1545 StoneChurch Rd. E. Postal Code: L8W 3P8 Hamilton, ON, L8W 3P8	riham@ishcanada.com	(905) 383-7786	http://ishcanada.com/ContactInfo.aspx
Mountain mousque	mosque	1545 Stone Church Rd. E, Hamilton, ON	contactus@hamiltonmosque.com	(905) 383-1526	https://hamiltonmosque.com/contact-us/#
Umar mosque	mosque	734 Rennie St., Hamilton, ON T:	unknown	(905) 544-9016	https://hamiltonmosque.com/contact-us/#
English learning program for seniors	language centre	745 Danforth Avenue, Suite 402 Toronto, ON, M4J 1L4	cynthia@newcomerwomen.org	416-469-0196	http://www.newcomerwomen.org/contact.html
Women's Health In Women's Hands	Health centre	2 Carlton St Suite 500, Toronto, ON M5B 1J3	info@whiwh.com	416-593-7655	https://www.whiwh.com/contact
immigrant women's health centre	Health centre	489 College Street, Suite 200	info@immigranthealth.info	416.323.9986	http://immigranthealth.info/

Appendix A-3

Poster Recruitment for Iranian Immigrant Caregiver-employees

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

Are you an **IRANIAN IMMIGRANT** who **PROVIDES CARE** to loved ones and **WORKING FROM HOME?**

PARTICIPATE in our research, which aims to **IMPROVE YOUR LIFE!**

Researchers in the Department of Geography and Earth Sciences are studying the tensions facing Iranian immigrant worker-carers who work from home. Research results aim to reduce these tensions and assist this group with their roles through better design of their home environment.

The success of our research study depends on the participation of **Iranian Immigrants** who are: 18 years of age or older, giving care to a loved one from home AND working from Home

As a participant in this study, you would be asked to participate in a *photovoice project* and take photos of your home environment in response to specific questions discussed during 2 interview sessions

Your participation would involve *2* sessions each of which is approximately *45* minutes.
In appreciation for your time, you will receive *$25 per session ($50 in total).*

For more information about this study, or to volunteer for this study, please contact:
Zahra Akbari, Department of Geography and Earth Sciences
905-525-9140 Ext. 23142 or
Email: *akbariz@mcmaster.ca*

This study has been reviewed by, and received ethics clearance by the McMaster Research Ethics Board.

CIHR IRSC | McMaster University | Chair in Gender, Health and Caregiver Friendly Workplaces

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آیا شما **مهاجر ایرانی** هستید که

از عزیزانتان در خانه مراقبت می کنید و همزمان از خانه کار می کنید؟

در تحقیق ما **شرکت کنید** تا **زندگی تان را بهبود ببخشید!**

در دپارتمان جغرافی دانشگاه مکمستر محققان در حال مطالعه استرس ها و نگرانی هایی که مهاجران ایرانی مراقبت کننده از سالمندان در محیط خانه تجربه می کنند می باشند. نتایج این تحقیق باعث کاهش فشارها و نگرانی ها در این افراد می شوند و با ارائه راهکارهایی برای بهبود طراحی محیط خانه به کمک این افراد می شتابد.

موفقیت ما در این تحقیق بستگی به ایرانیان مهاجر 18 سال به بالا دارد که در خانه کار می کنند و از سالمندان خود مراقبت می کنند.

برای شرکت در این تحقیق از شما درخواست می شود که در پروژه صدای تصویر (Photovoice) شرکت نمایید و از محیط خانه خود عکس بگیرید.
شما در سه جلسه مصاحبه شرکت می کنید که هر کدام از آن ها 45 دقیقه طول می کشد و در پایان هر کدام 25 دلار وجه نقد به عنوان قدردانی از زمان شما دریافت می کنید.

برای دریافت اطلاعات بیشتر و شرکت در این تحقیق با شماره زیر تماس بگیرید و یا به آدرس درج شده ایمیل بزنید.

Zahra Akbari, Department of Geography and Earth Sciences
905-525-9140 Ext. 23142 or
Email: *akbariz@mcmaster.ca*

این تحقیق توسط دانشگاه مکمستر تایید شده است.

This study has been reviewed by, and received ethics clearance by the McMaster Research Ethics Board.

CIHR IRSC McMaster University Chair in Gender, Health and Caregiver Friendly Workplaces

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Appendix A-4

Email Recruitment Script
for Iranian Immigrant Caregiver-employees

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

Dear Respondent,
My name is **Zahra Akbari** and I am a Master's candidate working under the supervision of Prof. Allison Williams in the Department of Geography and Earth Sciences at McMaster University. I am contacting you because you recently provided your name and contact details through the *(Name of* Organization) and indicated you would be interested in being contacted about social geography studies needing participants.
The reason that I am contacting you is that we are conducting a research that studies the tensions and stresses facing Iranian immigrants who provide care to their loved ones and also work from home. Results of this research aim to reduce these tensions and assist this group of caregivers with their roles of working and caregiving through better design of their home environment. We are currently seeking volunteers as participants in a Photovoice study concerning this research. Photovoice is a methodology which participants are asked to respond to a set of specific questions by taking photos of their surroundings with a digital camera.
Eligible participants should meet the following criteria:

- You must be 18 years of age or older.
- You must be an Iranian Immigrant residing in Canada.
- You must be giving care to a family member or a loved one in the home environment.
- You must be working from home the environment.

Participation in this study involves discussing the spatial and temporal tensions you deal with each day when accomplishing the two roles of caregiver and worker inside the home environment. You will also be kindly asked to respond and express your feelings to a set of questions and/or titles through taking photos from your home environment (digital camera can also be provided by the

researcher). The photos will contain the spaces and places of the home environment that you spend most of your time when performing the two main roles of caregiving and working. Later, participants will explain their photos through a one-to-one interview with the researcher. The final goal of these explanations is to gain further understanding on how we can improve the design of your home environment to assist you with better management of your roles. For your convenience our interviews will be conducted in Persian (Farsi), since I am originally from Iran.

