

**TOWARDS AN UNDERSTANDING OF NEIGHBORHOOD AND  
INDIVIDUAL LEVEL BARRIERS TO LIFESTYLE CHANGE IN  
HAMILTON, ONTARIO**

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HAMILTON, ONTARIO**

By

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A Thesis

Submitted to the School of Graduate Studies

In Partial Fulfillment of the Requirements

for the Degree

Master of Arts

McMaster University

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MASTER OF ARTS (2004)  
(Geography)

McMaster University  
Hamilton, Ontario

TITLE:               Towards an Understanding of Neighborhood and Individual  
Level Barriers to Lifestyle Change in Hamilton, Ontario

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NUMBER OF PAGES: ix, 196

## **ABSTRACT**

The population health perspective, or the determinants of health approach, is an integral part of health research and policy in Canada and elsewhere. Determinants of health have typically been measured at the national and provincial levels. There is however, a growing interest in the relationship between local environments and health, therefore emphasizing the important role place has in influencing the health of populations or individuals. In addition, there is agreement that chronic diseases can be reduced through healthier lifestyle behaviors. Despite this knowledge, studies suggest that many Canadians do not reap the benefits of a healthy lifestyle. The objectives of this research are threefold: firstly, to explore individuals' perception of neighborhood; secondly, to document perceived meanings of health; and thirdly, to investigate (individual and neighborhood level) facilitators and barriers to healthy lifestyle. This research uses a parallel case study design and a qualitative approach to investigate four different neighborhoods in Hamilton, Ontario (the Mountain, Aberdeen, Downtown core, and Industrial area). Results from qualitative interviews (n=10 per neighborhood) indicate that the Downtown and Industrial areas have more neighborhood level barriers to healthy lifestyle change, such as lack of amenities and pollution. The Aberdeen and Mountain neighborhoods have more individual level barriers, such as lack of motivation and time. The key findings of this study corroborate existing literature that both characteristics of individuals and of neighborhoods can influence lifestyle behaviors. The results can therefore be

used to inform public health policy and enhance our understanding of the determinants of health at the local level.

## ACKNOWLEDGMENTS

I would like to commence by offering my most heartfelt thanks to my supervisor, Susan Elliott, for extending her endless support, guidance, and wisdom – I am forever inspired. Also, I would like to thank Sue Keller-Olaman for her enlightening conversations that ultimately led me in the right directions and to John Eyles for being an instrumental part of this thesis. To my other committee members (Rob and Alan), I am eternally grateful for your time and input. I would also like to genuinely thank Kerry and Bethany for providing me with invaluable feedback, support...and gossip! In addition, I would like to acknowledge the Social Sciences and Humanities Research Council for providing the resources necessary for this research.

And of course, I would like to thank my family (Abe, Amene, Teteye, Lee, Hiya, and my beautiful niece, little S.B.) for providing me with unlimited love and encouragement. My friends, Anju and Helen, thank you for your patience and always keeping me on track! Finally, I would also like to thank the Williams family for their generosity and home cooked meals! In particular, I would like to thank Michael - for his boundless faith and understanding.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 The Research Problem

The population health perspective, or the determinants of health approach, is an integral part of health research and policy both in Canada and elsewhere. Research shows that the health status of individuals and populations is shaped by many factors, some of which include lifestyle, income, social support, physical environment, and access to medical care and amenities (Evans and Stoddart, 1990). Determinants of health have typically been measured at the national and provincial levels. There is however, a growing interest in the relationship between local environments and health, therefore emphasizing the important role place has in influencing the health of populations or individuals (Ellaway and Macintyre, 1998; Ellaway et al, 2001; Macintyre et al 1993; Wilson et al, 2004). In addition, there is agreement that chronic diseases can be reduced through healthier lifestyle behaviors (Mokdad et al, 2004). Despite this knowledge, studies suggest that many Canadians do not reap the benefits of a healthy lifestyle (King et al, 2000). Researchers should stress the importance of understanding the determinants of health at the local level in order to inform social and public health policies and improve the health of individuals living in ‘disadvantaged’ neighbourhoods (Macintyre et al 1993).

## 1.2 Research Context

This research is a qualitative follow-up to a cross-sectional quantitative survey (n=1500) designed to understand the determinants of health at the local level in the city of Hamilton. Four different neighbourhoods were selected for study, namely, the Downtown core, the Industrial (Northeast) section, the Mountain, and Aberdeen/Kirkendall (see Chapter 4, Figure 4.1).

These four neighbourhoods were selected based on their distinct characteristics (socio-economic status, ethnicity, and smoking status) in order to identify discernable differences and similarities (Luginaah et al, 2001). The characteristics of the neighborhoods were chosen to represent well-known determinants of health (Wilkinson, 1996; Jerrett et al, 1998; Birch et al, 2000).

The concept of *neighbourhood* is broad and ambiguous. However, there seems to be a general consensus that this concept can be typically defined by the area, common ties, and social interaction (Luginaah et al, 2001). The primary cause of variance in Hamilton's social structure has been socio-economic status. Generally, this variance in socio-economic status has divided the city, with high status found in the West end, and low status areas found in the harbour and industrial areas in the north and northeast parts of the city (Luginaah et al, 2001). Also, the ethnic concentrations tend to be found in the inner city and in the northern and eastern suburbs and, further, these areas tend to be low in economic status (Luginaah et al, 2001). Essentially, this study uses a parallel case-study approach to compare differences in neighborhood impacts on health.

### 1.3 Research Objectives

The main purpose of this research is to enhance our understanding of the determinants of health at the local level in policy informed and relevant ways by addressing the following three objectives:

- Firstly, to explore individuals' perception of neighbourhood. For instance, there will be a focus on the likes/dislikes of particular neighbourhoods, and how this perception affects the health or lifestyle of an individual.
- Secondly, to document perceived meanings of health. This will highlight individual definitions of health and general ratings of individual health.
- Thirdly, to investigate (individual and neighbourhood level) facilitators and barriers to healthy lifestyle. This will determine aspects of the physical or social environment that may either promote or inhibit health. This is an extension of previous research that has shown that 'place' can promote or inhibit the health of individuals (Ellaway et al, 2001; Eyles, 1999). Particular attention is paid to the ways in which the local environment or the neighborhood can potentially affect the health or lifestyle of individuals.

## 1.4 Research Contributions

This study contributes to our understanding of the determinants of health at the local level. More specifically, this study aims to investigate the role of neighborhood and individual level factors on healthy lifestyle behaviors. By providing a conceptual lens (context, composition, collective) by which our understanding of the complex relationship between health and place is enhanced, this study signifies important considerations for policy-decision makers. That is, health, or rather, healthy lifestyles, are the result of a combination of factors represented by contextual (physical characteristics), compositional (individual characteristics), and collective aspects (the social interaction of people *in* places), thus, policies should be aimed at these interactions.

