SPACE FOR HEALTHY COMMUNITIES:

AN EXPLORATION OF THE SOCIAL PATHWAYS BETWEEN PUBLIC SPACE AND HEALTH

by

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Abstract

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This thesis investigates the relationship between access to public gathering spaces and self-reported health with indicators of community life as the intervening variables. This study was undertaken to investigate the relationship between the access to public space and self-rated health status in multicultural communities.

A survey of 785 randomly-selected households was conducted across four low-income Toronto neighbourhoods. The investigation is framed by the *production of healthy public space* model, which conceptualizes the pathways between the lived experience of space and health as impacting an individual's likelihood of establishing place attachment.

The results support the hypothesis that there is a relationship between the lived dimension of space and health. Mental health appears to be the outcome most affected by indicators of place attachment. Several of the aforementioned relationships were found more commonly in the densest of the four neighbourhoods and variations were found between foreign- and Canadian-born subpopulations.

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Chapter 1: Introduction

There is increasing interest in how residential environments affect the health of their inhabitants. The fields of public health and urban planning were created from links between urban health and the built environment, but in the contemporary era a gap between these two fields has left many pathways to health unexplored. Community development initiatives that address health concerns often focus on either material features of a place, like new housing and community facilities, or on social features of the residents, such as sense of community and collective efficacy. However, such a dichotomy is counterproductive in that it ignores linkages between material and social resources (Diez Roux 2001; 1786; Macintyre et al 2002; 131). This study adopts the notion that a 'resource' refers to something either absolute or abstract that can be drawn on for support. According to the *collective resources model*, residents of affluent neighbourhoods are healthier than those in deprived neighbourhoods because there are more collective resources, both material and social. Neighbourhood spaces are the venues urban residents use to interact with their environment and may serve as a valuable resource for fostering a healthy physical and social environment. Richard Wilkinson claims that what healthy 'egalitarian' societies all share is social cohesion and a strong community life, and that public space is important for creating 'social' space (1996). If Wilkinson's claim is true, it is important to investigate indicators of strong community life, such as *place attachment* or positive affective bond between individuals and the environment, and the resources, such as public space, which can promote such indicators (Rivlin 1983; 13). This thesis explores urban public space as a potential resource for fostering strong community life, by investigating the relationships between neighbourhood public spaces, place attachment and health.

This study adopts two of Henri Lefebvre's theoretical conceptions about space: first, his theory of the *production of space*, which argues that space does not exist independent of social relations, but rather is a complex social construction constitutive of social relations based on values and social meanings; second, the *trialectics of space* which claims that there are three dimensions of space: absolute (symbolic meanings enacted in spatial form through human appropriation),

abstract (signs that allow material practices in space to be talked about and understood), and social (routine experiences that 'secrete' their own social space) and extends these dimensions to urban public space (Lefebvre 1991). Lefebvre's trialectics of space lends itself as a tool to frame accessibility and quality of public space. This investigation is guided by a theoretical conceptual model that uses Lefebvre's *production of space* and its three dimensions as a foundation. It also incorporates the concept of *pluralistic place attachment,* built on community psychology's notion of *place attachment* as well as Jane Jacob's conception of the need for diversified spaces, as the link between urban public space and health. Such theories are useful in that they articulate the ways diverse groups struggle with negotiating their right to dwell in space, providing more depth to Lefebvre's notion of *lived* space. This thesis proposes *the healthy production of plural public space* model as a potentially useful framework for investigating public space, and its various pathways to health, while capturing the plurality of the urban experience.

Despite increased academic interest in the social determinants of health, very little research has been done to explicitly flush out the concept of "place effects" on health (Macintyre et al., 2002; 126). The neighbourhood unit is the immediate area in which individuals interact with their environment, and thus, may offer the ideal context in which to investigate the relationships between public space, place attachment and health. This study uses data collected through a face-to-face administered community health survey undertaken in four low-income Toronto neighbourhoods, each with diverse populations and contrasting built forms. Such data permits an investigation of the key constructs, the dimensions of public space, pluralistic place attachment and health, operationalized through a combination of individual and community level variables. The survey data allows a partial investigation of the plurality of the urban experience (pluralistic place attachment) through comparisons between neighbourhoods and subpopulations, such as newcomers to Canada.

Research Objectives

This thesis first investigates the relationships between urban public space and health in four Toronto neighbourhoods. The relationships between the three dimensions of public space and health are investigated separately and operationalized as: perceived availability of public space (absolute space) perceived neighbourhood safety (abstract space) as well as satisfaction with public space, satisfaction with neighbourhood, frequency of relocation in last 5 years and familiarity with neighbours (social space). Health is operationalized as self-rated general health status, mental health and prevalence of chronic conditions, such as diabetes, high blood pressure, arthritis or asthma. Second, this study investigates the relationships between absolute, abstract and social space. Third, the relationships between social space and place attachment, operationalized as collective efficacy, sense of community and social capital (as measured by civic participation), are investigated. Fourth, this thesis investigates the relationships between place attachment and health. Fifth, the aforementioned relationships are investigated at the neighbourhood level and among foreign-born participants as a means of exploring ways in which urban subpopulations may experience the relationships between public space, place attachment and health differently. Finally, neighbourhood health priority issues are investigated, with a focus on identifying public space concerns and comparing the issues of foreign-born residents to those of their Canadian-born counterparts across neighbourhoods of varying built form.

Thesis Organization

In order to adequately investigate this relationship, this thesis first reviews existing bodies of empirical research and theoretical ideas on its constructs in an attempt to develop a framework for understanding the dimensions of space, the spatiality of community life, as well as the pathways between both and health. Chapter two presents the state of literature on both individual level determinants of health, such as socioeconomic status and social support, as well as

community level determinants of health, like social capital, sense of community belonging and collective efficacy. Research on the place-effects on health is presented, as well as literature on public space. Finally, chapter two concludes by presenting literature on the health of newcomers. Chapter three articulates the model used to conceptually frame this study, and discusses its theoretical underpinnings, which are found in the work of Lefebvre and contemporary urban theorists like Jacobs and Sandercock. Chapter four describes the analytical model employed, as well as other aspects of the research design, such as site selection, the survey instrument, participant recruitment, research questions and data analysis procedures. Chapter five presents the empirical findings of the study, which include a descriptive breakdown of both individual and community level factors by neighbourhood, followed by the results of the bivariate analyses and thematic coding of open-ended questions undertaken to address the research objectives presented earlier in this chapter. Finally, chapter six outlines the study's key findings and limitations, and concludes with suggestions for future research, as well as lessons for governmental and non-profit organizations.

Chapter 2: From the Social to the 'Spatial' Determinants of Health

In order to articulate a theoretical framework for investigating the relationships between public space, indicators of community life and health, a number of existing bodies of empirical research and theoretical ideas were used as a guide. This chapter begins by reviewing the state of the literature on individual level social determinants of health, such as socioeconomic status and social support. Next, literature on the place-effects on health at the neighbourhood level is presented. Chapter two then presents research on the indicators of community life that determine health at the area level, such as social capital, sense of community belonging and collective efficacy. As a guide, this literature suggests that both individual and area level factors have significant impacts on health; thus, this study investigates each type of explanatory variable. More specific to the main topic of this paper, the literature on the relationship between public space and health, with an emphasis on public green spaces is reviewed. As is discussed in chapter three, contemporary urban theorists argue that variations in the experience of diverse urban populations are under explored. This study looks at the relationships among public space, indicators of community life and health and explores the aforementioned variations by investigating those born outside of Canada as a subgroup. Finally, the chapter concludes by presenting literature on the health of newcomers in relation to the previous sections.

Individual level Factors

While academics have begun to acknowledge the social determinants of health, there is still a wide acceptance that research can not turn its back on individual level factors for the sake of community level ones. The next two sections present literature on two commonly cited individual level determinants of health, socioeconomic status and social support.

Socioeconomic Status

There is a persistent social gradient in health found in the Western world, with higher social status associated with better health within a given society; research suggests that this cannot be adequately explained by health behaviours, health care access or selection factors (Marmot,

2004; 25; Wilkinson, 1996; 3). The social gradient is illustrated by the annual death rates of poorer people in developed countries being two to four times those of wealthier people in that same society. Generally, the lower an individual's socioeconomic status, the higher risk they have for heart disease, lung diseases, diseases of the digestive tract, kidney diseases, HIV-related disease, stroke, tuberculosis, suicide and other "accidental" and violent deaths (Marmot, 2004; 23). Low-income Canadians are more likely to die earlier and suffer more illnesses than higher-earning Canadians, regardless of age, sex, race and place of residence. Furthermore, individuals in the lowest income group are four times more likely than those in the highest income group to report their health as only fair or poor (Health Canada 1999; 43). Similar results have been found in the United States and the United Kingdom (Kennedy et al. 1996; Evans, 2000; 15).

While genetics, behavioural risk factors and medical care have been considered as explanations for variations in health among societies, empirical research suggests they do not eliminate the importance of socio-economic factors. Often diseases are regarded as being genetic *or* environmental, when in fact these factors interact; usually, a genetic vulnerability to a disease is actually a genetic vulnerability to specific environmental risks. Given that there are class gradients in behavioural risk factors (i.e. smoking), behaviour is related to the social context and difficult to change in isolation (Wilkinson, 1996). Finally, empirical evidence suggests that medical care actually has little influence on health inequalities; in countries where medical care is not free to all, research has been shown that it makes little difference to include access to medical care as a control variable in analyses of health inequalities (Haan et al., 1987 – as cited in Wilkinson, 1996). Genetics, behavioural risk factors, and medical care cannot explain why one nation is healthier than another, but the nature of social and economic life may.

In presenting a critique of broader neo-materialist "usual suspects" for explaining the social gradient, such as bad habits (i.e. smoking, low exercise levels), lack of access to healthcare and unlucky genes, Marmot and Wilkinson argue that psychosocial pathways associated with relative disadvantage act in addition to the direct effects of absolute material living standards (Marmot &

Wilkinson, 2001). “Medical care does matter; it is just that social conditions matter more” (Evans, 2002; 19). In brief, socioeconomic impacts on health are much more complex than a linear causal relationship with income. Material conditions do not adequately account for the health inequalities of wealthy nations. Instead, economic and social circumstances affect health through the physiological effects of their emotional and social meanings in addition to the direct effects of material circumstances. Psychosocial variables include control, insecurity, social affiliations and social status. Wilkinson claims that what healthy ‘egalitarian’ societies all share is social cohesion and a strong community life, with public space remaining ‘social’ space (Wilkinson, 1996). In order to fully participate in society individuals must be able to access basic resources, such as transportation, medical care, education, recreation, quality housing, child safety and public space; this, is done so on the basis of their income and dependent on what that society provides. The degree to which access is dependent on individual income will determine the extent to which individual income governs the amount of control one has over their ability to participate in society (Marmot, 2004; 75). How much control you have over your own life circumstances along with the opportunities you have for social engagement or full participation in what society has to offer are crucial for health. The unequal distribution of this control is what in part produces the social gradient (Marmot 2004; 6).

This study starts from the observation that there is a social gradient in health, with higher social status translating into better health within a given society. It investigates Marmot’s claim that the manifestations of social inequalities are context dependent. While Marmot tends to focus on the social environment, as well as access to social and economic resources, this thesis articulates an argument (and then investigates it empirically) that the social environment cannot be studied in isolation from the physical environment. This study investigates Marmot’s claim that the manifestations of social inequalities are influenced by the interplay of resources available to individuals and the level of control that individuals have over such resources. Furthermore, this study investigates the relationship between access to one such resource, urban public space and health in four low-income Toronto neighbourhoods. The next section reviews literature on another

individual level factor that is tied to the psychosocial explanation for the social gradient in health – social support.

Social Support

Research suggests that social relationships or lack thereof, constitute a major risk factor for health (House et al., 1988). Social support, or the resources provided by others, has repeatedly been found associated with health status (Cohen & Syme 1985). Those who are integrated into society live longer, healthier lives, even after controlling for a number of potentially confounding factors, while those who are socially isolated have been found to die at two to three times the rate of well-connected people (Wilkinson, 1996; 5; Kawachi & Kennedy, 1997; Franzini, 2005; 1146).

The relationship between social support and health is tied to the psychosocial explanation of the gradient in health and there are two primary hypotheses for such a relationship; the direct effect hypothesis and the buffering hypothesis. The *direct effects hypothesis* argues that social support enhances health independent of stress level. The perception that others will provide aid in the event of stressful events or that others are willing to help could result in increased overall positive affect and in elevated senses of self-esteem, stability and control over the environment, which may influence susceptibility to illness through immune system functioning or health promoting behaviours. The *buffering hypothesis* argues that support exerts its benefits in the presence of stress, by protecting people from its pathological effects. This may be the result of preventing a stressful response to an event or bolstering an individual's ability to cope with imposed demands. Alternatively, support could intervene between the experience of stress by directly influencing responsible illness behaviours or physiological processes (Cohen & Syme 1985). Another theory is that community involvement leads to increased access to social and material resources as well as increased social influence, thus increasing health status (Granovetter, 1973; Berkman et al. 2000b).

Income has been found to be related to an individual's level of social support. Individuals with the lowest income levels are the least likely of any income group to report high levels of social support when compared to those with the highest incomes (89%) (HRDC, 1996). The breadth and quality of social relationships, along with the role that each social tie plays in an individual's life, are functions of social forces which are determined in part by that person's position in the larger social structure (House et al., 1988; 544). For this reason, this study investigated social support within the greater social context.

Social networks, one type of social support, regulate life opportunities by providing access or restricting opportunities at the behavioural level through four pathways: provision of social support; social influence; social engagement/attachment and access to resources/material goods (Berkman et al 2000; 850). The last two are relevant to this study in that they articulate ways in which social interaction is tied to environment. First, social engagement and attachment encompass the enactment of potential ties in real life activity. Through opportunities for engagement, social networks define and reinforce meaningful social roles. Meaningful social roles in turn can promote a sense of community and attachment. Second, access to quality resources and material goods may increase opportunities for social engagement and attachment.

This study adopts the notion that the relationship between social support and health is tied to the psychosocial explanation for the social gradient in health. It investigates social support as an individual level explanatory variable. Furthermore, it investigates the relationships between access to quality public space, a community resource (and a social network pathway) and place attachment, operationalized as social engagement (civic participation and another social network pathway), sense of community and collective efficacy. Finally, the study investigates the relationships between the aforementioned constructs and health.

Neighbourhood (Place-Effects on) Health

Durkheim's (1897) seminal claim that societies exhibit collective tendencies that are not merely the sum of those belonging to individual members can be extended to the neighbourhood unit (Dunn et al., 2006), which is the immediate area in which individuals interact with the social environment. Despite increased academic interest in contextual implications, very little research has been done to explicitly flush out the concept of "place effects" on health (Macintyre et al., 2002; 126). Instead, most investigators have leaned toward the notion that where you live matters for health, although probably not as much as who you are (Pickett & Pearl, 2001). While individual characteristics like socioeconomic status remain at the core of health at the neighbourhood level, the extent to which neighbourhood impoverishment impacts health has been found to be mediated by local social and physical circumstances (Franzini et al., 2005; 1146).

Rather than area having a universal effect on health, "there appear to be some area effects on some health outcomes, in some population groups, and in some types of areas." (Macintyre et al., 2002; 128). Some argue that the local social and physical context of disadvantaged groups must be considered when examining people's opportunities to lead healthy lives (Macintyre & Ellaway, 1998; 91). Disadvantaged neighbourhoods, based on wealth, income, occupation and education levels, have been found to exhibit a higher risk of disease than residents of advantaged neighbourhoods, independent of the socioeconomic position of the individuals and across racial groups (Diez Roux et al. 2001; 104). Sampson concluded that if "neighbourhood effects" of concentrated poverty do exist, they likely stem from social processes that represent themselves in the collective aspects of neighbourhood life, such as social cohesion and local support networks (Sampson, 2003; S56). A recent study found that children of families who were randomly assigned to move from concentrated high-poverty neighbourhoods into low-poverty neighbourhoods in Boston had significantly fewer injuries, asthma attacks and personal victimization at follow-up. These findings suggest that improvement in the socioeconomic

environment in which an individual lives can have an impact on their health (Katz, Kling and Liebman, 2001; 650). All but a minority of studies have nearly eliminated the macro-social context in which social networks are constructed; they neglect to consider the environmental context in their conceptual model of how social networks impact health (Berkman et al, 2000; 847)

The neighbourhood unit forms the identifiable area that encourages residents to take responsibility for the city's maintenance and thus, it provides the essential elements for supporting community development (Leccese & McCormick, 2000). This study adopts the notion that a 'resource' refers to something either concrete or abstract that can be drawn on for support, such as recreational facilities or helpful neighbours. According to a "collective resource model", people in non-deprived neighbourhoods are healthier than those found in deprived neighbourhoods because there are more collective resources, both material and social. At the area level, research has focused primarily on the role of the physical environment on health through mediating factors like air quality and opportunities for physical activity. This study views the personal experience of individuals as closely linked to both physical and social factors and thus investigates physical and social determinants of health as closely linked.

Indicators of community life

Given that this study draws on Wilkinson's claim that what healthy 'egalitarian' societies all share is social cohesion and a strong community life, what follows is a review of the literature on the relationships between indicators of community life and health. Studies have found that indicators of community life, such as sense of community, civic participation, and collective efficacy, moderate negative conditions in the built and physical environment (Chavis & Wandersman 1990; 57). What follows is a review of the literature on the relationship between such indicators of community life and health.

Social Capital

Social capital, as defined by the principal theorists, encompasses networks of secondary associations, levels of interpersonal trust and norms of mutual aid and reciprocity, all of which act as resources that enable individuals to facilitate collective action (Coleman, 1990; Putnam, 1993). Research has shown that community social support and commitment to the community are related to social capital, with communities rich in social capital being healthier (Lochner et al., 1999; 267). This study adopts Putnam's definition of social capital which can be measured through civic participation (membership in voluntary organizations) and level of trust of others (Putnam, 1993). There are three identified varieties of social capital: bonding, bridging and linking. Bonding social capital is derived from relationships between similar individuals or people in similar situations, such as those who share socio-demographic characteristics or family, while bridging social capital is derived from relationships between dissimilar individuals more distant ties of like persons, such as loose friendships and workmates. Finally, linking social capital, encompasses unlike people in dissimilar situations, such as those who are entirely outside of the community, thus enabling members to leverage a far wider range of resources than are available in the community (Woolcock 2001: 13-4). Networks are most effective for the community as a whole when they are diverse, inclusive, flexible, horizontal (linking those of similar status), *and* vertical (linking those of different status, particularly local organizations or individuals with external organizations and institutions that have resources not available within the community) (Zacharakis & Flora, 2005).

A number of factors influence an individual's level of social capital. Various studies have identified a relationship between socioeconomic status and social capital. Individual trustfulness varies across societies and tends to be higher among those with higher social status (Kawachi et al, 1997). One in two Canadians reported being involved in a community organization, with

socioeconomic status serving as the strongest predictor of membership; as income increased, so too did the likelihood of participating in community organizations (Health Canada, 1999).

Civic participation is unevenly culturally and geographically distributed, suggesting that many of its determinants are at the community level. The social climate, built environment and transient physical environment (i.e. symbols of territoriality) have been found to be significantly and *independently* related to collective participation in block associations and are more important for participation than demographic characteristics or perception of problems (Perkins et al., 1990; 106). Areas with higher levels of participation have been found to be characterized by having better amenities and services as well as a non-threatening environment. Suggesting that levels of participation in local associations may influence the level of resources that an area can command (Macintyre & Ellaway, 2000). The relationship appears to be reciprocal; residents need "non-threatening" community gathering spaces to establish social capital and the level of social capital established in turn determines the level of community resources they can utilize (Ahlbrandt & Cunningham, 1979). Those who participate in community organizations have been found to view neighbourhood more favourably than those who do not. Neighbourhood commitment, defined as a range of behaviours from participating in neighbourhood organizations to positive interactions with neighbours, and satisfaction are influenced by many of the same factors. Although, commitment does not necessarily imply satisfaction with neighbourhood conditions or public services (Ahlbrandt & Cunningham, 1979; 50). Instead, residents may actually be committed to fostering change within their neighbourhood as a consequence of dissatisfaction.

The literature presents a strong case for a relationship between level of social capital and health outcomes. While it cannot be inferred that this relationship is causal, in general communities with higher levels of participation are healthier (Pearce & Davey Smith, 2003; 125, Poortinga, 2006; 300). One study found that in Saskatchewan frequency of socialization with work-mates and attendance at religious services were related to health, even after controlling for human capital, and participation in clubs and associations was positively related to health among the elderly (Veenstra et al., 2000).

An individual's level of civic participation has been correlated with their "locus of control" or expectancies about the outcomes of one's actions (Chavis & Wandersman, 1990). Civic participation at the block-level has been found to be significantly higher than at any other community level of community or political organization (McKenzie, 1923/1970, as cited in Perkins et al., 1990; 90), possibly a result of the face-to-face interaction that occurs between neighbours reinforcing social capital. If we can identify the means of fostering community-level social capital and provide neighbourhoods with the resources necessary to organize, they may be more self-sufficient in identifying local issues and developing homegrown, contextually appropriate, solutions.

This study adopts the notion that social capital is a community level variable that can be measured through membership in voluntary association. This study investigates place attachment operationalized as bonding social capital, through civic participation and its relationships with access to urban public space and health. The next section reviews literature on sense of community belonging, another variable through which place attachment is operationalized.

Sense of Community Belonging

Communities are an arena for realizing common values and maintaining effective social controls, which provide social capital that may buffer the forces of socio-demographic disadvantage through mutual trust (Sampson 1999; 243). The term psychological sense of community (PSOC) was initially coined by Seymour Sarason, and expanded upon by McMillan and Chavis to mean a feeling that members have of belonging, of mattering to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together (1986; 9). Just over half of Canadians feel at least a "somewhat strong" PSOC. Statistics Canada found that 91% of those who reported "very strong" PSOC reported "excellent" or "very good" mental health (2005; 15). Omitting the participants who indicated a "very weak" PSOC, for each step of this scale, the odds of reporting "excellent" or "very good" health increased with the strength of his or

her PSOC (2005; 8; Ross, 2002; 37). Two-thirds (63%) of those who reported a “somewhat strong” PSOC also reported “excellent” or “very good” self-rated health (2005; 9). Studies have found that sense of community counteracts the effects of life stress and protects against cardiac problems and is similarly associated with higher self-rated health and mental health (Ross 2002; Statistics Canada 2005). Finally, neighbourliness, the number of people a participant knew and trusted in the neighbourhood, and a perception of high quality neighbourhood facilities were associated with increased self-rated health and “functioning” (the physical ability to perform everyday tasks (Bowling et al. 2006; 482).

Involvement in community social life not only has a significant impact on the well-being of individuals, but on the quality of life and preservation of the community itself (Ahlbrandt & Cunningham 1979). Furthermore, civic participation — the degree to which individuals feel a responsibility to an area, which is directly related to sense of community belonging — has been shown to be associated with health (Marmot 2004; 179). A neighbourhood’s sense of community is not static; it is affected by changing values and external forces, like socioeconomic status and place-based identity (McMillan & Chavis 1986; 19). A recent Quebec City study concluded that individual perceived problems and social cohesion in their neighbourhood can be considered a contextual variable (Pampalon et al. 2007; 109). Neighbourhood characteristics differ at the very small-area level, and this heterogeneity has been found to affect residential feelings of community belonging (Brodsky et al., 1999; 673). The strongest identified predictors of sense of community are expected length of community residency, satisfaction with the community, participation in routine activities and organizations within their locality and the number of neighbours that an individual could identify by first name (Glynn, 1981; Alhbrandt & Cunningham, 1979; 46-47).

Research suggests that sense of community is setting specific to social and physical environments and may be associated with the symbolic interaction that residents have with the physical environment (Hill, 1996; 433; Brodsky et al., 1999; 660). Furthermore, research has

shown that local friendships and density of acquaintanceship vary widely across communities and that they are positively associated with residential stability of a community (measured through by length of residence and home ownership), which is also related to attachment to the community and participation in local social activities (Sampson 1999; 258).

The influence of individual level indicators, like socioeconomic status, cannot be escaped when studying the impacts of indicators of community life. Poor urban neighbourhoods are often perceived as weak community systems. Communities with high levels of unemployment have been found to exhibit lower sense of community. Communities with higher per capita income had lower sense of community, possibly related to community withdrawal associated with demands that economic inequality places on those of higher income living in poor, urban neighbourhoods (Brodsky et al., 1999; 675). Other studies have found that people in lower income groups were less likely to report a strong sense of community, but there were no differences between middle, upper middle and high groups (Ross 2002; 37). This suggests that there is a threshold for the relationship between income and the potential for a strong community connection.

When people feel a sense of community, they are more likely to interact with other residents in their neighbourhood. Brodsky et al. (1999; 673) argue that an individual's level of civic participation is directly related to their sense of community. In their study, participants who regularly attended religious services, were involved in neighbourhood organizations, lived in neighbourhoods with higher voter registration and community level neighbourhood involvement, all had higher levels of perceived sense of community. On the other hand, residents who were more critical and concerned with the worsening conditions of their neighbourhood had a lower sense of community. These same participants were also more likely to feel they could not make a difference nor had anything to gain from their association with the community.

While a sense of community can be thought of as realizing common values and maintaining effective social controls, such controls are not repressive, such control refers to the capacity of a

social unit to regulate itself according to desired principles and to realize collective (as opposed to forced) goals (Sampson 1999; 253). A stronger sense of community has been found when residents deal with external threats, leading to further behaviours that combat the threat (Bachrach and Zautra 1985; 325). Theorists have argued that socially cohesive communities may be able to secure higher quality local amenities, like public spaces, while being able to ensure more egalitarian access to such amenities (Kawachi & Berkman 2000; Veenstra 2000). While individuals cannot influence the availability and accessibility of resources in their local environment on their own, they can through collective action.

This study investigates place attachment, operationalized as sense of community belonging, and its relationships with urban public space and health. The next section will review literature on one way by which communities realize collective goals – collective efficacy.

Collective Efficacy

Research suggests that the presence of *collective efficacy*, social cohesion among neighbours combined with their willingness to intervene on the behalf of the common good, not only affects the social environment of a neighbourhood, it impacts the health of neighbourhood residents (Sampson et al. 1997; 919). Studies have found that community cohesion lowers competitive attitudes among citizens and buffers the harmful health consequences of competition (Pampalon et al. 2007; Skrabski et al. 2004; 343; Wilkinson, 1996). Working trust and shared willingness of residents to intervene in social control have been found to be related to residential sense of active engagement, as well as increased social cohesion (Pampalon et al. 2007). Not only are high levels of social cohesion related to better health, but through collective efficacy this cohesion may enable residents to secure higher quality local resources, like public gathering spaces, which offer increased opportunities for promoting sense of community and place attachment – the indicators of community life that drive social cohesion and collective action.

Indicators of community life, like collective efficacy, cannot escape the impact of individual level factors, like socioeconomic status. Participants in focus groups held in neighbourhoods of contrasting socioeconomic status exhibited variations in their sense of community. Discussions covered people whom participants could depend on and those with whom they interacted on an ongoing basis, as well as their feelings of belonging and collective action. Groups held in lower-income neighbourhoods directly discussed time spent working with others to overcome ongoing chronic problems, faced by neighbourhood residents (i.e. crime) while those held in high-income neighbourhoods did not speak directly to chronic problems and instead spoke of working collectively to combat discrete "threats" to their neighbourhood's ambience, (i.e. a new Starbucks) (Altschuler et al. 2004; 1226).

Variations in the character of collective action among socioeconomic groups suggest that the social environment of a neighbourhood may impact the way in which collective efficacy is incubated, if at all. This study investigates the relationships among place attachment, operationalized as collective efficacy, urban public spaces and health. Furthermore, it takes a closer look at the various neighbourhood priority concerns in four Toronto neighbourhoods. Up until this point, literature on indicators of community life often experienced at the neighbourhood level, such as social capital, sense of community belonging and collective efficacy have been presented. This thesis accounts for both physical and social environmental impacts on such characteristics and health and investigates each at the neighbourhood level and thus, the next section discusses one of the common locals through which urban residents interact with their physical and social environments – urban public spaces.

Public Spaces

"Look around. The ordinary, everyday spaces between buildings may be more important than you think. These spaces are, or should be, the public city" (Ford, 1999; 211).

Not only is public space (in principle) free and accessible to all, it also provides neutral ground available to all sectors of society. By providing opportunities for promoting community life, public space can form the basis of place attachment. Indicators of these dimensions of community life, as discussed in previous sections, have been found associated with better health.

The urban environment has come to mean the functioning matrix that organizes not only objects and spaces, but also the dynamic processes and events that take place in and around them. It is an active surface that provides the context for new relationships and interactions among the things it supports. Rather than being limited to the field that accommodates buildings, roads, utilities, open spaces, neighbourhoods, and natural inhabitants, it is the ground structure that organizes and supports a broad range of changing activities (Wall, 1999; 233). Stafford and Marmot argue that area level associations between deprivation and health are mediated by perceived lack of available collective resources in a neighbourhood, such as public spaces. This is particularly disconcerting given that poorer individuals appear to rely more heavily on collective resources. These individuals are more likely to live in deprived neighbourhoods, and may be less able to purchase goods and services privately (2003; 364). While neighbourhoods may have access to higher quality resources, like public space, resource availability may not reflect usage patterns. Although studies have found community amenity usage higher in socio-residentially advantaged neighbourhoods, the effects of socioeconomic status greatly decreased when the *quality* of community amenities were accounted for (Macintyre & Ellaway, 1998; 92).

Research has shown that the safety, quality, and accessibility of the physical environment are all important determinants of health. Environmental resources, like public space, impact health though a variety of physical, mental and social variables which manifest in a variety of outcomes. While there has been a longstanding interest in the relationship between how resources in one's environment impact health, direct physical health effects of environmental contaminants, such as cancer, birth defects and respiratory illnesses, are typically easier to measure than indirect non-physical health effects from mental or social factors, such as stress and indicators of community

life (Health Canada 1997; 27). As a result there remain many unanswered questions regarding the social impacts of the built environment on health (Perkins, et al., 1990; 91).

Environmental psychology, a discipline concerned with the relationship between behaviour and both the built and natural environments, has produced a body of literature linking environmental factors to certain mental disorders and mental well-being. A study by Guite et al. for example, found lack of access to green spaces and community facilities independently significantly associated with low mental health. Furthermore, regardless of age, sex and socioeconomic status, people valued communal parks and facilities (2006; 1124).

Studies have found that public green space contributes significantly to social inclusion. Knopf (1987) concluded that nature restores, facilitates competence building, and carries symbols that affirm the culture or the self; this can be extended to urban green spaces. In capturing competence building and feelings of identity, Knopf moves beyond the mental pathways by which the environment impacts health, such as level of stress, and encompasses some of the less developed social pathways. Social pathways, like sense of community and collective efficacy, are intangible, but may impact health either directly or by nurturing physical and mental pathways. Brower (1990) has argued that sense of community is associated with *place attachment,* the symbolic interaction that residents have with the physical environment.

According to Talen (2002), consciously designed public gathering spaces contribute to place-based identity more effectively than ad-hoc focal points if fostering sense of community belonging was taken into account in the design process. In the last quarter century, researchers have begun to recognize that good urban spaces, exhibit vitality (support life & health), fit (relate to the human body and the activities it engages with), control (permit individuals to channel the activities that go on in & around their turf), sense (provide visual, aural and olfactory stimulation) and equitable access to people of all ages and classes. Such spaces were found to contribute to mental health and sense of community (Ford, 2000; 210). Furthermore, defensible space and symbols of

incivility and territoriality in the built environment have been shown to affect collective efficacy (Perkins et al 1990; 35). Usage of public space is contingent on both quality and accessibility. Drawing from the community psychology literature, accessibility extends to relevance, responsiveness, and appropriateness to residents. Public spaces do not play the same social role for everyone in a given community (Hill 1996; Brodsky et al. 1999). Meanings of space are varied in diverse cities; the value of a place is constructed is dependent on what it does (or does not do) for the people around it, such as provide a space for communication with neighbours (Dixon 2003, 74).

Since the 1980s, academics have begun to investigate the use of space and the characteristics that make one space more successful at attracting users than another. Whyte studied the behaviour of ordinary people on city streets and in different types of spaces. He identified which types of urban spaces successfully attract users and those which do not, as well as explanations for this variation (1980; 8). The surface must be “equipped and staged” in a way to anticipate and accommodate changes in demands (Wall, 1999; 237). It appears that other people attract users the most, but many urban spaces are being designed as though the opposite were true, as if people want to ‘get away from it all’ (Whyte, 1980; 19). The most popular public spaces tend to have considerably more quality sitting space. While physical comfort in seating is important, whether seating is “socially comfortable” has been found to be more important, that is to say that there was choice depending on what an individual desired the seating for; sitting alone, sitting in a group, being up front, being in the sun (1980; 28). People use the spaces located in the main pedestrian flow, choosing the intersection of traffic flow as their location for social interaction (1980; 21). These intersections create “collisive sites” which, mobilize and amplify exchange across networks. Rather than occurring accidentally, people are compressed into meeting one another. As a consequence, social interaction tends to accumulate in a cluster (Lyster, 2006; 227). That is not to say that there are universal rules for creating spaces that will successfully attract users. A critical landscape architect is continuously looking to rework plans in order to capitalize on what works best in a model.

This study adopts the notion that public space has the potential to promote indicators of community life by contributing to place-based identity and that the quality, accessibility and fit of public spaces impacts the extent to which place attachment will be fostered. This study investigates the various dimensions of public space (see Chapter 3), operationalized in perceived access, satisfaction and safety, and their relationships with indicators of both place attachment (sense of community belonging, civic participation and collective efficacy) and health.

Social Determinants of Newcomer Health

The conceptual and analytical models presented in this thesis are built on the notion that urban societies are comprised of many diverse populations that interact with their social and physical environments differently and prioritize neighbourhood issues differently. This study looks at newcomers as a subgroup and investigates the relationship among urban public space, place attachment and health within the newcomer context. This section reviews literature, specific to newcomers, pertaining to individual level factors and indicators of community life that impact health, as well as their relationship with public space.

Research shows that newcomers, regardless of country of birth, often arrive in superior health to the native-born population in a new country, but lose this health advantage over time, often called the "healthy immigrant effect" (Hyman 2005). The 200,000 immigrants that Canada welcomes annually are screened on medical and other health-related criteria as required by Section 11 of the Canadian Immigration Act (Chen et al, 1996; 33). Research suggests that Canadian immigrants, particularly recent arrivals, enjoy many health advantages over long-term immigrants and the native-born population in terms of their overall health status and the prevalence of certain chronic diseases such as cancer and heart disease (Hyman 2005). Individuals from non-European countries were found to be twice as likely as Canadian-born to report both deterioration in their health and low social support (Ng et al. 2005). The process of immigrant settlement, with

its stressful social and economic challenges, and lifestyle changes may be part of the explanation for declining immigrant health status over time (Chen et al, 1996).

Members of ethnic minority groups living in areas with a lower proportion of minorities exhibit higher incidence of psychological disorders, suicide and psychiatric hospitalization rates (Boydell et al, 2001; 1337, Neeleman et al, 2001). These health effects may be direct consequences of low engagement with the social fabric of one's community. Unless they have been embraced by an established ethnic enclave or are lucky enough to have arrived with an extended social network in Canada, they may lack a strong network of social support (Ng et al. 2005). Much of the literature reviewed suggests that determinants of health such as poverty and underemployment have a strong impact on health, particularly for immigrant women and children (Hyman 2005). Many new immigrants struggle to climb the socioeconomic ladder, residing on the lower rungs among disadvantaged populations, but research often fails to adequately investigate the physical and social contexts within which newcomers are living, such as available community resources like public space.