As a participant of this study you will be kindly asked to participate in 2 interview sessions each of which would be approximately 45 minutes. In appreciation of your time commitment, you will receive remuneration of $25 per session (*$50 in total for the 2 sessions)*. You can stop being in this study till one month after first interview session. I have attached a copy of a letter of information about the study that gives you full details. This study has been reviewed and cleared by the McMaster Research Ethics Board. If you any have concerns or questions about your rights as a participant or about the way the study is being conducted you can contact:

The McMaster Research Ethics Board Secretariat
Telephone: (905) 525-9140 ext. 28617
c/o Research Office for Administration, Development and Support (ROADS)
E-mail: ethicsoffice@mcmaster.ca

However, the final decision about participation is always yours.

If you are interested in participating, please contact me at akbariz@mcmaster.ca. I will then send a confirmation email inquiring for your available times and provide you with further information concerning the study and interview sessions. We would like to thank you in advance for your time and consideration.

Sincerely,

Zahra Akbari
Master's Candidate
School of Geography and Earth Sciences
McMaster University
Tel: 905-525-9140 Ext. 28617
Email address: akbariz@mcmaster.ca

Email Recruitment Script in Persian (Farsi)

شرکت کننده گرامی:

من **زهرا اکبری** هستم. من دانشجوی کارشناسی ارشد در دانشکده جغرافی دانشگاه مک مستر هستم. استاد راهنمای من پرفسور آلیسون ویلیامز هستند. من با شما تماس گرفتم چرا که آدرس ایمیل شما رو از طریق سازمان مهاجران دریافت کردم و حدس زدم شاید شما مایل به شرکت در این تحقیق جامعه شناسانه باشید.

در این تحقیق موضوع مورد مطالعه استرس های مهاجران ایرانی که از عزیزانشون و سالمندانشون در آپارتمانشون مراقبت میکنند و همزمان در خونه کار میکنند میباشد. امید حاصل میرود که نتایج این تحقیق باعث کاهش استرس ها و فشار های این عزیزان شود.

ما در این تحقیق به دنبال کاهش استرس و فشار ها برای این عزیزان از طریق ایجاد تغییر در طراحی داخلی خانه هستیم. ما اکنون به دنبال شرکت کنندگان برای پروژه "صدای تصویری" هستیم. این پروژه بر اساس عکس هایی که شرکت کنندگان در جواب لیست مشخصی از سوالات میگیرند انجام میگیرد.

شرکت کنندگان در این تحقیق باید دارای مشخصات زیر باشند:

- بالای 18 سال باشند.
- مهاجر ایرانی ساکن کانادا باشند.
- از عزیزان یا سالمندانشان در آپارتمان خودشان مراقبت می کنند.

شما در حینی که در این تحقیق هستید از استرس ها و فشارهایی که در زندگی روزمره تجربه می کنید صحبت می کنید. همچنین شما در پروژه صدای تصویری (Photovoice) شرکت می کنید، که در آن یک سری تصویر در پاسخ سوال های معینی که برای شما تدوین شده می گیرید. جلسه های مصاحبه همگی به زبان فارسی انجام می شود تا شما احساس راحتی بیشتری بکنید. شما هر زمانی که اردده کنید می توانید از تتحقیق خارج شوید. مجموع تعداد مصاحبه ها سه جلسه هر کدام به مدت 45 دقیقه می باشد که در پایان هر کدام وجه ناقابل 25 دلار برای سپاس و قدردانی از وقت گران بهایی که در اختیار گذاشتید به شما تقدیم می گردد.

اگر هر سوال دیگری داشتید به شماره تلفن و یا ایمیل زیر تماس بگیرید.

The McMaster Research Ethics Board Secretariat
Telephone: (905) 525-9140 ext. 28617
c/o Research Office for Administration, Development and Support (ROADS)
E-mail: ethicsoffice@mcmaster.ca

تصمیم نهایی با شماست.

اگر علاقه مند به شرکت در این تحقیق هستید لطفا با ایمیل اینجانب akbariz@mcmaster.ca تماس برقرار نمایید تا اطلاعات بیشتر در اختیار شما قرار گیرد. خیلی ممنون می شوم اگر بتوانیم با هم همکاری داشته باشیم.

با احترام،

زهرا اکبری
دانشجوی کارشناسی ارشد
دانشکده جغرافی و علوم زمینی
دانشگاه مکمستر
تلفن: 905-525-9140 داخلی28617
آدرس ایمیل: akbariz@mcmaster.ca

Appendix A-5

Letter of Information/Consent
for Iranian Immigrant Caregiver-employees

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

Letter of Information

Investigators	
Principal investigator:	Prof. Allison Williams School of Geography and Earth Sciences McMaster University 905-525-9140 ext.24334 Fax: (905) 546-0463 Email Address: awill@mcmaster.ca
Student investigator:	Zahra Akbari School of Geography and Earth Sciences McMaster University Tel: 905-525-9140 Ext. 28617 Email address: akbariz@mcmaster.ca
Research sponsor:	Canadian institutes of health Research (CIHR)

Please read this information form carefully. If you have any questions after reading, ask the investigator before signing the form. You have been asked to participate in a photovoice project.

Purpose of the Study:
The main purpose of this study is to learn more about the experiences of Iranian immigrant caregiver-employees who are working from home. More specifically, we want to focus on diverse tensions caregiver-employees go through, including spatial and temporal tensions and stresses. The ultimate goal is to suggest methods of design improvement in the home environment in order to assist caregiver-employees with managing their roles and reduce stress during caregiving and working from home. To achieve this goal, your participation is needed to fully perceive your journey through your spatial and temporal struggles. As a result, we will explore your needs from the home environment according to your caring and working roles.

Procedure:
If you volunteer to participate, you will be a part of the Photovoice project, which will include two sessions of one-to-one interviews. The first session of interview is about your general experience as an immigrant worker-carer. In the end of the first session, you will receive a list of short questions and statements. For the next session of the interview, you need to take photos in response to the questions. During the second session, we will discuss the photos you have taken to explore the needs you have from your home environment. Each interview session will last for approximately 45 minutes and will be audio-recorded with your permission.