## 1.5 Chapter Outline

This thesis consists of the following chapters:

In **Chapter 2**, literature surrounding population health approaches will be outlined. This will be characterized by shifting perspectives on health geographies such that existing evidence relating to the effects of place on health will be examined. Also, the theoretical framework that guides the research will be presented. The chapter then highlights empirical evidence surrounding neighborhood perception, health, and lifestyle factors. In particular, the neighborhood and individual level impacts on health and lifestyle behaviors will be explored.

**Chapter 3** will provide a community profile of Hamilton and the four study neighbourhoods. This section largely draws on information provided by 1996 census data to illustrate the distinct variations in neighborhood ethnicity, education, income, and employment status.

**Chapter 4** describes the research design and methodology of this study. The rationale for the choice of qualitative methods is discussed. The chapter will also describe the analysis process and the use of a computer software for data management.

**Chapter 5** outlines the results of the research. Where appropriate, tables are presented to organize data. These data are punctuated with direct quotations from respondent interviews. Consistent with the notion of the ‘new public health’ the research begins ‘where the people are’ (Duhl and Sanchez, 1999).

**Chapter 6** is a discussion and interpretation of the results. Emerging themes are analyzed and interpreted by reviewing and comparing to previous research. Also, there is a discussion of the contributions and policy implications of this research. Finally, this thesis concludes by providing some recommendations for further research.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

This research is situated within a health geography perspective and utilizes a population health approach to understand neighborhood and individual level effects on lifestyle change in Hamilton, ON. This research is organized around three objectives: Firstly, to explore individuals' perception of neighborhood; secondly, to document perceived meanings of health, and thirdly, to investigate (individual and neighborhood level) facilitators and barriers to healthy lifestyle. In order to understand the relationship between neighborhood environment, individual characteristics, and health, Macintyre et al's (2002) conceptual framework will be employed to inform this section. That is, Macintyre et al provide a useful theoretical framework to help understand how health inequalities arise from the interplay of contextual, compositional, and collective aspects of everyday life.

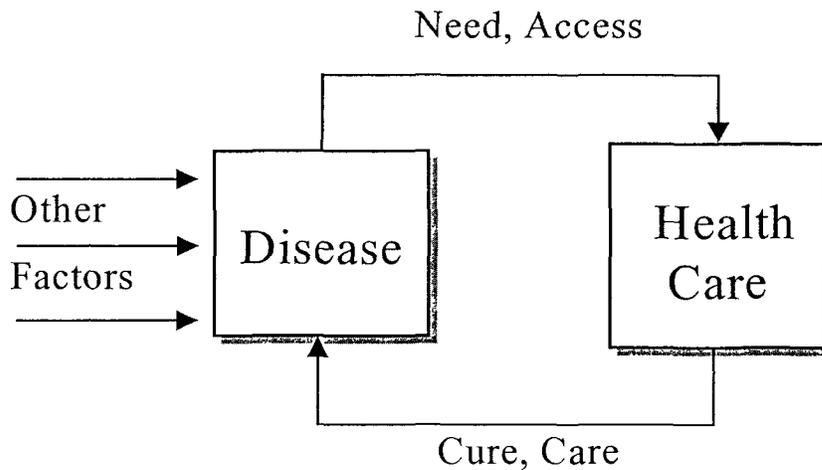
The first section highlights population health approaches and the broad determinants of health. This is followed by an examination of the shift from 'medical' to 'health' geography and concomitantly situates this research within a health geography perspective. The second section highlights social theories within health geography that facilitate conceptualizations of place and health.

The third section situates neighborhood and healthy lifestyles within the larger context of Macintyre et al's theoretical framework. Finally, this chapter closes with a review of the empirical evidence surrounding contextual, compositional, and collective aspects affecting health and lifestyles.

## **2.1 Population Health Approach**

Traditional biomedical perspectives on health were often criticized for their simplistic approach to health. Health was conceived as 'the presence or absence of disease' and the health care system was key in eradicating diseases. Evans and Stoddart (1994) argued that an exclusive focus on health care is overwhelmingly *reactive* and thus is mainly concerned with curative measures, rather than preventative or proactive techniques.