While research suggests high levels of social capital are beneficial to a community as a whole, benefits are not felt uniformly by residents. Dominance of high-bonding horizontal social capital, found in tightly-knit communities, may result in pathological consequences like the inability of marginalized groups to vertically integrate (McKenzie et al., 2002; 281). The social capital of a minority group has been hypothesized to diminish with its proportion of the population. The minority group may feel excluded and stigmatized in areas of high social cohesion, where tightly knit communities may be less tolerant toward certain groups or individuals (McKenzie et al., 2002; 282, Putnam, 2000; Baum, 1999; 195). While there have been a small number of cases in which groups benefited from social isolation, such as the lower rates of heart disease found among Japanese-American immigrants brought up more traditionally within their ethnic group (Marmot, 2004; 184), social isolation generally has negative consequences. Though it is possible that the effects are different for different health outcomes (e.g. heart disease vs. mental health).

Immigrants face a number of barriers to being as socially active in Canadian society, such as a lack of language fluency, culture shock, work and family demands, as well as intimidation by their new social environment; thus, they may not reap the health benefits of such social activity outlined in previous sections as the rest of Canadian society. It is possible that minority groups, like immigrants, have low loci of control and are discouraged to participate actively in their community. While networks and the associated forms of reciprocity have proven beneficial for those inside the networks, they can simultaneously be exclusionary (Putnam, 2000; 21). Some marginalized groups, like immigrants, may experience a pressure to conform in order to gain access to the benefits of social capital or combat the negative impacts if they are being perceived as an "outsider" (McKenzie et al., 2002; 281, Baum, 1999).

Three-quarters of new Canadians settle in one of Canada's three major metropolitan areas, with Montreal and Toronto receiving a disproportionate number of refugees (Ontario, 1996); as a result, urban centres may house a disproportionate amount of people facing challenges obtaining the potential health benefits of indicators of community life. Although cities offer substantially more resources to new immigrants than smaller municipalities, their high population densities and built environments can result in feelings of anonymity, as recent arrivals struggle with a social structure that can be detrimental to potential social networks. Feelings of anonymity, coupled with the high residential instability often found in immigrant reception areas not only hinder the production of new social networks, but represent a disruptive process that threatens old ones (Coleman, 1990; 316).

There have been a small number of studies on marginalized groups utilizing a low sense of community as a mechanism of protection (Caughy & O'Campo, 2006; Brodsky et al.; 1996). Brodsky et al. (1996) found that some "resilient" single mothers in dangerous, low-income neighbourhoods viewed negative perceived sense of community as protective. These mothers found the costs of identifying with their community too high and employed a protective strategy of

isolating themselves and their families (1996; 676). This practice is contingent on an individual's context and her perception of that context. While research on this practice has been limited, it is possible that some immigrant groups may employ similar strategies – though if they are disengaged, it is more likely due to a number of the aforementioned factors.

This study adopts the notion that public spaces may not be consciously designed with the lived experience and needs of various marginalized groups in mind and thus, may not exhibit equitable vitality, fit, control and access to newcomers. If as Kawachi et al. have claimed, socially cohesive communities are better equipped to secure higher quality local resources and amenities, while also ensuring more egalitarian access to these amenities, then marginalized populations living in communities with low social capital are subject to the consequences of both low civic participation and the possible absence of resources to encourage its sense of community belonging. This study investigates the relationships between urban public space, place attachment and health among foreign-born study participants. Finally, the neighbourhood priority concerns of foreign-born participants are compared with those of Canadian-born participants in order to identify differences in their perceptions of public spaces and their neighbourhoods as a whole.

Empirical research suggests that a combination of individual and community level determinants contribute to the social gradient in health found in the Western world. Higher social status results in better health within a given society and this cannot be adequately explained by material conditions alone. Research suggests that social relationships or lack there of, constitute a major risk factor for health; with social support repeatedly being found associated with health status. Societies exhibit collective tendencies that are not merely the sum of those belonging to individual members, and indicators of a strong community life have been found associated with health independent of social support; thus, supporting Wilkinson's claim that healthy societies exhibit social cohesion and a strong community life. Research suggests that indicators of a strong community life, such as social capital (civic participation), sense of community belonging and

collective efficacy are not only related to health, they are related to each other and the formation of place-based identity. Public space may support the formation of place attachment through the provision of opportunities for promoting a strong community life and thus, may contribute to health through a variety of pathways based on its meaning for the local population. Such meanings may vary among urban subpopulations in an area, like newcomers, whose lived experience of their community may differ.

The next section will discuss various urban spatial theories and outline a new conceptual framework that is informed by the literature on individual level social determinants of health, place-effects on health at the neighbourhood level and indicators of community life that determine health at the area level. Furthermore, this new framework draws from the literature on newcomer health and conceptualizes various urban subpopulations as experiencing the city differently.

Chapter 3: Theorizing Urban Public Space and Health

Given that eighty percent of North Americans reside in towns and cities, the urban environment has become the most important habitat for humans (Hancock, 2002). Contextual factors like the attributes of an area, the distribution of the individual characteristics found there and the meaning that the two hold for people have begun to be recognized as being increasingly important for the health of urban residents, yet neighbourhood and health research continues to be insufficiently theorized and is in need of a model that links individuals to their environments on both macro and micro scales (Frohlich, 2002; 1413; Soares, 2005; 370)

Indicators of community life, like social capital, serve as the core concepts in the study of a number of disciplines, including sociology and public health. While theorists have debated over the meaning of social capital, it is widely accepted that it places value on social networks and that human capital can increase productivity much in the same way as physical capital (Putnam 2000). The loose definition of social capital leaves room in determining applicable theories and indicators for the measurement of it and other indicators of community life, like sense of community and collective efficacy. This study explores the relationships among urban public space, indicators of community life and health. It conceptualizes public space as a health opportunity structure (Macintyre et al., 2002), and investigates the relationships between Lefebvre's three dimensions of space, and health. This chapter also introduces the concept of *pluralistic place attachment,* built on the ideas of community psychology and contemporary urban theorists, which serves as the mediating variable between public space and health in this study.

Interest in the impact of public space is not a new phenomenon. In her seminal book, *The Death and Life of Great American Cities,* Jane Jacobs, an influential urban activist, articulates that the primary problem of planning neighbourhood parks is the challenge of nurturing the diversified neighbourhoods to support them. She uses her former neighbourhood of Greenwich Village as an example of quintessential urban achievement: diverse, and possessing a strong sense of

community where strangers lived in relative safety. She articulates that supporting diverse populations is imperative because successful spaces require diversity in their users and uses. Furthermore, Jacobs argues that when the diversity of a neighbourhood is dispersed among too many different parks that are similar in purpose, there are negative consequences (1961; 101). In other words, it is important to nurture a diverse population and ensure that these various groups are successfully sharing space. Diverse groups struggle with negotiating their right to dwell in space and the meaning of that space (Sandercock 1998; 172). The challenge here is that the plurality of experiential practices results in different spatial needs.

Lefebvre's *production of space* is an abstract conceptualization of the ideas embodied in Jacobs work, that illustrates the multi-dimensionality of the social environment by identifying the various direct and indirect social/lived pathways by which resources of each dimension of space impact health. Furthermore, by emphasizing the connection between materiality, consciousness and action, the trialectics of space lends itself as a tool to frame accessibility and quality of all three levels of space (absolute, abstract and lived) with the exception of capturing the diversity in today's urban population. This chapter draws on the literature presented in the previous chapter as well as theoretical texts on the *production of space*, place attachment and multicultural cities to articulate the model that frames the empirical analysis of this study. Following Wilkinson's (1996) claim that healthy 'egalitarian' societies all exhibit a strong community life, with public space remaining 'social' space, and a careful review of contemporary urban literature on theories of space, place attachment and multicultural cities, this chapter suggests *pluralistic place attachment*, as a pathway between the social dimension of urban public space and health.

The Production of Space

While research on the relationship between the environment and health is broad, literature on the pathways between public space and health is fairly limited in scope. The organization of public space has largely been predicted by the production and exchange of capital, such as traditional market squares. It was not until recently that the social uses of public space began to be

examined; thus, theories around social pathways to health, like sense of community and collective efficacy, are underdeveloped because such pathways are indirect. Social pathways to health are influenced by both physical factors (i.e. access to public space) and mental factors (i.e. perceptions of safety) and a theory which recognizes this is needed. The *production of space*, a theory put forth in Lefebvre's similarly-titled book contributes a conceptual framework for contextualizing the relationship between public space and health. The *production of space* is Lefebvre's attempt to develop a single unitary theory and science of space that is applicable at all levels of its analysis and across disciplines (Merrifield 2006). He provides an explanation of how space is actively produced by the relations of physical (nature), mental (abstractions about space), and social spaces (the space of human abstractions about space) (Lefebvre 1991).

The *production of space* argues that while space is a basic structure in everyday life, it does not exist independently of social relations and cannot be understood outside of the material conditions of society. Space is a complex social construction based on values and social meanings, and this theory looks at the connection between space and time, viewing the placement of objects as a means of *producing* space (Harvey 1973). In the general sense, social life acts as an agent producing unique space, and more specifically, space as a commodity (Lefebvre 1991). Lefebvre argues that there are different levels of space which are based on Marx's types of labour: abstract (mental), absolute (physical) and social (lived) (Gregory 1994; Gottdiener 1993). Abstract space and its production are global processes, but they are dependent on localized spaces and concrete practices for their reproduction and represents space produced for exchange-value. While *abstract space* is characteristically homogeneous, it can only be accentuated by its difference from 'counter-spaces' produced through class struggle and social movements – found in *absolute space*, which represents space produced for use-value (Lefebvre 1991; McCann 1999). He notes that while space and time may not change in themselves, our *perceptions* of them do. *Social space* is a social product that represents space produced in a certain manner in order to serve as a tool of thought and action as well as a means of control (Lefebvre 1991).

Lefebvre suggests that capitalism, which has always organized working life, has expanded its control over private life and leisure, often through the organization and commodification of space. His framework, which is fundamentally Marxist in that he insists that space be understood in the context of the mode of production, recognizes the importance of forces and relations of production, and argues that class struggle is inscribed in space through marginality and segregation. Furthermore, he argues that human activity is comprised of *material spatial practices* and *representational practices*, which constitute social life. In other words, human practices are simultaneously material and meaningful, and structured social practices shape human consciousness. Lefebvre draws on the insights of other thinkers, such as German philosopher Martin Heidegger's understanding of space as married to our experiences and everyday dealings with the world, as well as Nietzsche's emphasis on the production of differential space and plural times (Elden 2007; 116).

The *production of space* is based on Lefebvre's *trialectics of space*, a concept which attempts to frame the relationship between social relations and the specific patterns of everyday life in capitalistic conditions, and corresponds with abstract, absolute and social space respectively. He theorizes that experience of social life can be conceptualized as a triad of modalities for ways in which social life is spatially constituted (based on the distinction between material and representational practices). The triad consists of *representations of space, spaces of representation*, and *spatial practices*. Harvey describes the first dimension, *representations of space*, as "all of the signs and significations, codes and knowledge, that allow [such] material practices to be talked about and understood" (1989; 218). These are the spaces of professional practices that impose social order and are tied both to the relations of production, and to order. The second dimension, *spaces of representation*, is space

> "lived through its associated images and symbols, and hence the space of 'inhabitants' and 'users'…passively experienced – space which the imagination

> seeks to change and appropriate. It overlays physical space, making symbolic use of its objects" (Lefebvre 1991; 39).

In other words, *spaces of representation* consist of symbolic meanings enacted in spatial form through human appropriation. Gregory identifies these as 'counter spaces' that challenge dominant spatial practices (1994; 403). The third dimension, *spatial practices* (or routine experiences that 'secrete' their own social space), operate between the other two parts of the triad. They work within the bounds of planners and shape individual perceptions. They embrace production, reproduction, and the spatial characteristics of each to ensure continuity, as well as some degree of cohesion (Lefebvre 1991; McCann 1999). This triad is otherwise known as *perceived, conceived,* and *lived* spaces respectively (Janzen 2002; Gottdiener 1993).

Lefebvre's primary aims were to first give validity to place alongside time in social theory and second, to use this new understanding of time and space to understanding the modern world through spatial analysis (Elden 2004; 185). The wide appeal of the importance of space in social theory is tied to an increasing acceptance that temporal modes of understanding are incomplete in that they ignore spatial context; for instance, gender inequality has not declined at the same rate throughout the world, since there are context specific factors at play. Meanwhile, Cartesian conceptions of space are unable to capture the spatiality of social life. These conceptions ignore that social life constitutes space in addition to being constituted by it. The *production of space* appeals to geographers who have struggled to marry spatial and temporal dimensions of understanding and those whom have sought to engage colleagues throughout the social sciences. In social theory, space has been seen as an opportunity to develop insights that integrate social, economic and political practices (Unwin 2000).

The *production of space* is useful for investigating the relationship between public space and health for at least three reasons. First, it offers a fully contextualized account of the influence of the social environment on health. Since social life is materially constituted in geography, its

spatial structures are manifestations of social structures and relations that evolve over time (Soja 1989; 127). Second, while material practices are central to the *production of space*, so too is the connection between materiality and consciousness and action (representational practices). The *trialectics of space* lends itself to recognizing the importance of not only physical and mental, but social pathways to health. It could not be put better than by Kirsch, who said "a park is *conceived*, designed and produced through labour, technology and institutions, but the meaning of the space, and the space itself, is adapted and transformed as it is *perceived* and *lived* by social actors and groups" (1995; 548). Third, the idea of *lived* space highlights the multi-dimensional ways in which space is experienced and contributes to understanding the use value of neighbourhood resources. While Lefebvre underplayed urban plurality, his notion of *lived experience* lends itself to promoting a collective consciousness that celebrates diversity of experience.

Under the assumption that the physical, mental, and lived experiences of neighbourhoods impact the people who live there, the *production of space* conceptualizes the ideas embodied in Jacobs work. It is useful in that it illustrates the multi-dimensionality of the social environment by identifying the various direct and indirect social/lived pathways by which resources of each dimension of space impact health. By emphasizing the connection between materiality, consciousness and action, the trialectics of space lends itself as a tool to frame accessibility and quality of all three levels of space (abstract, absolute and lived).

A Pluralistic Attachment to Place

The *production of space* offers a useful framework for investigating public space, and its various pathways to health, but it needs to be modified in order to meet the research objectives set out in this thesis. Lefebvre's conception of the *lived* dimension of space is underdeveloped, and his theory underplays the plurality of urban populations, which is especially characteristic of contemporary cities. I will illustrate how community psychology's concept of *place attachment,* a

"positive affective bond or association between individuals and the… environment" (Rivlin 1983; 13), lends itself as a social/lived pathway between public space and health, while literature on multicultural cities lends itself to capturing the plurality of the *lived* urban experience.

The model presented in this chapter uses Lefebvre's model as a foundation, but introduces the concept of *pluralistic place attachment,* built on community psychology's notion of *place attachment* as well as Jacob's conception of the need for diversified spaces, as the link between urban public space and health, bringing more clarity to the social/lived pathways to health. *The healthy production of plural public space* model is founded on the community psychology notion that space is constructed through an interactive process in which both the user and setting are impacted (Dalton et al., 2001), which is similar to Lefebvre's argument that the social environment is multidimensional. Social and economic relationships of cities and their physical forms are continually reshaped by the way residents live in them, use them collectively, relate to one another, and generate images of what the city is. These relationships result in especially meaningful spaces, rich in associations (Carr et al, 1992; 237; Healey 2002; 1780). The formation of such association is one indicator of a healthy neighborhood (Cisneros, 1995; Schorr, 1997 – as cited in Brown et al., 2002).

One of Lefebvre's fundamental claims is that each society creates its own unique space and that social life acts as an agent producing unique space (1991; 31, 46, 53). While this accounts for spatial differences between societies, it underplays the plurality of perspectives from people of different backgrounds. Furthermore, while he recognizes differences between minority groups and the majority population, he underplays plurality among various minority groups. As a result of challenges to obtaining affordable housing, such as discriminatory practices, minority groups like immigrants and indigenous peoples often live in close proximity to one another and share space. By underplaying plurality, the production of space fails to account for the diversity of lived experiences in the same space.

The right to the city and multicultural literature*,* in particular Sandercock's theory of *cosmopolis,* contributes where Lefebvre falls short and complements Lefebvre's *lived* space and fit well within t*he healthy production of plural public space* model (see Figure 1). Sandercock describes *cosmopolis* as a metropolis that is characterized by significant racial, ethnic and sexual diversity. She argues that experience is diverse and theory cannot be above experience. Therefore, planning theory and practice must be informed by a variety of experiences.

Given that today's Canadian cities are so diverse, this thesis draws on literature from Jane Jacobs and *right to the city* theorists to emphasize the importance of considering the role of *pluralistic* place attachment in neighbourhood resource planning.

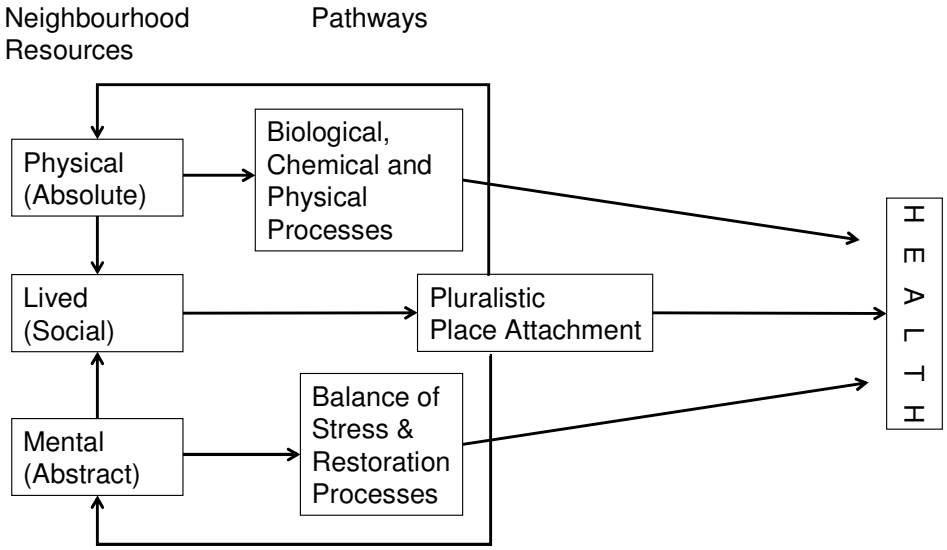


Figure 1: The Healthy Production of Plural Public Space (Conceptual Model)

The *lifeworld* or everyday environmental experiences, constituted by the total of a person's first-hand involvements with the geographical world in which he or she lives, frame the connection between place attachment and diversity in experience (Seamon 1979; 73). Wherever people go,

they orient their world and spatial activities around centres that provide them with place identity, locating them in their environment. The notion of *plural place attachment* recognizes that place must fit the population that it is serving, providing comfort for all of its diverse inhabitants (Lees 2004). Hull (1992) argues that sense of place is related to the idea of *image congruity*, or the fit between meanings attached to a place and an individual's self-image (as cited in Talen 1998). Based on public space literature, in order to fit with an individual's self-image, public space must be relevant, responsive, and appropriate. These spaces should also offer comfort and security, common experience, increased awareness of the community and, especially in the case of marginalized populations, encourage users to see opportunities for hope (Carr 1992; Rivlin 1983; Healey 2002). While it is important to stress that there is no 'one size fits all' model to successful space, research suggests some trends in what constitute successful space for indicators of community life that can be extended to *pluralistic place attachment*. Consciously designed public gathering spaces that consider vitality, fit, control, sense and equitable access as a means of promoting sense of community, contribute to place-based identity more effectively than ad-hoc focal points (Ford, 2000; 210; Talen 2002; 183). The extent to which these guidelines are met is captured in the lived space construct in the model. If the ultimate goal is, as Wilkinson suggests, creating healthy communities that exhibit a strong community life, with public space remaining 'social' space, this study investigates whether the interim goal should be to create spaces that can foster a sense of community among members. Perkins et al argued that place attachment is what leads us to stay and protect our communities by encouraging people to invest resources into improving them (1990). Furthermore, civic participation and place attachment were found to be the only two significant block-level factors that predicted sense of community (Long & Perkins 2007). This model takes Perkins et al. argument as a working assumption and views public space as a social resource that can be used as a political instrument to influence the allocation of social space.

Given that the roots of this model are in Lefebvre's *trialectics of space*, which conceptualizes the social/lived as working between the absolute and the abstract dimensions, these resources have

a tremendous impact on the social/lived experiences of a space and thus an individual's likelihood of establishing place attachment. This relationship is not one way. The bidirectional arrows shown in the representation of this model illustrate an understanding that set of variables can influence each other in multiple and reciprocal ways. Drawing on Perkins et al, a reciprocal relationship occurs between the absolute/abstract dimensions and the social dimension of space. When *pluralistic place attachment* occurs, residents are more likely to make efforts to improve the physical and mental dimensions of a space, and as a result indirectly support health outcomes through the pathways of all three dimensions. The influence of lived space and pathways are underestimated by planners, who often focus on physical and, to a lesser extent, mental space resources. By drawing on Lefebvre, as well as other community psychologists and contemporary urbanists concerned with *lived* experience, place attachment and plurality, this model provides a framework for how less concrete neighbourhood resources can serve as vehicles to community health. Such less tangible social/lived resources and their respective pathways to health may contribute more to collective resources than initially thought. The incorporation of pluralistic place attachment into this model addresses some of the underdeveloped concepts of Lefebvre's theory. Furthermore, given that it accommodates for plurality, it can be applied to contemporary Canadian cities.

Based on the literature and the model used to frame this study, certain findings can be anticipated. First, relationships between all three dimensions of space (physical, mental and lived) and health can be anticipated. Second, relationships between lived space and place attachment are anticipated. Third, relationships between place attachment and health outcomes can be anticipated. While the model in this thesis outlines the role that plurality of experience plays in the relationship between place attachment and health, limitations presented by the study's design prevent analysis on the diverse populations within the city. This study draws comparisons between neighbourhoods of various built environments and between foreign- and Canadian-born participants. The fourth finding anticipated is that the aforementioned relationships will be stronger in neighbourhoods characterized by a denser built form, since these participants must adequately share their neighbourhood public spaces among more residents in a

given area, increasing the chance for interaction. By comparing foreign and Canadian-born participants' data, it is anticipated that some patterns will appear. The fifth anticipated finding is that foreign-born participants will exhibit a stronger relationship between lived space and place attachment than their Canadian-born counterparts. It is speculated that foreign-born participants' place attachment may be more heavily influenced by their experience within space, or lived space, as a result of a lack of some of the mental space factors that may promote place attachment for Canadian-born participants, such as ancestral or historical ties to an area. Though, this may be influenced by the length of time they have spent in Canada. Finally, while it is anticipated that the relationship between place attachment and health will be similar among both foreign and Canadian-born participants, it is also anticipated that the relationships between public space, place attachment and health will be experienced differently by various urban populations and they anticipate that this difference will be observed in different variables being significant in each subgroup.

The *production of healthy public space* model presented in this chapter draws on the work of Lefebvre, Jacobs and Sandercock to conceptualize the pathways between the lived experience of space and health as between the absolute and the abstract dimensions of space. The lived dimension of space impacts an individual's likelihood of establishing place attachment. The model also emphasizes that there are many different ways to experience the same space. The next chapter operationalizes this model and describes the research design employed in order investigate the relationship between public space, place attachment and health.

Chapter 4: Research Design

Introduction

The methods employed here have been designed in a way that is consistent with the exploratory nature of the study and with data constraints. This study aims to disentangle the mediating processes between the urban environment, indicators of community life and health. Through a face-to-face administered community health survey, this study investigates the social pathways between public space and health in four carefully selected low-income neighbourhoods each with diverse populations and contrasting built environments.

The Healthy Production of Plural Public Space: An Analytic Model

An analytical model which frames the empirical application of the conceptual model presented in the previous chapter is represented by figure 2. Access to public spaces, such as green spaces, community gathering places and recreational facilities served as indicators of the physical dimension of public space, while perceptions of neighbourhood safety and level of worry while home alone at night served as indicators of the mental dimension of space. The following were indicators of lived space: satisfaction with public spaces, satisfaction with neighbourhood, frequency of relocation in the past 5 years and familiarity with neighbours. Pluralistic place attachment was operationalized as sense of community belonging, neighbourhood unity (collective efficacy) and membership in voluntary organizations (civic participation). Finally, the health outcome measures used were self-rated health status, mental health and instance of chronic conditions. The rationale behind indicator selection will be discussed in greater detail in chapter six. The survey data was analyzed by generating frequencies and descriptive statistics, as well as running a series of non-parametric tests using SPSS predictive analytical software.

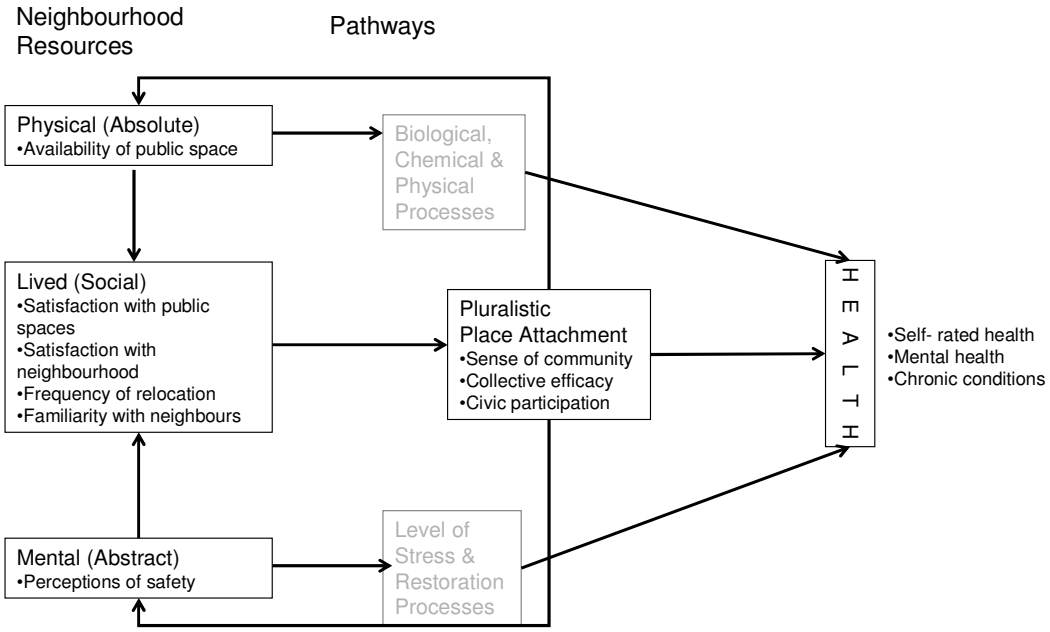


Figure 2: The Healthy Production of Plural Public Space (Analytical Model)

This chapter presents the methods used in this study and the reasons why they were chosen. This section begins by presenting the background on the selected research methods and decisions made in designing the research protocol. Next, specific details of the procedures used are given, such as the strategic selection of participating neighbourhoods and survey administration. Finally, this chapter concludes by presenting the methods used to analyze the survey data.

Methodological Issues

Qualitative versus Quantitative Data Collection

Quantitative methods are useful in providing a basis for suggesting relationships, whereas qualitative methods can be used in explanatory and descriptive studies (Eisenhardt, 2002). While I would have liked to conduct key-informant interviews to get a more thorough understanding of the role of public space in the lives of neighbourhood residents, time did not permit this. Given the

lack of instruments explicitly relevant to the role of public space on health and the time constraints of this study, a broad community health survey comprised primarily of a mix of Likert-scale, categorical and open-ended questions to which access had been granted was used. The infancy of this topic made it inappropriate to formulate and test a hypothesis. Instead, this study produced a guide for future research on the relationship between neighbourhood public spaces and community health through the opportunities for place attachment that they provide.

Neighbourhood Level Research

The appropriate scale on which a study takes place is an important methodological consideration. While traditionally social science research has been conducted at the individual level, there has been a more recent movement to investigate “place effects” on health at the neighbourhood level which can examine the role of the social and physical environment for area residents; this, was discussed in greater detail in chapter two (Macintyre et al 2002).

Research illustrates the value of neighbourhood level studies. Residents of disadvantaged census tracts have been found to be more likely to report neighbourhood problems. This same study showed that residents’ perceptions of their own neighbourhood are grounded in reality and reflect the local physical and social contexts (Balfour and Kaplan 2001). Since neighbourhood differences are not “naturally” determined, and rather are a consequence of social and economic processes that are influenced by policy, the development of objective measures of neighbourhood environments has posed a challenge for epidemiologists interested in neighbourhood impacts on health (Diez Roux, 2002). It is often challenging to provide information on pathways between the physical features of an area and an outcome of interest, like health, necessitating more detailed neighbourhood level research. While neighbourhood level studies offer a broad understanding of urban health issues, discrepancies between administrative and residential-defined neighbourhood boundaries as well as variation among residents with regard to what constitutes such boundaries, present some limitations. For comparative purposes, this study has used census tract boundaries to define each neighbourhood.

Site Selection

This study included a stratified sample or small number of carefully selected contrasting neighbourhoods in order to obtain a predetermined balance of different neighbourhood built environments and diverse communities, a method that has been used in previous studies to investigate the role of community resources on health (Diez Roux 2001; 1784; Hoover 2005; 282). Four of Toronto's low-income neighbourhoods: South Parkdale, Weston-Mt. Denis, St. Jamestown and Eglinton East. Each of these four neighbourhoods represents a different type of built environment, urban high-rise (St. Jamestown), urban low-rise (South Parkdale), aging suburb (Weston-Mt. Denis) and sprawling suburb (Eglinton East). Selecting neighbourhoods with contrasting built environments provides the opportunity to explore the interaction between neighbourhood level physical environments and indicators of community life. See table 1 for a breakdown of neighbourhood socio-demographics for each neighbourhood in comparison with the Toronto census metropolitan area.

These neighbourhoods were also selected to take advantage of existing partnerships with the Intensive Research on Neighbourhoods and Health Initiative (IRONhI), a collaborative research project supported by the Centre for Research on Inner City Health and the Centre for Urban Health Initiatives (CUHI). This study aims to contribute to a collaborative effort to build an understanding of these neighbourhoods and to facilitate future research. There are two additional neighbourhoods included in the IRONhI project which are middle-income neighbourhoods: Banbury-Don Mills and North Riverdale. These two IRONhI project neighbourhoods were not included because they did not contribute much in offering highly contrasting built forms from the pre-selected four IRONhI neighbourhoods in which the Rapid Health Assessment was to be administered.

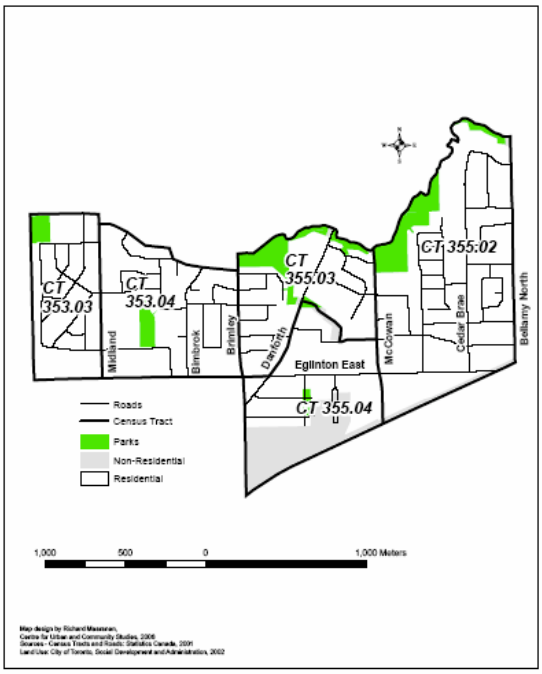
Table 1: Change in Study Neighbourhoods with Toronto Census Metropolitan Area Comparison (1971-2001)

	Eglinton East			South Parkdale			St. Jamestown			Weston-Mt. Dennis			Toronto CMA		
	1971	2001	Change	1971	2001	Change	1971	2001	Change	1971	2001	Change	1971	2001	Change
Population	15,760	22,700	44%	18,255	22,580	24%	13,070	18,565	42%	18,495	30,435	65%	2,626,000	4,683,000	78%
Households	4,582	7,865	72%	6,925	10,470	51%	6,680	8,450	26%	6,255	11,840	89%	774,000	1,635,000	111%
Persons Who Moved in Previous 5 Years	60%	48%	-12%	68%	57%	-11%	84%	58%	-26%	59%	50%	-9%	53%	45%	-8%
Born in Canada	70%	40%	-30%	57%	39%	-18%	59%	42%	-17%	66%	47%	-19%	66%	44%	-22%
Median Household Income (constant 2001 dollars)	$48,400	$42,300	-$6,100	$34,400	$28,600	-$5,800	$33,500	$28,400	-$5,100	$41,100	$40,100	-$4,000	$49,000	$60,000	$11,000
Average Dwelling Values (constant 2001 dollars)	$149,000	$184,000	$35,000	$192,600	$294,695	$102,095	$46,325	$247,300	$200,975	$124,300	$192,900	$68,600	$155,000	$273,000	$118,000
Rented Dwellings	61%	56%	-5%	85%	92%	7%	97%	97%	0%	56%	56%	0%	42%	37%	-5%
Apartments (condos & rentals)	57%	71%	14%	79%	85%	6%	94%	94%	0%	51%	62%	11%	32%	38%	6%
Single Detached Homes	40%	25%	-15%	7%	8%	1%	1%	1%	0%	43%	32%	-11%	49%	45%	-4%
Persons with a University Degree	3%	17%	14%	5%	24%	19%	16%	30%	14%	3%	14%	11%	8%	28%	20%

Source: Statistics Canada, Census 1971, 2001 (Excerpted from Maaranen 2006)

Two of the study neighbourhoods, Weston-Mt. Denis and Eglinton East, are “high-need/high-risk” priority neighbourhoods as defined by the City of Toronto (City of Toronto 2008b). This status was designated by an initiative of the Strong Neighbourhoods Task Force, a collaborative effort initiated by Toronto City Summit Alliance and implemented by the United Way of Greater Toronto to identify high-risk and under serviced areas. Thirteen city of Toronto neighbourhoods were identified for focused investment to strengthen neighbourhood supports in the Strong Neighbourhood’s Strategy by using spatial analysis to compare the location of population groups to the physical location of the services that are designed to meet their needs. The services which were considered included recreational facilities, community centres, schools, health centres, hospitals and services for specific needs (children, seniors, recent immigrants, low-income populations, etc.) (City of Toronto 2005). This is part of a larger City Community Safety Plan whose primary goals are to coordinate meaningful partnership among the police, community groups and residents to mobilize coordinated local service delivery (City of Toronto, 2008).

Figure 3: Map of Eglinton East (Maaranen 2006)



Eglinton East is located northeast of the downtown core, just south of Lawrence Ave East. A series of parks serve as its northern border, with Bellamy Rd. North and railroad tracks serving as its eastern and western boundaries respectively. The neighbourhood is centred on Eglinton Ave East and Danforth Rd, both of which serve as the main streets of the neighbourhood (see Figure 3).

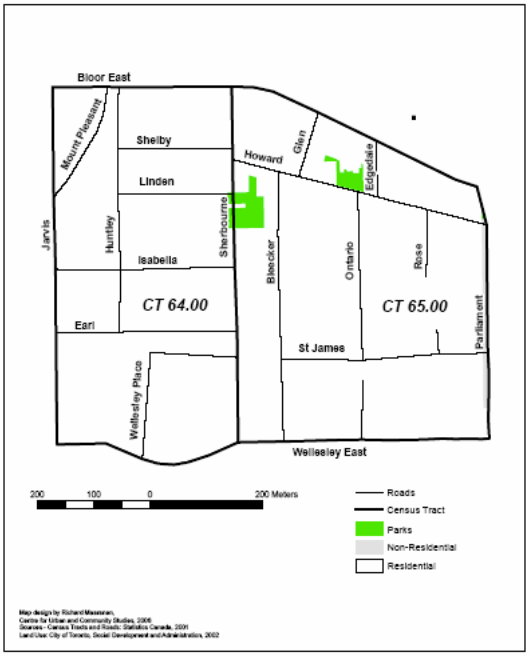
Eglinton East welcomes more recent immigrants, new Canadians who have arrived within the last five years, than the city of Toronto average. It also has a much lower median household income than the residents of the city as a whole and the average dwelling was valued almost $100,000 below the city average at $184,000 in 2001 dollars. As an early suburb, Eglinton East retains the atmosphere of a sprawling suburban neighbourhood, with winding streets and little pedestrian infrastructure. There are a notable number of neighbourhood parks along the northern border of the community, which provide green spaces and walking paths, but few facilities for specific activities, like sports. The neighbourhood is primarily single-family detached homes. Homes located to the east of Danforth Rd. appear to be larger, with sprawling lawns that are well-maintained, while those west of Danforth Rd. appear to be smaller and less maintained. Eglinton East is not well connected to downtown; travel to which requires taking a combination of buses, the Scarborough Rapid Transit line and a thirty minute ride on the Bloor-Danforth subway line. Eglinton East is not wealthy, is poorly serviced with amenities and has struggled with a criminal reputation, but has recently been designated as a city “priority neighbourhood”, which hopefully will combat some of these challenges.