Potential Risks:
Since the subject of research is sensitive, there is a possibility for you to feel sad or anxious during the interview. You do not need to answer questions that make you uncomfortable or that you do not want to answer. If you felt uncomfortable or did not want to continue the interview, it will be paused and postponed to other time that you are ready to continue. There is also a small chance for you to lose your social status as there is a cultural imperative to care for our elderly relatives without complaint. To minimize this risk, you will have the opportunity to see your transcript and the results of the research and edit your parts if you want. Your identity, home location and all of the other details will be hidden and confidential.

Potential Benefits:
The result of this research will be of interest to carers, immigrant organizations, immigrant employment centers as well as Architects whom are looking forward to secure therapeutic living environment for the growing population of immigrant carers in Canada. The result of the study can be used to inform the design of new homes as well as the assessment/evaluation and renovation of existing homes to be more helpful for worker-carers in managing their roles.

Remuneration for Participation:
As a Photovoice project participant, you will receive $25 at the end of each interview session, either if you complete the session or not.

Confidentiality:
All of the things you say or either you do during interviews will not be disclosed to anyone else by the researcher. Anything that may release you identity or location will not be published and told to anyone. Your privacy will be respected. All of the information and photos gained by the researcher during interviews will be kept in the cabinet of researchers' office and locked. All of the information will be destroyed after a 5 year period.

Participation and Withdrawal:
Your participation in the study in completely voluntary. The results of this research may be presented at public display one month after the first session of interview. Therefore, you can decide to leave the research till one month after the first session of interview, without a penalty, even after you have signed the form. You can choose to stay in study but not answer to the questions you don't want to. You have the choice to remove the data gained from you from research anytime you want.

Study debriefing:
You will obtain the research results in the third session of the interview. You can check your interview transcripts by indicating so on the consent form.

Right of Research Participants:
You can withdraw your consent till one month after the first session of interview, with no consequences. If you have any further questions or concerns, feel free to contact with:
Zahra Akbari
School of Geography and Earth Sciences
McMaster University
Tel: 905-525-9140 Ext. 28617
Email address: akbariz@mcmaster.ca

This study has been reviewed by the McMaster University Research Ethics Board and received ethics clearance. If you have concerns or questions about your rights as a participant or about the way the study is conducted, please contact:
McMaster Research Ethics Secretariat
Telephone: (905) 525-9140 ext. 23142
c/o Research Office for Administrative Development and Support
E-mail: ethicsoffice@mcmaster.ca

Photovoice consent form

I understand the information provided for the Photovoice study "Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement" being conducted by Dr. Allison Williams and Zahra Akbari at McMaster University. My questions have been answered to my satisfaction. And I agreed to take photographs of my experience being an Iranian immigrant caregiver-employees working from home. I agreed with my photographs being used for the research. I understand that I may withdraw from the study till one month after the first session of interview, if I choose to do so, and I agree to participate in this study. I have been given a copy of this form.

_____

Name of participant

_____ _____

Signature of participant Date

Would you like to read your transcripts to check their accuracy? _____Yes _____No

Would you like to check the results of the research and suggested solutions to give feedbacks to researcher? _____Yes _____No

Would you like to have your photos and captions used in public displays?

_____Yes _____No

Participant Address (for transcript review and/or research results and summary)

Email address: _____

Apt/House No. and street: _____

City_____

Postal Code: _____

Signature of investigator:

In my opinion, the participant is voluntarily and knowingly giving informed consent and possesses the legal capacity to give informed consent to participate in this research study.

_____

_____

Name of person who obtained consent Date

_____

Signature

Appendix A-6

Photovoice Guidance Sheet
for Iranian Immigrant Caregiver-employees

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

What is Photovoice?

Photovoice is a novel method that combines photography with words. The main goal of photovoice is to support participants by providing them with the opportunity to express their experiences, issues and deep feelings through photographs instead of speaking or writing about them. Therefore, participants who cannot easily express their feelings and difficulties in daily life or in their community through words, can easily take photos of the environment and objects (but NOT people) that best describe their thoughts and concerns. The participants will explain each photo and the special meanings behind them. This methodology will help the participants to easier connect with others in their community and be an advocate for change http://foodarc.ca/makefoodmatter/wp-content/uploads/sites/3/VOICES_PhotovoiceManual.pdf.

Why use Photovoice in this research?

We want to deeply understand your experience as an Iranian immigrant worker-carer from your own perspective and through your vision. Furthermore, we want to explore your needs from your home environment from the photos you take in order to suggest design improvement methodologies to enhance your quality of life.

What should I do?