## Biomedical Model of Health

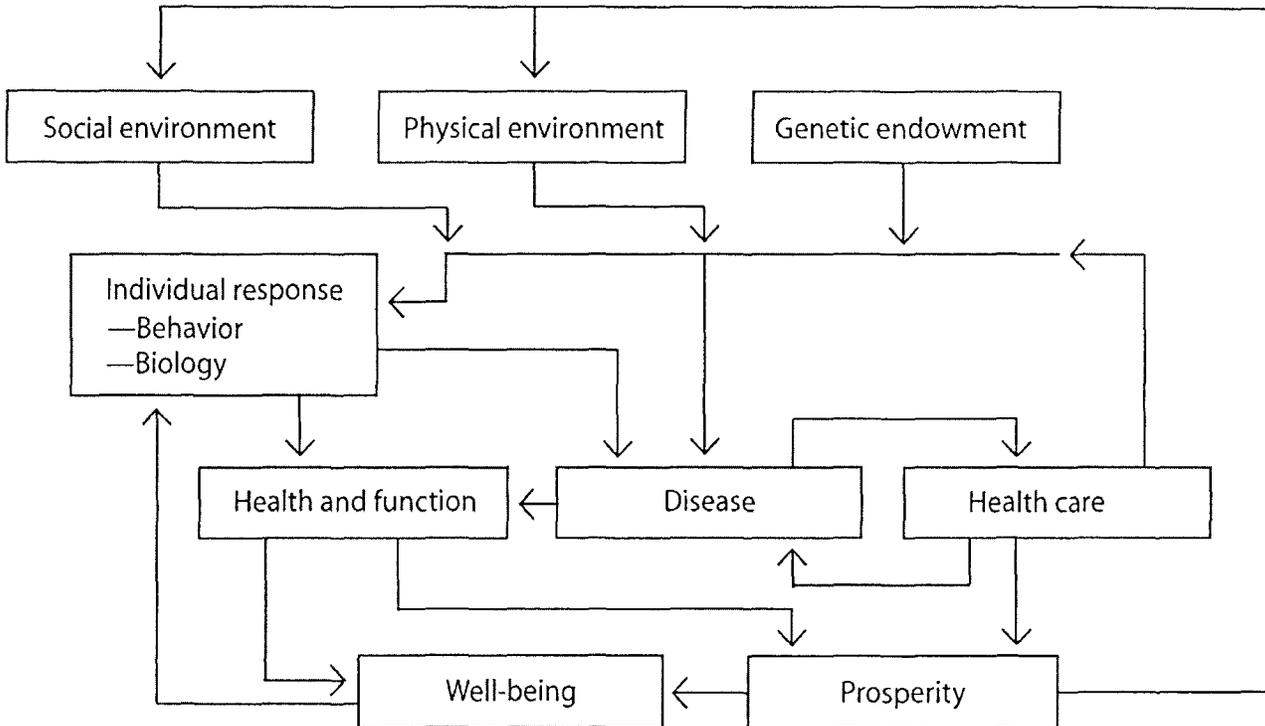


**Figure 2.1** (Evans and Stoddart, 1994: 33)

Figure 2.1 illustrates the simplistic notion of health adapted by biomedical proponents. The framework suggests that if an individual is afflicted with disease, the stages to recovery necessitate access to health care, followed by a need to cure the individual afflicted. In this sense, sole emphasis on health care excludes any mitigating circumstances that may affect the individual's access to health care. However, a growing concern that biomedical perspectives on health were too narrow necessitated a reconsideration of health definitions. The World Health Organization (WHO) provided a much more comprehensive definition of health, thereby rejecting the biomedical perspective: "Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or

injury” (WHO, 1986).

The population health approach is a reflection of these broadening definitions of health. This approach focuses on the health of entire populations and health inequalities among groups of people. In contrast to biomedical perspectives that observe differences in health status among individuals, population health perspectives analyze differences among well-defined populations or subpopulations (Evans, 1994). Evans and Stoddart (1990) proposed a population health model (Figure 2.2) to understand the various components influencing health. The model posits that disease influences health and function, which in turn influences well-being. Also factored into the model are economic prosperity, social and physical environments (which in turn are affected by prosperity), and genetic endowment. The model recognizes that notions of health need to move beyond ‘the presence or absence of disease’ and include a broad range of factors influencing health.



**Figure 2.2** Evans and Stoddart (1990)

Despite broadening views on health, it became apparent to health officials that merely broadening the determinants of health were not effective in reducing health inequalities. More effective strategies in health promotion and health policies would require a shift in health promotion techniques as well. The ‘old’ health promotion was primarily based on lifestyle behavior and the dissemination of health information to individuals. Evolving notions of health promotion called for a wider application of health promotion, that is, incorporating education, training, research, legislation, policy coordination, and community development (Health Canada, 2003). For instance, strategies focused on breast feeding (Health

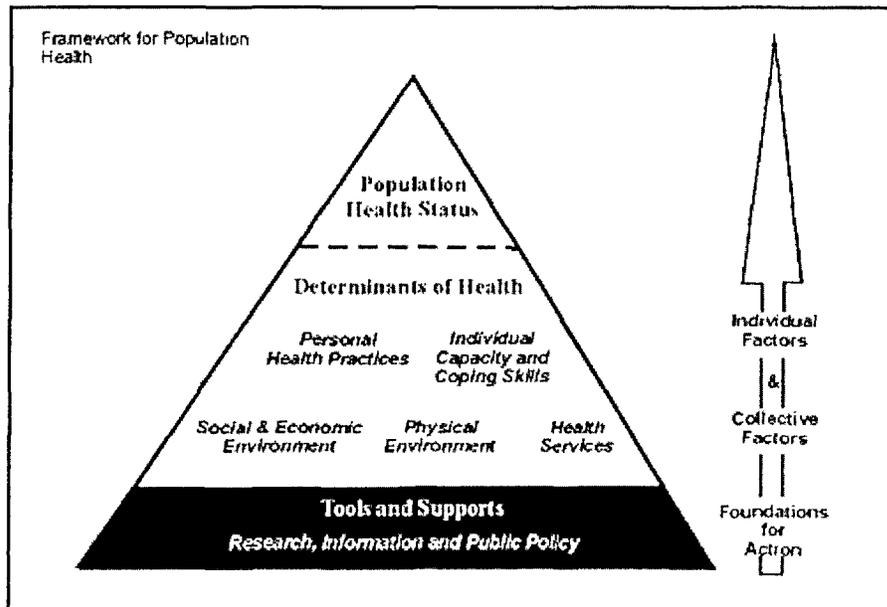
Canada, 2003). In this sense, reducing health inequalities requires a reassessment of health promotion strategies in order to move beyond health education, and address the socio-economic and cultural barriers to health.

Consequently, recognizing that the 'new' health promotion had parallel perspectives to the population health approach, the inter-linkage between the two became apparent in the literature (Health Canada, 1992; Federal, Provincial, and Territorial Advisory Committee on Population Health, 1994). Speculations of the relationship between the two led to attempts to distinguish both concepts.

According to Health Canada, population health is an approach that affects the entire health of populations by taking into account a variety of factors determining health. Alternatively, health promotion is an approach that enables individuals to take control of their own health. Although the population health framework had evolved to encompass a broad range of health determinants, it was becoming clear to health promotion advocates that an excessive emphasis on individuals or lifestyles can lead to a 'blame the victim' approach and exclude other influences besides individual choice. In response to this potential problem, the World Health Organization put together a report in 1984, *Health for All Targets* (Kickbusch, 2003) and paved the way for a broader understanding of health promotion. Rather than take a 'blame the individual' perspective on lifestyles and health, this report opted to shift the focus away from individual behavior to integrate several other components. For instance, an individual may smoke or live a sedentary lifestyle. Rather than blaming the individual for living an unhealthy lifestyle, the

understanding now was that the conditions in which one lives and works strongly affects their health. Thus, these lifestyle behaviors were not merely a personal choice, but also a function of one's social and physical environment.

Additionally, low socioeconomic status may limit access to recreational facilities or healthy food. In this new way of thinking, the WHO Health for All Targets shifted responsibility to health officials, thus, governments were now to be held accountable for the health of their populations and individuals, and not just for the health services they provided. The following diagram depicts changing notions of population health promotion and suggests that individuals are not solely responsible for their health (Figure 2.3). The diagram addresses a broad range of health determinants in a comprehensive and interrelated way. The bottom of the pyramid suggests that effective population health strategies must be based on strong evidence and information to enable foundations for action. The top of the pyramid depicts the main goal of attaining population health status by addressing various health determinants (e.g. social and economic environment).



**Figure 2.3** Health Canada, “Strategies for Population Health: Investing in the Health of Canadians”

Concurrently, public health officials recognized that public health policies needed to reflect evolving notions of health promotion. There was an imperative need for policies that called for an action-oriented perspective to improving the health of the population. The Ottawa Charter for Health Promotion developed after an international 1986 conference in Ottawa, Ontario, Canada has made a significant contribution to health policy development. The charter outlined five key action oriented goals to ultimately improve the health of populations: (1) the development of healthy public policies (policies supportive of health in divisions other than health); (2) the need to ensure environments supportive of health; (3) the importance of personal skills; (4) community action; and (5) the challenge of reorienting health services.