Figure 4: Map of South Parkdale (Maaranen 2006)

South Parkdale is located west of the downtown core, just north of the Gardiner Expressway. The neighbourhood is centred on King St West. Queen St West serves as northern border, and along with King serves as the main street in the neighbourhood (see Figure 4).

South Parkdale welcomes more recent immigrants, new Canadians who have arrived within the last five years, than the city of Toronto average. It also has a much lower median household income than the residents of the city as a whole, while the average home is valued above the city average, at just under $300,000 in 2001, resulting from an increase in over $100,000 in the last 30 years (see Table 1). As a former wealthy area, South Parkdale retains the atmosphere of an old heritage neighbourhood, with many mature trees and large older homes. There is also a notable number of neighbourhood parks, a majority of which cater to specific recreational activities, like playgrounds or soccer fields. It is comprised of a mix of large detached homes, many of which have been converted into multiple units, low- and mid-rise apartment buildings and a couple of high-rise apartment buildings. South Parkdale is well connected to downtown, with frequent streetcars on both King and Queen and a bus on Dufferin that provides access to the Bloor-Danforth subway line. The neighbourhood is not wealthy, and has a history of struggling with a high mentally ill population, but in recent years has seen an influx of gentrifying young professionals who have contributed to the rise in property values. While the neighbourhood struggles with its unique mental illness and addiction issues, its connection to the downtown core, recent influx of capital, and the commitment of local residents have kept it well serviced.

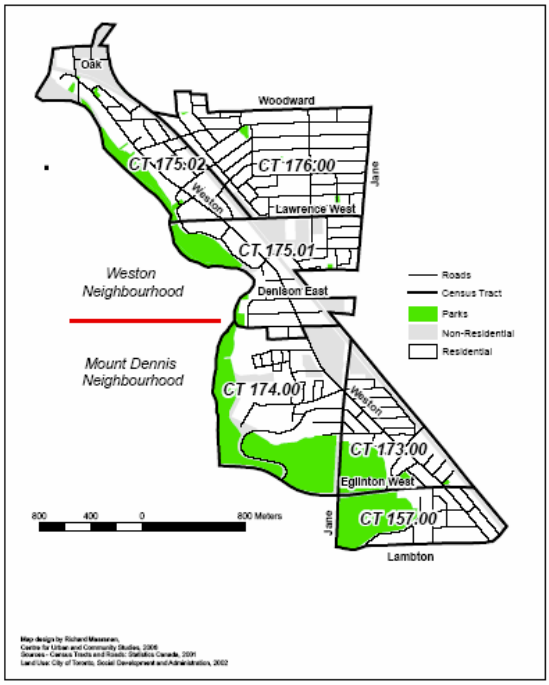
Figure 5: Map of St. Jamestown (Maaranen 2006)



St. Jamestown is a high-density downtown neighbourhood, just south of the wealthy neighbourhood of Rosedale and northwest of Canada's largest and oldest publicly funded housing community, Regent Park. The neighbourhood is centred on Sherbourne St. which, along with Bloor St. West to the north, serve as the neighbourhood's main streets. It is bordered by Parliament to the east, Wellesley to the south and Jarvis to the west (see Figure 5).

St. Jamestown welcomes more recent immigrants, new Canadians who have arrived within the last five years, than the city of Toronto average. It also has a much lower median household income than the residents of the city as a whole (see Table 1). The average home is valued at just under $250,000 in 2001, an increase of over $200,000 in the last 30 years (see Table 1). Most of St. Jamestown's population (94%) resides in high-rise apartment or condo buildings, and 97% of neighbourhood residents rent. St. Jamestown feels very much like an aging apartment-block neighbourhood, with concrete buildings and few patches of green space. St. Jamestown is well connected to downtown, with immediate access to the Bloor-Danforth subway line at Sherbourne and Bloor, as well as frequent bus service on Parliament, Wellesley and Sherbourne. While St. Jamestown is not a wealthy neighbourhood, it is an educated one, with nearly one-third (30%) of its population having a university degree. St. Jamestown's central location, proximity to wealthier communities and committed residents have ensured that it has stayed well-serviced.

Figure 6: Map of Weston-Mt. Denis (Maaranen 2006)



Weston-Mt. Dennis is an inner suburb located west and north of the downtown core, on the banks of the Humber River. The neighbourhood is centred on the Georgetown railway line which runs from Guelph to Union Station in downtown Toronto. Weston Road runs parallel to the tracks and serves as the main street of the neighbourhood (see Figure 6).

Weston-Mt. Dennis welcomes more recent immigrants, new Canadians who have arrived within the last five years, than the city of Toronto average. It also has a much lower median household income than the residents of the city as a whole (see Table 1). As a result of concerns that the neighbourhood is becoming an area of concentrated poverty, the city of Toronto has designated the area a priority neighbourhood for targeted programs (City of Toronto 2006). The average home is valued under $200,000 in 2001 (see Table 1). However, Weston-Mt. Dennis is still a very mixed neighbourhood. Away from the main streets, Weston retains the atmosphere of an old heritage neighbourhood, with many mature trees and large older homes. There is also a large park along the Humber. It is comprised of a mix of large single family homes, strip malls, subdivisions and high-rise apartment buildings. Weston-Mt. Denis is not well connected to downtown, with frequent but slow bus service, and limited but expensive GO trains (Go Transit 2008). The neighbourhood is not wealthy, and without good transit links to the city it is difficult for the neighbourhood to develop further. The recent “priority neighbourhood” distinction that it has received from the city along with the commitment of residents are both good signs that the neighbourhood will be able to continue to offer a welcoming home and community to both new and existing residents.

Rapid Community Health Assessment Survey

Data for this study were collected by questionnaire administered face-to-face. Data collection was conducted by the Centre for Research on Inner City Health (CRICH) at St. Michael's Hospital and funded by the Ministry of Health and Long Term Care. The focus of the questionnaire was a thorough but short assessment of the general and mental health status of neighbourhood residents aged eighteen and above, including resident-identified neighbourhood health priorities and specific health needs (see Appendix A). A majority of the 101 questions were closed-ended (categorical and Likert-scale questions) but open-ended questions identifying neighbourhood health priorities and possibilities for targeted or participatory interventions were also included. The target length of each interview was 30 minutes, though at times surveys took up to 80 minutes to administer. While the questionnaire was focused on a broad range of health-related issues, this study primarily focused on questions relating to availability, perceptions and the condition of community public spaces, perceptions of neighbourhood public spaces, social support, social capital, sense of community, and health outcomes like self-rated health, mental health and instance of chronic disease, in addition to demographics. The research protocol for the rapid assessment tool was approved by the Research Ethics Board of St. Michael's Hospital and the use of its data in this study was subsequently approved by the University of Toronto Research Ethics Board.

Development of the survey instrument was overseen by a steering committee, made up of academics, as well as policy and community representatives that decided which indicators would be used and prioritized research questions. Many of the questions included in the final rapid assessment tool were taken from other survey instruments such as the Canadian Community Health Survey, to produce comparable data describing health status and its determinants – but also included open-ended questions identifying neighbourhood health priorities and possibilities for targeted or participatory interventions (see Appendices B & C).

The survey was divided into five sections which covered households/neighbourhoods, health access, personal health, neighbourhood priority issues and demographic questions. It was deliberately designed in an order that would put participants at ease, working up to more personal

and sensitive questions such as those pertaining to social support and mental health. The questionnaire began with mostly categorical-questions on household composition, housing and transportation, followed by a series of Likert-scale questions that measured civic participation, psychological sense of community, safety concerns, food security, availability of neighbourhood amenities (such as public spaces) and satisfaction with these amenities. The open-ended, ordinal and Likert-scale questions that followed explored the participant's access to the health care system. Personal health was also measured through a set of questions that began with a Likert-scale perceived health question followed by a series of Likert and categorical questions that addressed health-related behaviours, instance of chronic disease, social support and mental health. There were two open-ended questions on neighbourhood priority. Finally, the survey concluded with demographic questions, which gathered information on gender, age, education, income and ethnicity.

Participant Recruitment and Selection

Systematic random sampling was used to recruit participants to participate from each of the four study neighbourhoods. First, a randomly selected subset of block-faces within each neighbourhood was randomly selected to participate. A block-face is defined as the area on both sides of the block, spanning the street until it is interrupted by a break in the sidewalk or a cross section. Using block-face data combats the assumption that neighbourhoods are homogenous, since depending on street layout, there may be significant variations in access to quality public space throughout a given neighbourhood. Due to low response rate the project team decided to include all of the block-faces in the selected neighbourhoods. Within each block-face surveyors approached every 7^{th} household. If the selected address had more than one unit, each unit was considered a separate household. If the selected address was an apartment building, surveyors would begin at the ground floor and approach every 7^{th} apartment, beginning their count with the lowest numbered apartment. The individual who answered the door was asked if they were over eighteen years of age and if so was invited to participate in the study. When contact was made with a household and more than one resident was present, the individual with the most recent birthday was asked to participate. Table 2 shows the sampling precision achieved based on estimates of rates for various risk factors and outcomes for the total population of all four

neighbourhoods and for individual neighbourhoods, as well as each of these aggregations divided by gender.

Table 2: Rapid Needs Assessment Response Rates

	Eglinton East	Parkdale	St. Jamestown	Weston	Total
Completed:	127	181	200	242	750
Contacted, but hard refusal:	227	297	241	353	1118
No refusal, no interview:	82	93	75	138	388
Sampled, but not contacted:	473	599	836	854	2762
Language barrier:	21	38	16	35	110
Residence empty:	7	6	1	16	30
Other:	3	0	0	4	7
Total (Not including "Residence Empty," "Language Barrier," and "Other"	909	1170	1352	1587	5018
Response Rate Method 1: (Total-Hard refusals)/Total	75.02750275	74.61538462	82.17455621	77.75677	77.72021
Response Rate Method 2: [Total-(Hard refusals+ Sampled, not contacted + No refusal, no interview)]/Total	13.97139714	15.4700855	14.79289941	15.2489	14.9462
Percentage "Sampled, but not contacted": (Sampled, but not contacted)/Total	52.03520352	51.1965812	61.83431953	53.8122	55.0418

Survey Administration

The survey field work was completed between August 2007 and February 2008. When surveyors approached households for participation in the study, potential participants were assured of its anonymity, confidentiality and voluntary nature, which permitted them to skip any questions that they were not comfortable with or terminate their participation and have their responses removed from the data set at any time (see Appendix D for participant information sheet). After the questionnaire was administered (regardless of whether or not it had been completed) each survey participant received a twenty dollar honourarium thanking them for their time, regardless of whether or not they completed the questionnaire in full. Furthermore, participants were provided with the contact information for various community health and social services to address concerns which may have come up in the survey.

It is important that this investigation be objective. Ways of establishing inter-rater reliability were built into the design of each of the data collection instruments. Surveyors were trained in administration of the questionnaire and sampling of households within randomly selected block-faces For safety purposes and transparency with the participants, surveyors either phoned a research coordinator to inform them when they were about to begin a survey and gave them the address of the household, or they worked in pairs. Questionnaires were usually completed in the entrance to a participant's home or in some cases in a living room or kitchen.

Sample Size

The response rate, accounting for hard refusals, was 77.72% (see Table 2). This generated a sample total of 785 face-to-face administered questionnaires, 197 in South Parkdale, 238 in Weston-Mt. Denis, 227 in St. Jamestown and 123 Eglinton East. The analysis presented here reflects all of the administered questionnaire participants.

Coding

Questionnaire responses were coded with SPSS software and cleaned using a two part process (see Appendix E for details). Questionnaire responses were supplemented by notes taken by surveyors in the margins of the questionnaire. These notes recorded additional information that the surveyors thought might be useful and in some cases assisted with the coding of data and eased analysis.

Analysis:

The analysis took place in three stages. In the first stage, variables were first examined by neighbourhood so that the investigators would have a more thorough understanding of the sample population, and trends between neighbourhood populations could be identified. The structure of the rapid assessment tool permitted statistical analyses to identify frequencies, and descriptive statistics, including means, medians, rates, and standard deviations for individual variables. In the second stage, the relationships between each neighbourhood's physical, mental and *lived* dimensions of public space, indicators of community life and health were examined through the following research questions, drawn from the study's conceptual model:

1. Is there a correlation between *physical (absolute)* resources and health?
2. Is there a correlation between *mental (abstract)* resources and health?
3. Is there a correlation between *physical (absolute)* resources and *lived (social)* resources?
4. Is there a correlation between *mental (abstract)* resources and *lived (social)* resources?
5. Is there a correlation between *lived (social)* resources and health?
6. Is there a correlation between *lived (social)* resources and pluralistic place attachment?
7. Is there a correlation between pluralistic place attachment and health?

Since most of the indicators were measured through close-ended questions, analysis primarily consisted of a series of non-parametric bivariate tests between explanatory and outcome variables, which calculated the association and significant differences between the predictor variables and outcomes brought forth by this study's research questions. These are discussed in greater detail in chapter six. In the final analysis stage, qualitative responses for the open-ended questions pertaining to neighbourhood priority issues were coded to generate the frequency with which participants indicated that public space was a priority of theirs. Key themes and linkages were identified and comparisons were drawn between neighbourhoods and subgroups, such as Canadian and foreign-born participants.

Chapter 5: The Social Pathways between Public Space and Health

This next section presents the findings of this study, situated within the analytical model discussed in chapter four. The variables that were chosen are indicators of the constructs in the conceptual model, not measurements of the constructs themselves. Indicators have been chosen based on the investigator's understanding of the following constructs: the physical, mental and lived (social) dimensions of space; pluralistic place attachment and health outcomes. The survey instrument was not designed to capture the plurality of the urban experience, thus, this cannot be fully captured in this study. Alternatively, this study compares neighbourhood populations and investigates the ways in which foreign-born participants experience the relationships between public space, place attachment and health as compared to Canadian-born participants.

Individual Level Indicators

Demographics:

Socio-demographics, such as gender, age, education, income, ethnicity, immigrant status were treated as explanatory variables in bivariate tests. These variables were all measured through categorical questions which will be discussed in greater length in-text.

Social Support:

This study measured social support using the Social Provisions Scale, which was developed to assess the provisions of social relationships described by Weiss (1973). The scale consists of a series of questions which ask whether participants feel they have people they could depend on, are a part of a group that shared their interests/beliefs, have relationships that provided emotional security, have trustworthy people they could turn to for advice and have people who admired their talents/abilities. Scores on the measure have been shown to predict adaptation to stress among a wide variety of populations, including post-partum women, spouses of cancer patients, the elderly, and individuals working in stressful job situations. Research has supported the reliability and validity of the Social Provisions Scale, as well as the factor structure of the measure (Cutrona & Russell, 1987). Using the Social Provisions Scale, scores can be derived for each of the six provisions as well as for a global social support score. In this study, scores were dichotomized

into participants at the 25th percentile using the overall sample, distinguishing those participants who fall under the 25th percentile are those that have the least social support.

Neighbourhood Level Indicators

Physical Space:

Physical space was operationalized as perceived availability of neighbourhood public spaces, such as green spaces, community gathering places and recreational facilities. It is not possible to measure the impact of every element of the physical and mental dimensions of space. Accessibility to public spaces was measured by three questions that asked participants to rank the availability of the aforementioned neighbourhood amenities. By focusing on residents' perception of the availability of public spaces rather than relying solely on a systematic rating of its quality and accessibility, the diverse needs of users begin to be captured.

Mental Space:

Mental space was operationalized as perceptions of neighbourhood safety during the day and night, as well as level of worry when at home alone during the night. It is limiting to assume that space, such as a neighbourhood green space, has the same meaning across different populations. The variables chosen as indicators of the mental dimension of space measure the mental accessibility of a space, influenced by perceptions one has and the level of mental comfort one feels in a given space. Perceptions of neighbourhood safety are measured through two questions which ask the participant if there are places in their neighbourhood which they are afraid to visit during the day or at night. There is an additional question which asks the participant to rank the level of worry they feel when at home alone at night. By determining if there are neighbourhood places a participant does not feel comfortable in, a level of comfort in neighbourhood public spaces is indicated.

Lived Space:

Lived space was operationalized as satisfaction with neighbourhood public spaces; green spaces, community gathering places and recreational facilities; satisfaction with neighbourhood

overall; and familiarity with neighbours. Unfortunately, the local meaning of if, how and why a neighbourhood public space is being used by a area residents cannot be captured without a qualitative component, but given the constraints on this study it was not possible to incorporate one. Measures of the satisfaction that participants have with their neighbourhood public spaces and their neighbourhood overall are indicators of the experiences that they have with such spaces, if they engage with them at all and if so, whether their experiences are positive or negative. Measures of satisfaction also serve as indicators of whether neighbourhood spaces are relevant to and meeting the needs of neighbourhood residents. Satisfaction is measured through a series of questions which asks participants to rank their satisfaction with the aforementioned amenities. While an argument could be made that satisfaction serves as an indicator of mental space, this thesis argues that satisfaction is based on a combination of physical and mental factors, which determine a space's social accessibility; making it a more appropriate indicator of lived space. Familiarity with neighbours serves as an indicator of the ways in which participants have experienced their neighbourhood space – either as an individual or as a resident of a community, and is measured with a question which asks participants to indicate on a scale the proportion of neighbours he/she is familiar with. Neighbourhood satisfaction is measured in two ways. The first method is though a likert-scale question which asks participants to rate their overall satisfaction. The second method is an index based on a participant's mean rank of a series of likert-scale questions which asks their satisfaction with a number of specific neighbourhood amenities and services, such as public spaces, places to buy healthy food as well as social and health services. Scores are then dichotomized and people who score under that 25th percentile are categorized as "least satisfied" with their neighbourhood.

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Place Attachment:

Place attachment, the positive affective bond between individuals and the environment (Rivlin 1992) was operationalized as sense of community belonging; collective efficacy and civic participation. Place attachment, the bond between individuals and their environment, is an underexplored determinant of health and there is limited literature from which to extrapolate adequate indicators of its measurement. Sense of community belonging lends itself to measuring place attachment by indicating how socially attached an individual is to their community. Here, it

is measured by a question which asks participants to rank their sense of community to their local community. Collective efficacy lends itself to the study of place attachment by indicating the level at which participants feel a sense of social cohesion, shared responsibility to their community and a common good among neighbours. Here, it is measured with a question which asks participants to rank the extent to which he/she agrees that when presented with a neighbourhood problem, neighbours will get together to deal with it. Civic participation is a Putnam-esque indicator of social capital. Here, it is measured by a question which asks participants if they are members of any voluntary organizations. While official membership in community organizations is only one facet of social capital, it is usually regarded as a "useful barometer" of community involvement and is the most commonly used indicator of social capital (Putnam, 2000; 49). Participant data on indicators of place attachment, were dichotomized. While civic participation was originally dichotomized due to the nature of the question, sense of community and collective efficacy were dichotomized to differentiate between those who reported "very weak" or "somewhat weak" from those who report it as "somewhat strong" or "very strong" sense of community, and those who report to "strongly agree" or "agree" from those who report "disagree" or "strongly disagree" that their neighbours collectively deal with problems respectively.

Health Outcomes:

The health outcomes which were used in this study were general health, mental health and self-reported incidence of chronic disease. General health was measured by a question which asked participants to rank his/her physical, mental, and social well-being compared to other people their age. Mental health was measured through a series of questions which asked participants to rate the amount of times in the last 4 weeks that he/she had been a nervous person, felt calm and peaceful, felt downhearted and blue, been a happy person and felt so down in the dumps that nothing could cheer them up. These questions are part of the Mental Health Inventory (MHI-5) which then assigns a score which indicates the "probable caseness", in other words, the probability that someone suffers from a clinically diagnosable mental disorder. Research has shown that the MHI-5 has high reliability and validity; allows measurement of both positive and negative affect; and is useful for predicting and detecting psychiatric illness, as well as for predicting use of general medical services (Veit & Ware, 1983). These scores were dichotomized

into two groups which distinguished participants who are a 'probable case' for a mental disorder and those who are not. Instance of chronic conditions was measured through a series of four questions which asked participants if they had been diagnosed by a health care provider as suffering from asthma, arthritis, diabetes or high blood pressure. If participants indicated that they suffered from one or more of these, they were categorized as suffering from a chronic condition.

Participant data on health outcomes was dichotomized to differentiate two groups of people. For example, in the case of self-rated health status, participants were dichotomized between those reporting their health as "fair" or "poor" (poor health perception) and those who consider it "excellent", "very good" or "good". In the case of mental health and instance of chronic disease the data was dichotomized by the initial coding.

Findings: Individual Level Characteristics

Socio-demographics

Gender:

Of the overall sample, 53.9% of the participants were female and 46.1% were male. The highest frequency of male participants within the neighbourhoods was observed in St. Jamestown at 59.6% followed by 44.1% in Parkdale. In Eglinton East, 43.4% of the participants were male and the neighbourhood with the lowest number of male participants was Weston at 36.3%. The highest number of female participants in the survey was from Weston at 63.7% followed by 56.6% and 55.9% in Eglinton East and Parkdale, respectively. The lowest number of female participants was observed in St. Jamestown at 40.4%.

Ethnicity:

Table 3 presents findings on the most common ethnic groups represented in the overall sample. They were, in order of the highest proportion of the overall sample: Canadian, European countries, Asian countries, Caribbean and Jamaican and African countries.

Table 3: Individual Level Characteristics (Socio-Demographics)

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Gender					
Male	43.4% (53)	44.1% (86)	59.6% (134)	36.3% (86)	46.1% (359)
Female	56.6% (69)	55.9% (109)	40.4% (91)	63.7% (151)	53.9% (420)
Ethnicity:					
African countries	7.4%(9)	5.2%(10)	4.0%(9)	17.9%(42)	9.1%(70)
Caribbean and Jamaican	19%(23)	6.8%(13)	0.05%(11)	17.9%(42)	11.6%(89)
Canadian	19.8%(24)	29.8%(57)	28.5%(63)	25.6%(60)	26.6%(204)
Asian (South & East)	24.8%(30)	10.5%(20)	18.6%(41)	3%(7)	12.8%(98)
European Countries	9%(11)	22%(42)	20.8%(46)	21.8%(51)	19.6%(150)
Other	19.8%(24)	25.7%(49)	23.1%(51)	13.7%(32)	19.9%(156)
Total	100%(121)	100%(191)	100%(221)	100%(234)	100%(767)
Education					
Less than High School	18.8% (24)	23.8% (47)	15.2% (34)	27.2% (64)	21.8% (169)
Completed High School	25.6% (31)	20.8% (41)	16.1% (36)	25.1% (59)	21.5% (167)
Post Secondary Education	54.5% (66)	54.9% (108)	68.7% (154)	47.7% (112)	56.5% (440)
Total	100% (121)	100% (196)	100% (224)	100% (235)	100% (776)
Yearly income (LICO)					
25th percentile or below	13.8% (17)	29.9% (59)	24.2% (55)	27.7% (66)	25.1% (197)
Above 25th percentile	86.2% (106)	70.1% (138)	75.8% (172)	72.3% (172)	74.9% (588)
Total	100% (123)	100% (197)	100% (227)	100% (238)	100% (785)
Annual Income					
$0– 9,999	6.5% (8)	8.6% (17)	11.9% (27)	11.8% (28)	10.2% (80)
$10,000- 19,999	17.9% (22)	38.6% (76)	24.2% (55)	28.2% (67)	28.0% (220)
$20,000 – 29,999	18.7% (23)	18.8% (37)	18.9% (43)	11.8% (28)	16.7% (131)
$30,000 – 39,999	22.8% (28)	14.7% (29)	18.1% (41)	16.0% (38)	17.3% (136)
$40,000 - 49,999	7.3% (9)	6.6% (13)	11.5% (26)	9.2% (22)	8.9% (70)
$50,000 or more	26.8% (33)	12.7% (25)	15.4% (35)	24.2% (55)	18.9% (148)
Total	100% (123)	100% (197)	100% (227)	100% (227)	100% (785)
Immigration?					
Canada-born	24.0 (29)	45.7% (90)	43.1% (97)	36.3% (86)	38.7% (302)
Foreign-born	76.0 (92)	54.3% (107)	56.9% (128)	63.7% (151)	61.3% (487)
Total	100% (121)	100% (197)	100% (225)	100% (237)	100% (789)

Education:

In the total sample, 56.5% of the participants reported that they had post secondary education whereas 21.8% reported having less than high school. Another 21.5% of the total participants reported that they have completed high school. The greatest education proportion was observed in St. Jamestown, as 68.7% of participants reported having post secondary education. Similar numbers 54.9% and 54.5% reported having post secondary education in Parkdale and Eglinton East, respectively, while 47.7% was observed in Weston. Weston had the highest proportion of participants with less than high school education at 27.2% followed by Parkdale at 23.8%. In

Eglinton East, 18.8% of participants reported having less than high school education followed by St. Jamestown at 15.2%. The highest number of people who had completed high school was recorded in Eglinton East at 25.6% followed by 25.1% in Weston. In Parkdale, 20.8% of participants reported having high school diploma followed by the lowest observation in St. Jamestown at 16.1%.

Yearly Income:

The yearly income results are shown in table 3. Each participant was classified as above or below the 25th percentile for yearly income (based on responses from all participants in the survey), creating a measure of low-income for each participant. The highest finding of earnings within the neighbourhoods was observed in Eglinton East at 86.2% for above the 25th percentile category followed by St. Jamestown at 75.8%. In Weston, 72.3% of the participants were in the above 25th percentile category followed by the lowest 70.1% in Parkdale.

Immigration:

The question in the survey on immigration status was dichotomized as 'Canadian-born' and 'foreign-born'. In the overall sample, 61.3% of the participants were foreign-born whereas the other 38.7% were Canadian-born. The results in the study neighbourhoods show that the highest frequency of foreign-born participants was observed in Eglinton East at 76.0% followed by 63.7% in Weston. In St. Jamestown, 56.9% of the participants were foreign-born while the lowest number of foreign-born participants was found in Parkdale at 54.3%.

Household Characteristics

Number of people living in the household:

A majority (64.5%) of the participants' households in all four neighbourhoods were comprised of two to four people, whereas 25.3% (198) of the households were comprised of one person and 10.2% (80) of the households had five or more people. Eglinton East reported the highest proportion of participants living in a household of 2 to 4 people (70.7%), followed by Weston (67.4%), Parkdale (64%) and St. Jamestown (58.6%). Neighbourhoods reported the proportions of participants living in households of five or greater people in the same order. St. Jamestown

reported the highest proportion of people living alone at 35.7% (81), followed by Parkdale at 27.9% (55), Weston at 20.3% (48) and Eglinton East at 11.4% (14). The household sizes is not surprising across the four houses, as they reflect the dwelling type available in each – with neighbourhoods comprised of predominantly apartments having fewer household members.

Table 4: Individual Level Characteristics (Household)

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Number of people living in household?					
One person	11.4% (14)	27.9% (55)	35.7% (81)	20.3% (48)	25.3% (198)
Two to four people	70.7% (87)	64.0% (126)	58.6% (133)	67.4% (159)	64.5% (505)
Five or greater	17.9% (22)	8.1% (16)	5.7% (13)	12.3% (29)	10.2% (80)
Total	100% (123)	100% (197)	100% (227)	100% (236)	100% (783)
Relationship of persons in household?					
One adult person living alone	12.5% (15)	27.7% (54)	35.7% (81)	20.2% (47)	25.4% (197)
One adult with children	10.8% (13)	12.8% (25)	4.4% (10)	24.0% (56)	13.4% (104)
Married/Common law without children	10.8% (13)	11.8% (23)	11.5% (26)	12.9% (30)	11.9% (92)
Married/Common law with children	46.7% (56)	21.0% (41)	18.1% (41)	24.0% (56)	25.0% (194)
Other	19.2% (23)	26.3% (51)	30.4% (69)	18.5% (43)	24.1% (186)
Total	100% (120)	100% (194)	100% (227)	100% (232)	100% (773)
Type of dwelling participants live in?					
Single/ Semi-detached, row house, or duplex (inc. enclosed apartments)	19% (23)	17.4% (33)	2.3% (5)	22% (51)	14.7% (112)
Apt or condo in a low rise (<5 storey)	7.4% (9)	8.7% (17)	3.5% (8)	11.5% (27)	7.9% (61)
Apt or condo in a high rise (>5 storey)	73.6% (89)	71.4% (140)	91.2% (206)	65.8% (154)	75.8% (589)
Total	100% (121)	100% (190)	100% (219)	100% (232)	100% (762)

Household Type

The most common household type in the overall sample was one adult person living alone, at 25.4% (197), followed by married/common law couples with children at 25.0% (194) and one adult living with children at 13.4% (104), followed by one adult with children, at 13.4% (104), and finally, married/common law participants without children at 11.9% (92).

Single adults living alone was the most common household type in both Parkdale and St. Jamestown at 27.7% (54) and 35.7% (81) respectively, while married/common law couple living with children was the most common household type in Eglinton East and Weston at 46.7% (56) 24.0% (56) respectively.

Dwelling Type:

Three-quarters of participants (75.8%, 589 households) were found to reside in apartments or condominiums in high rise buildings (>5 storey). The second most popular dwelling type was single, semi-detached, duplex, row or townhouse homes and their enclosed apartments at 14.7% (112), followed by apartments or condominiums in low rise buildings (<5 storey), at 7.9% (61). While high-rise apartment or condominium buildings were the most common dwelling type in each of the four neighbourhoods, this represented 91.2% (206) of St. Jamestown participants, while a variety of dwelling types was more common in the Eglinton East, Parkdale and Weston. Bare in mind, however, that one of the study's limitations was the decision to collect surveys in only apartment buildings for the winter months of data collection.

Social Support:

Table 5: Individual Level Characteristics (Social Support)

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Social Support Index					
25th percentile or lower	37.4% (46)	34.0% (67)	18.9% (43)	21.0% (50)	26.2% (206)
Above 25th percentile	62.6% (77)	66.0% (130)	81.1% (184)	79.0% (188)	73.8% (579)
Total	100% (123)	100% (197)	100% (227)	100% (238)	100% (785)

In the sample overall, 26.2% (206) of participants fell at or below the 25th percentile, which categorized them as having the 'least social support', by Eglinton East reported the highest proportion of residents without social support at 37.4% (46), followed by Parkdale at 34.0% (67), Weston at 21.0% (50) and St. Jamestown at 18.9% (43).

Neighbourhood Residency

Length of Residence/ Number of Times Moved:

Length of time participants have lived in their current homes varied across the four neighbourhoods, from a low of 64 months (SD=94.1) among Parkdale participants to a high of 80.7 months (SD=111.3) among Eglinton East participants. Length of time participants have lived within the neighbourhood also varied between neighbourhoods, from 94.1 months (SD=113.4) among St. Jamestown residents, 114.8 months (SD=142.3) among Parkdale residents, 126.7 months (SD=136.0) among Eglinton East participants, and 141.8 months (SD=184.2) among

Weston participants. The number of times participants reported moving within the last five years was relatively low and varied from a low of 0.02 times (SD=0.20) among participants in Eglinton East to a high of 0.28 times (SD=1.17) among participants in Parkdale.

Table 6: Individual Level Characteristics (Neighbourhood Residency)

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Living in current Neighbourhood (months)					
Frequency	123	197	227	237	784
Mean	126.7	114.8	94.1	141.8	118.8
Standard Deviation	136.0	142.3	113.4	184.2	149.1
Times moved in the last 5 years.					
Frequency	123	197	227	238	785
Mean	0.02	0.28	0.23	0.13	0.18
Standard Deviation	0.20	1.17	1.8	1.10	1.30
Most important reason for moving to the neighbourhood?					
Affordable	25.5% (27)	24.5% (48)	19.9% (44)	20.2% (46)	21.6% (165)
Knew people in the neighbourhood	17.5% (21)	17.9% (35)	12.2% (27)	13.6% (31)	14.9% (114)
Convenient - close to work	5.8% (7)	6.6% (13)	12.2% (27)	8.3% (19)	8.6% (66)
Convenient - close to good schools	7.5% (9)	2.6% (5)	8.6% (19)	3.9% (9)	5.5% (42)
Liked the home	7.5% (9)	4.6% (9)	2.7% (6)	6.6% (15)	5.1% (39)
Convenient: amenities/transit/DnTn	20.1% (24)	16.4% (32)	29.9% (66)	14.0% (34)	20.4% (156)
Safety/Character/ Cultural Draw	**	**	**	**	5.1% (39)
Other	13.3% (16)	18.4% (36)	10.4% (23)	22.4% (51)	16.5% (126)
Total	100% (117)	100% (190)	100% (220)	100% (220)	100% (747)

** value suppressed due to small numbers

Reason for Moving to Neighbourhood:

Of the overall sample, 21.6% (165) had moved into their neighbourhood primarily for affordability reasons, closely followed by those participants who had moved because of its convenient location with regard to services, amenities, transit or downtown 20.4% (156). The third highest proportion of participants reported that they moved to the neighbourhood because they knew people in the neighbourhood 14.9% (114), followed by those who said it was close to work 8.6% (66) and close to good schools 5.5% (42). The smallest proportions of participants reported moving because they liked the home 5.1% (39) and because of neighbourhood safety, character or its ethnic draw 5.1% (39). The greatest percentage of moving because of affordability was reported in Eglinton East at 25.5% (27). While all four neighbourhoods reported high proportions of participants who had moved for affordability reason, St. Jamestown was the only neighbourhood in which residents reported moving because of its convenient location with regard to services, amenities, transit or downtown 29.9% (66). This is not surprising, considering that it is the neighbourhood located in closest proximity to downtown. The least common reasons for moving varied between

neighbourhoods. Moving as a result of safety, character or ethnic/ cultural draw had to be suppressed at the neighbourhood level as a result of low values.