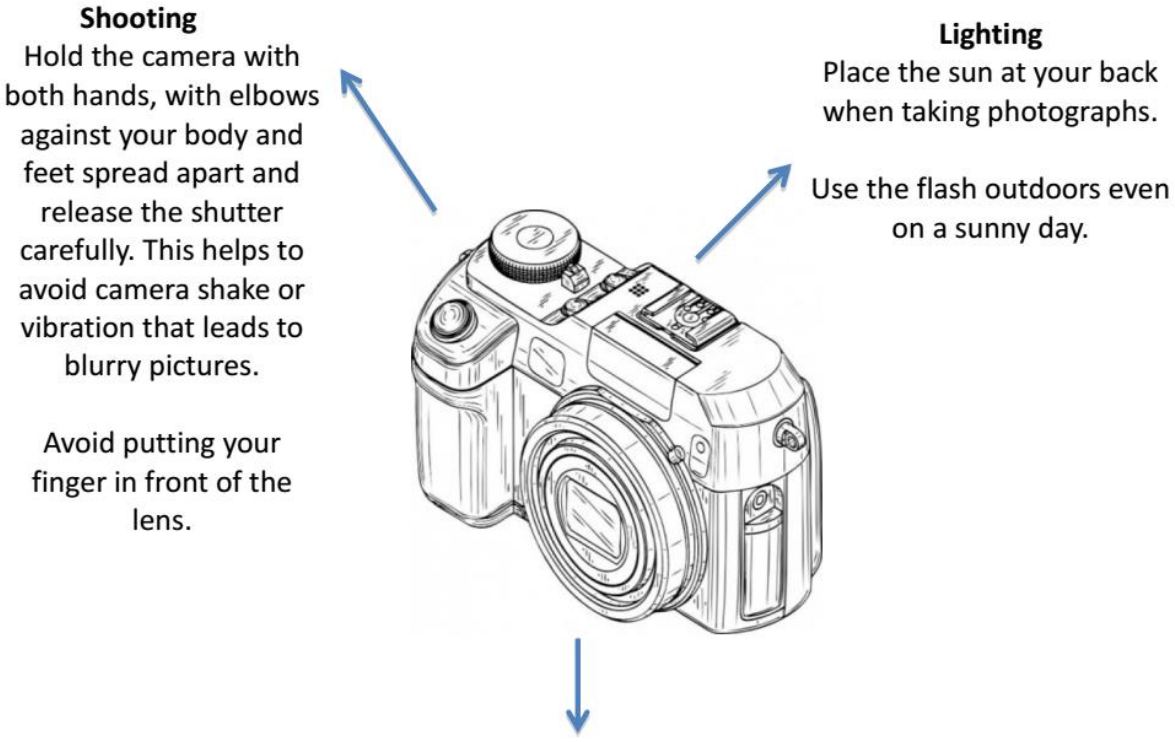
You need to take 6-7 pictures according to the titles listed below. We want to see your perspective and view of things, so please take a photo that you think reflects your opinion in the best way. These photos should include environment and objects but NOT people.

List of titles:

Please take photos of places with titles listed below. Which place in your home environment matches each one of titles the best?

- Me as a caregiver is like… (1 picture)
- Story of me and my care recipient…(1 picture)
- This is how my working times look like…(1 picture)
- This place is mine! (1 picture)
- Me and my tensions…(1 picture)
- Where to change and where to keep? (2 picture)

Tips while taking photo for a Photovoice project:



http://foodarc.ca/makefoodmatter/wp-content/uploads/sites/3/VOICES_PhotovoiceManual.pdf

If you have any further question, please ask from the investigator!

Appendix A-7

Interview Guide
for Iranian Immigrant Caregiver-employees

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

Information about interview questions:

These interviews aim at exploring in depth the lived experience of Iranian immigrant caregiver-employees working from the home environment and gets in touch with their daily challenges as a result of the inadequacy of their home environment. In addition, this interview will allow a better understanding of how the quality of life for caregiver-employees can be enhanced by better design of their home environment. The immigrant caregivers will be asked to participate in the Photovoice project which includes three sessions of semi-structured one-to-one interviews. In the first session, a list of questions about different spaces in the home environment and spatial and temporal tensions will be asked. At the end of the first session, participants will be provided with a list of titles, which they should respond to by taking related photos from the different spaces in their home environment. They will also be given a guiding sheet about the process of Photovoice and how to take these photos. The second interview session will be regarding the discussion of the photos that participants have taken and provided to the researcher.

List of questions for first interview session:

1. Please tell me about your family structure? Who do you provide care for?
2. Please describe the need of the care recipient you care for?
3. Describe how do you spend your time in a typical day within different places in your home?
4. Do you separate your work space from the living and caregiving space? If so how?
5. Where do you give care to your loved one within the home environment?
6. Which area of the home do you spend most of your time in during a day?

7. Is there any space within your home that you have intentionally made changes in order to be better suitable for your caregiving purpose? If yes, how did you do it?
8. Is there any space within your home that you have made changes in order to be better suitable for your employment purpose? If yes, how did you do it?
9. Which part of your home do you like the most? Why?
10. Describe your home environment with five words?
11. What expectations do you have from the physical environment of your home? (Considering home as a place where you have the role of giving care and working simultaneously)
12. Describe physical barriers which prevent you from effectively giving care to your chronically ill?
13. Describe physical barriers which prevent you from effectively working from home?
14. Describe which part of living in an apartment limits you the most for managing your caregiving role?
15. Describe which part of living in an apartment limits you the most for managing your working role?
16. What are some temporal tensions you face when managing your two roles (caregiving and working) in the home environment?
17. What are some spatial tensions you face when managing your two roles (caregiving and working) in the home environment?
18. Is there something important that we forgot? Is there anything else you think I need to know about your caregiving and working experience in the home environment?

Photovoice statements

- Me as a caregiver is like… (1 picture)
- Story of me and my care recipient…(1 picture)
- This is how my working times look like…(1 picture)
- This place is mine! (1 picture)
- Me and my tensions…(1 picture)
- Where to change and where to keep? (2 picture)

List of questions for second interview session:

1. Describe each of the photos you have provided?
2. What is happening in your photo?

3. Why did you take a photo of this?
4. What does this photo tell us about your experience as a worker-carer working from home?
5. How can this picture provide opportunities for us to improve the design of your home environment?

Appendix A-8

Criteria for Rigour in Research

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

Criteria	Definition	Applied strategies
Credibility	The authentic representations of experiences	Purposeful sampling Member checking Peer-debriefing Prolonged engagement Data Triangulation
Transferability	The ability to fit within situations outside the study context	Thick description Purposeful sampling
Dependability	Minimization of variability in interpretations of information gathered through research	mechanically recorded data Low-inference descriptors Member checking
Confirmability	Extent to which biases, motivations, interests or perspectives of the inquirer influence interpretations	Audit trail products Journal/notebook Thick description of the audit process Autobiography Triangulation Acknowledgement of researcher's beliefs and assumptions

Source: Lincoln & Guba (1985) as in Baxter and Eyles (1997)

Appendix A-9

Resource List of Support Communities for Participants

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

From: www.informhamilton.ca , http://www.icha-toronto.ca/sites/default/files/Resource-Guide-for-Uninsured.pdf, http://www.iwontario.com/.