Soon after the broadening application of health promotion, the population

health movement emerged in the 1990s and began to take root (Evans et al, 1994). This was encouraging for many proponents of health because it provided a strong basis for the social and economic determinants of health. Thus, these studies on population health paved the way for investments and policy interventions in sectors that produced health, such as income, education, and housing. For instance Canada has instituted several literacy adult programs (e.g. ABC CANADA literacy foundation) to attain population health. Despite the recognition to expand beyond health care and incorporate other sectors producing health, the population health approach included little mention of health promotion (Kickbusch, 2003). Also, researchers argue that despite this growing awareness of population health, there has not been sufficient development with respect to policies designed to reduce inequalities in health (Glouberman and Miller, 2003). Although there are critiques of the population health approach (e.g. Poland et al, 1998), it has been instrumental in the development of programs and policies aimed at improving the health of the population (e.g. tobacco cessation programs).

## **2.2 Geographies of Health**

Elliott (1999) asserts that the role of geographers in health research has been the result of three key occurrences: evolving definitions of health; evolution of medical to health geography; and the growing influence of the population health framework. Thus far, the changing notions of health and subsequent rise of the population health approach has been summarized. This section will discuss

the shift from medical to health geography, and the role of 'place' in health.

Medical geographers have begun exploring their own roles in research because of changing perspectives in definitions of health. In Canada, a group of medical geographers expressed the need to formally change the name of the specialty group from 'medical geography' to 'geographies of health and health care' (Elliott, 1999). The aim in this shift of perspectives was to broaden the focus of traditional medical geography (i.e. largely quantitative spatial analysis of disease ecology) to the exploration of holistic determinants of health, such as socioeconomic factors. Rosenberg (1998) suggests that medical and health geography is divided into three distinct streams. The first stage emphasizes the mapping and modeling of disease and health. The second stage focuses on access, delivery, and planning of health care. Finally, the third stage marks the reconsideration of medical geography to a 'new health geography'.

Similarly, Curtis and Taket (1996) highlight five strands reflecting the shift from 'medical geography' to 'health geography'. It has become clear in recent years that it is necessary to distinguish between two approaches: the traditional and the contemporary. Curtis and Taket (1996) provide a revision of the written history on medical geography and distinguish five strands common to the field. Generally, the first two strands are traditionally located within the 'medical geography' sphere and are parallel to Rosenberg's first two stages. The first strand focuses on the 'spatial patterning of disease and death'. Typically, this strand is linked to environmentalist studies and is classically associated with

Snow (1855) and his groundbreaking work on cholera.

The second strand mainly focuses on the spatial characteristics of health service systems and their utilization. This strand is characterized by behaviorism studies and emphasizes the spatial pattern of hospitals, clinics, and other health services. Concomitantly, a second component of this strand also attempts to identify patterns of inequality in supply and use of health services. In essence, this strand focuses on accessibility and service utilization, with significant reliance on quantitative measures.

The last three strands are indicative of a shift from 'medical geography' to 'health geography' and are analogous to Rosenberg's third stage. Curtis and Taket maintain that these last three strands are more critical of the biomedical and positivist method that the first two 'traditional' strands employ and are located within the 'contemporary' sphere. All three strands draw heavily from qualitative methodologies and develop their strategies from a multidisciplinary approach.

The third strand, humanistic turn, concerns itself with the socio-cultural construction of health and illness. This strand is focused on the social constructions of health and illness (Curtis and Taket, 1996). Thus, health researchers in this domain (e.g. Eyles and Donovan, 1986) are interested in generating theoretical inferences through the extraction of relevant concepts from people.

The fourth strand, structural/materialist/critical, focuses on the effects of broad social forces on health, such as political, economical, and social factors. In

this 'new health geography', there is exploration of the structural and material influences on people's subjective experience of health and health services. Notably, this strand draws on various social theories (e.g. Mayer, 1996) and is in sharp contrast to typical assumptions of the 'atheoretical' nature of 'medical geography' (Litva and Eyles, 1995).

Finally, the fifth strand, cultural turn, focuses on the importance of place and space in conditioning individual views of health. This strand represents the meanings and subjective interpretations attached to place. In essence, perceived environment is assumed to shape experiences of illness and health. Thus, regardless of objective measurement of health status or environmental exposure (e.g. exposure to an environmentally contaminated site), subjective experiences are not minimized or negated in the fifth strand.

This research is located within the 'humanistic' and 'cultural' sphere of health geography. That is, this research employs a humanistic and cultural perspective in exploring the contributions of neighborhood perceptions, or rather, meanings and experiences of 'place', to health and lifestyles. Emerging literature located within these strands of geography highlight the growing importance that 'place' has on health (Kearns and Gesler, 1998; Kearns, 1993; Gesler, 1992; Macintyre et al, 2002; Eyles and Donovan, 1986).

### 2.3 Theories and Medical Geography

Researchers argue that medical geography, with very few exceptions, has largely been considered atheoretical (Litva and Eyles, 1995) and data driven (Rosenberg, 1998). Debates surrounding exposition of social theories are not new to medical geography (Dear, 1984; Kearns, 1993). In response to calls for the incorporation of social theories in medical geography, Litva and Eyles (1995) distinguished three main social theories utilized in medical geography: structural functionalism; conflict theory; and symbolic interactionism. Structural functionalism is typically associated with the well-reputed sociologists Comte, Spencer, and Durkheim (Litva and Eyles, 1995) and is focused on social systems (i.e. family, economy, government, health care) (Peet, 1998). Although structural functionalism is advantageous in assessing how problems (i.e. illness and disease) affect the systematic order in society, it is limited in that it evades important roles of human behaviors and subjective experiences of individuals. By contrast, conflict theory, while still focusing on social systems, postulates that there is an imbalance of power in society and this results in social injustices. Alternatively, symbolic interactionism focuses on how subjective definitions of social reality are constructed and how this is interpreted by social actors (Litva and Eyles, 1995). Subjectivity in this sense is understood as the stories that people relate that are intrinsic and different for each individual in terms of values, beliefs, meanings and intentions. Gatrell (2002) asserts that interactionist approaches derive meanings, which are *constructed* out of the interactions (such as conversations

and encounters) that people have in their daily routines. Within the medical geography sphere, interactionists focus primarily on subjective experiences of health.