Findings: Neighbourhood Level Characteristics

Availability of Neighbourhood Public Spaces

Table 7: Availability of Neighbourhood Public Spaces

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Availability of green spaces?					
Excellent	14.9% (17)	10.6% (20)	6.5% (14)	21.5% (49)	13.4% (100)
Very good	23.7% (27)	25% (47)	16.2% (35)	23.2% (53)	21.7% (162)
Good	38.6% (44)	30.3% (57)	36.1% (78)	36.8% (84)	35.3% (263)
Fair	13.2% (15)	20.2% (38)	25% (54)	10.5% (24)	17.6% (131)
Poor	9.6% (11)	13.8% (26)	16.2% (35)	7.9% (18)	12.1% (90)
I have not used community gathering places in my neighbourhood	**	**	**	**	2.7% (21)
Total	100% (114)	100% (188)	100% (216)	100% (228)	100% (746)
Availability of community gathering places?					
Excellent	7.9% (9)	12.6% (24)	16.9% (37)	11.6% (25)	12.8% (95)
Very good	16.7% (19)	22.5% (43)	20.1% (44)	18.5% (40)	19.7% (146)
Good	42.1% (48)	35.6% (68)	34.2% (75)	31.5% (68)	35.0% (259)
Fair	13.2% (15)	13.6% (26)	12.3% (27)	11.6% (25)	12.6% (93)
Poor	7.0% (8)	6.8% (13)	5.9% (13)	13.9% (30)	8.6% (64)
I have not used community gathering places in my neighbourhood	13.2% (15)	8.9% (17)	10.5% (23)	13.0% (28)	11.2% (83)
Total	100% (114)	100% (206)	100% (219)	100% (216)	100% (740)
Availability of recreational facilities?					
Excellent	6.8% (8)	7.3% (14)	8.7% (19)	8.1% (18)	7.9% (59)
Very good	21.2% (25)	10.5% (20)	14.7% (32)	15.7% (35)	14.9% (112)
Good	28.0% (33)	34.0% (65)	33.9% (74)	36.3% (81)	37.7% (253)
Fair	15.3% (18)	19.4% (37)	22.0% (48)	14.3% (32)	18.0% (135)
Poor	13.6% (16)	19.9% (38)	13.3% (29)	17.0% (38)	16.0% (121)
I have not used rec. facilities in my neighbourhood	15.3% (18)	8.9% (17)	7.3% (16)	8.5% (19)	9.3% (70)
Total	100% (118)	100% (191)	100% (218)	100% (223)	100% (750)

**values are suppressed due to small numbers

Availability of Green Spaces:

The majority of participants in the total sample reported 'good' availability of green spaces at 35.3% (263). 13.4% (100) reported 'excellent', 21.7% (162) reported 'very good', 17.6% (131) reported 'fair' and 12.1% (90) reported 'poor' availability of neighbourhood green spaces. The highest proportion of participants reporting 'excellent' availability of green spaces was found in Weston at 21.5% (49), followed by Eglinton East at 14.9% (17), Parkdale at 10.6% (20), Eglinton East at 9.6% (11) and St. Jamestown at 6.5% (14). Given the built form in St. Jamestown, it is not surprising that these participants were the most likely to report 'poor' availability of green spaces

at 16.2% (35), followed by Parkdale at 13.8% (26), and Weston at 7.9% (18). Weston residents were more than three times as likely to report 'excellent' green spaces than their St. Jamestown counterparts. 2.7% of participants report having not used green spaces in their neighbourhood, frequencies of not having used green space had to be suppressed at the neighbourhood level due to small values.

Availability of Community Gathering Places:

Most of the participants (35.0%) from the overall sample reported 'good' availability of community gathering places in their neighbourhood. 12.8% reported the availability of community gathering places as 'excellent' and 19.7% (146) of participants reported 'very good', while 18.0% (135) and 16.0% (121) reported it as 'fair' and 'poor' respectively. The highest proportion of participants reporting 'excellent' availability of community gathering spaces was found in St. Jamestown at 16.9% (37), followed by Weston at 11.6% (25), Parkdale at 12.6% (24) and Eglinton East at 7.9% (9). Not surprisingly Eglinton East participants were the most likely to report 'poor' availability of community gathering spaces at 13.2% (15), followed by Weston at 13.0% (28), St. Jamestown at 10.5% (23) and Parkdale at 8.9% (17). In Eglinton East and Weston, 13.2% and 13.0% reported not having accessed community gathering places in their respective neighbourhoods, followed by St. Jamestown and Parkdale, with 10.5% and 8.9% respectively not accessing this amenity.

Given that St. Jamestown participants were three times more likely to report 'poor' green spaces than they were to report 'poor' gathering spaces, participants may not consider green spaces as a type of community gathering space. Also, the overall rating of community gathering spaces appears to be more moderate than green spaces; for instance, while Eglinton East participants were the least likely to report 'excellent' gathering spaces, they were still not the most likely to report 'poor' gathering spaces.

Availability of Recreational Facilities:

Over one third (37.7%) of participants in the overall sample reported 'good' availability of recreational facilities. 7.9% of participants reported the availability of recreational facilities as 'excellent', another 14.9% reported it as 'very good', while 18.0% and 16.0% reported the availability of recreational facilities as 'fair' and 'poor' respectively. The highest proportion of participants reporting 'excellent' availability of recreational facilities spaces was found in St. Jamestown at 8.7% (19), though the proportion of participants in each of the remaining three neighbourhoods were all within 3%. There was, however, more variability between neighbourhoods for proportions of participants who reported 'not using recreational facilities in their neighbourhood'. Eglinton East participants were nearly twice as likely as any other neighbourhood to report 'not using recreational facilities' at 15.3% (18).

Satisfaction with Neighbourhood Public Spaces

Table 6: Satisfaction with Neighbourhood Public Spaces

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Satisfaction with green spaces?					
Very satisfied	19.8% (22)	18.4% (35)	8.7% (19)	24.1% (54)	17.5% (130)
Satisfied	63.1% (70)	53.7% (102)	53.9% (118)	57.6% (129)	56.3% (419)
Dissatisfied/ Very dissatisfied	17.1% (19)	27.9% (53)	37.4% (82)	18.3% (41)	26.2% (195)
Total	100% (111)	100% (190)	100% (219)	100% (224)	100% (744)
Satisfaction with community gathering places?					
Very satisfied	12.6% (11)	15.7% (27)	12.2% (22)	14.6% (26)	13.9% (86)
Satisfied	65.5% (57)	61.6% (106)	68.3% (123)	59.6% (106)	63.5% (392)
Dissatisfied/ Very dissatisfied	21.8% (19)	21.8% (37)	19.4% (35)	25.8% (46)	22.3% (137)
Total	100% (87)	100% (170)	100% (180)	100% (178)	100% (615)
Satisfaction with recreational facilities?					
Very satisfied	15.4% (16)	12.9% (21)	11.6% (23)	17.2% (35)	14.2% (95)
Satisfied	52.9% (55)	51.5% (84)	59.3% (118)	52.2% (106)	54.3% (363)
Dissatisfied	25.0% (26)	29.4% (48)	24.6% (49)	24.1% (49)	25.7% (172)
Very dissatisfied	6.7% (7)	6.1% (10)	4.5% (9)	6.4% (13)	5.8% (39)
Total	100% (104)	100% (163)	100% (199)	100% (203)	100% (669)

Satisfaction with Green Spaces:

When asked to describe his/her personal satisfaction with the green spaces in their neighbourhood, 56.3% of participants from the overall sample reported being 'satisfied' while 17.5% reported being 'very satisfied'. Of the overall sample, 26.2% reported being either 'dissatisfied' or 'very dissatisfied'. The highest proportion of participants reporting being 'very satisfied with their neighbourhood green spaces was found in Weston at 24.1% (54), followed by

Eglinton East 19.8% (22), Parkdale 18.4% (35) and St. Jamestown 8.7% (19). The highest proportion of participants reporting being 'very dissatisfied' or 'dissatisfied' with their neighbourhood green spaces was found in St. Jamestown 37.4% (82), Parkdale 27.9% (53), Weston 18.3% (41) and Eglinton East 17.1% (19). These numbers are not surprising, as they reflect the order by which the each neighbourhood reported the availability of green spaces in their neighbourhood. Though, it should be noted that a slightly lower proportion of participants from each neighbourhood reported being 'very satisfied' than had reported 'excellent' availability of green space, this percentage difference ranged from 2.6% in Weston to 10.2% in Eglinton East, which may suggest that while there are available green spaces in Eglinton East, they are not meeting the needs of the community.

Satisfaction with Community Gathering Places:

When asked to describe his/her personal satisfaction with the community gathering places in their neighbourhood, 63.5% of participants from overall sample reported being 'satisfied' while another 13.9% reported 'very satisfied'. Of the total sample, 22.3% reported being either 'dissatisfied' or 'very dissatisfied'. The highest proportion of participants reporting being 'very satisfied with their neighbourhood was observed in Parkdale at 15.7% followed by Weston at 14.6%. In Eglinton East, 12.6% and in St. Jamestown, 12.2% of the participants reported as very satisfied with community gathering places. The highest proportion of participants reporting being 'very dissatisfied' or 'dissatisfied' with their neighbourhood gathering spaces was found in Weston at 25.8%, followed by both Eglinton East and Parkdale at 25.8% and finally St. Jamestown at 19.4%. These numbers are different from those reported about the availability of community gathering spaces; for example, while St. Jamestown participants reported the highest proportion of 'excellent' availability, they also were the least likely to report being 'very satisfied' with such spaces. This may suggest that while St. Jamestown participants have available gathering spaces, they are not meeting the needs of the community. Alternatively, it may suggest that in neighbourhoods like Parkdale, there are fewer available gathering spaces, but those which are available are meeting the needs of the community.

Satisfaction with Recreational Facilities:

When asked to describe his/her personal satisfaction with the recreational facilities in their neighbourhood, 54.3% of participants from the overall sample reported being 'satisfied' while another 14.2% reported being 'very satisfied'. Of the overall sample, 25.7% and 5.8% reported being either 'dissatisfied' and 'very dissatisfied' respectively. Participants in Weston were most likely to report being 'very satisfied' with recreational facilities at 17.2% followed by Eglinton East at 15.4%. In Parkdale, 12.9% and in St. Jamestown, 11.6% of the participants reported 'very satisfied' with the recreational facilities. Eglinton East reported the highest proportion of 'very dissatisfied' participants at 6.7%, followed by Weston at 6.4%, Parkdale at 6.1% and in St. Jamestown at 4.5%. There were differences in the order by which neighbourhoods were satisfied with their recreational facilities from their reported 'availability', though the proportions of participants whom responded 'excellent' recreational facilities were quite close, which make its difficult to speculate why variations in reported availability and satisfaction may have occurred.

Access to Other Outdoor Spaces

Table 9: Access to Other Outdoor Spaces

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Access to a private yard?					
Yes	25.4% (31)	16.8% (33)	4.0% (9)	26.3% (62)	17.3% (135)
No	74.6% (91)	83.2% (163)	96.0% (216)	73.7% (174)	82.7% (644)
Total	100% (122)	100% (196)	100% (225)	100% (236)	100% (779)
Access to a balcony?					
Yes	74.0% (91)	64.5% (127)	80.6% (183)	62.4% (148)	70.0% (549)
No	26.0% (32)	35.5% (70)	19.4% (44)	37.6% (89)	30.0% (235)
Total	100% (123)	100% (197)	100% (227)	100% (237)	100% (784)
Access to a place for unsupervised play?					
Yes	28.7% (35)	21.0% (41)	19.4% (43)	27.9% (65)	23.8% (184)
No	73.3% (87)	78.5% (153)	80.6% (179)	72.1% (168)	76.0% (587)
Total	100% (122)	100% (195)	100% (222)	100% (233)	100% (771)

Private Yard:

Of the overall sample, 17.3% (135) of participants had access to a private yard. This varied by neighbourhood with the most participants reporting having access in Weston at 26.3% (62), followed by Eglinton East at 25.4% (31) and Parkdale at 16.8% (33), while only 4.0% (9) of participants in St. Jamestown reported having access to a private yard. Given the built environment and dwelling type in each of the four neighbourhoods, the variation found between them is not surprising.

Balcony:

In the overall sample, 70.0% (549) of participants had access to a balcony. This varied by neighbourhood with the most participants having access in St. Jamestown at 80.6% (183), followed by Eglinton East at 74.0% (91), Parkdale at 64.5% (127) and Weston at 62.4% (148). It appears as though the participants in St. Jamestown, who reported lack of access to private yards, have access to balconies instead.

Place for Unsupervised Play:

In the overall sample, 23.8% (184) of participants had access to space for unsupervised play. This varied by neighbourhood, with Eglinton East reporting the most access at 28.7% (35), followed by Weston at 27.9% (65), Parkdale at 21.0% (41) and St. Jamestown at 19.4% (43).

Satisfaction with Neighbourhood Services & Amenities (excluding public space)

Table 7: Satisfaction with Neighbourhood Services and Amenities

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Satisfaction with health care services?					
Very satisfied	15.7% (18)	21.1% (36)	23.9% (49)	18.9% (41)	20.3% (144)
Satisfied	72.2% (83)	57.3% (98)	60.5% (124)	64.1% (139)	62.7% (444)
Dissatisfied/ Very dissatisfied	12.2% (14)	21.6% (37)	15.6% (32)	17.1% (37)	16.9% (120)
Total	100% (115)	100% (171)	100% (205)	100% (217)	100% (708)
Satisfaction with social services?					
Very satisfied	13.3% (11)	19.1% (29)	14.3% (23)	16.0% (25)	15.9% (88)
Satisfied	69.9% (58)	58.6% (89)	71.4% (115)	65.4% (102)	65.9% (364)
Dissatisfied/ Very dissatisfied	16.9% (14)	21.9% (33)	14.3% (23)	18.6% (29)	18% (99)
Total	100% (83)	100% (151)	100% (161)	100% (156)	100% (551)
Satisfaction with places to buy health food?					
Very satisfied	23.5% (28)	22.1% (43)	20.4% (45)	21.8% (50)	21.7% (166)
Satisfied	66.4% (79)	56.9% (111)	67.0% (148)	59.8% (137)	62.2% (475)
Dissatisfied/	10.1% (12)	17.9% (35)	10.0% (22)	12.2% (28)	12.7% (97)
Very dissatisfied	0% (0)	3.1% (6)	2.7% (6)	6.1% (14)	3.4% (26)
Total	100% (119)	100% (192)	100% (221)	100% (229)	100% (764)
Overall satisfaction with neighborhood?					
Very satisfied	20.7% (25)	18.0% (35)	13.8% (31)	20.8% (48)	18.1% (139)
Satisfied	65.3% (79)	58.2% (113)	67.0% (150)	64.1% (148)	63.6% (490)
Dissatisfied/ Very dissatisfied	14% (17)	23.7% (46)	19.2% (43)	15.2% (35)	18.3% (141)
Total	100% (121)	100% (194)	100% (224)	100% (231)	100% (770)
Neighbourhood Satisfaction Index					
25th Percentile or Below	24.6% (30)	33.7% (66)	27.4% (62)	28.5% (67)	28.9% (225)
Above 25th Percentile	75.4% (92)	66.3% (130)	72.6% (164)	71.5% (168)	71.1% (554)
Total	100% (122)	100%(196)	100% (226)	100% (235)	100% (779)

Health Services:

Of the overall sample, participants were most likely to report being 'satisfied' with healthcare services in their neighbourhood at 62.7%. 20.3% of participants reported being 'very satisfied' with healthcare services, another 13.3% reported being 'dissatisfied' and 3.7% reported being 'very dissatisfied'. In St. Jamestown, 23.9% of participants reported being 'very satisfied' with the healthcare services followed by Parkdale at 21.1% and Weston at 18.9%; Eglinton East being the lowest at 15.7%. Parkdale reported the highest proportion of participants who were 'dissatisfied' or 'very dissatisfied' with the health care services available in their neighbourhood at 21.6%, followed by Weston at 17.1%, St. Jamestown at 15.6% and Eglinton East at 12.2%

Social Services:

When asked to describe his/her personal satisfaction with the social services in their neighbourhood, 65.9% of the participants from the overall sample reported they were 'satisfied'. 15.9% of participants reported they were 'very satisfied', followed by 13.9% and 4.0% of participants who reported being 'dissatisfied' and 'very dissatisfied', respectively. Parkdale participants were the most likely to report being 'very satisfied' with social services in their neighbourhood at 19.1% followed by Weston at 16.0%, St. Jamestown at 14.3% and Eglinton East at 13.3%. Surprisingly, Parkdale participants were also the most likely to report being 'dissatisfied' or 'very dissatisfied' with social services in their neighbourhood at 21.9%, followed by Weston at 18.6%, Eglinton East at 16.9% and St. Jamestown at 14.3%.

Places to Buy Healthy Food:

When asked to describe his/her satisfaction with the places to buy healthy food in their neighbourhood, 62.2% of participants reported being 'satisfied'. 21.7% of participants reported being 'very satisfied', while 12.7% and 3.4% of participants reported being 'dissatisfied' and 'very dissatisfied' respectively. Eglinton East participants were the most likely to report being 'very satisfied with places to buy healthy food in their neighbourhood at 23.5% followed by Parkdale at 22.1%, Weston at 21.8% and St. Jamestown at 20.4%. Weston reported the highest proportion of participants who were 'very dissatisfied' with places to buy healthy food in their neighbourhood at 6.1%, followed by Parkdale at 3.1% and St. Jamestown at 2.7%, while none of the participants in

Eglinton East reported being 'very dissatisfied'. It appears at though Eglinton East participants are quite satisfied with the availability of places to purchase healthy food in their neighbourhood, which is not surprising given the large number of supermarkets and bigbox stores along Eglinton East.

Neighbourhood Overall:

When asked to describe his/her personal satisfaction with their neighbourhood overall, 63.6% of participants from the overall sample reported being 'satisfied'. 18.1% reported being 'very satisfied', followed by 14.3% and 4.0% of participants who reported being 'dissatisfied' and 'very dissatisfied' with their neighbourhoods, respectively. Weston reported the highest proportion of participants who were 'very satisfied' with their neighbourhood overall at 20.8%, followed by Eglinton East at 20.7%, Parkdale at 18.0% and St. Jamestown at 13.8%. Parkdale reported the highest proportion of participants who were 'dissatisfied' or 'very dissatisfied' with their neighbourhood overall at 23.7%, followed by St. Jamestown at 19.2%, Weston at 15.2% and Eglinton East at 14%. The data suggests that those living in less-dense outlying neighbourhoods are most satisfied with their neighbourhoods overall, while those residing in downtown neighbourhoods are more likely to be dissatisfied with their neighbourhood overall.

Indicators of Community Life:

Membership in Voluntary Organizations (Civic Participation):

When asked if they were members of any voluntary organizations, the majority of the overall participants, 65.7% responded 'no'. The remaining participants 34.3% responded 'yes'. Parkdale reported the highest number of participants who were members of a voluntary organization with 37.1%. St. Jamestown and Eglinton East followed with 34.4% and 33.1%, respectively. The lowest frequency of participants stating that they were members of a voluntary organization was found in Weston with 32.5%.

Table 8: Indicators of Community Life

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Member of any voluntary organizations? (ie school groups, community centre, etc)					
Yes	33.1% (41)	37.1% (73)	34.4% (78)	32.5% (77)	34.3% (269)
No	66.7% (82)	62.9% (124)	65.6% (149)	67.5% (160)	65.7% (515)
Total	100% (123)	100% (197)	100% (227)	100% (237)	100% (784)
Sense of belonging to local community?					
Very strong	16.0% (19)	17.2% (33)	15.5% (34)	22.6% (52)	18.2% (138)
Somewhat strong	47.9% (57)	41.1% (79)	32.4% (71)	40.0% (92)	39.3% (299)
Somewhat weak	20.2% (24)	26.6% (51)	31.5% (69)	24.8% (57)	26.4% (201)
Very weak	16.0% (19)	15.1% (29)	20.5% (45)	12.6% (29)	16.1% (122)
Total	100% (119)	100% (192)	100% (219)	100% (230)	100% (760)
Knowledge of other people in the neighbourhood?					
Most of the people in neighbourhood	13.0% (16)	14.2% (28)	7.5% (17)	13.1% (31)	11.7% (92)
Many of the people in neighbourhood	21.1% (26)	23.9% (47)	19.8% (45)	21.5% (51)	21.6% (169)
A few of the people in neighbourhood	54.5% (67)	51.3% (101)	60.8% (138)	58.6% (139)	56.8% (445)
Nobody else in the neighbourhood	11.4% (14)	10.2% (20)	11.9% (27)	6.8% (16)	9.8% (77)
Total	100% (123)	100% (196)	100% (227)	100% (237)	100% (783)
If there is a problem around the neighbourhood, neighbours get together to deal with it?					
Strongly agree	13.3% (14)	12.7% (21)	12.5% (24)	20.7% (40)	15.1% (99)
Agree	37.1% (39)	39.4% (65)	39.1% (75)	36.8% (71)	38.2% (250)
Disagree	38.1% (40)	32.7% (54)	38.5% (74)	32.2% (64)	35.4% (232)
Strongly disagree	11.4% (12)	15.2% (25)	9.9% (19)	9.3% (18)	11.3% (74)
Total	100% (105)	100% (165)	100% (192)	100% (193)	100% (655)
Feeling about the neighbourhood as a place to raise children?					
Excellent	13.8% (17)	5.6% (11)	3.6% (8)	9.9% (23)	7.6% (59)
Very good	20.3% (25)	11.7% (23)	12.1% (27)	18.5% (43)	15.2% (118)
Good	39.8% (49)	28.6% (56)	23.7% (53)	31.3% (73)	29.8% (231)
Fair	16.3% (20)	20.9% (41)	32.1% (72)	20.6% (48)	23.3% (181)
Poor	9.8% (12)	33.2% (65)	28.6% (64)	19.7% (46)	24.1% (187)
Total	100% (123)	100% (196)	100% (224)	100% (233)	100% (776)
Places in the neighbourhood where he/she is afraid to go during the day?	12.3% (15)	18.0% (35)	13.3% (30)	10.7% (25)	13.5% (105)
Yes	87.7% (107)	82.0% (159)	86.7% (195)	89.3% (209)	86.5% (670)
No	100% (122)	100% (194)	100% (225)	100% (234)	100% (775)
Total					
Places in the neighbourhood where he/she is afraid to go at night?	46.6% (55)	49.7% (96)	62.2% (138)	43.7% (100)	51.0% (389)
Yes	53.4% (63)	50.3% (97)	37.8% (84)	55.9% (128)	48.8% (372)
No	100% (118)	100% (193)	100% (222)	100% (228)	100% (761)
Total					
Level of worry about personal safety at home?					
Very worried	6.5% (8)	6.6% (13)	4.0% (9)	2.1% (5)	4.5% (35)
Somewhat worried	22.8% (28)	28.9% (57)	26.8% (60)	25.0% (59)	26.2% (204)
Not at all worried	58.5% (72)	54.8% (108)	63.4% (142)	63.6% (150)	60.5% (472)
Never alone	12.2% (15)	9.6% (19)	5.8% (13)	9.3% (22)	8.8% (69)
Total	100% (123)	100% (197)	100% (224)	100% (236)	100% (780)

Sense of Belonging to Local Community:

When asked about the level of his/her sense of belonging to their local community the most frequent answer overall was 'somewhat' strong, with 39.3% of participants reporting as such.

18.2% of participants reported 'very strong', while 26.4% and 16.1% of participants reported 'somewhat weak' and 'very weak' sense of community belonging respectively. Weston participants were the most likely to report a 'very strong' sense of belonging to their local community at 22.6%, followed by Parkdale at 17.2%, Eglinton East at 16.0%, and St. Jamestown at 15.5%. Not surprisingly St. Jamestown was the neighbourhood with the highest proportion of participants who reported a 'very weak' sense of belonging to their local community at 20.5%, followed by Eglinton East at 16%, Parkdale at 15.1%, and Weston at 12.6%.

Knowledge of Other People in the Neighbourhood:

Over half of the overall participants, 56.8% indicated that they knew 'a few of the people in the neighbourhood'. 11.7% of participants reported knowing 'most of the people in the neighbourhood' and 21.6% reported knowing 'many of the people in the neighbourhood', while 9.8% of participants reported knowing 'nobody else in the neighbourhood'. Parkdale was the neighbourhood with the most participants who report knowing 'most of the people in the neighbourhood' at 14.2%, followed by Weston at 13.1% and Eglinton East at 12.0%, respectively. Only 7.5% of participants in St. Jamestown report knowing 'most of the people in the neighbourhood'. Not surprisingly, participants in St. Jamestown are the most likely to report knowing 'nobody else in the neighbourhood' at 11.9%, followed by Eglinton East at 11.4%, Parkdale at 10.2% and Weston at 6.8%. It should be noted that Parkdale participants are almost twice as likely as their St. Jamestown counterparts to report knowing 'most of the people in the neighbourhood'. Given that the proportions of participants in both Weston and Eglinton East who knowing 'most of the people in the neighbourhood' are similar to that of Parkdale, this may suggest that there is something distinct about St. Jamestown, such as its built form and dwelling type, that prevents residents of getting to know one another.

Neighbours Getting together to Deal with Problems (Collective Efficacy):

In the overall sample, when asked if they agreed with the statement 'if there is a problem around the neighbourhood, neighbours get together to deal with it', 38.2% of participants reported that they 'agree'. 15.1% of participants 'strongly agree', while 35.4% and 11.3% of participants 'disagree' and 'strongly disagree' respectively. Weston was the neighbourhood with the highest

proportion of participants who report to 'strongly agree' that neighbours collectively deal with problems at 20.7%, followed by Eglinton East at 13.3%, Parkdale at 12.7 and St. Jamestown at 12.5%. Parkdale participants are most likely to report to 'strongly disagree' that neighbours collectively deal with problems at 15.2%, followed by Eglinton East at 11.4%, St. Jamestown at 9.9% and Weston at 9.3%. Similar to findings for knowledge of neighbours, St. Jamestown participants are least likely to report that neighbours collectively deal with problems. This is not surprising, considering that neighbours may be less likely to work collectively toward overcoming threats if they are not familiar with one another.

Feeling about the Neighbourhood as a Place to Raise Children:

When asked how they felt about their neighbourhood as a place to raise children, the most frequent response of the overall sample was 'good' with 29.8% of participants reporting such. 7.6% of participants reported 'excellent' and 15.2% of participants reported 'very good', while 23.3% and 24.1% of participants reported 'fair' and 'poor' respectively. Eglinton East participants are most likely to rate their neighbourhood as an 'excellent' for raising children at 13.8%, followed by Weston at 9.9%, Parkdale at 5.6% and St. Jamestown at 3.6%. Participants in Parkdale were the most likely to rate their neighbourhood as a 'poor' place to raise children at 33.2%, followed by St. Jamestown at 28.6%, Weston at 19.7% and Eglinton East at 9.8%. These numbers are not surprising given the household composition in each neighbourhood. Eglinton East has the highest proportion of households with children at 68.3%, followed by Weston at 60.9%, Parkdale at 45.6% and St. Jamestown at 34%. This would suggest that participants in neighbourhoods with high proportions of households with children are more likely to rate their neighbourhoods as being 'excellent' places to raise children.

Places in the Neighbourhood Where Participant is Afraid to go During the Day:

When asked if there was a place in the neighbourhood where he/she was afraid to go during the day, the majority of participants in the overall sample, 86.5% answered 'no', leaving 13.5% of participants answering 'yes'. Parkdale contained the greatest proportion of participants of who responded 'yes' to there being places in the neighbourhood where he/she was afraid to go during

the day at 18.0%, followed by St. Jamestown at 13.3%, Eglinton East at 12.3% and Weston at 10.7%.

Places in the Neighbourhood Where Participant is Afraid to go at Night:

When questioned if there are places in the neighbourhood where he/she is afraid to go at night, 51.0% of the total participants responded 'yes' and 48.8% responded 'no'. St. Jamestown contained the highest proportion of participants who responded 'yes' to there being places in the neighbourhood where he/she is afraid to go during the night at 62.2%, followed by Parkdale group at 49.7%, Eglinton East at 46.6% and Weston at 43.7%. While, each of the four neighbourhoods showed an increase in the proportion of participants who had places they feared visiting during the night than during the day, the dramatic increase in St. Jamestown should be noted. While only 13% of St. Jamestown participants responded that there were places they are afraid to visit during the day, this number multiplied by more than four during the night, at 62.2%. This may suggest a dramatic change in environment from day to night.

Level of Worry about Personal Safety at Home:

When participants were asked about their level of worry about personal safety at home the most frequent response in the overall sample was 'not at all worried about personal safety' at 60.5%. The second most frequent response was 'somewhat worried' at 26.2%. 4.5% of participants report being 'very worried'; while 8.8% of participants report that they are 'never alone' at home during the night. Parkdale participants were the most likely to report being 'very worried' while home alone during the night at 6.6%, followed by Eglinton East at 6.5%, St. Jamestown at 4.0% and Weston at 2.1%. Weston participants were most likely to report being 'not at all worried' about personal safety while home alone during the night at 63.6%, closely followed by St. Jamestown at 63.4%, Eglinton East at 58.5% and Parkdale at 54.8%. Eglinton East was the neighbourhood that contained the highest proportion of participants who reported being 'never alone' at 12.2%, followed by Parkdale at 9.6%, Weston at 9.3% and St. Jamestown at 5.8%. It is difficult to draw conclusions from this data, given that is unclear whether participants who indicated that they are 'never alone', are not so because out of circumstance other household members are always home at night or because they are afraid to be home alone at night.

Health Outcomes

Table 9: Health Outcomes

	EGLINTON EAST	PARKDALE	ST. JAMESTOWN	WESTON	TOTAL
Self-rated General Health					
Poor	6.6% (8)	6.7% (13)	4.0% (9)	4.3% (10)	5.2% (40)
Fair	11.5% (14)	8.7% (17)	13.5% (30)	12.9% (30)	11.8% (91)
Good	31.1% (38)	31.8% (62)	31.8% (71)	23.6% (55)	29.2% (226)
Very Good	31.1% (38)	34.4% (67)	34.5% (77)	31.8%(74)	33.1% (256)
Excellent	19.7% (24)	18.5% (36)	16.1% (36)	27.5% (64)	20.7% (160)
Total	100% (122)	100% (195)	100% (223)	100% (233)	100% (773)
Mental Health Index (MHI) Scores					
'Probable Case' (Score<52)	13.0% (16)	17.3% (34)	15.9% (36)	18.7% (44)	16.6% (130)
Not a 'Probable Case' (Score>=52)	87.0% (107)	82.7% (162)	84.1% (191)	81.3% (191)	83.4% (651)
Total	100% (123)	100% (196)	100% (227)	100% (235)	100% (781)
Have at least one chronic condition					
Yes	46.2% (55)	44.0% (85)	41.3% (92)	45.9% (107)	44.1% (339)
Total	100% (119)	100% (193)	100% (223)	100% (233)	100% (768)

Self-Rated Health:

For self-rated health, as table 12 shows, the highest proportion of participants in the overall sample reported 'very good' at 33.0%. 20.6% of participants reported 'excellent' health and 29.1% reported 'good' health, while 11.7% and 5.2% reported as 'fair' and 'poor' health respectively. Weston was the neighbourhood that contained the highest proportion of participants who reported 'excellent' health at 27.5%, followed Eglinton East at 19.7%, Parkdale at 18.3% and ST. Jamestown at 16.1%. In both Eglinton East and Parkdale, 6.6% of participants reported 'poor' health, followed by 4.3% in Weston and 4.0% in St. Jamestown.

Mental Health Index:

Mental health was measured using the Mental Health Inventory – Five (Kelly et al, 2008). For mental health, as table 12 presents, the proportion of participants in the overall sample who were categorized as a 'probable case' for a mental disorder was 16.6%, with the remaining participants (83.4%) categorized as 'not a probable case'. The greatest proportion of participants who were categorized as a 'probable case' for a mental disorder was observed in Weston 18.7%, followed by Parkdale 17.3%, St. Jamestown 15.9% and Eglinton East 13.0%.

Chronic Conditions:

Chronic conditions were measured by a series of four questions which asked participants if they had been diagnosed by a health care provider as suffering from asthma, arthritis, diabetes or high blood pressure. If participants indicated that they suffered from one or more of these, they were categorized as suffering from a chronic condition. For instance of chronic conditions, as table 12 presents, the proportion of participants in the overall sample who were categorized as 'having at least one chronic condition' was 44.1%, with the remaining participants (55.9%) categorized as 'not suffering from a chronic condition'. The greatest proportion of participants with a chronic condition was observed in Eglinton East (46.2%), followed by Weston (45.9%), Parkdale (44%) and St. Jamestown (41.3%).

Summary of Descriptives

Overall, the sample was diverse in gender, ethnicity, age and socio-economic status. Compared with national averages, the sample was relatively educated. Participants' perceptions of availability of green spaces reflect the built environments of each neighbourhood, with neighbourhoods characterized predominantly by high-rise apartment blocks, reporting the least satisfaction. The striking difference in participants' reported satisfaction with green space and community gathering places, especially in St. Jamestown, indicates that participants view each as independent. Across all four neighbourhoods satisfaction with recreational facilities was strikingly low, with nearly one third (29.1- 35.5%) of participants in each neighbourhood having reported being 'very dissatisfied' or 'dissatisfied' with recreational facilities in their neighbourhood. Across all four neighbourhoods, participants appeared to be somewhat satisfied with their neighbourhood overall. While very few indicated that they were 'very satisfied' with their neighbourhood, a similarly small number indicated that they were 'very dissatisfied.' There is evidence of safety concerns among neighbourhood residents, with the largest difference between perception of safety during the day and night, observed in St. Jamestown. Given that two of the neighbourhoods, Weston-Mt. Denis and Eglinton East, are considered "high-need/high-risk" priority neighbourhoods by the City of Toronto, residents were surprisingly stable and did not move a lot. Indicators of community life were fairly high across the sample. Civic participation was a bit higher than the national average and low density neighbourhoods, like Eglinton East,

reported a higher sense of community than anticipated by the investigators. Similarly, low-density neighbourhoods reported higher collective efficacy than anticipated by the investigators, and unexpectedly exceeded that of high-density downtown neighbourhoods. Given that just under half of participants reported 'poor', 'fair' or 'good' overall well-being, 'probable caseness' of mental disorder was surprisingly low. While only 2.7% (21) of participants have not used green spaces in their respective neighbourhoods, the numbers are much higher for participants who have not used neighbourhood community gathering places or recreational facilities; 11.2% (83) and 9.3% (70) respectively. Furthermore, as many as 15.3% (18) of residents in Eglinton East had not used recreational facilities in their neighbourhood. Large proportions of residents not using the public spaces in their neighbourhood may suggest a lack of relevance to the local population.

Investigating Public Space, Indicators of Community Life and Health Relationships

The relationships between each neighbourhood's physical, mental and *lived* dimensions of public space, indicators of community life and health were examined through the following research questions, drawn from the study's research objectives and the conceptual model outlined in chapter three.

1. Is there a correlation between *physical (absolute)* resources and health?
2. Is there a correlation between *mental (abstract)* resources and health?
3. Is there a correlation between *physical (absolute)* resources and *lived (social)* resources?
4. Is there a correlation between *mental (abstract)* resources and *lived (social)* resources?
5. Is there a correlation between *lived (social)* resources and health?
6. Is there a correlation between *lived (social)* resources and pluralistic place attachment?
7. Is there a correlation between pluralistic place attachment and health?

Since most of the indicators were measured through close-ended questions, analysis primarily consisted of a series of non-parametric bivariate tests between explanatory and outcome variables, which calculated the association and significant differences between the predictor and outcomes variables brought forth by this thesis' research objectives.

Statistical Procedures

Given that few of the explanatory or outcome variables met the assumptions required by parametric statistical testing, nonparametric tests were used to examine the associations between individual explanatory variables and health outcome variables, as well as individual

explanatory variables and community social characteristic variables. All statistical procedures were conducted using SPSS 16.0. Indicators were comprised of a mix of continuous and categorical variables, with the latter group consisting of both polychotomous and dichotomous variables. All three health outcomes were dichotomous, but some community social characteristic outcomes were polychotomous (i.e. sense of community and collective efficacy). While nonparametric tests were initially run on a combination of polychotomous and dichotomous outcomes, in order to combat challenges presented by the study's sample size, all outcomes were dichotomized for the purposes of addressing research questions. A detailed summary on the selection of non-parametric tests for various explanatory-outcome pairs can be found in Appendix F. Summary tables of all tests conducted appears as Appendix G.

In order to explore the relationship between public space, place attachment and health at the neighbourhood level, comparative analysis between neighbourhoods took place. Unfortunately, in order to overcome the challenges presented by sample size, explanatory variables were made dichotomous to allow for comparisons between neighbourhoods.

Bivariate Tests of Significance

The results of statistical tests between individual explanatory variables and health outcomes, as well as indicators of community life appear in their entirety in Appendix I, a summary of these results appears as table 13. The analysis in the following section looks at each research question separately, but at explanatory variables within each question simultaneously. Tables 13 – 28 are summary tables for each research question and detailed descriptive tables for each research question can be found in Appendix J. For every possible explanatory-outcome variable pair there is a cell in the table. If one or more stars appears in the cell, the test was significant, the more stars the more significant (* $p < .05$; ** $p < .01$; *** $p < .001$). In addition, if a statistically significant cell is also shaded, it means the relationship was also in the direction consistent with the theoretical and conceptual foundation of this research. The description begins with tests between socio-demographic variables and all outcomes, which are followed by tests of significance for each of the relationships articulated in the analytical model (see Figure 2).