1. **Health Care Specific:**

The city of Toronto:

Telehealth Ontario

Telehealth Ontario is a free, confidential telephone service you can call to get health advice or general health information from a Registered Nurse. You do not need a health insurance number to call or need to provide any personal contact information if you do not want to. It is available 24 hours a day, 7 days a week, and can offer translation support in multiple languages.

Tel: 1-866-797-0000

Toronto Health Connection

Toronto Health Connection provides free, confidential health information and advice from a Public health professional. You can also receive information on all Toronto Public Health programs and services. Translation services are available. Contact them Monday to Friday from 8:30am to 4:30pm.

Tel: 416-338-7600, **E-mail**: publichealth@toronto.ca

Toronto Community Health Centres

Community Health Centres (CHCs) do not require health insurance (or OHIP). A community health centre provides doctors, nurse practitioners, a registered nurse, a social worker, and health promoters. You must make an appointment in order to receive services. CHCs require that you live within their catchment area (the area in which the services are provided) and will ask you to fill out an application form. This information will be kept strictly confidential. Some Community Health Centres may also have waiting lists in order to access their services.

Access Alliance Multicultural Health & Community Services

Address: 3079 Danforth Avenue (m79, p12) ……..……**Tel:** 416-693-8677

Address: 761 Jane Street Suite 200B (m141, p16) ..…..……...**Tel:** 416-760-8677

Address: 340 College Street, Suite 500 (m83, p17) …….....**Tel**: 416-324-8677

Alternatives: East York Mental Health Counselling Services Agency

Address: 2034 Danforth Avenue (m51, p11) ……..……..…**Tel:** 416-285-7996

Central Toronto Youth Services

425 Adelaide Street West

Address: Suite 301 (m101, p17) …….....**Tel**: 416-504-6100 or 416-504-6103

Centre Francophone de Toronto

Address: 22 College St (m60, p10) ……. **Tel**: 416-922-2672

East Metro Youth Services

1200 Markham Road,

Address: Suite 200 (m12, p15) ……..…….. **Tel**: 416-438-3697

Gerstein Centre

Address: 100 Charles Street East (m4, p10) ……..……..... **Tel**: 416-929-5200

Griffin Centre

Address: 24 Silverview Drive (m65, p14) ……..……..…… **Tel**: 416-222-1153

Jane/Finch Community and Family Centre

Address 4400 Jane Street, Suite 108 (m103, p14) …..…… **Tel**: 416-663-2733

Schizophrenia Society of Ontario

Address: 130 Spadina Avenue, Suite 302 (m15, p17) ……... **Tel**: 416-449-6830

Sherbourne Health Centre

Address: 333 Sherbourne Street (m81, p10) ……...…… **Tel**: 416-324-4180

The Anne Johnston Health Station

Address: 2398 Yonge Street (m64, p14) ……...…. **Tel**: 416-486-8666

Centre Francophone de Toronto

Address: 22 College St (m60, p10) ……..……... **Tel**: 416-922-2672

Address: 5 Fairview Mall Dr. Suite 280 (m111, p13) ……..... **Tel**: 416-492-2672

Davenport-Perth Neighbourhood Centre

Address: 1900 Davenport Road (m41, p16) ..…… **Tel**: 416-656-8025

East End Community Health Centre

Address: 1619 Queen Street East (m27, p11)…….. **Tel**: 416-778-5805

Flemingdon Health Centre

Address: 10 Gateway Boulevard (m3, p11) …..…..……..….. **Tel**: 416-429-4991

New Heights Community Health Centre

Address: 5987 Bathurst St. Suite 104 (m125, p14) ….……..... **Tel**: 647-436-0385

Parkdale Community Health Centre

Address: 1229 Queen Street West (m13, p17) ..……..……...…. **Tel**: 416-537-2455

Planned Parenthood Toronto

Address: 36B Prince Arthur Avenue (m91, p17) ……...…. **Tel**: 416-961-0113

Regent Park Community Health Centre

Address: 465 Dundas Street East (m105, p10) ……...……... **Tel**: 416-364-2261

Rexdale Community Health Centre

Address: 8 Taber Road (m147, p15) ……..……..…. **Tel**: 416-744-0066

Sherbourne Health Centre

Address: 333 Sherbourne Street (m81, p10) ……..……..… **Tel**: 416-324-4180

Stonegate Community Health Centre

Address: 150 Berry Road (m21, p16) ……..……..…… **Tel**: 416-231-7070

The Four Villages Community Health Centre

Address: 1700 Bloor Street West (m34, p16) ……..... **Tel**: 416-604-3361

Address: 3446 Dundas Street West (m87, p16) …...…….…. **Tel**: 416-604-3362

West Hill Community Services

Address: 4002 Sheppard Avenue East Suite 401 (m97, p13)..…….…….. **Tel**: 416-642-9445

Address: 3545 Kingston Road (m90, p13) …….…….…… **Tel**: 416-642-9445

Women's health services:

Better Beginnings NOW CAP-C

Address: 100 Ravel Road, Room 203 (m6, p14)..... **Tel**: 416-499-3377

Women's Health in Women's Hands Community Health Centre

Address: 2 Carlton Street, Suite 500 (m46, p10) …..…….. **Tel**: 416-593-7655

Immigrant Women's Health Centre

Tel: 416-323-9986

The following organizations offer English language training courses or opportunities to practice your English with other people through conversation circles:

Centre for Inquiry

Address: 216 Beverley Street (m59, p17) ….……..…… **Tel**: 416-971-5676

Community Action Resource Centre

Address: 1652 Keele Street (m30, p16) ….…… **Tel**: 416-652-2273

Address: 1884 Davenport Road, Unit 1 (m40, p16)…… **Tel**: 416-654-0299

Rexdale Women's Centre

Address: 23 Westmore Drive, Suite 400 (m62, p15)……... **Tel**: 416-745-0062

WoodGreen Community Services

Address: 1491 Danforth Avenue (m20, p11).……... **Tel**: 416-645-6000 ext 2200

Women's Health in Women's Hands

Address: 2 Carlton Street Suite 500 (m46, p10)…..…… **Tel**: 416-593-7655

The city of Hamilton:

Saint Elizabeth Health Care
Contact: Louise Murray, SDC Manager

Saint Elizabeth Health Care has been an active participant in the development of community health since 1908. With an original staff of only four nurses, the organization began operations more than 100 years ago as Saint Elizabeth Visiting Nurses' Association of Ontario, at the request of Archbishop F.P. McEvay. To reflect the broadening of it's services the name was changed to Saint Elizabeth Health Care in 1995. Services include:
Advanced Foot Care; Breastfeeding Consultation; Continence Management; Diabetes Management; Home Chemotherapy; Home Dialysis; Home Infusion; Mental Health Care; Respiratory Care; Palliative Care; Pre and Postnatal Care; Psychogeriatric Services; Wound and Ostomy Care

Hamilton Niagara Haldimand Brant Community Care Access Centre – Hamilton Branch

Contact: Dianne Henderson, Case Manager

The Hamilton Niagara Haldimand Brant Community Care Access Centre (CCAC) links people of all ages to a range of health and support services which are provided at home or in the community. The CCAC is also the source of information and referrals to other community resources, and the single point of access to long-term care facilities and adult day programs. The CCAC works with clients and families to determine needs and develop a plan of service. Services accessed through the CCAC can include any of the following services:
Case Management; Placement Services (Long Term Care Homes); Nursing; Personal Support; Occupational Therapy; Physiotherapy; Speech Language Therapy; Nutrition Counselling; Social Work; Medical Supplies and Equipment; Adult Day Services; Caregiver Supports; Information and Referral; School Health Support Services including a Pediatric School Program

North Hamilton Community Health Centre
Contact: Nora Melara-Lopez, Multicultural Health Manager

Staffed by family physicians, nurse practitioners, other health professionals, and support staff, the Health Centre provides a team approach to the provision of primary health care services with an emphasis on the broad determinants of health. The Centre offers medical care and many other services including:
Physiotherapy; Social Work; Health Promotion Programs; Chiropody; Nutrition Counselling;
Community Health Programs; Immigrant/Refugee services; HIV care
The Centre will accept new clients from the following special population groups:
HIV positive individuals
Individuals coming from women shelters
Members of the local community participate in the activities of the Health Centre through membership on the Board of Directors and various advisory committees. These planning groups support local actions to resolve health, social and environmental problems. Special community interest programs are planned related to various health and lifestyle topics. When appropriate, clients are referred to social service agencies.

2. Community Level Immigrant Services & Organizations

City of Toronto:

Settlement services:

These organizations help newcomers by providing a variety of services to help them adjust to their new life in Canada. Services can include immigration information, assistance in filling out government forms and applications, help finding a job, interpretation and translation, and information about other community services and programs in the area.

Catholic Cross-Cultural Services

Address: 55 Town Centre Court Suite 401 (m120, p13)……. **Tel:** .416-757-7010

Address: 1200 Markham Road, Suite 503 (m12, p13)…….. **Tel:** 416-289-6766

Davenport-Perth Neighbourhood Centre

Address: 1900 Davenport Road (m41, p16)……..…..…… **Tel:** 416-656-8025

Mennonite New Life Centre of Toronto

Address: 2737 Keele Street (m74, p14)……...… **Tel:** 647-776-2057

Address: 1774 Queen St East, Suite 200 (m37, p11)…….. **Tel:** 416-699-4527

Address: 2600 Birchmount Road (m71, p13)…….. **Tel:** 416-291-3248

Newcomer Women's Services Toronto

Address: 745 Danforth Ave Suite 401 (m139, p11)…..…….. **Tel:** 416-469-0196

Immigration information:

If you are looking to apply for Canadian immigration status it is recommended that you visit a community legal clinic. A list of community legal clinics can be found in the following section of this guide.

Community Legal Education Ontario (CLEO) also offers multi-lingual resources that can help you figure out your options regarding obtaining immigration status. You can visit their website at: www.cleo.on.ca

For additional information you can also visit: www. settlement.org

Citizenship and Immigration Canada

Website: www.cic.gc.ca

If you are a refugee claimant at risk of being sent back to your home country, or would like information about filing for status under Humanitarian and Compassionate grounds you can contact:

Amnesty International – Toronto branch

Address: 1992 Yonge Street

3rd Floor (m45, p14)……..416-363-9933 ext. 328

Muslim Students' Association (MSA) in university of Toronto:

The aim and purpose of the Association is to serve the best interest of the Muslims at the University of Toronto at Mississauga, to provide support for our membership and an avenue for all students of UTM to engage with Muslims.

Masjid Toronto

Masjid Toronto is a mosque in the heart of downtown Toronto, serving a large and diverse Muslim community. Its unique location near universities, downtown businesses, and the Greyhound Bus Station makes it a sanctuary for Muslim students, professionals, and travellers alike.

Address: 168 Dundas St. West,Toronto, ON M5G
1C6 Canada
Tel: (416)-596-0507

Iranian Community Association of Ontario:

With an overflow of Iranian immigrants coming to Canada beginning in the eighties and the unfamiliarity most of them have with Canada and the new environment, it is a necessity to familiarize themselves with their new country and at the same time keep protect and promote the Iranian culture. Which is why there is an obvious need for an Iranian community center.Due to these needs in 1986 the basis of the Iranian Community Association was established. With the goal of providing the needs of newcomers from Iran and giving life to Iranian Culture and Art also the Farsi language . In that year an assembly of Iranian

immigrants, the Founding Member of the Iranian Association, consisting of Writers, Academia, Progressive Thinkers, Managers and Business Owners was Established.