Although social theories are not particularly central to this thesis, this research can be situated within the interactionist perspective (especially in reference to ‘place’ as a social construct). The intent is, not only to negate the ‘atheoretical’ nature of medical geography, but also to elucidate how interactionist perspectives are related to the guiding conceptual framework (Section 2.4.1) of this thesis. For instance, assuming that the meaning of ‘place’ is different for each individual and is shaped by an individual’s context (Gatrell, 2002; Litva and Eyles, 1995), the interactionist perspective may be useful in elucidating how neighborhood perceptions or ‘constructs’ (with respect to place) will influence health or lifestyles in each neighborhood.

### **2.3.1 Place and Health**

A resurgence of research on ‘place’ and its role in health is concomitant with the shift from ‘medical’ to ‘health’ geography. There are many manifestations of experienced ‘place’, including social, physical, and emotional. For instance, Eyles (1985) describes the social sense of place, seen as dominated by the importance attached to social ties and interactions. Additionally, Kearns (1993) explains that consciousness of place can manifest from dwellings to entire nations.

In terms of health, place can also hinder or promote health (Macintyre et al, 2002). Places or neighborhoods where there are limited sources of health promoting activities, such as recreational facilities, will likely have individuals with poorer health than places with abundant sources of health promoting activities. Gatrell (2002) argues that places are health damaging for many people rather than health promoting. This is more often seen in places that are economically disadvantaged, rather than places with adequate resources, which are typically healthier (Kearns et al, 1998).

Krieger and Higgins (2002) make a connection between housing and health. Poor housing conditions (e.g. crowding, dampness, coldness, pest infestation, exposure to toxins, etc.) have been increasingly associated with various health conditions, such as respiratory infections, asthma, lead poisoning, and mental health. In this sense, housing, when considered as a 'place' is an important determinant of health status (Kearns and Gesler, 1998). Housing issues are an important addition to the population health literature. Relatedly, neighborhoods can also be seen as 'places' that affect individual or aggregate health. For instance, a neighborhood scarce in recreational facilities may negatively impact the health of residing individuals. However, as mentioned earlier, health inequalities have thus far produced little response from public policy makers, mainly because it is difficult to causally link a particular environmental contaminant to a given health outcome. Nevertheless, Kearns (1993) argues, in the 'new health geography', it is the context of *experienced or*

*perceived* place, rather than its catalogued characteristics that are of particular interest.

## **2.4 Theoretical Background**

Despite a general acknowledgement that theories do in fact exist within medical geography (e.g. Gatrell, 2002; Litva and Eyles, 1995), some researchers argue that there is a lack of attention to the development of concepts, which would explain why individuals and groups behave the way they do in the context of larger social structures (Williams, 2003; Macintyre et al, 2002). In other words, linking agency and structure, rather than to perceive them as being mutually exclusive, would help clarify why individuals behave in certain ways in light of contextual effects. Williams further adds that a lack of theorization causes a gap of information in health promotion literature due to a lack of understanding of the interaction between the *experiences* and resulting *action* of individuals.

Similarly, Shim (2002) argues that traditional risk factor studies in epidemiology often overemphasize individual attributes (e.g. race, gender, SES) and lose the structural or contextual characteristics. For instance, McCulloch (2001) concluded that individual level effects (compositional) outweigh the area level (contextual) effects in differences in health outcomes. He argued that although there is some statistical evidence for contextual effects, the results are inconclusive:

“Contextual effects are not, however, manifested consistently in all research results, and in some cases these effects are relatively weak (or even apparently absent). Because individual outcomes are influenced by a range of individual behaviors, attributes, and experiences, it is not surprising that the research reviewed above suggests that individual characteristics ‘explain’ more of the statistical variability in outcomes between people than the characteristics of the areas where they live.” (670)

He concludes by proposing that policies should be aimed at individual level interventions (e.g. adult education) rather than neighborhood level interventions. This would have the simultaneous effect of minimizing costly expenditures aimed at improving neighborhood conditions.

On the other hand, some researchers (i.e. Smith et al, 2001) were clearly against arguments denying or rather, minimizing area effects, and particularly, against McCulloch’s proposition calling for individual rather than neighborhood level policy interventions. Smith et al (2001) wrote a rebuttal in response to McCulloch’s (2001) study. They argue that policy initiatives are necessary, and that in fact, there is no need for further evidence that area effects exist to justify area-based initiatives. Of particular concern for some researchers (Williams, 2003; Macintyre et al, 2002; Shim, 2002) is that when there is an overemphasis on one effect, to the exclusion of other contributing factors, there is a risk for oversimplifying effects. As Shim argues: “This kind of devolution simplifies a complex world into smaller, presumably independent units of observation.” (132).

Williams (2003) suggests that with regards to debates on context versus composition, one is so focused on “distinguishing between things that are

*contextual* and things that are *compositional* ...we lose the qualities of relatedness and connectedness that they express” (Williams, 2003:142). He asserts that in this regard, theories can be the solution in resolving some of the issues surrounding these debates.

#### **2.4.1 Guiding Conceptual Framework: Context, Composition, Collective**

Similarly, Macintyre et al (2002) proposed a form of conceptual thinking that would resolve or synthesize the research surrounding contextual and compositional effects. They postulate that there is a lack of conceptualization, operationalization, and measurement of place effects. This is because place or community effects have largely been data-driven, and have ignored explicit, testable, hypotheses about the processes involved in which place may influence the health of specific populations. Williams (2003) suggests that generating *hypotheses* or social theories may enhance understanding of influential factors (i.e. contextual, compositional) involved in certain health outcomes or behavior. Relatedly, Kearns (1993) asserts that social theoretical themes, such as the structure-agency debate have significantly informed the development of the concept of place (e.g. Eyles and Woods, 1983).

Investigators have always tried to distinguish which is the more important influence on healthy behaviors, is it material surroundings, individual characteristics or perhaps the social foundation of the community? Numerous interest groups, including public health officials, urban planners, and politicians,