Individual Level Factors and Health/ Community Outcomes

When testing the relationship between individual level factors and health/ community outcomes, each of the explanatory variables, with the exception of immigration status, was found to have a statistically significant relationship with one health outcome and most were significant with at least one community outcome. Country of birth, reason for moving to neighbourhood and number of people in household were not statistically related to any community outcomes. The directions of these relationships were not hypothesized as part of this study's model and thus shading does not appear in table 13.

As table 13 shows, individual level factors were more likely to be significantly related to chronic conditions than any other health outcome, which is quite different from the findings presented for community level variables that were least likely to be significantly related with chronic conditions of all three health outcomes. Gender was significantly related to general health status and mental health, while age was significantly related to general health status, mental health and instance of chronic conditions. As previously mentioned immigration status was not significantly related to any health outcomes, though, country of birth was significantly related to instance of chronic conditions. Both education and income were related to all three health outcomes. Time in current home was related to mental health and chronic conditions, while time in the neighbourhood was related to all three health outcomes. Reason for moving to neighbourhood was related to chronic conditions, while number of times moved in the last 5 years was related to general health status. Number of persons in household was related to general health status and chronic conditions, and, household composition was related to chronic conditions as well. Social support was related to all three health outcomes. Physical activity was found significantly related to only general health status.

Table 10: Individual Level Factors x Health & Community Outcomes

Quest #	Explanatory Variable (*p<.05; **p<.01; ***p<.001)	Health Status (dich)	Mental Health (dich)	Chronic Cond's (dich)	Neigh Satis. Index (dichot)	Sense of Cmnty (poly)	Collective Efficacy (poly)	Neigh to raise children (poly)	Civic Particip. (dichot)
91	Gender	*	*			*			
92	Age	***	*	***	***				
94	Immigrant Vs. Canadian Born					*		**	*
97A	Education	***	**	***		**			*
101	Income	***	**	**	**	**			
2	Time in current home		**	***		***		*	
3	Time as a resident of neighbourhood	*	*	***		*			
19	Reason for moving to neigh.			*					
4	No. times moved in last 5 yrs.	*			**	**			
8	No. persons in household	**		***					
10	Household composition			***		*			**
77-82	Social Support Index	***	***	**			***	*	
64	Physical activity level	**						*	

Many (8) of the individual level factor variables were significantly related to sense of community as an outcome, while only one individual level factor (social support) was related to collective efficacy. Gender and age were only significantly related to one community outcome each, sense of community and the neighbourhood satisfaction index, respectively. Immigration status was related to sense of community, neighbourhood as a place to raise children and civic participation. Education was related to sense of community and civic participation, while income was related to the neighbourhood satisfaction index and sense of community. Time spent in current home was related to both sense of community and neighbourhood as a place to raise children, while time spent in neighbourhood was only significantly related to sense of community. While reason for moving to neighbourhood was not significantly related to any community outcomes, number of times moved in the last five years was significantly related to the neighbourhood satisfaction

index and sense of community. Although, the number of persons in household was not significantly related to any community outcomes, household composition was related to sense of community and civic participation. Social support was related to collective efficacy and neighbourhood as a place to raise children, while physical activity level was only significantly related to neighbourhood as place to raise children. With the exception of sense of community belonging as an outcome, all individual level explanatory variables exhibited two or fewer significant relationships with indicators of community life as outcomes. Results suggest that individual level variables may be more related to health than indicators of community life. A higher number of individual level variables were significantly related to sense of community belonging, though it is unclear as to why.

Physical (Absolute) Space and Health

When testing the relationship between physical (absolute) space and health, each of the explanatory variables was found to have a statistically significant relationship with two of the three health outcome. As table 14 shows, each physical (absolute) space indicator showed a statistically significant relationship with general health status, with those who reported a lower availably of the physical space also reporting a poorer general health status. Availability of green spaces was significantly related to both general health status ($U=33045$, $p<.05$) and chronic conditions ($U=59987$, $p<.05$). Availability of community gathering spaces was significantly related with general health status ($U=25662$, $p<.05$) and mental health ($U=25312$, $p<.05$). Similarly, availability of recreational facilities was significantly related with general health status ($U=25390$, $p<.01$) and mental health ($U=27062$, $p<.01$).

Table 11: Physical Space x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
36	Green space availability	*		*
35	Gathering place availability	*	*	
37	Recreational facilities availability	**	**	

All six significant relationships were in the expected direction (see Appendix J for details). Those participants who report higher availability of indicators of physical space were statistically more likely to also report higher general health status and in the case of green space and gathering place availability a lower probability of being categorized as a 'probable case' for a mental disorder as well. Furthermore, participants who report higher green space availability were statistically less likely to report having a chronic condition. This supports the theory that physical space is related to health.

Mental (Abstract) Space and Health

When testing the relationship between mental (abstract) space and health, each of the explanatory variables was found to have a statistically significant relationship with at least one health outcome, but none were found to be have a statistically significant relationship with chronic conditions. Both reporting neighbourhood fear during the day (phi=.106, $p<.01$) and night (phi=.091, $p<.05$) were significantly related to mental health, with those reporting fear being more likely to also be categorized at a 'probable case' for a mental disorder. Level of worry about home safety at night was found significantly related to the most health outcomes (2) and was related to both general health status ($U=35773.5$, $p<.01$) and mental health ($U=33609.5$, $p<.01$). No explanatory variables were found significantly related to instance of chronic conditions.

Table 12: Mental Space x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
26	Neighbourhood fear (day)		**	
27	Neighbourhood fear (night)		*	
28	Home safety at night?	**	**	

All four significant relationships were in the expected direction (see Appendix J for details). People who reported lower mental space were significantly more likely to be categorized as a 'probably case' for a mental disorder. The importance of perceiving his/her home, often thought of as haven, as a safe place was important not only for mental health, but for general health. These findings support the theory that mental space are related to health.

Physical (Absolute) Space and Lived (Social) Space

When testing the relationship between physical (absolute) space and lived (social) resources, each indicator of physical space—green spaces, community gathering places and recreational facilities—was found significantly related to all indicators of lived space: green space satisfaction, gathering space satisfaction, recreational space satisfaction, overall neighbourhood satisfaction, the neighbourhood satisfaction index, and number of neighbours known at the $p<.001$ level. For test statistics see Appendix I.

Table 13: Physical space x Lived Space

Quest. #	Explanatory Variable	Green Space Satisfaction	Gathering Space Satisfaction	Recreational Facility Satisfaction	Overall Neighbourhood Satisfaction	Neighbourhood Satisfaction Index	Number of Neighbours Known
36	Green space availability	***	***	***	***	***	***
35	Gathering space availability	***	***	***	***	***	***
37	Recreational facilities availability	***	***	***	***	***	***

All of the eighteen significant relationships, as displayed by table 16, were in the expected direction (see Appendix J). It is not surprising that participants who reported low availability of physical space were significantly more likely to report lower satisfaction with such resources. If these relationships had not been significant, it may have been a sign that while neighbourhood

amenities could hinder place attachment by not being relevant for local residents. However, It must be noted however, a level of detail was lost by dichotomizing the indicators of community life (*lived space*) and statistical significance does not mean that neighbourhood amenities are population appropriate. It was also expected that satisfaction with neighbourhood amenities would be related with neighbourhood satisfaction, especially the neighbourhood satisfaction index which was calculated based on a series of questions that included the three explanatory variables indicated here. Finally, significance between access to public spaces and the number of neighbours a participant knows, may suggest that areas with greater access to public spaces encourage interaction between neighbours. This supports the theory that physical space is related to lived space.

Mental (Abstract) Space and Lived (Social) Space

When testing the relationship between mental (abstract) space and lived (social) resources, each of the explanatory variables was found to be significantly related with at least four *lived* (social) resource outcomes. Level of worry about personal safety while home alone at night was found significantly related to the most *lived* (social) resources (5). Each mental (abstract) resource indicator showed a statistically significant relationship with gathering space satisfaction, overall neighbourhood satisfaction and the neighbourhood satisfaction index, with those who reported places they fear visiting during the day, places they fear visiting at night and a higher level of worry about personal safety while home alone at night statistically more likely to report less satisfaction with the aforementioned indicators of lived space. For the results of these statistical tests, please see Appendix I. Only two mental resource indicators were significantly related to green space satisfaction: places to fear visiting at night ($phi=.102$, $p<.01$) and level of worry while home alone at night ($U=45638.5$, $p<.01$). The only mental resource indicator which was significantly related to number of neighbours known was level of worry while home alone at night ($U=61011$, $p<.05$).

Table 14: Mental Space x Lived Space

Quest. #	Explanatory Variable	Green Space Satisfaction	Gathering Space Satisfaction	Recreational Facility Satisfaction	Overall Neighbourhood Satisfaction	Neighbourhood Satisfaction Index	Number of Neighbours Known
26	Neighbourhood fear (day)		***	*	*	*	
27	Neighbourhood fear (night)	**	**	*	***	*	
28	Home safety at night?	**	**		***	*	*

All of the fourteen significant relationships were found in the expected direction (see Appendix J). The significant relationships between mental space and public space/neighbourhood satisfaction may suggest that the mental dimension of space shapes satisfaction with neighbourhood public spaces and the neighbourhood overall. Furthermore, the significant relationship between level of worry about personal safety while home alone at night and number of neighbours known may suggest that knowing more neighbours increases one's perception of safety and security. This supports the theory that mental space is related to lived space.

Lived (Social) Space and Health

When testing the relationship between lived (social) resources and health, each of the explanatory variables was found to be significantly related with at least one health outcome. While most significant relationships were in the expected direction, number of times moved in the last five years was surprisingly positively associated with general health status, with individuals who reported moving more times also reporting better health. The following lived resource indicators were significantly related with general health status, with those who reported a lower satisfaction with the following neighbourhood resources being statistically more likely to report a poorer general health status: community gathering places ($U=23667$, $p<.05$) and recreational facilities ($U=26887$, $p<.05$). General health status was also significantly related to number of times moved in the last five years ($U=41700$, $p<.05$). Mental health, which was found significantly related to the most explanatory variables, was found related to the following: community gathering place satisfaction ($U=18749$, $p<.001$); recreational facility satisfaction ($U=26114.5$, $p<.01$); neighbourhood satisfaction ($phi=.149$, $p<.001$) and number of neighbours known ($U=36565.5$, $p<.01$), with those who reported lower satisfaction with the aforementioned public

spaces and their neighbourhood and a higher number of times moved also being statistically more likely to be categorized as a 'probable case' for mental disorder. Instance of chronic conditions, which was significantly related to the least variables of any outcome, was related to green space satisfaction (U=60170.5, p<.05), and number of neighbours known (U=63507.5, p<.01).

Table 15: Lived Space x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
42	Green space satisfaction			*
41	Gathering place satisfaction	*	***	
43	Recreational facilities satisfaction	*	**	
	Neigh. Satisfaction Index		***	
4	No. times moved in last 5 yrs.	*		
24	No. of neighbours known		**	**

At the neighbourhood-level, St. Jamestown and Weston-Mt. Denis were where a majority of significant relationships were found, six and five of these respectively. Parkdale accounted for one of them, while Eglinton East accounted for no significant relationships. The two neighbourhood level variables which yielded significance with the most health outcomes, each yielding two significant relationships with general health and mental health, were neighbourhood satisfaction in St. Jamestown (general health: phi=.224, p<.01; mental health: phi=.139, p<.05) and community gathering places in Weston-Mt. Denis (general health: phi=-.209, p<.01; mental health: phi= .300, p<.001).

St. Jamestown yielded the following other significant relationships: number of neighbours known and general health (phi=-.194, p<.01); community gathering place satisfaction (phi=.303, p<.001) recreational facility satisfaction (phi=.237, p<.01) and mental health; number of neighbours known (phi=.171, p<.05) and chronic conditions. Weston-Mt. Denis exhibited the following significant relationships: recreational facility satisfaction and general health (phi=-.165, p<.05); green space

satisfaction (phi=.140, p<.05); neighbourhood satisfaction (phi=-.227, p<.01) and mental health. Parkdale yielded significance between number of neighbours known and chronic conditions (phi=.178, p<.05).

Table 16: Lived Space x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
42	Green space satisfaction			
	Eglinton East			
	Parkdale			
	St. Jamestown			
	Weston-Mt. Denis		*	
41	Gathering place satisfaction			
	Eglinton East			
	Parkdale			
	St. Jamestown		***	
	Weston-Mt. Denis	**	***	
43	Recreational facilities satisfaction			
	Eglinton East			
	Parkdale			
	St. Jamestown		**	
	Weston-Mt. Denis	*		
	Neigh. Satis. Cat. Index			
	Eglinton East			
	Parkdale			
	St. Jamestown	**	*	
	Weston-Mt. Denis		**	
4	No. times moved in last 5 yrs.			
	Eglinton East			
	Parkdale			
	St. Jamestown			
	Weston-Mt. Denis			
24	No. of neighbours known			
	Eglinton East			
	Parkdale			*
	St. Jamestown	**		*
	Weston-Mt. Denis			

Similar to the overall sample, the outcome which yielded the most significant relationships was mental health (6), followed by general health (4) and chronic conditions (2). While most significant relationships were in the expected direction, general health status yielded the following three

negative associations: satisfaction with community gathering places and recreational facilities in Weston-Mt. Denis and number of neighbours known in St. Jamestown. Given that St. Jamestown and Weston-Mt. Denis were found to have more significant relationships than the other two neighbourhoods, the data may suggest that the relationship between lived space and health outcomes is greater in these two neighbourhoods.

Lived (Social) Space and Place attachment

When testing the relationship between lived (social) resources and place attachment, each of the explanatory variables was found to be significantly related with at least one health outcome. While all indicators of *lived space* showed a statistically significant relationship with perception of neighbourhood unity (collective efficacy), none of the explanatory variables were related to membership of voluntary organizations (civic participation). All indicators of *lived space* were significantly related to sense of community belonging, except satisfaction with recreational facilities and the neighbourhood satisfaction index, at the following levels: green space satisfaction ($U=57101.5$, $p<.01$); community gathering place satisfaction ($U=37943$, $p<.01$); participant reported overall neighbourhood satisfaction ($U=53883$, $p<.001$) and number of neighbours known ($U=42382.5$, $p<.001$). Indicators of *lived space* were related to collective efficacy at the following levels: green space satisfaction ($U=42306.5$, $p<.001$); community gathering place satisfaction ($U=28408$, $p<.001$); recreational facility satisfaction ($U=34907.5$, $p<.001$); neighbourhood overall satisfaction (participant reported) ($U=39816.5$, $p<.001$); neighbourhood satisfaction index ($phi=.163$, $p<.001$) and number of neighbours known ($U=47738.5$, $p<.01$).

Table 17: Lived Space x Place attachment

Quest. #	Explanatory Variable	Sense of Community	Collective Efficacy	Civic Participation
42	Green space satisfaction	**	***	
41	Community gathering place satisfaction	**	***	
43	Recreational facilities satisfaction		***	
45	Neighbourhood overall satisfaction (part. reported)	***	***	
	Neigh. Satisfaction Index		***	
24	No. of neighbours known	***	**	

Of the ten significant relationships yielded between indicators of the lived dimension of space and collective efficacy, all but one was in the expected direction. Those participants who report being satisfied with the public space in their area and their neighbourhood overall, as well as knowing a higher number of neighbours were statistically more likely to also report collective efficacy among their neighbours and in most cases a higher sense of community belonging as well. This supports the theory that lived space is related to place attachment. The relationship that was not in the expected direction was the neighbourhood satisfaction index and collective efficacy; it appears as though the neighbourhood satisfaction index is negatively related to collective efficacy. It could be speculated that participants are statistically less likely to agree that their neighbours collectively combat threats because they are satisfied with the neighbourhood overall and view it as having few threats to begin with. It is interesting that none of the indicators of the lived dimension of space were related to membership in voluntary organizations (civic participation). This does not support the conceptual model presented, but may suggest either that civic participation is not an adequate indicator of place attachment or that the relationship between the lived dimension of space and indicators of place attachment, in the case of civic participation, is impacted by confounding variables that are not accounted for in the analytical model.

Table 18: Lived Space x Place Attachment

Quest. #	Explanatory Variable	Sense of Community	Collective Efficacy	Civic Participation
42	Green space satisfaction			
	Eglinton East			
	Parkdale			
	St. Jamestown		*	
	Weston-Mt. Denis			*
41	Gathering place satisfaction			
	Eglinton East			
	Parkdale		***	
	St. Jamestown			
	Weston-Mt. Denis	**	*	
43	Recreational facilities satisfaction			
	Eglinton East			
	Parkdale		*	
	St. Jamestown			
	Weston-Mt. Denis			
	Neigh. Satis. Cat. Index			
	Eglinton East			
	Parkdale		**	
	St. Jamestown		*	
	Weston-Mt. Denis			
24	No. of times Moved in last 5 years			
	Eglinton East			
	Parkdale	***	*	
	St. Jamestown			
	Weston-Mt. Denis			*
24	No. of neighbours known			
	Eglinton East			
	Parkdale	***		
	St. Jamestown	***		
	Weston-Mt. Denis	***	*	***

More than half of the statistically significant relationships were found in Weston-Mt. Denis and Parkdale (13). Weston-Mt. Denis, was found significant with all three place attachment outcomes, sense of community (phi=.374; p<.001), collective efficacy (phi=.192, p<.05) and civic participation (phi=.247, p<.001). Weston-Mt. Denis yielded the following other significant relationships: community gathering place satisfaction (phi=.310, p<.01) and sense of community; community gathering place and collective efficacy (phi=.211, p<.05); satisfaction with green

space (phi=.157, p<.05), number of times moved in the last five years and chronic conditions (phi=-.133, p<.05). Parkdale was found to exhibit the following significant relationships: number of times moved in last five years (phi=.305, p<.001), number of neighbours known (phi= .393, p<.001) and sense of belonging; satisfaction with gathering places (phi=.385, p<.001), recreational facilities (phi=.258, p<.05), neighbourhood (phi=.266, p<.01), number of times moved in last five years (phi=.238, p<.05) and collective efficacy. Finally, St. Jamestown exhibited significant relationships between number of neighbours known (phi=.368, p<.001) and sense of community, as well as satisfaction with green space and collective efficacy (phi=.216, p<.05).

Similar to the overall sample, all indicators of the lived dimension of space were significantly related with collective efficacy, and in most cases sense of community belonging, in at least one neighbourhood. Contrary to the overall sample, there were several (3) significant relationships yielded between with civic participation as an outcome. Green space satisfaction, number of times moved in the last five years and number of neighbours known were each related to civic participation at the neighbourhood level, all of which were found significant in only Weston- Mt. Denis. All but one of the significant relationships found at the neighbourhood-level was in the expected direction. Number of times moved in the last 5 years was negatively associated with civic participation. Overall, the findings support the theory that lived space is related to place attachment at the neighbourhood. Given that Weston and Parkdale exhibited more significant relationships than Eglinton East and St. Jamestown, the findings do not support the investigators' anticipation that denser neighborhoods would exhibit stronger relationships between public space, indicators of community life and health.

Place attachment and Health

When testing the relationship between place attachment and health, sense of community and neighbourhood unity (collective efficacy) yielded significant relationships with two health outcomes each, while membership in voluntary organizations (civic participation) was not significantly related with any health outcome.

Neighbourhood unity was significantly related to general health status (U=25426.5, p<.05), with participants whom reported a lower level of unity among their neighbours being statistically more likely to report a 'fair' or 'poor' general health status. Mental health was related with the most place attachment indicators all three health outcomes (2). Those who reported lower sense of community (U=34365, p<.05) and neighbourhood unity (U=24342, p<.05), were statistically more likely to be categorized as a 'probable case' for a mental disorder. Sense of community belonging was the only indicator of place attachment which produced a statistically significant relationship with instance of chronic conditions (U=57784.5, p<.001).

Table 19: Place Attachment x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
23	Sense of community belonging		*	***
29	Neighbourhood Unity (Collective Efficacy)	*	*	
22	Membership of voluntary organizations (civic participation)			

It is not surprising that mental health was again the health outcome which yielded the most statistically significant relationships. It is interesting that membership in voluntary organizations (civic participation) was not statistically related to any health outcomes, since in the previous section it was the only outcome not significantly related with any of the explanatory variables.

Most of the significant relationships at the neighbourhood level were found in St. Jamestown: sense of community belonging and chronic conditions (phi= .263, p<.001) and collective efficacy and mental health (phi=.199, p<.05). The third significant relationship was found between collective efficacy and mental health in Weston- Mt. Denis (phi= .183, p<.05). Both Eglinton East and Parkdale yielded no significant relationships and no significant relationships were found for general health status as an outcome. All of the significant relationships found at the neighbourhood level were in the expected direction. These findings suggest that in certain neighbourhoods, like St. Jamestown, place attachment is significantly related to health outcomes.

This supports the anticipated finding that the relationships between public space, indicators of community life and health will be stronger in denser areas.

Table 20: Place Attachment x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
23	Sense of community belonging			
	Eglinton East			
	Parkdale			
	St. Jamestown			***
	Weston-Mt. Denis			
29	Neighbourhood Unity (Collective Efficacy)			
	Eglinton East			
	Parkdale			
	St. Jamestown		*	
	Weston-Mt. Denis		*	
22	Membership of voluntary organizations (civic participation)			
	Eglinton East			
	Parkdale			
	St. Jamestown			
	Weston-Mt. Denis			

Public Space and Health among Newcomers

In order to investigate the different ways in which newcomers may experience the relationships between public space, place attachment and health differently, bivariate statistical tests of significance were run separately on Canadian- and foreign-born subgroups so that comparisons could be made.

Table 21: Lived Space x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
42	Green space satisfaction			
	Foreign-Born			
	Canadian-Born			
41	Gathering place satisfaction			
	Foreign-Born	**	***	
	Canadian-Born		**	
43	Recreational facilities satisfaction			
	Foreign-Born		*	
	Canadian-Born	*		
	Neigh. Satis. Cat. Index			
	Foreign-Born		**	
	Canadian-Born		*	
4	No. times moved in last 5 yrs.			
	Foreign-Born			
	Canadian-Born			
24	No. of neighbours known			
	Foreign-Born		**	
	Canadian-Born			*

When comparing the lived space and health outcomes of Canadian and foreign-born participants, foreign-born participants accounted for just over half of the significant relationships: satisfaction with gathering spaces and general health status (phi=-.169, p<.01), as well as mental health (phi=.188, p<.001); satisfaction with recreational facilities and mental health (phi=.118, p<.05); satisfaction with neighbourhood and mental health (phi=.152, p<.01); and finally, number of neighbours known and mental health (phi=-.127, p<.01). Canadian-born participants exhibited significant relationships between satisfaction with gathering places and mental health (phi=.206, p<.01); satisfaction with recreational facilities and general health (phi=-.150, p<.05); satisfaction with neighbourhood and mental health (phi=.144, p<.05), as well as number of neighbours known and chronic conditions (phi=.139, p<.05). Two-thirds of the nine statistically significant relationships were in the expected direction. Those which were negatively associated were satisfaction with gathering spaces and general health status; number of neighbours known and mental health; and satisfaction with recreational facilities and general health. These findings suggest that there are not significant differences in the strength of the relationship between lived space and health. However, these results partially support the investigators' anticipated findings.

Given that each exhibited *different* significant relationships, the results may suggest that each subgroup experiences the relationship between lived space and health differently.

Table 22: Lived Space x Place Attachment

Quest. #	Explanatory Variable	Sense of Community	Collective Efficacy	Civic Participation
42	Green space satisfaction			
	Foreign-Born			
	Canadian-Born			
41	Gathering place satisfaction			
	Foreign-Born			
	Canadian-Born		***	
43	Recreational facilities satisfaction			
	Foreign-Born	*		
	Canadian-Born		*	
	Neigh. Satis. Cat. Index			
	Foreign-Born		*	
	Canadian-Born			
24	No. of neighbours known			
	Foreign-Born	***	*	
	Canadian-Born	***		
24	No. of times moved in last 5 years			
	Foreign-Born	**		
	Canadian-Born			

When comparing the effects of lived space on place attachment of Canadian and foreign-born participants', each subgroup exhibited the same number of significant relationships (4). Each of the eight significant relationships that were found was in the expected direction. Foreign-born participants yielded the following significant relationships: satisfaction with recreational facilities and sense of community (phi=.146, p<.05); number of neighbours known and sense of community (phi=.356, p<.001) and collective efficacy (phi=.131, p<.05), as well as number of times moved in the last five years and sense of community (phi=.170, p<.01). Among Canadian-born participants, number of neighbours known yielded a significant relationship with sense of community belonging (phi= .438, p<.001), while the following explanatory variable yielded significant relationships with collective efficacy: satisfaction with gathering places (phi=.275, p<.001); satisfaction with recreational facilities (phi=.161, p<.05) and satisfaction with neighbourhood (phi=.153, p<.05).

All of the significant relationships that were found were in the expected direction. Similar to the overall sample, there were no significant relationships exhibited for either subgroup with civic participation as an outcome. Foreign-born participants yielded the same number of statistically significant relationships as their Canadian-born counterparts, which does not support the investigators' anticipation that the place attachment of foreign-born participants may be more heavily influenced by their lived space, since they may lack some of the mental space that could aid in place attachment. Instead, this suggests that the lived space of both subgroups may be equally important to their place attachment. Given that each subgroup exhibited different significant relationships, the results partially support the anticipated findings and suggest that each subgroup experiences the relationship between lived space and place attachment differently.

Table 23: Place Attachment x Health Outcomes

Quest. #	Explanatory Variable	General Health Status	Mental Health	Chronic Conditions
23	Sense of community belonging			
	Foreign-Born		*	
	Canadian-Born			**
29	Neighbourhood Unity (Collective Efficacy)			
	Foreign-Born	*		
	Canadian-Born		*	
22	Membership of voluntary organizations (civic participation)			
	Foreign-Born			
	Canadian-Born			

When comparing the effects of place attachment on the health outcomes of Canadian and foreign-born participants', each subgroup exhibited the same number of significant relationships. Foreign-born participants exhibited significant relationships between sense of community belonging and mental health (phi=.149, $p<.05$), as well as collective efficacy and general health (phi=.140, $p<.05$). Canadian-born participants, on the other hand, exhibited significant relationships between sense of community belonging and chronic conditions (phi=.206, $p<.01$), as well as, collective efficacy and mental health (phi=.142, $p<.05$). Again, no significant relationships

were found for civic participation as an explanatory variable, which is consistent with the overall sample.

All of the significant relationships found were in the expected direction. Foreign-born participants yielded the same number of statistically significant relationships as their Canadian-born counterparts. This suggests that place attachment may be equally important to the health of participants from both subgroups. Similar to the findings for the previous two relationships in question, the different significant relationships exhibited by each subgroup partially support the anticipated findings and suggest that each subgroup experiences the relationship between place attachment and health differently. Interest in this plurality of experience is why the final part of these analyses includes comparing the neighbourhood priorities, with a focus on identifying public space concerns and comparing the concerns of foreign-born residents to those of their Canadian-born counterparts across neighbourhoods of varying built form.

Neighbourhood Priority Issues

When participants were asked the open-ended question 'In your opinion, what are the most important issues facing your neighbourhood?' and were asked to name up to three issues that they felt were affecting their neighbourhood, a variety of responses were provided. Excluding those who responded 'don't know', a total of 676 participants answered this question, listing anywhere from one to three issues. Each of the issues named by participants was treated as a discrete unit, and each 'issue category' was not seen as mutually exclusive, such that if a participant named more than one 'issue category', their responses were coded into multiple categories. Participants' responses were coded into the following categories: green space issues; other public space access issues; other public space quality issues; community social issues; and no issues.

Issues relating to public space, including both green spaces and other public space access/quality, were named as a neighbourhood priority issue by almost one quarter (22.3%, 151) of participants. Nearly one quarter (23.8%, 36) of those participants who named issues of public space made at least one specific reference to neighbourhood parks or green spaces.

Issues relating to green spaces included: a lack of availability of such spaces; poor quality of existing spaces; uncleanliness (vandalism, litter, drug paraphernalia); being characterized as sites of crime, drug users and 'vagrants' and failing to meet the needs of neighbourhood residents. Some participants even made references to needing more green spaces to 'increase public health, green spaces to encourage people to get out'. Of the group of participants who named at least one public space issue, 28% (42) did not make reference to green spaces and instead named at least one issue related to *access* to other public spaces, such as a community centre. Issues over access to 'other public spaces' included a lack of recreational facilities, gathering places, community centres, and libraries, as well as a lack of facilities catering to specific populations, such as teenagers, senior citizens or a lack of places for supervised play.

The majority of public space issues that were named (50.3%), were primarily related to the *quality* of public spaces other than a neighbourhood park or green space. Issues over quality of 'other public spaces' included: lack of infrastructure, maintenance, proper lighting, garbage disposal and snow removal, which collectively made the spaces unsafe. There were also references to contamination, vandalism and general cleanliness, such as the presence of litter, dog droppings and drug paraphernalia.

Table 24: Neighbourhood Priorities x Neighbourhood

	Eglinton East	South Parkdale	St. Jamestown	Weston-Mt. Denis	Total
Neighbourhood Priority Issues					
Green Space	5.0% (5)	3.9% (7)	6.4% (13)	**	4.3% (29)
Other Public Space Access	9.9% (10)	5.0% (9)	4.4% (9)	11.5% (22)	7.4% (50)
Other Public Space Quality	15.8% (16)	8.9% (16)	13.2% (27)	11.0% (21)	11.8% (80)
Community Social Issues	46.5% (47)	76.1% (138)	70.1% (143)	60.2% (115)	65.4% (443)
No Issues	8.9% (9)	4.4% (8)	3.4% (7)	3.7% (7)	4.6% (31)
Total	100.0%(101)	100.0%(180)	100.0%(204)	100.0%(191)	100.0%(676)

** value suppressed due to small numbers

An overwhelming 65.4% of the issues named were related to community social issues. Community social issues named included loneliness/alienation, as well as the need for cultural groups to help transitioning newcomers. One participant articulated that "communication [is needed], people are

too busy, they have no time for others." Issues of racial/gender tolerance were brought up (some even personally expressed racist slurs). A number of participants voiced a need for increased community safety, one participant noted that "people are somewhat afraid of each other, don't have the concept that it's a safe neighbourhood." Another stated there was a "criminal element on the street [that is] not being cared for", while others mentioned specific "threatening" populations (such as the mentally ill). Some participants were aware of and concerned with the social consequences of redevelopment and gentrification. Finally, participants frequently mentioned neighbourhood unfriendliness, as well as the need for more cohesion and community spirit and a supportive atmosphere that provides opportunities for the local population.

There were many participants (9.6%) who named both public space issues and community social issues. One community social issue raised by participants who also named a public space issue was a lack of social interaction and trust between neighbours and the activities which promote each. Another participant stated "I just know two neighbours; people don't talk to each other." Other issues that were raised included the ignorance of police and local residents, as well as the need for increased community involvement in neighbourhood watch initiatives. One participant noted, "people don't trust area now, [they are] afraid to go out at night, very few people walk around," while another participant cried out "please get the youth out of the streets."

The results suggest that public space is in the consciousness of many residents of low-income communities and deserves to be prioritized. It can no longer be pushed aside as a soft resource that does not need to be prioritized by decision-makers. Given that many participants who named public space issues among their primary neighbourhood issues also named community social issues as their neighbourhood priority issues, residents may be aware of the role that neighbourhood public spaces play in the local social environment.

Priority Issues by Neighbourhood

The neighbourhood within which the highest proportion of residents whom named green spaces issues among their priorities was St. Jamestown at 6.4% (13), followed by Eglinton East at 5%

(5), Parkdale at 3.9% (7) and Weston, which reported a very small number of green space issues and therefore must be suppressed. Participants from Weston named the highest proportion of *accessibility* to 'other public spaces' issues at 11.5% (22), followed by Eglinton East at 9.9% (10), Parkdale at 5.0% (9) and St. Jamestown at only 4.4% (9). Eglinton East reported the highest proportion of *quality* of 'other public spaces' issues at 15.8% (16), followed by St. Jamestown at 13.2% (27), Weston at 11% (21), and Parkdale at 8.9% (16). Parkdale reported the highest proportion of community social issues at 76.1% (137), followed by St. Jamestown at 70.1% (143), Weston at 60.2% (115) and Eglinton East at 46.5% (47).

Eglinton East was the neighbourhood with the highest proportion of participants to report that they had no neighbourhood priority issues at 8.9% (9), followed by Parkdale at 4.4% (8), Weston at 3.7% (7). St. Jamestown had the lowest proportion participants who reported that they had 'no issues' at 3.4% (7).

Eglinton East and St. Jamestown, a sprawling inner suburb and downtown high-density neighbourhood respectively, both reported the highest proportions of participants with green space issues. Surprisingly, a small proportion of participants from St. Jamestown reported issues related to the accessibility of public spaces, while a large proportion of them reported issues over its quality. This may suggest that while St. Jamestown residents have neighbourhood amenities, they are not meeting the needs of the local population. Eglinton East residents reported more than double the proportion of *accessibility* to 'other public spaces' issues than residents of St. Jamestown. This may reflect two different notions of accessibility between the St. Jamestown and Eglinton East, such as quantity and geographic proximity respectively.

Parkdale residents named more than 1.5 times the proportion of community social issues raised than their Eglinton East counterparts. While it may also suggest that community social issues are a higher priority in Parkdale, at least 60% of participants named community social issues among their priorities across all four neighbourhoods. There was a notable variation in the responses given by participants from each of the four neighbourhoods, and the results suggest that priorities are different among these four study populations.

Priority Issues among Newcomers

The most important priority issue for both Canadian- and foreign-born participants, of the categories coded for, was community social issues, followed by public space quality, public space accessibility and green space issues. Canadian-born participants were more likely to report community social issues at 72.9% (207) in comparison to foreign-born participants at 59.7% (232). Canadian-born participants were also more likely to report only issues unrelated to either public space or community social issues at 69.7% (198) in comparison to foreign-born participants at 61.9% (239). This appears to be explained by foreign-born participants being more likely to report 'no issues' at 6.7% (26) in comparison with Canadian-born participants. Such a small number of Canadian-born participants reported 'no issues' that the values needed to be suppressed,

Table 25: Neighbourhood Priorities x Canadian/ Foreign-Born Participants

	Canadian-born	Foreign-born	Total
Neighbourhood Priority Issues			
Green Space	3.5% (10)	4.9% (19)	4.3% (29)
Other Public Space Access	6.7% (19)	8% (31)	7.5% (50)
Other Public Space Quality	9.9% (28)	13.2% (51)	11.8% (79)
Community Social Issues	72.9% (207)	59.7% (232)	65.3% (439)
No Issues	**	6.7% (26)	4.5% (30)
Total	100.0%(284)	100.0%(387)	100.0%(671)

** value suppressed due to small numbers

Generally, foreign-born and Canadian-born participants reported similar priority issues. Interestingly, the results suggest that a higher proportion of foreign-born participants consider public space among their priority issues, while Canadian-born participants are more likely to prioritize community social issues. Finally, the biggest difference appears to lie in foreign-born participants being more likely to report 'no issues', though this may reflect a variation in expectations based on life experience.

Summary of Analysis

The analysis undertaken in this study has aided the investigator in investigating the relationships between the urban public space and health in four Toronto neighbourhoods. This study first investigated the relationships between each of public space's three dimensions and health. The health measure which demonstrated the greatest sensitivity to the effects of public space measures was mental health, followed by general health and chronic conditions. Those participants who report higher availability of indicators of physical space were statistically more likely to also report better general health status, and less likely to be categorized as a 'probable case' for a mental disorder or diagnosed with a chronic condition. People who reported lower mental space (abstractions about space) were significantly more likely to be categorized as a 'probably case' for a mental disorder. Furthermore, perceiving his/her home, as a safe place was important not only for mental health, but for general health. These findings support the theory that mental space is related to health. Lived space (routine experiences in space) was most significantly related to mental health, followed by general health and chronic conditions. Given that St. Jamestown and Weston-Mt. Denis were found to have more significant relationships between mental and lived space than the other two neighbourhoods, the data may suggest that the relationship between lived space and health outcomes is greater in these two neighbourhoods.