The Iranian Women's Organization of Ontario (IWOO)

***It** is a unique, volunteer-driven, social, and community service-oriented organization. We rely on the best practices in the social service sector in delivering our programs, and strive to serve Iranian (and other Farsi-speaking) women and community members in strengthening the fabric of the civic society here in Toronto.*

Address: 1761 Sheppard Ave. East, Ground Floor

Toronto, ON M2J DA5

Tell: 416-496-9566

E-mail: info@iwontario.com

Newcomer Women's Services Toronto

745 Danforth Avenue, Suite 401 (m139, p11)....416-469-0196

City of Hamilton:

St. Joseph's Immigrant Women's Centre (English; French; Arabic; Croatian; Polish; Serbian; Spanish; Urdu; Swahili; Tagalog; Amharic)

Contact: Ines Rios, Executive Director

St. Joseph Immigrant Women's Centre is an equality seeking, anti-racist, non-profit, charitable organization committed to the social, political and economic inclusion of refugee and immigrant women in Hamilton. Services include:

> *Pre-level 1 - 5 of Language Instruction for Newcomers;*
> *Language Instruction for Newcomers to Canada (LINC), levels 1 through 5 - English as a second language instruction to landed immigrants and convention refugees; on-site no-cost childcare; bus tickets available for participants;*
> *Employment Supports - individualized services include resume and cover letter writing, interview counselling and personal support/encouragement;*
> *6-week I-Work! Program - provides an intimate venue for immigrant and refugee women to explore Canadian job search strategies. Workshop topics include: skills and personality assessments, goal setting, resumes, cover letters, intensive interview training and more;*

Family Home Visiting Program - In partnership with the Public Health Department, visit families with children across the community. Information and support is given to families and children from prenatal through age six;
Skills Bridging Program for Internationally trained Women Accountants;
Facilitating Inclusion Leadership Enhancement Program;
Personal Support Worker Certificate Program - This 18-week program, delivered by an accredited health institute, provides both theory and hands-on learning thus responding to a growing demand for qualified Personal Support Workers;
Computer Classes - monthly computer classes available to program participants;
Driving Club - provides immigrant and refugee women with in-class instruction to facilitate; G1 licensing which leads to G2. This program bolsters autonomy and extends employment possibilities for immigrant women;
Information, legal orientation and referral relating to Immigration and Refugee Law, Consumer Protection, Family Law, Landlord and Tenant Act, Pensions and Benefits, and social assistance programs;
Free child minding services for participants of LINC and I-WORK! Orientation to the Labour Market Workshop.

Ecumenical Support Committee of Refugees

The Ecumenical Support Committee for Refugees (ESCR) works in partnership with the North Hamilton Community Health Centre. The ESCR supports the team of Multicultural Health Services that works with immigrants and refugees in providing culturally and linguistically appropriate, holistic services to newcomers to Canada, especially refugees. The ESCR provides this support through the following services:

Interest-free, long term loans for processing fees of landing applications
Interest-free, long term loans for family reunification purposes (limited)
Seed money for refugee and immigrant "grassroot initiatives"
Advocacy for refugee rights
Public education on refugee and human rights
Participates in letter writing campaigns in support of specific individual cases
The Committee has representation from many denominations, including Roman Catholic, United, Christian Reformed, Anglican, Mennonite, Baptist, and Presbyterian.

Settlement and Integration Services Organization (SISO)

Cultural Interpretation and Translation Services:
This unique community-based self sufficient program developed by SISO is addressing the needs of thousands of newcomers to the region by providing them services in more than 70

languages. SISO has more than 250 well-trained interpreters and provides more than 500 interpretations and 400 translations per month to other organizations.
Languages: English ; French ; Interpretive Services ; Arabic ; Bengali ; Chinese ; Croatian ; Farsi ; Filipino ; German ; Greek ; Gujarati ; Hebrew ; Hindi ; Hungarian ; Italian ; Japanese ; Korean ; Mandarin ; Punjabi ; Romanian ; Russian ; Serbian ; Somali ; Spanish ; Thai ; Ukrainian ; Urdu ; Albanian, Amharic, Armenian, Assyrian, Azeri, Bahasa, Bosnian, Bulgarian, Cambodian (Khmer), Cantonese, Creole, Czech, Danish, Dari, Dinka, Dutch, Dzaga, Estonian, Farsi (Persian), Filipino (Tagalog and Ilocano), Hakka, Hokkien, Hungarian, Juba, Karen, Kirundi, Kurdish, Laotian, Lingala, Lithuanian, Luganda, Macedonian, Malay, Moldovan, Nuer, Pashto, Patois (Broken English), Polish, Portuguese, Sindhi, Sinhalese, Slovak, Slovanian, Swahili, Tamil, Telugu, Tigrinya, Turkish, Twi, Vietnamese, Zulu

Interpreters Niagara-Hamilton

(English; Arabic; Chinese - Cantonese; Croatian; Farsi - Persian; Greek; Hungarian; Italian; Korean; Mandarin; Polish; Portuguese; Russian; Serbian; Somali; Spanish; Ukrainian; Urdu; Albanian; Bulgarian; Czechoslovakian; Slovak; Turkish)

Muslim Association of Hamilton
Contact: Rifat Dyrmishi, Vice-President

The Muslim Association of Hamilton is a charitable non-profit organization formed to serve the needs of the community at large. Social and cultural activities are organized. This is the location of the Hamilton Mountain Mosque and administrative centre for the Association. (NOTE: there are different mosques throughout the city.)

Circle of Friends for Newcomers

The purpose of Circle of Friends for Newcomers (Hamilton) is to assist immigrants and refugees with resettlement in the Hamilton area.
Circle of Friends provides English classes, language training and LINC child care for women and men who otherwise might face barriers. English language classes are provided through the Hamilton Board of Education and LINC as well as a LINC Childcare program. English

classes are held at the Victoria Park Community Centre. A senior's programme for people of South East Asian origin is also available, youth activities are provided through Khmer Youth Association of Hamilton (KYAOH), job counselling and referral, escort services, advocacy, and community development are also provided.

3. Other Options:

St. Joseph's Community Health Centre

MOHLTC – Community Health Branch

Hamilton Health Sciences Spiritual & Religious Care

Volunteer Centre of Hamilton District

Welcome Immigrant Community Centre

Family Services of Hamilton Wentworth

Working Women Community Centre in Toronto

East York Mental Health Counselling Services Agency

Appendix A-10

Lay Report

Study Title: Understanding spatial and temporal tensions of Iranian immigrant caregiver-employees for home environment design improvement

Zahra Akbari (Master's Candidate)
Supervised by: Prof. Allison Williams

(School of Geography and Earth Sciences – McMaster University)

Understanding Spatial and Temporal Tensions of Iranian immigrant Caregiver-employees (CEs) for Home Environment Design Improvement

Researchers: Zahra Akbari, Allison Williams, PhD

What is the research topic?