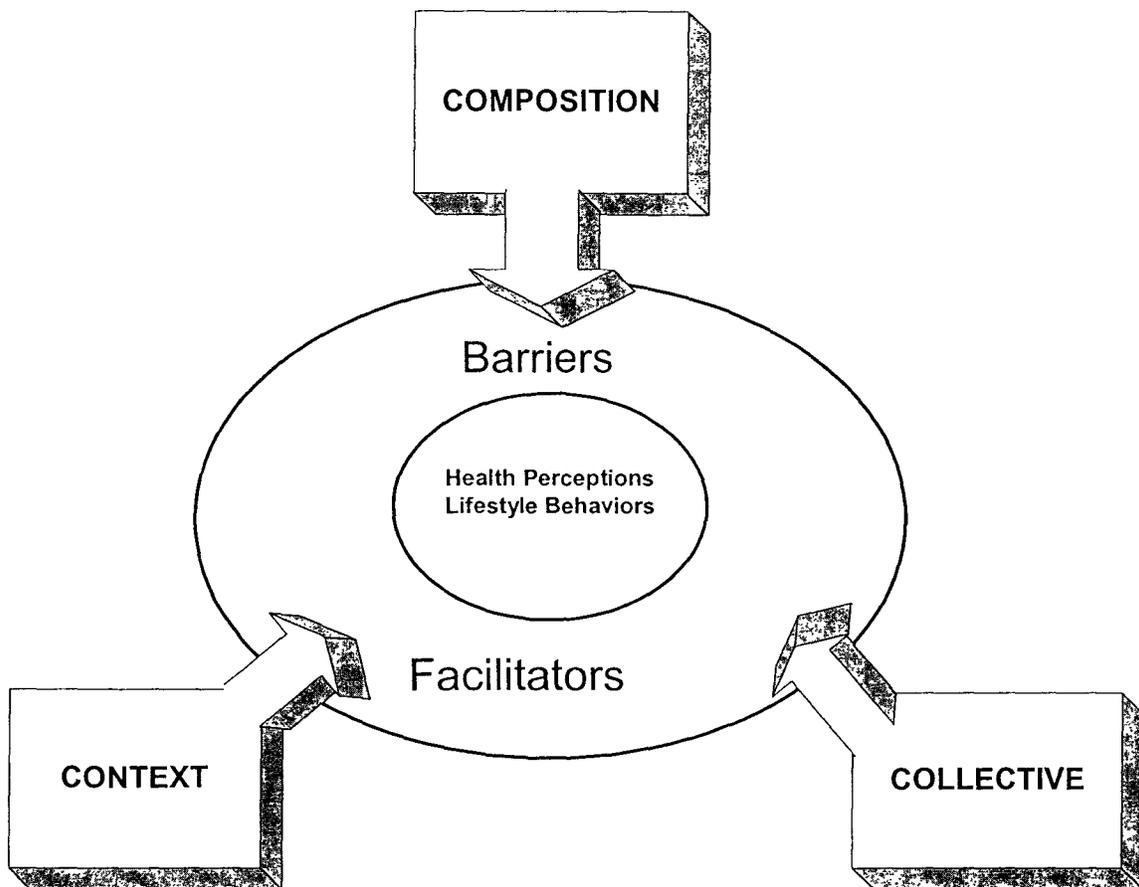
grapple with these questions and attempt to clarify which is the better explanation.

An issue that is constantly grappled with is whether urban planners should focus on material aspects of the neighborhood (such as building recreational facilities) or focus on the collective or psychosocial aspects (Macintyre et al, 2002) of the community, (such as finding ways for Islamic women to preserve their religious beliefs and at the same time participate in public recreational activities).

Similarly, Shaw et al (2002) assert that the strong desire to distinguish between these factors emanates from trying to provide clear and concise answers to policy makers who want to know whether to target resources for individuals or areas.

Contextual, compositional, and collective effects are not particularly new to health research (Shaw et al 2002; Sloggett and Joshi, 1998; Duncan et al 1993, Macintyre et al, 1993; Lynch, 2000b). Researchers interested in these effects are more interested in revealing the more important influence on health (e.g. Sloggett et al concluded that compositional effects were more detrimental to individual health). However, some researchers (e.g. Macintyre et al, 2002) recognize that while it is important to distinguish between these three factors, it is also important to note that they are all inter-related and inter-dependent, rather than being mutually exclusive of each other as some investigators have claimed (e.g. McCulloch 2001). This inter-dependent relationship is illustrated in figure 2.4, indicating that all perspectives work together to influence healthy behavior.

**Figure 2.4** Suggested framework for exploring lifestyle barriers and facilitators (Macintyre et al, 2002)



Macintyre et al (2002) suggest there is no use in focusing on one factor to the exclusion of the others because it is counter-productive. There is little point in building recreational facilities to account for contextual factors without understanding why certain groups of people are refusing to use available resources. In addition, perhaps the local population will not be able to afford the

new facilities. Hence, treating these factors as being mutually exclusive is extremely problematic because there is a risk of overlooking other important factors that may contribute to healthy behavior.

Figure 2.4 illustrates three types of explanations for geographical variations in health: context (physical surroundings, characteristics of neighborhood; composition (characteristics of individuals concentrated in particular places) and collective (values, attitudes, beliefs, ideologies and social cohesion and relations of a group of people) (Macintyre et al, 2002). Expanding on this, Shaw et al (2002) distinguish between context and composition. They assert that these types of explanations address health inequalities. Context is the setting in which people live their lives and the underlying assumption is that the understanding of health inequalities lies beyond the individual and the environment has significant influences on health. Contextual factors include the availability of health or other services in the area, whether the area is rural or urban, the presence of a factory (contributing to pollution) and the lack of recreational facilities (Shaw et al, 2002). Shaw et al also add that contextual factors can include less tangible aspects such as the social context (social cohesion or sense of community).'

Compositional explanations locate the understanding of health inequalities at the individual level (or the 'agency' level as described by Williams, 2003). This explanation assumes there are no effects of the environment in which a person lives over and above their individual characteristics (Shaw et al, 2002).

These factors include age, sex, socioeconomic status, smoking or diet (Shaw et al, 2002).

In terms of collective explanations, previous research has focused on social capital and cohesion as collective dimensions (Lynch et al, 2000b). Alternatively, Shaw et al (2002) have classified social cohesion as a less tangible feature of contextual traits. However, Macintyre et al (2002) argue that thus far, collective explanations for area differences in health have typically been narrow and limited to constructs such as social cohesion or social capital. They assert that this narrow classification largely ignores many other aspects of the collective functioning, such as ethnic, regional, or national identity, religious affiliation, political ideologies and practices, legal and fiscal systems, shared histories, kinship systems, and domestic division of labor (Macintyre et al, 2002). The exclusion of such aspects of collective functioning can significantly hamper the understanding of health inequalities due to omission of important factors. For instance, in a particular example outlined by Macintyre et al (2002), children in deprived areas may not play in the open air because their families do not have resources or gardens (compositional explanation); children may not play due to absence of parks or public transport systems that make accessibility difficult (contextual explanation); or, the local culture believes that it is not important for children to play (collective explanation). Therefore, even if the compositional and contextual factors were addressed, if there is not an understanding of the cultural beliefs of the area, health inequalities would continue to exist. In essence,

collective explanations need to be expanded beyond the social capital theories and include a variety of factors as highlighted by Macintyre et al.

## **2.5 Empirical Strategies for Studying Neighborhood Effects**

According to Diez Roux (2001), three empiric strategies are used when investigating neighborhood or area effects: ecologic studies, contextual or multi-level studies, and comparisons of small numbers of well-defined neighborhoods.