Second, this study investigated the relationships between absolute, abstract and social space. Not surprisingly, participants who reported low availability of physical space were significantly more likely to report lower satisfaction with such resources. This does suggest that there is not a blatant misfit of available spaces for the local residents. Though, given that indicators of lived space were dichotomized, a level of detail was lost and statistical significance between these two sets of indicators does not mean that neighbourhood amenities are population appropriate. Significant relationships between access to public spaces and the number of neighbours a participant knows, may suggest that areas with greater access to public spaces encourage interaction between neighbours. The results suggest that mental space shapes satisfaction with neighbourhood public spaces and the neighbourhood overall. Furthermore, the significant relationship between level of worry about personal safety while home alone at night and number

of neighbours known may suggest that knowing more neighbours increases one's perception of safety and security. This supports the theory that physical space is related to lived space.

Third, the relationships between social space and place attachment, operationalized as collective efficacy, sense of community and social capital (as measured by civic participation), were investigated. Those participants who report being satisfied with the public space in their area and their neighbourhood overall, as well as knowing a higher number of neighbours, were statistically more likely to also report collective efficacy among their neighbours and in most cases a higher sense of community belonging as well. This supports the theory that lived space is related to place attachment. Interestingly, none of the indicators of the lived dimension of space were related to membership in voluntary organizations (civic participation). When investigating the relationship between place attachment and health, mental health was again the health outcome which yielded the most statistically significant relationships. And again, membership in voluntary organizations (civic participation) was not statistically related to any health outcomes.

Fourth, this thesis investigated the relationships between place attachment and health. The results do not support the conceptual model presented, but may suggest either that civic participation is not an adequate indicator of place attachment or that the relationship between indicators of place attachment and health, in the case of civic participation, is impacted by confounding variables that are not accounted for in the analytical model. Most of the significant relationships between place attachment and health at the neighbourhood level were found in St. Jamestown. Neither Eglinton East nor Parkdale yielded any significant relationships and no significant relationships were found for general health status as an outcome. These findings suggest that in certain neighbourhoods, like St. Jamestown, place attachment is significantly related to health outcomes. These findings support the anticipated finding that the relationships between public space, indicators of community life and health will be stronger in denser areas. Furthermore, it is noteworthy that the two neighbourhoods which did not yield any significant relationships (Eglinton East and Parkdale), were also the two neighbourhoods which did not yield any significant relationships for physical and lived space and may suggest that participants who

are not satisfied with the seemingly available spaces in their neighbourhood may exhibit less of a relationship between place attachment and health.

Fifth, the aforementioned relationships were investigated at the neighbourhood level and among foreign-born participants as a means of exploring ways in which urban subpopulations may experience the relationships between public space, place attachment and health differently. When investigating the relationships under investigation between Canadian and foreign-born participants, each subgroup exhibited roughly equal numbers of significant relationships on all accounts. These findings suggest that there are not significant differences in the strength of the relationship between lived space and health. However, given that each exhibited *different* significant relationships, these results partially support the anticipated findings and may suggest that each subgroup experiences the relationships differently.

Finally, neighbourhood priorities were investigated, with a focus on identifying public space issues and comparing the priorities of foreign-born residents to those of their Canadian-born counterparts across neighbourhoods of varying built form. The most commonly reported priorities for participants overall were community social issues, followed by issues related to the quality of public spaces. Nearly one quarter of participants identified at least one neighbourhood public space issue, a quarter of which were specific to green space. Many participants who identified at least one public space issue also identified at least one 'community social issue'. While the proportion of participants who reported green space issues varied by neighbourhood, it was unrelated to built environment type. Foreign-born participants reported slightly higher proportions of public space issues and slightly lower proportions of 'community social issues' than Canadian-born participants. These findings suggest that public space is in the consciousness of many residents of low-income communities and deserves to be prioritized by decision-makers. Given that many people who named public space issues among their neighbourhood priorities also named 'community social issues' suggests that residents are aware of the role that neighbourhood public spaces play in the social environment of communities.

Chapter 6: Discussion & Implications

Key Findings:

This thesis first investigated the relationships between the urban public space and health in four Toronto neighbourhoods. The relationships between the three dimensions of public space and health were investigated separately and operationalized as: perceived availability of public space (absolute space) perceived neighbourhood safety (abstract space) as well as satisfaction with public space, satisfaction with neighbourhood, frequency of relocation in last 5 years and familiarity with neighbours (social space). Health was operationalized as self-rated general health status, mental health and instance of chronic conditions, such as diabetes, high blood pressure, arthritis or asthma. Second, this study investigated the relationships between absolute, abstract and social space. Third, the relationships between social space and place attachment, operationalized as collective efficacy, sense of community and social capital (as measured by civic participation), were investigated. Fourth, this thesis investigated the relationships between place attachment and health. Fifth, the aforementioned relationships were investigated at the neighbourhood level and among foreign-born participants as a means of exploring ways in which urban subpopulations may experience the relationships between public space, place attachment and health differently. Finally, neighbourhood priority issues were investigated, with a focus on identifying public space issues and comparing the issues of foreign-born residents to those of their Canadian-born counterparts across neighbourhoods of varying built form.

The *production of healthy public space* model, which is used to frame this analysis, conceptualizes the pathways between the lived experience of space and health as between the absolute and the abstract dimensions of space. The lived dimension of space impacts an individual's likelihood of establishing place attachment. The model also emphasizes that there are many different ways to experience the same space.

Overall, the results of the study support elements of the conceptual model presented in this thesis and suggest that there is a relationship between public space, place attachment and health. The findings suggest that indicators of both physical and mental space are related to lived space (as an outcome). The results support the hypothesis that there is a relationship between the lived dimension of space and health, and its most important impacts seem to be on mental health as an outcome. While there does appear to be a relationship between indicators of lived space and place attachment, lived space was not related to civic participation. Again not surprisingly, mental health appears to be the outcome most affected by indicators of place attachment. Several of the aforementioned relationships were found more commonly in St. Jamestown of the four neighbourhoods, though it is unclear why. This partially supports the conceptual model; while St. Jamestown is characterized by a dense built form, it lacks an abundance of quality public spaces.

Given that a large proportion (22.4%) of participants articulated that public space issues were among their top neighbourhood priorities, and many of them also commented on community social issues, findings suggest that residents are aware that neighbourhood public spaces play a role in the local social environment. While there were not strong differences between foreign- and Canadian-born participants, it is important to note that foreign-born participants were more likely to report ‘no issues’. As satisfaction is often related to expectations, different level of satisfaction may reflect different expectations of each group based on their experiences and background. Alternatively, it may also suggest that newcomers in the study neighbourhoods are less likely to report problems or voice their priorities, a practice which may warrant an increase in meaningful community engagement and participatory planning.

Reflections on the Utility of the Theoretical Model

This thesis investigated the under-theorized relationships between public space and health and proposed the *healthy production of plural public space* model as a potentially useful framework for investigating such relationships, while capturing the plurality of the urban experience. The model was produced out of a review of the literature on various spatial and planning theories and uses Lefebvre's *production of space* and his theory of the *trialectics of space*. It also incorporates the concept of *pluralistic place attachment,* built on community psychology's notion of *place attachment* as well as Jane Jacob's conception of the need for diversified spaces, as the link between urban public space and health. While the model served its purpose in framing the analysis for this study, several challenges arose in its application that should be bared in mind for future research.

Lefebvre's theories are highly abstract and his works, particularly the *Production of Space* are quite challenging to read, let alone ground in empirical social science. In order to employ his work, Lefebvre's theories needed to be simplified quite a bit. This study adopts two of Henri Lefebvre's theoretical conceptions about space: first, his theory of the *production of space*, which argues that space does not exist independent of social relations, but rather is a complex social construction constitutive of social relations based on values and social meanings; second, the *trialectics of space* which claims that there are three dimensions of space: absolute (symbolic meanings enacted in spatial form through human appropriation), abstract (signs that allow material practices in space to be talked about and understood), and social (routine experiences that 'secrete' their own social space) and extends these dimensions to urban public space (Lefebvre 1991). Using the *production of space* as the foundation for this study's analytical framework was problematic in that it was difficult to translate into concrete social measurement.

The simplification of Lefebvre's theories was accompanied by the inclusion of ideas brought forth by other theorists, of which all of the constructs are measured through survey questions that were not designed to measure the constructs in question. The conceptual framework, particularly its dimensions of space, was much broader than the study itself, which made it difficult to choose

indicators which could capture the constructs of the model. This broadness, coupled with constraints on the availability of data, resulted in a selection of indicators that arguably could be used for multiple constructs. For example, satisfaction with public gathering space could have been used as an indicator of either *lived* or *mental* space and perceived availability of public spaces could have been used as an indicator of any of the dimensions of space, rather than just *physical* space. Furthermore, the empirical finding that the relationships in question were most significant in high density neighbourhoods that are not characterized by high quality public space, suggests that the study's definition of what qualifies as "public space" should be reconsidered.

If this study could be designed with the model in mind, participants would be able to map out what they consider to be their neighbourhood and label on it what they define as "public space". The three dimensions of space would be measured in those spaces identified by participants. Indicators of physical space would be measured through systematic observations, mental space through survey questions relating to the fit, vitality, relevance and equitable access of a place and lived space would be measured through open-ended questions relating to the experiences that individuals have had in such places.

It is difficult to say whether Lefebvre would have agreed with the indicators chosen to represent his *trialectics of space*, though looking back at the framework used it is clear that the model is no longer one of Lefebvre's, rather a completely new model, which needs to be further developed. This model argues that there are multiple dimensions of space, all of which influence an individuals bond with a specific place. The *pluralistic place attachment* construct of the model is another concept which needs too be flushed out more, as it is underdeveloped and needs to be more clearly defined so that proper indicators can be identified.

The broadness of the model resulted in raising more questions than this study could address. The *healthy production of public space* articulates the relationships between public space and health as unidirectional and therefore fails to capture the impacts that place attachment has on the various dimensions of space or that health has as on place attachment and space. Furthermore, the relationships directly between physical and mental space and place attachment were not

investigated. It is entirely possible that physical and mental space impact place attachment directly rather than through the lived experience of space. The model articulates relationships that were not tested in this study, such as mental pathways like stress level on place attachment. Place attachment in this study was measured by indicators of sense of community, collective efficacy and civic participation (social capital). These indicators of community life may be related to space and health, independent from place attachment. The finding that civic participation did not yield significant relationships with indicators of each dimension of space and health suggest that it may not be an adequate indicator of place attachment. Finally, while this study was framed by the notion that the urban experience and thus urban place attachment varies from person to person, this cannot be adequately measured by the analytical model. If this is the case, it may not be legitimate to refer to the *place attachment* construct of the model as "pluralistic". If this study had been designed to collect data specific to the "pluralistic" aspect of place attachment, focus groups would have been held with various urban subpopulations, such as newcomers, the Lesbian Gay Bi-sexual Transgender Queer community or single mothers, to discuss their experiences of certain places for comparative purposes. Moreover, while this study was conducted at the neighbourhood level, it is unclear at what scale these relationships take place at, and whether place-based identity is formed with an individual's neighbourhood itself, or the city that contains it.

Limitations

While the research team designed this study to meet its objectives, the data were not collected specifically to investigate the research questions outlined in this thesis which limited both the study's methodology and the conclusions which can be drawn from its findings.

Although the sample size was nearly 800, some relevant questions regarding relatively rare characteristics could not be thoroughly investigated, especially disaggregated to the neighbourhood level. Newcomers for example, represented 61.3% of the sample making it difficult to investigate the association between public space measures and health within neighbourhoods.

Using data collected through a survey instrument which was not specifically designed for this investigation presented certain challenges in the analysis phase. The study's measurement of civic participation is one example of this. Membership in voluntary organizations was used as an indicator for civic participation. It is limited in that formal "card carrying" membership in an organization may not accurately reflect commitment to that organization. This may be one reason why analyses of civic participation yielded so few significant relationships as either an outcome variable with indicators of lived space or as an explanatory with health outcomes. Another example is that the indicators of physical space only capture availability and not *accessibility* of green spaces. There are several limitations to investigating newcomers by looking at foreign-born participants as a subgroup. The methodology used to study immigrants as a subgroup does not capture actual duration of residence in Canada and therefore cannot differentiate recent immigrants from those who have resided here for most of their lives, whose lives presumably have been informed by Canadian culture. Finally, the data collected through the Rapid Health Assessment is primarily based on perceptions, rather than systematic quantified information. While this helps to capture some of the intangible features of the public spaces, it is more easily dismissed as impressionistic and may not be the best tool for advocates or policy-makers. Data on perceptions could be complemented by a number of objective measurements of the same indicators.

Although this study is neighbourhood focused, the ability to draw neighbourhood level conclusions is limited by several factors. The study neighbourhoods were defined by census tracts for comparative purposes, but these do not necessarily depict the actual boundaries of the communities. The areas that have been defined might actually include multiple very independent "communities." Moreover, residents may use public spaces and community facilities, as well as have social networks outside of the administrative boundaries. This is difficult to overcome, as one's person's perception of their neighbourhood boundaries differs from other residents in their community. Nothing short of providing maps for participants and asking them to only answer questions concerning their 'neighbourhood' in reference to the mapped area could get around this, and that was not part of survey administration. While the study was guided by a neighbourhoods approach, analysis is limited to the local context in that it does not consider how residents are impacted by the *broader* physical and social context or the study neighbourhoods' place in and links to the wider city.

Another methodological limitation is that because the data is cross-sectional its impossible to make causal inferences. Furthermore, selection factor may influence the findings in that individuals who value public spaces may be more likely to choose to reside in neighbourhoods which offer quality public spaces. there may be a time scale (or lag) over which urban parks impact health through social pathways. Since this is a cross-sectional study, change over time cannot be observed, for example, change after a new park is put in or change after the quality and accessibility of a park has been improved. Furthermore, the study may be prone to type 2 error because of the high number of tested variables. As a result, no causal inferences can be made because it is not possible to control for everything. Finally, investigating only four neighbourhoods is probably insufficient to appreciate the variability that can be found at that level of geography. That being said, this study serves as a conceptual exploration to form the foundation for the future research directions discussed in the next section.

Directions for Future Research

This study raises as many questions as it answers. Building on the findings presented in this thesis, an in-depth analysis should ask questions regarding methodology and how the relationships under investigation manifest themselves in various contexts. First and foremost, incorporating qualitative methods would significantly contribute to understanding the role of public space at the neighbourhood level and to the various populations who cohabitate in such communities. If public space is to be promoted as a resource for addressing public health concerns, then it is crucial to examine the ways in which public spaces are used, by whom and what benefits each brings to the quality of life of neighbourhood residents. This should be coupled with an investigation of a neighbourhood's history, which includes residents' historical relationship with the community. The rapid assessment tool, if repeated in the future, could contribute significantly to understanding the ways in which communities change over time.

Planners should also have an understanding of the organizations and institutions that are active and have influence in the area, as well as the social and institutional ties that link residents with other neighbourhoods. It is important to know what activities or resources may be taking residents elsewhere, and the role that a given neighbourhood plays among surrounding communities and in the city as a whole. Furthermore, alternative methods could be used to define neighbourhood boundaries, such as holding a focus group with local stakeholders, to validate and complement the administrative boundaries.

While qualitative research would add a much needed dimension to understanding the relationship between public space, place attachment and health, refinement of the quantitative components would be beneficial for building a case for public space among policy-makers. Systematic measurements of the availability, quality and accessibility (both physical and social) of public space, as well as a per capita measurement of public space, would contribute to such an argument. Moreover, Swanwick et al., have developed a typology of urban green space that aids in determining the actual role of an area's public space within its community (2003; 103). While the limited scope of this investigation did not permit the use of Swanwick et al's tool, it is a valuable mechanism that can be used to assess a neighbourhood's perceived green space in

comparison to what is actually accessible and used by its residents. By focusing on residents' perception of public spaces, rather than systematically rating their quality and accessibility, we are capturing the social structures and human agency that go along with determining the facilities use. Certain facilities or design elements may make public space more attractive to specific types of people and thus impact satisfaction with public spaces. The findings presented in the previous chapters suggest that physical space may be more influential than mental space on residents choosing to remain in a community, but it unclear as to why. A study on the factors which influence public space satisfaction among various groups would be useful to those responsible for resource allocation.

The study compared foreign-born with Canadian-born participants for all of the research questions outlined, with presented limitations on the conclusions which could be drawn from the results for "newcomers", in that it categorized all foreign-born participants from different nations together. Similarly, future research should dichotomize between old and new neighbourhood residents or categorize residents by their physical proximity from public spaces within a given neighbourhood. Also, it would be interesting to define the place attachment and sense of community that a neighbourhood is characterized by; for instance, if it is characterized by a collective need to work together out of necessity to overcome hard times.

While this study can not make any causal inferences, it has generated a wealth of suggestions for future research that could aid further collaboration between the fields of public health and urban planning. More importantly, in order to investigate the potential for increased public space as a tool for promoting healthy communities, further research must investigate the various ways in which such public space is experienced across different areas, populations and times. Finally, in order to make significant changes through the allocation of public spaces, policy and design decisions should incorporate the various ways in which such spaces are experienced across different areas, populations and times.

Lessons for Governmental and Non-profit Organizations

Given that the data partially supports the model presented in this thesis, it also supports the notion that there are tremendous opportunities for collaborative public health and urban planning initiatives, working toward promoting healthy communities through both research and urban design. Indicators of lived space were related to those and place attachment and health and such relationships were stronger in neighbourhoods categorized by denser built forms. Research should involve planners, while both fields should incorporate both health outcomes and planning objectives. The results suggest that providing neighbourhoods with quality public spaces may offer increased opportunity for residents to develop place attachment and consequently promote healthy communities through social pathways. By planning for a more positive lived experience through the allocation of physical and mental space, health outcomes are inadvertently influenced. If health outcomes were consciously in the minds of those making decisions around the allocation of physical and mental resources, there would be incredible potential for promoting health at the local level. The fact that these relationships were experienced differently among residents of different communities supports the argument that planning strategies must be developed in a way in which they are relevant not only to the local context, but also to the local population. Furthermore, while a variety of urban sub-populations could not be investigated in this study, differences between the foreign-born and Canadian-born subgroups support the claim that these relationships, and the space in which they take place, are experienced differently by various populations. Given that the foreign-born subgroup was less likely to report community issues, results support the notion that new strategies need to engage marginalized groups in the planning process.

Planning should focus on the formation of goals, such as the fostering of healthy communities. Overall, policies should support social/lived pathways, as they may have a greater impact on health than is presently recognized. In order to do this, planners must ensure that resource allocation promotes collective consciousness and empowerment (*heterogeneous civic culture*). Mobilization must bring about changes in the way that the state allocates resources. Public resources should support the collective empowerment and reflection upon collective experience

in the wider society (Sandercock 1998; 198). Finally, every city must plan with the understanding that social ideals must be achieved within the constraints of a capitalist world (Sandercock 1998; 199).

In order to achieve the aforementioned objectives, four key shifts must take place in the planning profession. First, planners must recognize that diversity in lived experiences translates into diversity in needs, and subsequently allow residents to appropriate spaces through experience. Rather than generalizing and being driven by exchange-value, planning should be value-sensitive and let experience dictate use-value (Sandercock 1998; 205). The failure to recognize diversity in the spatial needs of urban populations that cohabitate may result in a spatial mismatch of resource allocation or service delivery. Once appropriation has been successful and the aims of the community for a particular space have been articulated, it should be the role of planners to nurture the realization of such goals. Collaborative planning approaches must be proactive and engage residents not only in the design process, but also in the management of community spaces. Second, diverse minority groups must be represented in decision-making forums. The data suggests that different urban subpopulations value different elements of public space and that some may report fewer neighbourhood priority issues. Social and environmental policies need to be group-conscious by ensuring that oppressed groups are represented adequately, since privileged groups do not always understand the needs and interests of oppressed groups (Sandercock 1998; 198). Third, planners should use a bottom-up approach that values various types of community knowledge (i.e. song, stories and visuals) and the *experience* of the community. Cities should be seen as centres of creativity which offer creative value-sensitive solutions. Fourth, in valuing experience, planners must also recognize the power of memory and the grieving that occurs when places of identity are threatened or lost, and that this memory and grief contributes to the experience of a space and can act as a catalyst for collective action.

Concluding Remarks

This thesis outlines one of the gaps between urban planning and public health: the unexplored questions regarding how residential environments affect the health of their inhabitants. It addresses the lack of theoretical framework for investigating social pathways between the built environment and health by proposing one. This thesis articulates the usefulness of Lefebvre's concept of the *production of space* in framing the relationship between public space and health, since it accounts for both material and social pathways (like sense of community) and how they manifest themselves in the *lived* experience of space. The *healthy production of plural public space* is a framework to investigate ways of building healthy, diverse communities. It draws on Lefebvre's *trialectics of space* as a framework for emphasizing the importance of *pluralistic place attachment* in social/lived pathways to health. This thesis presents the results of an exploratory study of the relationships between public space, indicators of community life and health which support the suggested model. Limitations and suggestions for future research brought forth by this study are discussed. Finally, this thesis outlines a bottom-up approach that recognizes the value of the lived experience in making decisions regarding neighbourhood resources.

Just as there is no one-size-fits-all model to successful public space design, there is no one analytical model for examining the impacts of such spaces on individuals. The impact of public space will vary depending on the context of the space. While the results primarily supported the model presented in this thesis, the model is built on the notion that the suggested paradigm shifts have occurred in both the planning profession and the wider society. The extent to which more inclusive planning and a heterogeneous civic culture are adopted will largely dictate the applicability of the suggested model.

Given that neighbourhood public spaces are the venues urban residents use to interact with their environment and serve as a valuable resource in fostering a healthy social environment, they are a promising tool for planners to impact health through a variety of pathways. Lefebvre articulated that the concrete and abstract need to be understood together. This approach should be taken in investigating the impacts of physical, mental and social resources, which cannot be fully

understood in isolation. While to date research on social pathways has been limited, the *healthy production of plural public space* model may offer a valuable framework from which this study has begun to explore the area in a way that encourages strategic planning for community health which unifies the physical, mental and social dimensions of urban spaces.

Appendices

Appendix A: Rapid Assessment Community Health Survey

CASE__ __-__ __ __

INTERVIEW DATE __ __/ __ __ / __ __

START TIME:__ __:__ __

END TIME:__ __ :__ __

(Please record start/end times in military time)

INTERVIEWER INSTRUCTIONS:

1. Read aloud to the participant all questions and answers in mixed text like this.
2. DO NOT READ ALOUD ALL TEXT IN CAPITAL LETTERS LIKE THIS.
3. *INTERVIEWER INSTRUCTIONS ARE IN ITALICS.*
4. **Questions are in bold.**
5. Answers are not in bold, but may be in mixed text or CAPITALS IF THE ANSWERS SHOULD NOT BE READ ALOUD TO THE PARTICIPANT.

Thank you for taking time to talk to me about your experiences and perceptions of health. The survey will take approximately 20 minutes. During that time, we will begin to understand the health status and health needs in your neighbourhood. Please answer as accurately as possible, and be sure to let me know if you don't understand a question. The information I will collect today is absolutely confidential, and I will not record your name. However, if there is any question you don't want to answer, that is fine. Are you ready to begin?

First, I must ensure that you are eligible to participate in this survey.

Are you 18 years of age or older?

YES → *PROCEED WITH SURVEY*
NO → *DO **NOT** PROCEED WITH SURVEY*

I will give you an answer key before we start. Although I will read these answers out loud, you may also look at the answers yourself to make it easier to understand and choose the best one.

(INTERVIEWER: GIVE ANSWER KEY TO PARTICIPANT)

PARTICIPANT ANSWER SETS

ANSWER SET "A"

Excellent
Very Good
Good
Fair
Poor

ANSWER SET "B"

Strongly agree
Agree
Disagree
Strongly Disagree

ANSWER SET "C"

Very Satisfied
Satisfied
Dissatisfied
Very Dissatisfied

ANSWER SET "D"

Less than 1 year ago
1 year to less than 2 years ago (1-2 years ago)
2 years to less than 3 years ago (2-3 years ago)
3 years to less than 4 years ago (3-4 years ago)
4 years to less than 5 years ago (4-5 years ago)
5 or more years ago (>5 years ago)
Never done

ANSWER SET "E"

All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

HOUSEHOLD & NEIGHBOURHOOD QUESTIONS

We will begin with a few questions about your home.

1. Which of the following best describes the type of dwelling you live in? Is it a:

Single house (not attached to any other dwelling) ----------1
Semi-detached, duplex house, row house, or townhouse ----------2
Self-contained apartment within a single detached house ----------3
Apartment or condominium in a **low** rise building or apartment block (**<** 5 storeys) ----------4
Apartment or condominium in a **high** rise building or apartment block (**>** 5 storeys)----------5
Other: _____ (please specify)----------6

DON'T KNOW----------88
NO RESPONSE----------99

2. For how long have you lived in your current home?

___ ___ YEARS ___ ___ MONTHS

DON'T KNOW----------88
NO RESPONSE----------99

3. For how long have you lived in this neighbourhood?

___ ___ YEARS ___ ___ MONTHS

DON'T KNOW----------88
NO RESPONSE----------99

4. How many times have you moved in the past 5 years?

_____ TIMES

DON'T KNOW----------88
NO RESPONSE----------99

5. How many rooms are there in your home? (We would like to know the total number of rooms, including the kitchen, bedrooms, finished rooms in attic or basement, etc. Do not count bathrooms, hallways, vestibules and rooms used solely for business purposes.)

_____ ROOMS

DON'T KNOW----------88
NO RESPONSE----------99

6. How many of the rooms in your home are bedrooms [or, rooms regularly used for sleeping]?

_____ BEDROOMS

DON'T KNOW----------88
NO RESPONSE----------99

7. Is your home:

Owned without a mortgage by your household ----------1
Owned with a mortgage by your household----------2

Rented by your household ----------3
Occupied rent-free by your household where no member owns and no rent is charged ----------4
Other (specify) _____ ----------5

DON'T KNOW----------88
NO RESPONSE----------99

8. Including yourself, how many people currently live in your household?

1 PERSON----------1
2 PEOPLE ----------2
3 PEOPLE ----------3
4 PEOPLE ----------4
5 PEOPLE ----------5
6 PEOPLE ----------6
7 PEOPLE ----------7
8 PEOPLE ----------8
9 PEOPLE ----------9
10 OR MORE PEOPLE----------10

DON'T KNOW----------88
NO RESPONSE----------99

9. What are the ages of the people living in your household?

PERSON 1 _____
PERSON 2 _____
PERSON 3 _____
PERSON 4 _____
PERSON 5 _____
PERSON 6 _____
PERSON 7 _____
PERSON 8 _____
PERSON 9 _____
AGES OF ADDITIONAL PERSONS _____

DON'T KNOW----------88
NO RESPONSE----------99

10. Which of the following best describes your household? Is it: *(CHOOSE ONLY ONE)*

One adult person living alone ----------1
One adult with children ----------2
A married or common law couple with NO children----------3
A married or common law couple with children----------4
Two or more unrelated persons ----------5
Other: _____ (please specify)----------6

DON'T KNOW----------88
NO RESPONSE----------99

11. We would like to know if you have access to any outdoor space in your home. Does your home have access to:

11A. A private yard?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

11B. A balcony?

YES----------1
NO----------2

DON'T KNOW----------88
NO RESPONSE----------99

11C. A place for unsupervised play?

YES----------1
NO----------2

DON'T KNOW----------88
NO RESPONSE----------99

12. Is your dwelling in need of any repairs? [Do not include desirable remodeling or additions]

No, only regular maintenance is needed (painting, furnace cleaning, etc.)----------1
Yes, minor repairs are needed (missing or loose floor tiles, bricks or shingles, defective steps, railing or siding, etc.)----------2
Yes, major repairs are needed (defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc.)----------3

DON'T KNOW----------88
NO RESPONSE----------99

13. In the last 2 years, have you had a problem in your home with mice, rats or roaches?

YES----------1
NO----------2

DON'T KNOW----------88
NO RESPONSE----------99

14. *(You can refer to Answer Set "A" on your answer card for the next two questions.)* In general, how do you rate the day-to-day comfort provided by your home's heating system? Is it:

Excellent----------1
Very Good----------2
Good----------3
Fair----------4
Poor----------5

DON'T KNOW----------88
NO RESPONSE----------99

15. How do you rate the day-to-day comfort provided by your home's air conditioning system? [Is it:]

Excellent----------1
Very Good----------2
Good----------3
Fair----------4
Poor----------5

DON'T KNOW----------88
NO RESPONSE----------99

16. How concerned are you about poor air quality in your home due to things like dampness, mold, pollution, or bad air exchange/venting? Are you:

Very concerned----------1
Somewhat concerned----------2
A little concerned----------3
Not concerned at all----------4

DON'T KNOW----------88
NO RESPONSE----------99

17. How much do you spend monthly on shelter costs [including rent/mortgage, utilities, repair, upkeep]?

$ _____

DON'T KNOW----------88
NO RESPONSE----------99

18. Considering your current income, how difficult is it to meet your current shelter-related [housing] costs? Is it:

Extremely difficult----------1
Somewhat difficult----------2
Not at all difficult----------3

DON'T KNOW----------88
NO RESPONSE----------99

Now I would like to ask you some questions about your neighbourhood and your community.

19. What was your most important reason for moving into this neighbourhood? *(OPEN-ENDED)*

AFFORDABLE----------1
KNEW PEOPLE IN THE NEIGHBOURHOOD----------2
CONVENIENT - CLOSE TO DOWNTOWN----------3
CONVENIENT - CLOSE TO PUBLIC TRANSPORT----------4
CONVENIENT - CLOSE TO WORK----------5
CONVENIENT - CLOSE TO GOOD SCHOOLS----------6
CONVENIENT - CLOSE TO SERVICES/AMENITIES----------7
SAFETY----------8
INVESTMENT PROPERTY----------9
NEIGHBOURHOOD HAD CHARACTER----------10
LIKED THE HOME----------11
ETHNIC/ CULTURAL DRAW----------12
OTHER: _____ (please specify)----------13

DON'T KNOW----------88
NO RESPONSE----------99

20. Which mode of transportation do you use most often to get around?

OWNED CAR----------1

RENTED OR SHARED CAR, RIDESHARE ----------2
TAXIS ----------3
PUBLIC TRANSIT ----------4
WALKING ----------5
BICYCLING ----------6
OTHER: _____ (please specify) ----------7

DON'T KNOW ----------88
NO RESPONSE ----------99

21. What would be your <u>preferred method of transportation</u> to get around?

OWNED CAR ----------1
RENTED OR SHARED CAR, RIDESHARE ----------2
TAXIS ----------3
PUBLIC TRANSIT ----------4
WALKING ----------5
BICYCLING ----------6
OTHER: _____ (please specify) ----------7

DON'T KNOW ----------88
NO RESPONSE ----------99

22. Are you a member of any voluntary organizations or associations such as school groups, church social groups, community centres, ethnic associations or social/civic clubs?

YES ----------1
NO ----------2

DON'T KNOW ----------88
NO RESPONSE ----------99

23. How would you describe your sense of community to your local community? Would you say it is:

Very strong ----------1
Somewhat strong ----------2
Somewhat weak ----------3
Very weak ----------4

DON'T KNOW ----------88
NO RESPONSE ----------99

24. Would you say that you know:

Most of the people in your neighbourhood? ----------1
Many of the people in your neighbourhood? ----------2
A few of the people in your neighbourhood? ----------3
Nobody else in your neighbourhood? ----------4

DON'T KNOW ----------88
NO RESPONSE ----------99

25. *(Looking at Answer Set "A"....)* How do you feel about your neighbourhood as a place to bring up children [even if you have no children of your own]? Is it:

Excellent ----------1
Very Good ----------2
Good ----------3

Fair----4
Poor ----5

DON'T KNOW----88
NO RESPONSE ----99

26. Is there any place in your neighbourhood that you are afraid to go during the day?

YES----1
NO ----2

DON'T KNOW----88
NO RESPONSE ----99

27. Is there any place in your neighbourhood that you are afraid to go at night?

YES----1
NO ----2

DON'T KNOW----88
NO RESPONSE ----99

28. Most of us worry, from time to time, about the threat that violence poses to our personal safety. When alone in your home in the evening or at night, do you feel:

Very worried ----1
Somewhat worried ----2
Not at all worried about your personal safety ----3
Never alone----4

DON'T KNOW----88
NO RESPONSE ----99

29. *(You can refer to Answer Set "B" for this next question.)* Tell me if you strongly agree, agree, disagree, or strongly disagree with the following statement: If there is a problem around here, neighbours get together to deal with it.

Strongly agree ----1
Agree ----2
Disagree----3
Strongly Disagree ----4

DON'T KNOW----88
NO RESPONSE ----99

Now, thinking about food….

30. Which of the following statements best describes the food eaten in your household in the past 12 months:

You and others always had enough of the kinds of food you wanted to eat----1
You and others had enough to eat, but not always the kinds of food you wanted ----2
Sometimes you or others did not have enough to eat----3
Often you or others did not have enough to eat. ----4

DON'T KNOW----88
NO RESPONSE ----99

31. Do you have a place to go if you or your family don't have enough to eat? [This could be to a family member or friends place, a food bank, or any other place]

YES----------1
NO ----------2
I HAVE NEVER NEEDED TO GO TO SUCH A PLACE----------3

DON'T KNOW----------88
NO RESPONSE----------99

32. Does anyone in your household grow food - that is vegetables, fruit, berries, nuts, or herbs - in your yard, on your balcony or in a community garden?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

The next 6 questions ask you to rate the availability of services in your neighbourhood. Please think carefully about your opinions of services as we go through these questions. You can refer to Answer Set "A" for the next 5 questions.

33. How would you rate the availability of health care services in your neighbourhood? Would you say it is:

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

I HAVE NOT USED HEALTH CARE SERVICES IN MY NEIGHBOURHOOD ----------6
DON'T KNOW----------88
NO RESPONSE----------99

34. *(Looking again at Answer Set "A"…)* How would you rate the availability of social services in your neighbourhood? (social services include any assistance programs that benefit your well-being) *(INTERVIEWER MAY STOP READING THE SCALE TO PARTICIPANT IF THEY RESPOND SPONTANEOUSLY FROM THE ANSWER SET)*

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

I HAVE NOT USED SOCIAL SERVICES IN MY NEIGHBOURHOOD ----------6
DON'T KNOW----------88
NO RESPONSE----------99

35. How would you rate the availability of community gathering places in your neighbourhood, such as community centres, churches, clubs, ethnic or social groups?

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

I HAVE NOT ACCESSED COMMUNITY GATHERING PLACES IN MY NEIGHBOURHOOD----------6
DON'T KNOW----------88
NO RESPONSE----------99

36. How would you rate the availability of green spaces, including parks and nature trails, in your neighbourhood?

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

I HAVE NOT USED GREEN SPACES IN MY NEIGHBOURHOOD----------6
DON'T KNOW----------88
NO RESPONSE----------99

37. How would you rate the availability of recreational facilities in your neighbourhood?

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

I HAVE NOT USED RECREATIONAL FACILITIES IN MY NEIGHBOURHOOD ----------6
DON'T KNOW----------88
NO RESPONSE----------99

38. How would you rate the availability of places to buy healthy food in your neighbourhood?

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

I DO NOT BUY FOOD IN MY NEIGHBOURHOOD ----------6
DON'T KNOW----------88
NO RESPONSE----------99

The next 7 questions ask you to rate your personal satisfaction with these same neighbourhood services. You can refer to Answer Set "C" for the next 6 questions.