Current research has explored the spatial and temporal tensions of Iranian immigrant family caregiver-employees who are working from home, as well as their corresponding management strategies.

How was the study conducted?

Research data was collected using Photovoice methodology in two main interview sessions. Qualitative one-to-one in depth interviews were conducted with five Iranian immigrant caregiver-employees (four women, one man) living in Toronto, Waterloo and Hamilton. Participants were asked about their most important daily challenges while conducting their main two roles: caregiving and working. They were also asked to illustrate their unique experience through sharing photographs they were asked to take in response to a set of questions.

What was study major findings?

Five major groups of tensions were identified, including:

- Personal tensions
- Caregiving tensions
- Spatial tensions
- Family and social tensions
- Temporal tensions

The corresponding coping and management strategies of these tensions were also identified accordingly, and organized into five main themes:

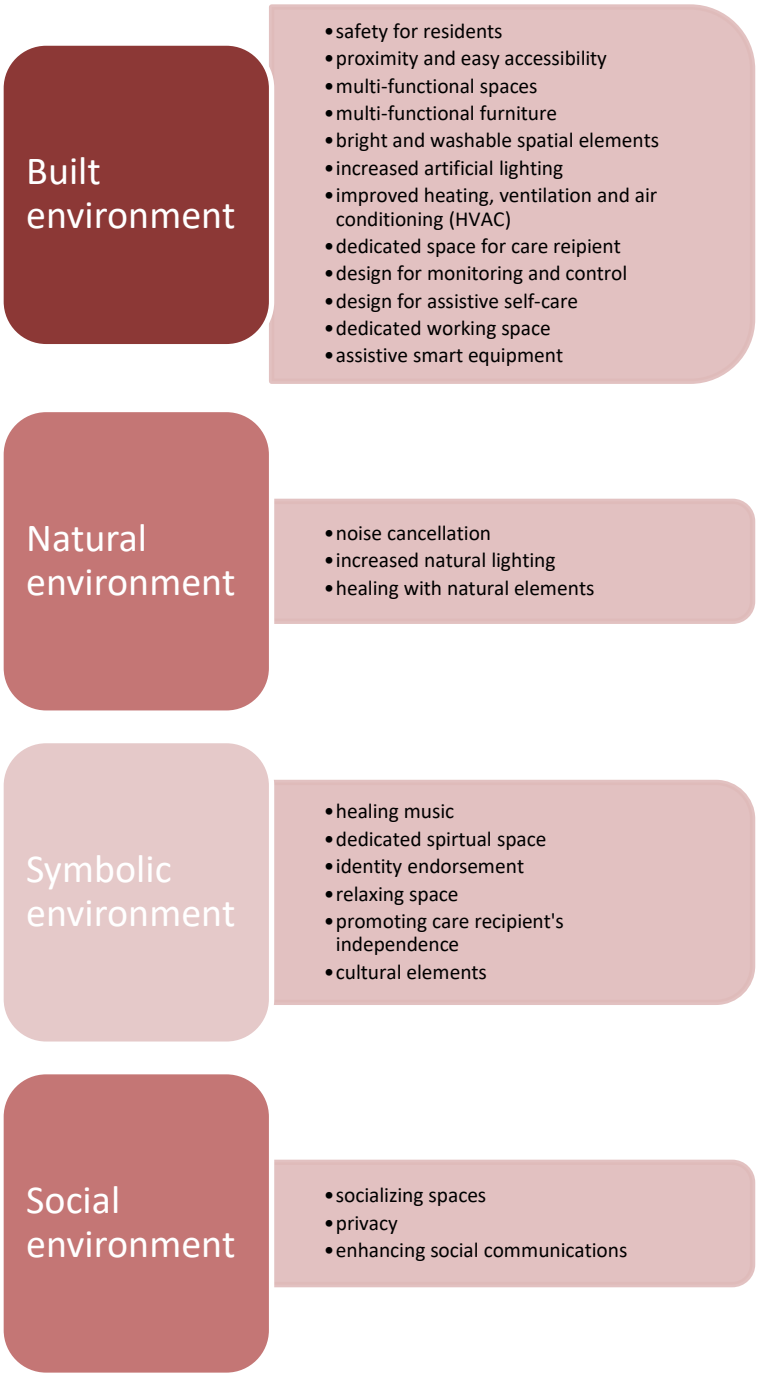
- Spatial strategies
- Personal strategies
- Social strategies
- Monitoring and control strategies
- Assistive and supportive strategies

What were the main recommendations?

A list of applicable home modification strategies is presented in Figure 6 based on four therapeutic landscape theory domains: (1) built environment; (2) natural environment; (3) symbolic environment, and; (4) social environment [80]. Major recommendations are listed below:

- ✓ Major spatial home modification strategies suggested in the context of the built environment are: safety for residents; proximity and easy accessibility, multi-functional space and furniture; bright and washable spatial elements, and; having dedicated relaxing and working space for caregiver-employees. Each of the proposed strategies resolved different spatial, caregiving, temporal, and family/social tensions for caregiver-employees
- ✓ Natural elements had a significant influence on creating a therapeutic living environment for residents. Noise cancelation, increased natural lighting and healing with natural elements can be implemented to provide a more suitable natural environment for CEs
- ✓ Meaningful elements include: healing music; dedicated spiritual space; identity endorsement; relaxing space, and; care recipient's independence were proposed to fulfill the symbolic element of the home
- ✓ Healthy social interactions with family members and friends can be nurtured via making room for space to: socialize and have privacy.

http://thecia.com.au/reviews/a/a_separation/



Identified home modification strategies for Iranian caregiver-employees based on the therapeutic landscape theory

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