Ecologic studies have been “used to study variations in mortality across areas and to compare this variability to area characteristics” (Diez Roux, 2001: 1784). The sizes of studied areas have ranged from large areas that are really not comparable to neighborhoods (i.e. counties in the United States or district health authorities in the United Kingdom) (e.g. Wing et al, 1992; Tyrolor et al, 1993), to smaller areas (i.e. census tracts in the United States or United Kingdom) (e.g. Eames et al, 1993). The most commonly investigated characteristic or determinant of health in these large-scale studies are socioeconomic status (e.g. Wing et al, 1992). However, while these large-scale studies are useful to demonstrate inequalities in health, they are limited in distinguishing whether the differences across neighborhoods are due to actual characteristics of the area itself, or to differences in individual or personal characteristics (Diez Roux, 2001). Consequently, it becomes difficult to discern the actual area health effects due to the exclusion of individual level factors or determinants.

Accordingly, this incumbent limitation has led to the recognition of a need

to distinguish between the effects of 'context' and 'composition' when studying the area effects on health (Duncan et al, 1998). These multi-level studies (also known as 'contextual' studies) are useful because they include both individual level as well as neighborhood level effects on health (Pearl et al, 2001). By controlling for individual level factors (i.e. income level) they can discern the actual area effects. In this sense, they are able to successfully distinguish 'independent' effects of certain neighborhoods or areas. This accounts for the 'ecological fallacy' made by ecologic studies.\* Recent examples of multi-level research include Ross et al's (2004) study on neighborhood effects on health. This investigation found that there were significant differences between studied neighborhoods, even after controlling for socio-demographic and behavioral characteristics at the individual level. However, there is still a lack of consensus about the relative importance of the area effects (Yen and Syme, 1999).

Finally, other studies used to investigate neighborhood or area effects on health are small scaled compared with the larger scaled quantitative strategies mentioned above (Diez Roux, 2001). This strategy uses a comparison of a small number of well-defined and deliberately chosen contrasting neighborhoods (Ellaway et al, 1997; Macintyre et al, 1993; Phillimore et al, 1991). Usually, these neighborhoods are selected purposefully based on distinct characteristics (i.e. demographics, ethnicity, income variation, social and physical structure) and knowledge of other defining local histories of the particular area (Diez Roux,

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\* This fallacy posits studies make erroneous conclusions based on large scale data because individual level factors are not taken into account (Macintyre et al, 2002).

2001). These approaches have been used to document differences across neighborhoods and relate the differences in terms of health outcomes (e.g. Macintyre et al, 1993; Ross et al, 2004; Duncan et al, 1993; Duncan et al, 1998). These small-scaled studies are extremely advantageous in their ability to enhance understanding of the way in which the local environment can influence health. However, due to the rather small size of these studies, it is limited in the number of neighborhoods investigated, therefore the generalizability of the study may be in question (Diez Roux, 2001). On the other hand, oftentimes, the purpose of these small-scale studies is not to generalize or create a representative sample, but rather to understand why or how the local environment can influence health – a purpose that is often overlooked in the larger studies of the first two strategies. This thesis can be situated within the last empiric strategy and attempts to understand why or how neighborhoods influence health.

## **2.6 Empirical Research Representing Contextual, Compositional, and Collective Effects on Health**

Recent research has found strong statistical support for contextual effects on health (Emslie et al, 1999; Macintyre and Ellaway, 1998). McCulloch (2001) argues that review of the literature surrounding area effects suggests that compositional effects account for the larger variation when it comes to health, over and above contextual effects (Sloggett and Joshi, 1998; McCulloch, 2001). However, Pickett and Pearl (2000) negate this in their review of 25 studies using multilevel data to test the relationship between contextual effects and health

outcomes. The study found that in 23 of these studies, researchers claimed a strong association between contextual effects and health outcomes or behaviors. Periodically, although some studies may find one factor as more influential in producing health inequalities, they do not necessarily deny effects from other factors. For instance, while Mitchell et al (2000b) concluded that compositional traits (i.e. sex, age, employment status) had a stronger influence, contextual effects (i.e. attitude towards community) also contributed significantly to health inequalities. Thus, in terms of policy implications, both factors need to be considered to address health inequalities (Shaw et al, 2002; Mitchell et al, 2000b). Considering this multi-faceted perspective, the following section will explore existing literature on contextual, compositional, and collective determinants of health. Subsequently, suggested evidence of barriers and facilitators to health will be highlighted.

Shaw et al (2002) indicate that a gap in the literature on contextual effects is the absence of detail on *how* context may actually influence health (e.g. Emslie et al, 1999). Ross (2000) asserts that neighborhood context can affect health behaviors because of structure or surroundings. Contextual effects accounting for health behaviors are explained in two ways: contagion and structural perspective. The contagion perspective postulates that people are influenced by others around them, copying their behavior so that it spreads (Crane, 1991; Jencks and Mayer, 1990). Essentially, this theory proposes that neighborhoods have cultural and social norms that are particular to that neighborhood, and that people

use these norms in deciding their own actions or behaviors. For instance, if teen pregnancy or taking drugs is a normative occurrence in one's neighborhood, one is more likely to imitate such behavior. This is similar to the collective perspective proposed by Macintyre et al (2002). The contagion theory will be useful in the analysis of emerging themes in the lower income neighborhoods, such as how rates of teen pregnancy, drugs, and violence may affect residents in these neighborhoods.

The structural perspective proposes that neighborhoods have constraints as well as opportunities and good resources (Aneshensel and Sucoff, 1996). Research indicates that neighborhoods with good opportunities and resources have bike paths, pleasant walkways, community tennis courts and pools, good schools, while others do not (Ross, 2000). Also, some neighborhoods appear unsafe where people are afraid to leave their homes, whereas others appear safe and inviting (Taylor, 1990). Thus, people who feel unsafe are less likely to walk, and or partake in other physical activities. The structural perspective will be useful to this research, specifically, in analyzing how characteristics of the four contrasting neighborhoods can impede or promote health.