39. How would you describe your personal satisfaction with the health care services in your neighbourhood? Are you:

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

40. ***(Looking again at Answer Set "C"…)*** **How would you describe your <u>personal satisfaction</u> with the <u>social services</u> in your neighbourhood?** *(INTERVIEWER MAY STOP READING THE SCALE TO PARTICIPANT IF THEY RESPOND SPONTANEOUSLY FROM THE ANSWER SET)*

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

41. How would you describe your <u>personal satisfaction</u> with the <u>community gathering places</u> in your neighbourhood?

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

42. How would you describe your <u>personal satisfaction</u> with the <u>green spaces</u> in your neighbourhood?

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

43. How would you describe your <u>personal satisfaction</u> with the <u>recreational facilities</u> in your neighbourhood?

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

44. How would you describe your <u>personal satisfaction</u> with the <u>places to buy healthy food</u> in your neighbourhood?

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

45. How would you describe your <u>personal satisfaction</u> with your <u>neighbourhood overall</u>? Are you:

Very Satisfied ----------1
Satisfied ----------2
Dissatisfied----------3
Very Dissatisfied----------4

DON'T KNOW----------88
NO RESPONSE----------99

HEALTH ACCESS QUESTIONS

The next set of questions asks about your access to the health care system.

46. Do you have a regular family doctor? [By family doctor we mean a general practitioner or doctor that people see for a regular checkup, because they are sick or had an injury, but not a specialist]

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

47. Where did you go the last time you needed health care? *(OPEN-ENDED)*

DOCTOR'S OFFICE ----------1
COMMUNITY HEALTH CENTRE ----------2
WALK-IN CLINIC----------3
APPOINTMENT CLINIC----------4
TELEPHONE HEALTH LINE----------5
HOSPITAL EMERGENCY ROOM----------6
HOSPITAL OUTPATIENT CLINIC----------7
OTHER: _____ *(please specify)* ----------8

DON'T KNOW----------88
NO RESPONSE----------99

48. In the past 12 months, did you ever <u>try but were unable to</u> make an appointment to see a family doctor or GP? [By family doctor we mean a general practitioner or doctor that people see for a regular checkup, because they are sick or had an injury, but not a specialist]

YES----------1
NO ----------2

INTERVIEWER VOLUNTEERS THAT THEY DON'T HAVE A FP/GP ----------3
DON'T KNOW----------88
NO RESPONSE----------99

49. In the past 12 months, have you seen, or talked on the telephone to a health professional about your emotional or mental health?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

50. In the past 12 months, did you ever <u>try but were unable to</u> make an appointment to see someone about your mental health? [This person could include a nurse, doctor, psychiatrist, psychologist, or therapist]

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

51A. *(IF PARTICIPANT ANSWERED 2 ["NO"] TO BOTH QUESTIONS 48 AND 50, SKIP AHEAD TO INSTRUCTIONS PRECEEDING QUESTION #52)*
If you have ever tried but were unable to get care for your physical or mental health, what was the most important reason why you were unable to get health care? *(OPEN-ENDED)*

NOT AVAILABLE IN THE AREA ----------1
NOT AVAILABLE AT TIME REQUIRED (E.G. DOCTOR ON HOLIDAYS, INCONVENIENT HOURS) ----------2
WAITING TIME TOO LONG----------3
FELT WOULD BE INADEQUATE----------4
COST ----------5
TOO BUSY ----------6
DIDN'T GET AROUND TO IT / DIDN'T BOTHER ----------7
DIDN'T KNOW WHERE TO GO----------8
DIDN'T THINK IT WOULD HELP ----------9
TRANSPORTATION PROBLEMS----------10
LANGUAGE PROBLEMS----------11
PERSONAL OR FAMILY RESPONSIBILITIES----------12
DISLIKES DOCTORS / AFRAID ----------13
DECIDED NOT TO SEEK CARE ----------14
OTHER: _____ *(please specify)*----------15

I HAVE ALWAYS RECEIVED CARE WHEN I NEEDED IT *(SKIP NEXT QUESTION AND GO ON TO #52 IF THE PARTICIPANT HAS ALWAYS BEEN ABLE TO ACCESS CARE)*---------16

DON'T KNOW----------88
NO RESPONSE----------99

51B. *(IF PARTICIPANT ANSWERED #16 TO PREVIOUS QUESTION, SKIP THIS QUESTION AND PROCEED TO INSTRUCTIONS AND #52-57)*
What kind of help did you need that you did not receive? *(OPEN-ENDED; CHECK ALL THAT APPLY)*

MEDICAL ASSESSMENT OR TREATMENT ----------1
ALTERNATIVE MEDICINE – ASSESSMENT OR TREATMENT ----------2
INFORMATION ABOUT MENTAL ILLNESS AND ITS TREATMENTS ----------3
INFORMATION ON AVAILABILITY OF SERVICES ----------4
MEDICATION ----------5
THERAPY OR COUNSELING----------6
HELP WITH – FINANCIAL PROBLEMS ----------7
HELP WITH – HOUSING PROBLEMS----------8
HELP WITH – PERSONAL RELATIONSHIPS ----------9
HELP WITH – EMPLOYMENT STATUS OR WORK SITUATION----------10
HELP WITH – ALCOHOL ----------11
HELP WITH – DRUGS ----------12
HELP WITH – ADDICTIONS (UNSPECIFIED) ----------13
OTHER: _____ (PLEASE SPECIFY) ----------14

I HAVE ALWAYS RECEIVED HELP WHEN I NEEDED IT----------15

DON'T KNOW----------88
NO RESPONSE----------99

The next 6 questions ask approximately how long has it been since you have received specific types of health care. <u>You can refer to Answer Set "D" for the next 6 questions.</u> We don't need to know specific dates, but if it was less than 1 year ago, 1-2 years ago, 3-4 years ago, 4-5 years ago, or 5 or more years ago. If you prefer not to answer a question, that is no problem.

52. How long has it been since a doctor has given you a complete, overall physical checkup that was <u>NOT</u> for a specific health problem?

Less than 1 year ago----------1
1 year to less than 2 years ago (1-2 years ago)----------2
2 years to less than 3 years ago (2-3 years ago)----------3
3 years to less than 4 years ago (3-4 years ago)----------4
4 years to less than 5 years ago (4-5 years ago)----------5
5 or more years ago (>5 years ago)----------6
Never done----------7

DON'T KNOW----------88
NO RESPONSE----------99

53. How long has it been since your last Cholesterol Measurement?

Less than 1 year ago----------1
1 year to less than 2 years ago (1-2 years ago)----------2
2 years to less than 3 years ago (2-3 years ago)----------3
3 years to less than 4 years ago (3-4 years ago)----------4
4 years to less than 5 years ago (4-5 years ago)----------5
5 or more years ago (>5 years ago)----------6
Never done----------7

DON'T KNOW----------88
NO RESPONSE----------99

54. How long has it been since your last Breast *[IF WOMAN]* / **Testicular** *[IF MAN]* **exam by a nurse or doctor?**

Less than 1 year ago----------1
1 year to less than 2 years ago (1-2 years ago)----------2
2 years to less than 3 years ago (2-3 years ago)----------3
3 years to less than 4 years ago (3-4 years ago)----------4
4 years to less than 5 years ago (4-5 years ago)----------5
5 or more years ago (>5 years ago)----------6
Never done----------7

DON'T KNOW----------88
NO RESPONSE----------99

55. *(SKIP THIS QUESTION IF PARTICIPANT IS MALE)*
How long has it been since your last PAP smear?

Less than 1 year ago----------1
1 year to less than 2 years ago (1-2 years ago)----------2
2 years to less than 3 years ago (2-3 years ago)----------3
3 years to less than 4 years ago (3-4 years ago)----------4
4 years to less than 5 years ago (4-5 years ago)----------5

5 or more years ago (>5 years ago) ----------6
Never done ----------7

DON'T KNOW----------88
NO RESPONSE----------99

56. How long has it been since your last visit to the dentist?

Less than 1 year ago----------1
1 year to less than 2 years ago (1-2 years ago) ----------2
2 years to less than 3 years ago (2-3 years ago)----------3
3 years to less than 4 years ago (3-4 years ago)----------4
4 years to less than 5 years ago (4-5 years ago)----------5
5 or more years ago (>5 years ago) ----------6
Never done ----------7

DON'T KNOW----------88
NO RESPONSE----------99

57. And finally, how long has it been since your last flu shot?

Less than 1 year ago----------1
1 year to less than 2 years ago (1-2 years ago) ----------2
2 years to less than 3 years ago (2-3 years ago)----------3
3 years to less than 4 years ago (3-4 years ago)----------4
4 years to less than 5 years ago (4-5 years ago)----------5
5 or more years ago (>5 years ago) ----------6
Never done ----------7

DON'T KNOW----------88
NO RESPONSE----------99

58. Where did you have your last flu shot? *(OPEN-ENDED)*

DOCTOR'S OFFICE ----------1
WALK-IN CLINIC----------2
COMMUNITY HEALTH CENTRE----------3
PHARMACY----------4
HOSPITAL ----------5
WORK ----------6
SCHOOL ----------7
PUBLIC FLU SHOT CLINIC----------8
OTHER ----------9

I HAVE NEVER HAD A FLU SHOT ----------10
DON'T KNOW----------88
NO RESPONSE----------99

59. In general, would you say the health of your teeth and mouth is:

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

DON'T KNOW----------88
NO RESPONSE----------99

60. In the past month, how often have you had any pain or discomfort in your teeth or gums? Has it been:

Often ----------1
Sometimes----------2
Rarely ----------3
Never----------4

DON'T KNOW----------88
NO RESPONSE ----------99

61. Do you have insurance that covers all or part of your dental expenses?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE ----------99

62. Do you have any health insurance that covers all or part of health expenses such as physiotherapy, prescription medications, and alternative health services?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE ----------99

PERSONAL HEALTH QUESTIONS

The following questions are about your personal health, so that we can understand health issues that are important in your neighbourhood. All of your answers will be kept confidential and anonymous.

63. I would like to start by asking you to rate your health. By health, we mean not only the absence of disease or injury but also physical, mental and social well-being. Compared to other people your age, would you say your health is:

Excellent----------1
Very Good----------2
Good ----------3
Fair----------4
Poor ----------5

DON'T KNOW----------88
NO RESPONSE ----------99

64. *I would now like to ask about your usual physical activities.* On average, how many days per week do you do 30 minutes or more of moderate or vigorous physical activity? This activity can be part of work, transportation, or recreation, and need not be all at once, but is a total of at least 30 minutes per day. Moderate activity includes brisk walking, for example; and vigorous activity makes you work up a sweat. Based on this definition, how many days per week do you at least 30 minutes of moderate or vigorous activity?

0 DAYS ----------1
1 DAY / WEEK----------2
2 DAYS / WEEK----------3
3 DAYS / WEEK----------4

4 DAYS / WEEK ----- 5
5 DAYS / WEEK ----- 6
6 DAYS / WEEK ----- 7
7 DAYS / WEEK ----- 8

DON'T KNOW ----- 88
NO RESPONSE ----- 99

65. Is there anything stopping you from becoming more physically active? *(OPEN-ENDED)*

LACK OF WILL POWER / SELF-DISCIPLINE ----- 1
FAMILY RESPONSIBILITIES ----- 2
WORK SCHEDULE ----- 3
ADDICTION TO DRUGS / ALCOHOL ----- 4
PHYSICAL CONDITION ----- 5
DISABILITY / HEALTH PROBLEM ----- 6
TOO STRESSED ----- 7
TOO COSTLY / FINANCIAL CONSTRAINTS ----- 8
NOT AVAILABLE IN THE AREA ----- 9
NEIGHBOURHOOD DISSATISFACTION ----- 10
TRANSPORTATION PROBLEMS ----- 11
WEATHER PROBLEMS ----- 12
SAFETY ----- 13
OTHER ----- 14
NO, NOTHING IS STOPPING ME FROM BECOMING MORE ACTIVE ----- 15

DON'T KNOW ----- 88
NO RESPONSE ----- 99

For the following questions, we ask about chronic health conditions that you have had for 6 months or more and that have been diagnosed by a health care provider:

66A. Do you currently have asthma (as diagnosed by a health care provider)?

YES ----- 1
NO *(IF NO, SKIP TO QUESTION #67)* ----- 2

DON'T KNOW ----- 88
NO RESPONSE ----- 99

66B. *(IF PARTICIPANT ANSWERED **2** TO PREVIOUS QUESTION, SKIP AHEAD TO #67)* **If you do have asthma (as diagnosed by a health care provider), do you feel that it is under control?**

YES ----- 1
NO ----- 2
I DO NOT HAVE ASTHMA ----- 3

DON'T KNOW ----- 88
NO RESPONSE ----- 99

67. Do you have arthritis (as diagnosed by a health care provider)?

YES ----- 1
NO ----- 2

DON'T KNOW ----- 88
NO RESPONSE ----- 99

68. In the past 12 months, did you ever have pain in your joints *[EX. HIPS, KNEES, HANDS]* that limited the amount or type of activity that you were able to do?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

69. Do you have diabetes (as diagnosed by a health care provider)?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

70. Have you ever been told by a doctor or other health care professional that you have high blood pressure?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

The next two questions ask about your height and weight so that we can calculate your BMI, or Body Mass Index.

71. How tall are you without your shoes on?

___ ___ ___ CENTIMETRES
OR
____ FEET ____ INCHES

DON'T KNOW----------88
NO RESPONSE----------99

72. How much do you weigh? *[IF PARTICIPANT IS PREGNANT, ASK HER WHAT WAS HER PRE-PREGNANCY WEIGHT?]*

___ ___ ___ KILOGRAMS
OR
___ ___ ___ LBS.

DON'T KNOW----------88
NO RESPONSE----------99

73A. At the present time, do you smoke tobacco [cigarettes or cigars]:

Daily ----------1
Often ----------2
Occasionally----------3
Not at all *(SKIP NEXT QUESTION; GO TO #74)* ----------4

DON'T KNOW----------88
NO RESPONSE----------99

73B. *(IF PARTICIPANT ANSWERED #4 TO PREVIOUS QUESTION, SKIP AHEAD TO #74)* **In the past 12 months, have you tried to quit?**

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

74. Including both household members and regular visitors, does anyone smoke inside your home, every day or almost every day?

YES----------1
NO ----------2

DON'T KNOW----------88
NO RESPONSE----------99

75. During the past 12 months, how often did you drink alcoholic beverages [beer, wine, liquor]? Did you drink alcohol:

Every day ----------1
4-6 times a week ----------2
2-3 times a week ----------3
Once a week ----------4
2-3 times a month----------5
Once a month ----------6
Less than once a month ----------7
Never----------8

DON'T KNOW----------88
NO RESPONSE----------99

76. How often in the past 12 months have you had 5 or more drinks on one occasion? Was it:

More than once a week----------1
Once a week ----------2
2-3 times a month----------3
Once a month ----------4
Less than once a month ----------5
Never----------6

DON'T KNOW----------88
NO RESPONSE----------99

These next questions ask about parts of your life that may contribute to your health. <u>You may refer to Answer Set "B" for the next 6 questions.</u> Please tell me if you strongly agree, agree, disagree, or strongly disagree with these statements:

77. "There are people in my life I can depend on to help me if I really need it." [Do you:]

Strongly agree ----------1
Agree----------2
Disagree----------3
Strongly disagree----------4

DON'T KNOW----------88
NO RESPONSE----------99

78. "There are people who depend on me for help." [Do you:]

Strongly agree ----------1
Agree----------2
Disagree----------3
Strongly disagree----------4

DON'T KNOW----------88
NO RESPONSE----------99

79. "I feel part of one or more groups who share my interests, attitudes and beliefs." [Do you:]

Strongly agree ----------1
Agree----------2
Disagree----------3
Strongly disagree----------4

DON'T KNOW----------88
NO RESPONSE----------99

80. "I have close relationships that provide me with a sense of emotional security and well-being." [Do you:]

Strongly agree ----------1
Agree----------2
Disagree----------3
Strongly disagree----------4

DON'T KNOW----------88
NO RESPONSE----------99

81. "There is a trustworthy person I could turn to for advice if I were having problems." [Do you:]

Strongly agree ----------1
Agree----------2
Disagree----------3
Strongly disagree----------4

DON'T KNOW----------88
NO RESPONSE----------99

82. "There are people who admire my talents and abilities." [Do you:]

Strongly agree ----------1
Agree----------2
Disagree----------3
Strongly disagree----------4

DON'T KNOW----------88
NO RESPONSE----------99

The following 6 questions ask about how frequently you feel a certain way. Please look at Answer Set "E' to help answer the next 6 questions. You can choose your answer from this scale. *[INTERVIEWER MAY STOP READING THE SCALE TO THE PARTICIPANT WHEN ANSWERS ARE SPONTANEOUS]*

83. During the past 4 weeks, how much of the time have you been a very nervous person? [Has it been:]

All of the time----------1
Most of the time----------2
A good bit of the time----------3
Some of the time ----------4
A little of the time----------5
None of the time----------6

DON'T KNOW----------88
NO RESPONSE----------99

84. During the past 4 weeks, how much of the time have you felt calm and peaceful? [Has it been:]

All of the time----------1
Most of the time----------2
A good bit of the time----------3
Some of the time ----------4
A little of the time----------5
None of the time----------6

DON'T KNOW----------88
NO RESPONSE----------99

85. During the past 4 weeks, how much of the time have you felt downhearted and blue? [Has it been:]

All of the time----------1
Most of the time----------2
A good bit of the time----------3
Some of the time ----------4
A little of the time----------5
None of the time----------6

DON'T KNOW----------88
NO RESPONSE----------99

86. During the past 4 weeks, how much of the time have you been a happy person? [Has it been:]

All of the time----------1
Most of the time----------2
A good bit of the time----------3
Some of the time ----------4
A little of the time----------5
None of the time----------6

DON'T KNOW----------88
NO RESPONSE----------99

87. During the past 4 weeks, how much of the time have you felt so down in the dumps that nothing could cheer you up? [Has it been:]

All of the time----------1
Most of the time----------2
A good bit of the time----------3
Some of the time ----------4
A little of the time----------5
None of the time----------6

DON'T KNOW----------88
NO RESPONSE----------99

88. During the past 4 weeks, how much of the time have you felt constantly under stress? [Has it been:]

All of the time----------1
Most of the time----------2
A good bit of the time----------3
Some of the time----------4
A little of the time----------5
None of the time----------6

DON'T KNOW----------88
NO RESPONSE----------99

NEIGHBOURHOOD PRIORITY ISSUES

We would now like you to tell us in your own words about the health issues in your neighbourhood.

89. In your opinion, what are the most important issues facing your neighbourhood? [Please name up to 3 issues that you feel are affecting your neighbourhood.]

_____

_____

_____

_____

_____

_____

90. In your opinion, what is the greatest priority for improving the health of residents in your neighbourhood? [Please name no more than 3 issues.]

_____

_____

_____

_____

_____

_____

DEMOGRAPHICS

This is the last part of the survey. The questions are demographic ones that ask for some general information about who you are. You are not required to give your name.

91. What is your gender?

MALE----------1
FEMALE----------2
TRANSGENDER----------3

OTHER ----------4

92. In what year were you born?

__ __ __ __

DON'T KNOW----------88
NO RESPONSE----------99

93. Are you an aboriginal person, that is, First Nations, Inuit or Metis? *[IF PARTICIPANT ANSWERS YES, ASK WHICH OF THESE 3 GROUPS BEST DESCRIBES THEIR ETHNICITY]*

FIRST NATIONS ----------1
INUIT ----------2
METIS----------3
NO / NON-ABORIGINAL ----------4

DON'T KNOW----------88
NO RESPONSE----------99

94. In what country were you born?

AFGHANISTAN----------1
BANGLADESH ----------2
BOSNIA AND HERZEGOVINA----------3
BRASIL ----------4
CANADA ----------5
CROATIA----------6
CHINA ----------7
DENMARK----------8
EGYPT----------9
ETHIOPIA----------10
FINLAND ----------11
FRANCE ----------12
GERMANY----------13
GHANA ----------14
GREECE ----------15
GUYANA ----------16
HONG KONG ----------17
HUNGARY----------18
INDIA----------19
IRAN----------20
IRAQ ----------21
ISRAEL ----------22
ITALY ----------23
JAMAICA ----------24
JAPAN ----------25
KOREA----------26
LEBANON----------27
MEXICO ----------28
NETHERLANDS /HOLLAND ----------29
NORWAY----------30
PALESTINE----------31
PHILIPPINES----------32
POLAND----------33
PORTUGAL----------34
SERBIA ----------35
SOMALIA ----------36
SRI LANKA----------37
SUDAN----------38
SWEDEN ----------39
THAILAND ----------40
TURKEY ----------41
UKRAINE----------42
UNITED KINGDOM ----------43
UNITED STATES----------44
VIETNAM----------45
OTHER: _____ (SPECIFY) ---46

DON'T KNOW----------88
NO RESPONSE----------99

95. Canadians belong to many ethnic or cultural groups such as Caribbean, Pakistani, Vietnamese, Inuit, etc. To which ethnic or cultural groups do you belong? *(CHECK ALL THAT APPLY)*

AFGHAN ----------1
AFRICAN----------2
ARAB----------3
BOSNIAN ----------4
BRITISH ----------5
CANADIAN ----------6
CARIBBEAN----------7
CHINESE----------8
CROATIAN----------9
DANISH----------10
DUTCH (NETHERLANDS)----------11
EAST INDIAN ----------12

EGYPTIAN ---- 13
ENGLISH ---- 14
EUROPEAN ---- 15
FILIPINO ---- 16
FINNISH ---- 17
FIRST NATIONS ---- 18
FRENCH ---- 19
GERMAN ---- 20
GREEK ---- 21
HUNGARIAN ---- 22
INUIT ---- 23
IRANIAN ---- 24
IRAQI ---- 25
IRISH ---- 26
ITALIAN ---- 27
JAMAICAN ---- 28
JAPANESE ---- 29
JEWISH ---- 30
KOREAN ---- 31
LATIN AMERICAN ---- 32
LEBANESE ---- 33
METIS ---- 34
NORWEGIAN ---- 35
POLISH ---- 36
PORTUGUESE ---- 37
SCOTTISH ---- 38
SERBIAN ---- 39
SOMALI ---- 40
SPANISH ---- 41
SRI LANKAN ---- 42
SWEDISH ---- 43
TAMIL ---- 44
THAI ---- 45
TURKISH ---- 46
UKRANIAN ---- 47
VIETNAMESE ---- 48
YUGOSLAVIAN ---- 49
OTHER: _____ (SPECIFY) ----- 50

DON'T KNOW ---- 88
NO RESPONSE ---- 99

96. What language do you speak most often at home?

ENGLISH ---- 1
FRENCH ---- 2
AMHARIC ---- 3
ARABIC ---- 4
ARMENIAN ---- 5
BENGALI ---- 6
BOSNIAN ---- 7
CHINESE ---- 8
CREOLE ---- 9
CROATIAN ---- 10
DANISH ---- 11
DUTCH ---- 12
GERMAN ---- 13
GREEK ---- 14
GUJARATI ---- 15
HEBREW ---- 16
HUNGARIAN ---- 17
HINDI ---- 18
ITALIAN ---- 19
JAPANESE ---- 20
KHMER (CAMBODIAN) ---- 21
KOREAN ---- 22
PORTUGUESE ---- 23
PERSIAN (FARSI) ---- 24
POLISH ---- 25
PUNJABI ---- 26
ROMANIAN ---- 27
RUSSIAN ---- 28
SERBIAN ---- 29
SPANISH ---- 30
SOMALI ---- 31
TAGALOG (FILIPINO) ---- 32
TAMIL ---- 33
THAI ---- 34
TURKISH ---- 35
UKRAINIAN ---- 36
URDU ---- 37
VIETNAMESE ---- 38
OTHER: _____ (SPECIFY) ---- 39

DON'T KNOW ----------88
NO RESPONSE----------99

97A. What is the highest level of schooling you have ever completed? (*INTERVIEWER NEED NOT READ OUT CATEGORIES BUT IF UNCLEAR, MAY CLARIFY THE CATEGORY WITH THE PARTICIPANT)*

Less than grade 9 *(SKIP TO #98)*----------1
Some high school *(SKIP TO #98)*----------2
Completed high school *(SKIP TO #98)* ----------3
Some trades or technical training *(SKIP TO #98)*----------4
Completed trades or technical training *(SKIP TO #98)* ----------5
Some university *(SKIP TO #98)* ----------6
Completed university *(SKIP TO #98)*----------7
Some post-graduate education *(SKIP TO #98)*----------8

DON'T KNOW *(PROCEED TO NEXT QUESTION)*----------88
NO RESPONSE *(PROCEED TO NEXT QUESTION)* ----------99

97B. *(SKIP AND MOVE ON TO #98 IF PARTICIPANT ANSWERED 1-8 IN THE PREVIOUS QUESTION)* **What is the total number of years of formal education you have completed?**

_____ YEARS

DON'T KNOW ----------88
NO RESPONSE----------99

98. Which of the following best describes your current employment status? Is it:

Part-time ----------1
Full-time ----------2
Seasonal ----------3
Self-employed ----------4
Homemaker ----------5
Any other informal paid work such as babysitting, housekeeping ----------6
Student ----------7
Retired----------8
Unemployed----------9

DON'T KNOW ----------88
NO RESPONSE----------99

99. Thinking about the total income for all household members, from which of the following sources did your household receive any income in the past 12 months? Did you receive income from: *(PAUSE AFTER EACH POSSIBLE RESPONSE BELOW TO ALLOW THE PARTICIPANT TO ANSWER YES/NO; CHECK ALL THAT APPLY)*

Wages and salaries ----------1
Income from self-employment ----------2
Dividends and interest (e.g., on bonds, savings) ----------3
Employment insurance ----------4
Worker's compensation ----------5
Benefits from Canada or Quebec Pension Plan----------6
Retirement pensions, superannuation and annuities----------7
Old Age Security and Guaranteed Income Supplement----------8

Child Tax Benefit ---------- 9
Provincial or municipal social assistance or welfare ---------- 10
Child support ---------- 11
Alimony ---------- 12
Other (e.g., rental income, scholarships) ---------- 13
Money from family on a regular basis ---------- 14

DON'T KNOW ---------- 88
NO RESPONSE ---------- 99

100. Can you estimate what your total household income was during the last month? *(IF PARTICIPANT ANSWERS THIS QUESTION, SKIP AHEAD TO #102)*

$ _____

DON'T KNOW *(PROCEED TO NEXT QUESTION)* ---------- 88
NO RESPONSE *(PROCEED TO NEXT QUESTION)* ---------- 99

101A. Can you estimate in which of the following groups your household's annual, or yearly income falls? Was your household income from all sources last year less than $40,000 or $40,000 or more?

Less than $40,000 *(PROCEED TO **#101B**)* ---------- 1
$40,000 or more *(SKIP AHEAD TO **#101E**)* ---------- 2

DON'T KNOW *(SKIP TO END)* ---------- 88
NO RESPONSE *(SKIP TO END)* ---------- 99

101B. Was your household income from all sources less than $20,000 or $20,000 or more?

Less than $20,000 *(PROCEED TO **#101C**)* ---------- 1
$20,000 or more *(SKIP AHEAD TO **#101D**)* ---------- 2

DON'T KNOW *(SKIP TO END)* ---------- 88
NO RESPONSE *(SKIP TO END)* ---------- 99

101C. Was your household income from all sources less than $10,000 or $10,000 or more?

Less than $10,000 *(SKIP TO END)* ---------- 1
$10,000 or more *(SKIP TO END)* ---------- 2

DON'T KNOW *(SKIP TO END)* ---------- 88
NO RESPONSE *(SKIP TO END)* ---------- 99

101D. Was your household income from all sources less than $30,000 or $30,000 or more?

Less than $30,000 *(SKIP TO END)* ---------- 1
$30,000 or more *(SKIP TO END)* ---------- 2

DON'T KNOW *(SKIP TO END)* ---------- 88
NO RESPONSE *(SKIP TO END)* ---------- 99

101E. Was your household income from all sources less than $60,000 or $60,000 or more?

Less than $60,000 *(PROCEED TO **#101F**)* ---------- 1
$60,000 or more *(SKIP AHEAD TO **#101G**)* ---------- 2

DON'T KNOW *(SKIP TO END)*----------88
NO RESPONSE *(SKIP TO END)*----------99

101F. Was your household income from all sources less than $50,000 or $50,000 or more?

Less than $50,000 *(SKIP TO END)*----------1
$50,000 or more *(SKIP TO END)*----------2

DON'T KNOW *(SKIP TO END)*----------88
NO RESPONSE *(SKIP TO END)*----------99

101G. Was your personal income from all sources last year:

Less than $70,000? ----------1
$70,000 to less than $80,000? ----------2
$80,000 to less than $100,000?----------3
$100,000 to less than $120,000? ----------4
$120,000 or more? ----------5

DON'T KNOW ----------88
NO RESPONSE----------99

FUTURE RESEARCH

That is the end of the survey. Thank you so much for your time and effort today. I just have one more question that will not be included in the survey data that we just collected. That is: May we contact you in the future to participate in other related research projects? If you agree, your contact information will be kept separately from the information we collected in the survey to assure that the survey data remains anonymous.

Yes – specify contact information: _____
No

Thank you again for your time and effort in completing this survey.

Appendix B: Sources of Community Health Survey Questions

1. Statistics Canada, Canadian Community Health Survey Cycle 4.1 Draft, September 29, 2006 [CCHS Survey Cycle 3.1, June 2005 available online: http://www.statcan.ca/english/sdds/instrument/3226_Q1_V3_E.pdf]
2. James Dunn, Vancouver Quality of Life survey draft including RAND's MHI-5 mental health evaluation tool
3. James Dunn, Social Supports Provisions Scale
4. Rapid Risk Factor Surveillance System Questionnaires, RRFSS Working Group [http://www.rrfss.on.ca/]
5. Toronto Public Health Metrics and Planning, "Public Health in Toronto, 2004: Program Profiles and Indicators" [http://www.toronto.ca/health/hsi/pdf/pht_04.pdf]
6. Statistics Canada, Non-Medical Determinants of Health [http://www.statcan.ca/english/freepub/82-221-XIE/2006001/defin2.htm]
7. Statistics Canada, National Population Health Survey, Household Component, Draft Questionnaire 2004-2005 [http://www.statcan.ca/english/concepts/nphs/quest04e.pdf]
8. Statistics Canada, Violence Against Women Survey Questionnaire 1993 [http://data.library.ubc.ca/datalib/survey/statscan/vaw/questionnaire.html]
9. USDA, US Household Food Security Survey Module, Economic Research Service, 2006 (revised).
10. Connor, Sarah, Applied Research Branch, "Understanding the Early Years: Early Childhood Development in North York", National Longitudinal Survey of Children and Youth (NLSCY), May 2001.
11. National Association of Home Builders Research Center "Homeowner Indoor Air Quality Opinion Survey and Field Testing Protocol Phase I", May 2006.
12. Statistics Canada Survey of Household Spending, 2005.
13. Toronto Police Survey 2006
14. NPHS 2004
15. Canadian Physician Health Study 2006 / draft 2007
16. Canadian Ethnic Diversity Survey, StatsCan 2002
17. Social Engagement Survey, StatsCan 2003

Appendix C: Survey Questions Taken from the Canadian Community Health Survey (CCHS)

No.	Item
8	Number of people in household
10	Description of household
23	Individual sense of community
39	Personal satisfaction with health care services in neighbourhood
45	Satisfaction with neighbourhood overall
63	Self-rated health status
77	People to depend on
79	Part of a group that shares beliefs
80	Relationships that provide emotional security
81	Trustworthy people to turn to
82	People that admire their talents
85	Perceived rate of down-hearted & blue occasions
86	Perceived rate of happy occasions
88	Perceived stress level
91	Gender
92	Year of Birth
94	Country of Birth
95	Ethnic or cultural groups
97A	Level of schooling completed

Appendix D: Participant Information Letter

Leading with Innovation
Serving with Compassion

ST. MICHAEL'S HOSPITAL
A teaching hospital affiliated with the University of Toronto

INFORMATION ABOUT THE SURVEY

Research project name: Rapid Assessment Tool for Small-Area Health Needs

Principal Investigator:
Dr. James Dunn
Centre for Research on Inner City Health, St. Michael's Hospital
(P) 416 864 6060 ex: 3313

Study Sponsors:
Ontario Ministry of Health and Long-Term Care

Hello. My name is [NAME HERE] and I am from ST. MICHAEL'S HOSPITAL. I am part of a project called ***Neighbourhood Health Assessment*** that is designed to ask people in your community about neighbourhood and health issues, and how they compare to other neighbourhoods in Toronto. We are choosing people at random in your neighbourhood to participate in a short 30 minute survey, and that is why I have knocked on your door.

You are eligible for this study if (1) you are 18 years of age and over, (2) if you can complete a 30-minute interview session, and (3) if you can speak English, or one of the common languages spoken in your neighbourhood for which we have an interpreter available.

This survey is anonymous, which means that we do not collect your name. While there are no direct benefits to you, by participating you contribute to an understanding of the specific health needs of your neighbourhood so that in future, these needs can be better addressed by the health system. To identify these health needs, we will ask questions about your neighbourhood, your health status, how you access health care, and about other parts of your life that contribute to your health such as housing and service use.

Participation is voluntary—whether you participate is entirely up to you. This survey is entirely anonymous. We will not ask you for your name and you do not need to sign any document. During the interview, you will be given the opportunity to take a short break if needed. You are free to skip any questions that you are uncomfortable answering.

You will receive $20 for your participation; if you withdraw from the study this will not affect your reimbursement. If you end the interview at any time, your withdrawal from the study also withdraws all the information you have provided up to that point.

A copy of this INFORMATION ABOUT THE SURVEY will be given to you.
Would you like to participate in our 30 minute survey?

1.Yes_____
2.Yes, but another time (arrange another time)_____
3.No_____

If you require further information about this project, you may contact Masood Zangeneh, Project Manager at 416-864-6060 ext. 2956 during business hours.

If you have any questions regarding your rights as a research participant, you may contact Dr. Julie Spence, Chair of the Research Ethics Board at 416-864-6060 ext. 2557 during business hours.

Appendix E: Data Cleaning Process

1. First letter of **ID** match **Neighbourhood.** [Checked]
2. **Surveydate** filled. [Checked]
3. **Surveydate** 01.01.2007 set as missing. [Checked]
4. **StartTime and EndTime** filled. [Checked]
5. If **TimeHome**>=60, **Moved**=0
6. Select if **Time Home**<60 and **Moved**=0
   Summarize so that you can see all cases that cross.
   Check files.
7. If OwnRent<=4 or 99, OwnRent_Other=98
8. Manual scan through with **Status and Status_Other**
9. Scan through to ensure no missing cells for – **HomeCost**
10. **Transp, Transp_Other, PrefTransp, PrefTran_Other** scanned for missings cells.
11. If **DocWhere** is not "Other", **DocWhere_Other** should be 98.
12. If **Mental**=2, **UnableMental**=2
13. If **Gender**=1, **LongPap**=98
14. If **LongFlu**=7, **WhereFlu**=98
15. If **DxAsthma**=2, **QualAsth**=3
16. Select heights greater than 100 to see if any miscoded as cm.
17. Select weights less than 50 to see if any miscoded as kg
18. If **Selfsmok**=4, **Quitsmok**=98
19. If **Selfdrin**=8, Drink5=6
20. Recode **YOB** 99 and 98 to 9999 for missing
21. Recode missings for **IncmTotal**

Appendix F: Selection of Non-Parametric Tests

In the case of measuring differences between polychotomous outcomes and other polychotomous variables, the Kruskall-Wallis test, the non-parametric equivalent of the one-way analysis of variance, was used – with the explanatory variable as the grouping variable, for example, green space availability and number of neighbours known. This test ranks all cases according to their value on the test variable (the *lived* resource in this case) and then examines difference in the mean rank between independent sample groups on the explanatory variable. The test statistic that is reported is X^2. For differences between polychotomous outcomes and dichotomous explanatory variables, a Mann-Whitney U test was used. This is the nonparametric equivalent of a t-test. Similar to Kruskall-Wallis, it tests for differences in mean ranks between the independent sample groups, except that in these cases there are only two groups (i.e. instance of places participant fears to visit at night). The test statistic reported is the 'U' statistic.

For tests involving a polychotomous outcome and a continuous explanatory variable (i.e. age), the Kruskall-Wallis test was used. Despite the small loss of information that results from ranking this data, it was chosen on the basis of its less stringent assumption regarding the distribution of data.

In the case of measuring differences between dichotomous outcomes and ordinal variables (i.e. satisfaction with green space) or continuous variables (i.e. age), the Mann-Whitney U test was chosen. For tests between dichotomous outcomes and nominal variables (i.e. reason for moving to neighbourhood), the Kruskall-Wallis test was used and the X^2 reported. Finally, for tests between dichotomous outcomes and dichotomous explanatory variables, a simple 2 X 2 cross-tabulation was used, and the test statistic used was phi. This test statistic was used because it can be interpreted similar to a correlation co-efficient.

Appendix G: Summary of Bivariate Tests (Explanatory Variables x Health Outcomes)

Summary of Bivariate Tests (Explanatory Variables x Health Outcomes)									
No.	**Explanatory Variable**	**Health Status (dich)**	**Mental Health (dich)**	**Chronic Cond's (dich)**	**No.**	**Explanatory Variable**	**Health Status (dich)**	**Mental Health (dich)**	**Chronic Cond's (dich)**
91	Gender	X^2	X^2	X^2	39	Neigh health care services satisfaction	M-W	M-W	M-W
92	Age	M-W	M-W	M-W	40	Social services satisfaction	M-W	M-W	M-W
94	Immigrant Vs. Canadian Born	X^2	X^2	X^2	44	Places to buy healthy food satisfaction	M-W	M-W	M-W
95	Country of birth: West Vs. non-West	X^2	X^2	X^2	45	Overall neighbourhood satisfaction	M-W	M-W	M-W
97A	Education	M-W	M-W	M-W		Neighbourhood Satisfaction Cat. Index	X^2	X^2	X^2
101	Income	M-W	M-W	M-W	26	Neighbourhood fear (day)	X^2	X^2	X^2
2	Time in current home	M-W	M-W	M-W	27	Neighbourhood fear (night)	X^2	X^2	X^2
3	Time a resident of neighbourhood	M-W	M-W	M-W	28	Home safety at night?	M-W	M-W	M-W
19	Reason for moving to neigh.	K-W	K-W	K-W	22	Membership (civic participation)	X^2	X^2	X^2
4	No. times moved in last 5 yrs.	M-W	M-W	M-W	23	Sense of community belonging	M-W	M-W	M-W
8	No. persons in household	M-W	M-W	M-W	24	No. of neighbours known	M-W	M-W	M-W
10	Household composition	K-W	K-W	K-W	25	Neighbourhood as a place to raise children	M-W	M-W	M-W
77-82	Social Support Index	X^2	X^2	X^2	29	Neighbourhood Unity (Collective Efficacy)	M-W	M-W	M-W
64	Physical activity level	M-W	M-W	M-W					
36	Green space availability	M-W	M-W	M-W	11	Private yard access	X^2	X^2	X^2
42	Green space satisfaction	M-W	M-W	M-W	11B	Balcony access	X^2	X^2	X^2
35	Gathering place availability	M-W	M-W	M-W	11C	Place for unsupervised play access	X^2	X^2	X^2
41	Gathering place satisfaction	M-W	M-W	M-W	63	Self-rated health status	**XXXXX**	M-W	W-W
37	Recreational facilities availability	M-W	M-W	M-W	85-88	Mental Health Index	X^2	**XXXXX**	X^2
43	Recreational facilities satisfaction	M-W	M-W	M-W	66-70	Chronic conditions	X^2	X^2	**XXXXX**

Summary of Bivariate Tests (Explanatory Variables x Community Social Outcomes)						
No.	**Explanatory Variable**	**Neigh Satis. Index (dichot)**	**Sense of Cmnty. (poly)**	**Collective Efficacy (poly)**	**Neigh to raise children (poly)**	**Civic Particip. (dichot)**
91	Gender	X^2	M-W	M-W	M-W	X^2
92	Age	M-W	K-W	K-W	K-W	M-W
94	Immigrant Vs. Canadian Born	X^2	M-W	M-W	M-W	X^2
95	Country of Birth: West Vs. Non-West	X^2	M-W	M-W	M-W	X^2
97A	Education	M-W	K-W	K-W	K-W	M-W
101	Income	M-W	K-W	K-W	K-W	M-W
8	No. persons in household	M-W	K-W	K-W	K-W	M-W
10	Household composition	K-W	K-W	K-W	K-W	K-W
36	Green space availability	M-W	K-W	K-W	K-W	M-W
42	Green space satisfaction	M-W	K-W	K-W	K-W	M-W
35	Gathering space availability	M-W	K-W	K-W	K-W	M-W
41	Gathering place satisfaction	M-W	K-W	K-W	K-W	M-W
37	Recreational facilities availability	M-W	K-W	K-W	K-W	M-W
11	Private yard access	X^2	M-W	M-W	M-W	X^2
11B	Balcony access	X^2	M-W	M-W	M-W	X^2
11C	Place for unsupervised play access	X^2	M-W	M-W	M-W	X^2
39	Neigh health care services satis.	M-W	K-W	K-W	K-W	M-W
40	Social services satisfaction	M-W	K-W	K-W	K-W	M-W
43	Recreational facilities satisfaction	M-W	K-W	K-W	K-W	M-W
44	Places to buy healthy food satis.	M-W	K-W	K-W	K-W	M-W
45	Overall neigh. satisfaction	M-W	K-W	K-W	K-W	M-W
39-44	Neigh Satisfaction Index	**XXXXX**	M-W	M-W	M-W	X^2
2	Time in current home	M-W	K-W	K-W	K-W	M-W
3	Time a resident of neighbourhood	M-W	K-W	K-W	K-W	M-W
19	Reason for moving to neigh	K-W	K-W	K-W	K-W	K-W
4	No. times moved in last 5 yrs.	M-W	K-W	K-W	K-W	M-W
22	Membership (Civic Participation)	X^2	M-W	M-W	M-W	**XXXXX**
23	Sense of community belonging	M-W	**XXXXX**	K-W	K-W	M-W
24	No. of neighbours known	M-W	K-W	K-W	K-W	M-W
25	Neigh. as a place to raise children	M-W	K-W	K-W	**XXXXX**	M-W
26	Neighbourhood fear (day)	X^2	M-W	M-W	M-W	X^2
27	Neighbourhood fear (night)	X^2	M-W	M-W	M-W	X^2
28	Home safety at night?	M-W	K-W	K-W	K-W	M-W
29	Neigh. Unity (Collective Efficacy)	M-W	K-W	**XXXXX**	K-W	M-W
77-82	Social Support Index	X^2	M-W	M-W	M-W	X^2
85-88	Mental Health Index	X^2	M-W	M-W	M-W	X^2
63	Self-rated health status	X^2	M-W	M-W	M-W	X^2
64	Physical activity level	M-W	K-W	K-W	K-W	M-W
66-70	Chronic conditions	X^2	M-W	M-W	M-W	X^2

Appendix H: Summary Significance Levels

Summary Significance Levels (Explanatory Variables x Health Outcomes)									
No.	**Explanatory Variable** (*p<.05; **p<.01; ***p<.001)	**Health Status (dich)**	**Mental Health (dich)**	**Chronic Cond's (dich)**	**No.**	**Explanatory Variable** (*p<.05; **p<.01; ***p<.001)	**Health Status (dich)**	**Mental Health (dich)**	**Chronic Cond's (dich)**
91	Gender	*	*		39	Neigh health care services satisfaction		**	*
92	Age	***	*	***	40	Social services satisfaction	**	***	
94	Immigrant Vs. Canadian Born				44	Places to buy healthy food satisfaction		**	
95	Country of birth: West Vs. non-West			**	45	Overall neighbourhood satisfaction		***	*
97A	Education	***	**	***		Neighbourhood Satisfaction Cat. Index		***	
101	Income	***	**	**	26	Neighbourhood fear (day)		**	
2	Time in current home		**	***	27	Neighbourhood fear (night)		*	
3	Time a resident of neighbourhood	*	*	***	28	Home safety at night?	**	**	
19	Reason for moving to neigh.			*	22	Membership (civic participation)			
4	No. times moved in last 5 yrs.	*			23	Sense of community belonging		*	***
8	No. persons in household	**		***	24	No. of neighbours known		**	**
10	Household composition			***	25	Neighbourhood as a place to raise children		**	
77-82	Social Support Index	***	***	**	29	Neighbourhood Unity (Collective Efficacy)	*	*	
64	Physical activity level	**							
36	Green space availability	*		*	11	Private yard access			
42	Green space satisfaction			*	11B	Balcony access			
35	Gathering place availability	*	*		11C	Place for unsupervised play access			
41	Gathering place satisfaction	*	***		63	Self-rated health status	**XXXXX**	***	***
37	Recreational facilities availability	**	**		85-88	Mental Health Index		**XXXXX**	
43	Recreational facilities satisfaction	*	**		66-70	Chronic conditions			**XXXXX**

Summary of Significance Levels for Community Social Outcomes						
No.	**Explanatory Variable** (*p<.05; **p<.01; ***p<.001)	**Neigh Satis. Index (dichot)**	**Sense of Cmnty (poly)**	**Collective Efficacy (poly)**	**Neigh to raise children (poly)**	**Civic Particip. (dichot)**
91	Gender		*			
92	Age	***				
94	Immigrant Vs. Canadian Born		*		**	*
95	Country of Birth: West Vs. Non-West					
97A	Education		**			*
101	Income					
8	No. persons in household					
10	Household composition	*			**	
36	Green space availability		***	***	***	
42	Green space satisfaction			**	***	
35	Gathering space availability		*	*	***	*
41	Gathering place satisfaction		*	***	**	
37	Recreational facilities availability		**	***	**	
11	Private yard access	**	***	***	***	
11B	Balcony access			**		
11C	Place for unsupervised play access	***	*	***		
39	Neigh health care services satis.	***	**		**	
40	Social services satisfaction	***	*	*	***	
43	Recreational facilities satisfaction	***	*	**	**	
44	Places to buy healthy food satis.	***			***	
45	Overall neigh. satisfaction	***	***	***	***	
39-44	Neigh Satisfaction Index			***	***	
2	Time in current home	**	**			
3	Time a resident of neighbourhood		***		*	
19	Reason for moving to neigh		*			
4	No. times moved in last 5 yrs.					
22	Membership (Civic Participation)		***	**		
23	Sense of community belonging			***	*	***
24	No. of neighbours known			**		
25	Neigh. as a place to raise children	***		***		
26	Neighbourhood fear (day)	*	*	*	***	
27	Neighbourhood fear (night)	*			***	
28	Home safety at night?	*		*	**	
29	Neigh. Unity (Collective Efficacy)	***	***		***	**
77-82	Social Support Index		***	*		
85-88	Mental Health Index	***	*	*	**	
63	Self-rated health status			*		
64	Physical activity level		*			
66-70	Chronic conditions		***			

Appendix I: Tests Statistics & Significant Levels for Bivariate Analysis

Physical space x Health Outcomes				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
36	Green space availability	M-W 33045(.030)	M-W 36502(.330)	M-W 59987(.044)
35	Gathering place availability	M-W 25662(.017)	M-W 25312(.012)	M-W 48785.5(.299)
37	Recreational facilities availability	M-W 25390(.001)	M-W 27062(.002)	M-W 51046(.182)

Mental Space x Health Outcomes				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
26	Neighbourhood fear (day)	X^2 -.043(.234)	X^2 .106(.003)	X^2 .021(.557)
27	Neighbourhood fear (night)	X^2 -.021(.568)	X^2 .091(.012)	X^2 .037(.317)
28	Home safety at night?	M-W 35773.5(.006)	M-W 33609.5(.001)	M-W 67885(.124)

Physical space x Lived Space								
No.	**Explanatory Variable**	**Green Space Satisfaction**	**Gathering Space Satisfaction**	**Recreational Facility Satisfaction**	**Overall Neighbourhood Satisfaction**	**Neighbourhood Satisfaction Index**	**Time as Resident of Neigh.**	**Number of Neighbours Known**
36	Green space availability	M-W 15086 (.000)	M-W 21969 (.000)	M-W 33001 (.000)	M-W 30099 (.000)	M-W 32199.5 (.000)	M-W 62167.5 (.000)	M-W 55888.5 (.000)
35	Gathering space availability	M-W 31764 (.000)	M-W 9876.5 (.000)	M-W 23879 (.000)	M-W 21221.5 (.000)	M-W 22760.5 (.000)	M-W 52563.5 (.000)	M-W 46874.5 (.000)
37	Recreational facilities availability	M-W 24913 (.000)	M-W 12633 (.000)	M-W 9771 (.000)	M-W 19972.5 (.000)	M-W 17403 (.000)	M-W 52797 (.000)	M-W 49121 (.000)

Mental Space x Lived Space								
No.	**Explanatory Variable**	**Green Space Satisfaction**	**Gathering Space Satisfaction**	**Recreational Facility Satisfaction**	**Overall Neighbourhood Satisfaction**	**Neighbourhood Satisfaction Index**	**Time as Resident of Neigh**	**Number of Neighbours Known**
26	Neighbourhood fear (day)	X^2 .070 (.059)	X^2 .129 (.000)	X^2 .099 (.011)	X^2 .118(.011)	X^2 .074(.041)	X^2 -.007(.855)	X^2 .035(.626)
27	Neighbourhood fear (night)	X^2 .102 (.006)	X^2 .115 (.005)	X^2 .084 (.033)	X^2 .153 (.000)	X^2 .074 (.042)	X^2 .005 (.882)	X^2 .063 (.218)
28	Home safety at night?	M-W 45638.5 (.001)	M-W 28063.5 (.004)	M-W 44479.5 (.071)	M-W 33284.5 (.000)	M-W 56730.5 (.043)	M-W 72655.5 (.253)	M-W 61011 (.016)

Lived Space x Health Outcomes				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
42	Green space satisfaction	M-W 37128.5(.544)	M-W 34644(.079)	M-W 60170.5(.040)
41	Gathering place satisfaction	M-W 23667(.020)	M-W 18749(.000)	M-W 42803.5(.244)
43	Recreational facilities satisfaction	M-W 26887(.027)	M-W 26114.5(003)	M-W 49144.5(.142)
	Neigh. Satisfaction Index	X^2 -.068(.059)	X^2 .149(.000)	X^2 -.049(.174)
3	Time a resident of neighbourhood	M-W 36307(.019)	M-W 37547.5(.045)	M-W 48721(.000)
4	No. times moved in last 5 yrs.	M-W 41700(.019)	M-W 41609(.414)	M-W 72435.5(.805)
24	No. of neighbours known	M-W 40574.5(.480)	M-W 36565.5(.006)	M-W 63507.5(.001)

Lived Space x Health Outcomes (at the neighbourhood level)				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
42	Green space satisfaction	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown			
	Weston-Mt. Denis		.140 (.036) n=223	
41	Gathering place satisfaction	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown		.303 (.000) n=180	
	Weston-Mt. Denis	-.209 (.005) n=177	.300 (.000) n=177	
43	Recreational facilities satisfaction	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown		.237 (.001) n=199	
	Weston-Mt. Denis	-.165 (.019) n=202		
	Neigh. Satis. Cat. Index	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown	.224 (.001) n=223	.139 (.037) n=226	
	Weston-Mt. Denis		.227 (.001) n=234	
3	Time a resident of neighbourhood	X^2	X^2	X^2
	Eglinton East			-.337 (.000) n=119
	Parkdale			-.278 (.000) n=192
	St. Jamestown			-.289 (.000) n= 223
	Weston-Mt. Denis		.147 (.025) n=235	
4	No. times moved in last 5 yrs.	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown			
	Weston-Mt. Denis			
24	No. of neighbours known	X^2	X^2	X^2
	Eglinton East			
	Parkdale			.178 (.014) n= 192
	St. Jamestown	-.194 (.004) n=223		.171 (.011) n= 223
	Weston-Mt. Denis			

Lived Space x Place Attachment				
No.	**Explanatory Variable**	**Sense of Community**	**Collective Efficacy**	**Civic Participation**
42	Green space satisfaction	M-W 57101.5 (.009)	M-W 42306.5 (.000)	M-W 59863.5 (.322)
41	Community gathering place satisfaction	M-W 37943 (.007)	M-W 28408 (.000)	M-W 43067 (.507)
43	Recreational facilities satisfaction	M-W 46725 (.063)	M-W 34907.5 (.000)	M-W 50143.5 (.694)
45	Neighbourhood overall satisfaction (part. reported)	M-W 53883 (.000)	M-W 39816.5 (.000)	M-W 64669 (.372)
	Neigh. Satisfaction Index	X^2 .080 (.170)	X^2 .163 (.000)	X^2 .025 (.485)
3	Time a resident of neighbourhood	M-W 50491.5 (.000)	M-W 47484.5 (.014)	M-W 67306 (.570)
24	No. of neighbours known	M-W 42382.5 (.000)	M-W 47738.5 (.009)	M-W 64432.5 (.073)

Lived Space x Place Attachment (at the neighbourhood level)				
No.	**Explanatory Variable**	**Sense of Community**	**Collective Efficacy**	**Civic Participation**
42	Green space satisfaction	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown		.216 (.017) n=219	
	Weston-Mt. Denis			.157 (.019) n=223
41	Gathering place satisfaction	X^2	X^2	X^2
	Eglinton East			
	Parkdale		.385 (.000) n=170	
	St. Jamestown			
	Weston-Mt. Denis	.310 (.001) n=178	.211 (.047) n=178	
43	Recreational facilities satisfaction	X^2	X^2	X^2
	Eglinton East			
	Parkdale		.258 (.012) n=163	
	St. Jamestown			
	Weston-Mt. Denis			
	Neigh. Satis. Cat. Index	X^2	X^2	X^2
	Eglinton East			
	Parkdale		.266 (.003) n=196	
	St. Jamestown		.217 (.014) n=226	
	Weston-Mt. Denis			
3	Time a resident of neighbourhood	X^2	X^2	X^2
	Eglinton East			
	Parkdale		.222 (.021) n=197	
	St. Jamestown	.272 (.000) n=227		
	Weston-Mt. Denis	.312 (.000) n=238		
24	No. of times Moved in last 5 years	X^2	X^2	X^2
	Eglinton East			
	Parkdale	.305 (.000) n=197	.238 (.011) n=197	
	St. Jamestown			
	Weston-Mt. Denis			-.133 (.041) n=237
24	No. of neighbours known	X^2	X^2	X^2
	Eglinton East			
	Parkdale	.393 (.000) n=196		
	St. Jamestown	.368 (.000) n=227		
	Weston-Mt. Denis	.374 (.000) n=237	.192 (.032) n=237	.247 (.000) n=236

Place Attachment x Health Outcomes				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
23	Sense of community belonging	M-W 38196.5(.520)	M-W 34365(.012)	M-W 57784.5(.000)
29	Neighbourhood Unity (Collective Efficacy)	M-W 25426.5(.014)	M-W 24342(.012)	M-W 50299(.827)
22	Membership of voluntary organizations (civic participation)	X^2 .009(.801)	X^2 -.013(.711)	X^2 .034(.341)

Place Attachment x Health Outcomes (at the neighbourhood level)				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
23	Sense of community belonging	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown			.263 (.000) n=223
	Weston-Mt. Denis			
29	Neighbourhood Unity (Collective Efficacy)	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown		.199 (.029) n=227	
	Weston-Mt. Denis		.183 (.048) n=235	
22	Membership of voluntary organizations (civic participation)	X^2	X^2	X^2
	Eglinton East			
	Parkdale			
	St. Jamestown			
	Weston-Mt. Denis			

Lived Space x Health Outcomes (Canadian vs. foreign-born)				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
42	Green space satisfaction	X^2	X^2	X^2
	Foreign-Born			
	Canadian-Born			
41	Gathering place satisfaction	X^2	X^2	X^2
	Foreign-Born	-.169 (.001) n=359	.188 (.000) n=361	
	Canadian-Born		.206 (.001) n=248	
43	Recreational facilities satisfaction	X^2	X^2	X^2
	Foreign-Born		.118 (.018) n=401	
	Canadian-Born	-.150 (.015) n=262		
	Neigh. Satis. Cat. Index	X^2	X^2	X^2
	Foreign-Born		.152 (.001) n=472	
	Canadian-Born		.144 (.012) n=301	
3	Time a resident of neighbourhood	X^2	X^2	X^2
	Foreign-Born		.100 (.030) n=469	-.228 (.000) n=465
	Canadian-Born			-.252 (.000) n=299
4	No. times moved in last 5 yrs.	X^2	X^2	X^2
	Foreign-Born			
	Canadian-Born			
24	No. of neighbours known	X^2	X^2	X^2
	Foreign-Born		-.127 (.005) n=475	
	Canadian-Born			.139 (.017) n=298

Lived Space x Place Attachment (Canadian vs. foreign-born)				
No.	**Explanatory Variable**	**Sense of Community**	**Collective Efficacy**	**Civic Participation**
42	Green space satisfaction	X^2	X^2	X^2
	Foreign-Born			
	Canadian-Born			
41	Gathering place satisfaction	X^2	X^2	X^2
	Foreign-Born			
	Canadian-Born		.275 (.000) n=249	
43	Recreational facilities satisfaction	X^2	X^2	X^2
	Foreign-Born	.146 (.035) n=402		
	Canadian-Born		.161 (.033) n=263	
	Neigh. Satis. Cat. Index	X^2	X^2	X^2
	Foreign-Born		.153 (.012) n=473	
	Canadian-Born			
3	Time a resident of neighbourhood	X^2	X^2	X^2
	Foreign-Born	.230 (.000) n=478		
	Canadian-Born	.323 (.000) n=302	.212 (.001) n=302	
24	No. of neighbours known	X^2	X^2	X^2
	Foreign-Born	.356 (.000) n=477	.131 (.043) n=477	
	Canadian-Born	.438 (.000) n=301		
24	No. of times moved in last 5 years	X^2	X^2	X^2
	Foreign-Born	.170 (.003) n=478		
	Canadian-Born			

Place Attachment x Health Outcomes (Canadian vs. foreign-born)				
No.	**Explanatory Variable**	**General Health Status**	**Mental Health**	**Chronic Conditions**
23	Sense of community belonging	X^2	X^2	X^2
	Foreign-Born		.149 (.014) n=476	
	Canadian-Born			.206 (.005) n=299
29	Neighbourhood Unity (Collective Efficacy)	X^2	X^2	X^2
	Foreign-Born	.140 (.026) n=469		
	Canadian-Born		.142 (.048) n=301	
22	Membership of voluntary organizations (civic participation)	X^2	X^2	X^2
	Foreign-Born			
	Canadian-Born			

Appendix J: Detailed Table for Bivariate Analyses

Detailed Table for Socio-demographic Variables

Explanatory Variable	% Fair/Poor Health Status (dichotomous)	% Probable Mental Health Case	% With one or more Chronic Condition(s)
Gender			
Male	37.7%	37.2%	42.8%
Female	62.3%	62.8%	57.2%
Phi	.073 (.043), n=767	-.079 (.027), n=775	-.054 (.133), n=762
Age			
24 and under	7.3%	18.9%	8.4%
25-34	14.5%	21.3%	11.9%
35-49	33.1%	35.2%	25.0%
50-64	33.1%	19.7%	31.9%
65+	12.1%	4.9%	22.8%
Phi	.367 (.034), n=724	.330 (.315), n=730	.525 (.000), n=719
Foreign-Born?			
Yes	55.0%	53.8%	58.3%
No	45.0%	46.2%	41.7%
Phi	-.056 (.121), n=769	.068 (.057), n=777	.047 (.193), n=764
Education			
Less than secondary school graduation	34.9%	32.6%	29.9%
Secondary school graduation	17.8%	22.5%	23.1%
Some postsecondary education (college or university)	47.3%	45.0%	47.0%
Phi	.205 (.000), n=765	.156 (.009), n=773	.236 (.000)
Income			
0	.8%	.0%	.3%
$1 – 9,999	19.1%	14.6%	10.9%
$10,000- 19,999	31.3%	33.8%	33.0%
$20,000 – 29,999	19.1%	15.4%	18.0%
$30,000 – 39,999	12.2%	19.2%	16.5%
$40,000 - 49,999	4.6%	5.4%	6.8%
$50,000 – 59,999	2.3%	3.1%	1.2%
$60,000 or more	10.7%	8.5%	13.3%
Phi	.449 (.070), n=773	.470 (.012), n=781	.451 (.080), n=768
Household composition			
One adult person living alone	38.7%	30.1%	38.4%
One adult with children	16.8%	16.8%	12.9%
A married or common law couple with NO children	12.6%	9.7%	14.9%
A married or common law couple with children	21.0%	24.8%	24.5%
Two or more unrelated persons	10.9%	18.6%	9.3%
Phi	.115 (.061), n=678	.079 (.378), n=682	.215 (.000), n=671
Social Support			
25th percentile or lower	46.6%	46.9%	31.9%
Phi	-.208 (.000), n=773	.210 (.000), n=781	.115 (.001), n=768

Detailed Table for Correlation between Physical Space and Health

Explanatory Variable	% Fair/Poor Health Status (dichotomous)	% Probable Mental Health Case	% With one or more Chronic Condition(s)
Green space availability			
Poor	12.6%	12.7%	8.8%
Fair	25.2%	18.3%	16.3%
Good	30.7%	37.3%	36.6%
Very Good	17.3%	21.4%	19.6%
Excellent	10.2%	9.5%	15.7%
Phi	.106 (.084), n=738	.051 (.748), n=742	.112 (.059), n=729
Gathering space availability			
Poor	15.2%	12.5%	8.8%
Fair	12.0%	19.2%	9.4%
Good	34.4%	32.5%	36.5%
Very Good	18.4%	15.0%	22.3%
Excellent	8.8%	11.7%	12.3%
Phi	.128 (.031), n=647	.120 (.051),n=653	.101 (.158), n=644
Recreational facilities satisfaction			
Very Dissatisfied	9.1%	8.0%	5.7%
Dissatisfied	30.9%	34.8%	22.2%
Satisfied	49.1%	48.2%	56.3%
Very Satisfied	10.9%	8.9%	15.8%
Very Dissatisfied			
Phi	.139 (.011), n=674	.140 (.010),n=677	.092 (.229),n=665

Detailed Table for Correlation between Mental Space and Health

Explanatory Variable	% Fair/Poor Health Status (dichotomous)	% Probable Mental Health Case	% With one or more Chronic Condition(s)
Neigh. fear (day)			
Yes	17.1%	21.5%	14.4%
No	82.9%	78.5%	85.6%
Phi	-.043 (.234), n=763	.106 (.003),n=771	.021 (.557),n=758
Neigh. fear (night)			
Yes	53.6%	61.4%	53.6%
No	46.4%	38.6%	46.4%
Phi	-.021 (.568),n=749	.091 (.012),n=757	.037 (.317),n=744
Home safety at night?			
Very worried	5.4%	10.8%	5.3%
Somewhat worried	36.4%	35.4%	27.0%
Not at all worried	51.2%	46.9%	60.8%
Never alone	7.0%	6.9%	6.8%
Phi	.108 (.029), n=769	.176 (.000), n=777	.071 (.272), n=764

Detailed Table for Correlation between Physical Space and Lived Space								
No.	**Explanatory Variable**	**Green Space Satis.**	**Gathering Space Satis.**	**Rec Facility Satis.**	**Neigh Satis.**	**Neigh Satis – Index**	**Time as Resident of Neigh**	**No. of Neighbours Known**
	Green space availability							
	Poor	38.5%	25.7%	25.1%	25.9%	29.7%	12.7%	9.2%
	Fair	35.4%	22.1%	20.8%	23.0%	22.8%	20.2%	18.1%
	Good	19.8%	31.6%	28.5%	25.9%	31.1%	35.5%	31.5%
	Very Good	4.2%	13.2%	16.9%	18.0%	11.9%	21.5%	23.1%
	Excellent	2.1%	7.4%	8.7%	7.2%	4.6%	10.1%	18.1%
	Phi	.624 (.000), n=737	.259 (.000), n=737	.296 (.000), n=735	.232 (.000), n=736	.398 (.000), n=746	.116 (.041), n=746	.123 (.024), n=746
	Gathering space availability							
	Poor	13.5%	34.1%	19.2%	20.0%	24.1%	10.1%	9.0%
	Fair	22.2%	34.1%	28.5%	24.2%	26.7%	14.3%	14.3%
	Good	37.4%	21.4%	29.5%	35.8%	33.3%	40.3%	34.0%
	Very Good	16.4%	5.6%	14.5%	13.3%	11.3%	20.6%	27.5%
	Excellent	10.5%	4.8%	8.3%	6.7%	4.6%	14.6%	15.2%
	Phi	.180 (.000), n=651	.591 (.000), n=648	.386 (.000), n=649	.247 (.000), n=649	.445 (.000), n=655	.041 (.896), n=657	.110 (.091), n=657
	Recreational facilities availability							
	Poor	30.5%	43.1%	49.5%	35.5%	44.9%	18.7%	17.7%
	Fair	35.1%	31.5%	33.2%	30.6%	29.0%	23.5%	16.9%
	Good	24.1%	20.8%	15.3%	25.0%	23.2%	34.8%	34.7%
	Very Good	6.9%	2.3%	.5%	5.6%	1.9%	14.2%	21.0%
	Excellent	3.4%	2.3%	1.5%	3.2%	1.0%	8.8%	9.7%
	Phi	.349 (.000), n=673	.440 (.000), n=671	.704 (.000), n=671	.295 (.000), n=670	.555 (.000), n=679	.114 (.067), n=680	.106 (.108), n=680

Significance Levels (Physical Space x Lived Space)								
No.	**Explanatory Variable**	**Green Space Satis.**	**Gathering Space Satis.**	**Rec Facility Satis.**	**Neigh Satis.**	**Neigh Satis – Index**	**Time as Resident of Neigh**	**No. of Neighbours Known**
	Neigh. fear (day)							
	Yes	18.0%	23.3%	18.6%	22.5%	17.6%	13.3%	14.9%
	No	82.0%	76.7%	81.4%	77.5%	82.4%	86.7%	85.1%
	Phi	.070 (.059),n=734	.129 (.001),n=606	.099 (.011),n=662	.118 (.001),n=760	.074 (.041),n=769	-.007 (.855), n=775	.028 (.431),n=775
	Neigh. fear (night)							
	Yes	61.1%	64.0%	58.2%	67.4%	57.0%	51.4%	46.7%
	No	38.9%	36.0%	41.8%	32.6%	43.0%	48.6%	53.3%
	Phi	.102 (.006),n=722	.115 (.005),n=600	.084(.033),n=653	.153 (.000), n=746	.074 (.042), n=755	.005 (.882), n=761	-.063 (.081), n=761
	Home safety at night?							
	Very worried	7.2%	10.2%	6.2%	12.8%	6.7%	5.6%	3.5%
	Somewhat worried	34.0%	31.4%	30.3%	35.5%	29.9%	26.6%	21.6%
	Not at all worried	50.0%	51.1%	54.0%	46.1%	54.0%	59.3%	64.5%
	Never alone	8.8%	7.3%	9.5%	5.7%	9.4%	8.5%	10.4%
	Phi	.152 (.001), n=740	.155 (.002), n=613	.106 (.058), n=667	.230 (.000), n=766	.104 (.040), n=775	.059 (.439), n=780	.087 (.115), n=780

Detailed Table for Correlation between Lived (Social) and Health

Explanatory Variable	% Fair/Poor Health Status (dichotomous)	% Probable Mental Health Case	% With one or more Chronic Condition(s)
Green space satisfaction			
Very Dissatisfied	4.8%	7.3%	3.7%
Dissatisfied	24.0%	23.6%	20.2%
Satisfied	54.4%	56.1%	55.3%
Very Satisfied	16.8%	13.0%	20.8%
I don't know			
Phi	.027 (.906), n=765	.074 (.260), n=771	.084 (.164), n=757
Gathering space satisfaction			
Very Dissatisfied	5.6%	5.1%	2.3%
Dissatisfied	27.1%	35.4%	18.1%
Satisfied	54.2%	53.5%	64.2%
Very Satisfied	13.1%	6.1%	15.5%
I don't know			
Phi	.132 (.014), n=765	.204 (.000), n=771	.048 (.703), n=757
Recreational facilities satisfaction			
Very Dissatisfied	9.1%	8.0%	5.7%
Dissatisfied	30.9%	34.8%	22.2%
Satisfied	49.1%	48.2%	56.3%
Very Satisfied	10.9%	8.9%	15.8%
Phi	.090 (.143), n=764	.116 (.031), n=769	.070 (.366), n=755
Neigh. Satis. Cat. Index			
25th percentile or below	35.9%	43.8%	26.2%
Above 25th percentile	64.1%	56.2%	73.8%
Phi	-.068 (.059), n=771	.149 (.000), n=777	-.049 (.174), n=763

Detailed Table for Lived Space x Place Attachment

Explanatory Variable	% Somewhat/ Very Weak Sense of Community Belonging (dichotomous)	% Disagree/ Strongly Disagree with Neighbours Collectively Dealing with Problems (dichotomous)	% Not a Member of any Voluntary Organizations (dichotomous)
Green space satisfaction			
Very Dissatisfied	4.0%	3.2%	4.1%
Dissatisfied	19.9%	18.5%	20.7%
Satisfied	55.8%	57.5%	57.5%
Very Satisfied	20.3%	20.8%	17.7%
Phi	.100 (.063), n=751	.152 (.002), n=649	.051(.590), n=772
Gathering space satisfaction			
Very Dissatisfied	2.2%	2.1%	2.3%
Dissatisfied	16.8%	13.7%	20.3%
Satisfied	64.4%	66.4%	64.4%
Very Satisfied	16.6%	17.8%	13.0%
Phi	.110 (.064), n=752	.207 (.000), n=647	.039 (.816), n=772
Recreational facilities satisfaction			
Very Dissatisfied	5.8%	5.4%	4.8%
Dissatisfied	23.7%	22.7%	26.0%
Satisfied	54.0%	54.3%	55.3%
Very Satisfied	16.4%	17.6%	13.8%
Phi	.089 (.161), n=750	.161 (.002), n=648	.061 (.475), n=770
Neighbourhood Satisfaction Index			
25 Percentile or Below	26.6%	24.5%	28.1%
Above 25 Percentile	73.4%	75.5%	71.9%
Phi	-.065 (.073), n=755	-.144 (.000), n=651	.025 (.485), n=778
Time as Resident of Neighbourhood			
5 years or less	42.1%	46.7%	52.4%
> 5 up to 10 years	20.8%	17.5%	18.6%
> 10 up to 15 years	11.4%	10.0%	8.0%
> 15 up to 20 years	9.6%	8.3%	7.0%
More than 20 years	16.0%	17.5%	14.0%
Phi	.244 (.000), n=760	.097 (.185), n=655	.066 (.496), n=784
No. of Times Moved in last 5 years			
Phi	.196 (.309), n=785	.150(.910), n=785	.144(.060), n=784

Detailed Table for Correlation between Place Attachment and Health

Explanatory Variable	% Fair/Poor Health Status (dichotomous)	% Probable Mental Health Case	% With one or more Chronic Condition(s)
Sense of community belonging			
Very weak	18.9%	23.8%	13.5%
Somewhat weak	25.2%	30.2%	21.4%
Somewhat strong	38.6%	28.6%	41.9%
Very strong	17.3%	17.5%	23.2%
Phi	.032 (.853), n=750	.120 (.012), n=757	.144 (.001), n=744
Collective efficacy			
Strongly Disagree	15.5%	19.2%	13.7%
Disagree	41.8%	36.5%	32.6%
Agree	30.9%	32.7%	37.5%
Strongly Agree	11.8%	11.5%	16.2%
Phi	.101 (.085), n=648	.117 (.030), n=653	.077 (.281), n=640
Membership in organizations?			
Yes	33.6%	33.1%	36.4%
No	66.4%	66.9%	63.6%
Phi	.009 (.801),n=773	-.013 (.711),n=780	.034 (.341),n=767

Appendix K: References

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