According to research (e.g. Jargowsky, 1997) economically disadvantaged neighborhoods are more likely to provide fewer resources and opportunities and present more constraints to residents. These disadvantaged neighborhoods can have negative consequences on health behaviors in two ways: firstly, the structure of the neighborhood may affect behaviors if there is a lack of amenities

such as bike paths, or if people feel unsafe to walk or jog in the neighborhood; secondly, limited opportunities in one's neighborhood, shape beliefs and attitudes surrounding healthy behaviors (Ross, 2000). For instance, if a person's future is fraught with hardships and there is little chance for a long and healthy life, then the person is less likely to be concerned with exercising or quitting smoking, and these attitudes will be reflected in the values and attitudes of others in the neighborhood. Thus, people in disadvantaged neighborhoods may be more likely to engage in risky behaviors such as smoking because it is acceptable. This will be of particular interest to this research because of the income variations of the four different neighborhoods, therefore, effects of the economic status of one's neighborhood can be discerned. Conversely, if the same perspective was to be applied to the opposite situation, neighborhoods that show a number of people engaging in healthy behaviors, such as jogging and playing sports, can have a positive effect on the local population (Stead et al, 2001). For instance, the contagion or collective perspective may also elucidate McLaren and Gauvin's (2003) study on the association of body dissatisfaction with the 'average size' of women. Indicatively, women who lived among 'thinner' women or women with lower Body Mass Index (BMI) were more likely to report body dissatisfaction than women who lived among 'larger' women (McLaren and Gauvin, 2003). In essence, if the contagion or collective perspective was applied to this situation, the beliefs and values of others in the neighborhood influenced body image.

Furthermore, Ross and Mirowsky (2001) argue that not only do people in

disadvantaged neighborhoods feel less healthy, they also suffer from more physical impairments and chronic health problems such as high blood pressure, asthma, and arthritis. Disorder in neighborhoods is the main culprit for health problems. Manifestations of disorder can be physical (abandoned buildings, noise, graffiti, vandalism, filth, disrepair) or social (crime, loitering, public drinking or drug use, conflicts) (Ross and Mirowsky, 2001). In disadvantaged neighborhoods, disorder is rampant because buildings tend to be rundown and abandoned, vandalisms and robberies may occur frequently, and drug and alcohol use create unsafe and undesirable living conditions. Consequently, fear becomes a deep-rooted and indomitable barrier to health. Similarly, Robert (1998) asserts that when individual level factors were controlled (e.g. education, income), neighborhood disadvantage (percent of household receiving public assistance, percent of unemployment, percent of families with incomes less than \$30,000) accounted for an individual's number of chronic illnesses. Other researchers have also established a link between residing in deprived areas and an increased prevalence of chronic illnesses, particularly cardiovascular disease (Raphael and Farrell, 2002; Black and Smith, 1992; Acheson, 1998). Additionally, Anderson et al (1997) found that after controlling for family income, residents of deprived neighborhoods had higher mortality rates than those in less deprived neighborhoods. Moreover, other researchers found that neighborhood level deprivation was significantly associated with poorer health, over and above individual level effects (Jones and Duncan, 1995; Kennedy et al, 1998).

Existing literature suggests that how one perceives elements of the local environment in terms of neighborhood quality is important for health (Ellaway et al, 2001; Haan et al, 1987; Wilson et al, 2004; Sooman and Macintyre, 1995). For instance, Ellaway et al (2001) examined the relationship between perceptions of four socially contrasting neighborhoods and self-reported health. Their study found that self-reported health status was significantly associated with neighborhood perception and cohesion. Conclusively, their findings indicated that the most affluent neighborhoods generally had more positive perceptions of their neighborhood and stronger cohesion. Likewise, Sooman and Macintyre (1995) found that social class and perceptions of neighborhoods independently contributed to health differences between four socially contrasting areas. Additionally, Giles-Corti and Donovan (2002) links neighborhood perception with socioeconomic status (SES) and noted that residents living in low SES areas were significantly less likely to perceive their neighborhood as being safe, attractive, and conducive to recreational walking. Also, the study found residents from low SES areas were more likely to note a lack of social support for walking locally.

Implicit in the assumptions that place matters for health, are issues surrounding income inequality. Interest with regards to this issue has generated arguments that it is the *perceptions* of relative income that produce health inequalities (Wilkinson, 1996). Wilkinson's focus on income inequalities is congruent with a new growing body of evidence that suggests a relationship

between income distribution and mortality (Raphael and Farrell, 2002). The evidence suggests that it is not the richest countries with the best health, but rather the most egalitarian\* (Wilkinson, 1996). Relatively, it is the negative emotions like shame and distrust that produce poor health. This can be translated to this research when comparing health inequalities between the four contrasting neighborhoods. Perceptions of the relative income status of the neighborhoods may contribute to worse health. In this sense, it is the social component, rather than the material that ultimately affects health.

Relatedly, not only can negative perceptions of neighborhoods translate into worse psychosocial and physical health, it can also produce health-damaging behaviors (Ellaway et al, 2001). An extensive body of research has shown that health behaviors (smoking, drinking alcoholic beverages, physical inactivity, poor nutrition) are major determinants of mortality and morbidity (Patterson et al, 1994; Lantz et al, 1998). In fact, a reported 50% of deaths in the United States are due to unhealthy lifestyles (U.S. Department of Health and Human Services, 1979; 1980; Mokdad et al, 2000). Considering this evidence, lifestyle patterns are important public health outcomes, and understanding the pattern or epidemiology of health behaviors can subsequently provide greater insight for health behavior research and concurrently reduce resulting economic burdens from lifestyle related mortality (Patterson, 1994).

To date, a comparison of the most prevalent lifestyle risk factors indicates

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\* Richer countries such as the United States have lower life expectancies than countries such as Italy, Greece, Japan, and Iceland. This may be explained by the large income gap in the US.

that smoking remains the leading cause of death (McGinnis and Foege, 1993; Mokdad et al, 2000; Law et al, 1998). However, Mokdad et al (2000) found that although smoking accounted for approximately 18.1% of deaths in the United States, physical inactivity and poor diet contributed to 16.6% of deaths, showing a relatively smaller gap as compared with McGinnis and Foege (1993) findings. This is reflected in a larger increase in deaths attributable to physical inactivity and poor diet as compared with other lifestyle factors (Mokdad et al, 2000; McGinnis et al, 1993). Upon consideration of this trend, physical inactivity and poor diet are expected to surpass tobacco as leading causes of disease.

Consistently, King et al (2000) suggests that physical activity is one of the most prevalent chronic disease risk factors in the United States and other industrialized nations. Despite efforts to promote health and prevent disease and the benefits of regular physical activity, 60% or more of Americans do not partake in enough regular activity to receive health benefits (U.S Department of Health and Human Services, 1996) and 25% of adults are sedentary (Seefeldt et al, 2002). Prevalence of inactivity is more common among women, older adults, adults with lower education, and ethnic minorities (Jones and Duncan, 1998).

Thematically, the literature surrounding lifestyles and health can be organized into the three major theoretical themes: contextual (i.e. Duncan et al, 1999); compositional (i.e. Sloggett and Joshi, 1998; and collective (i.e. Stead et al, 2001) Corresponding with population health approaches, lifestyles are influenced by a variety factors external to the individual. More specifically, health promoters

consider supportive social and physical environments as being more influential to lifestyle change than other components: “Lifestyle change can be facilitated through a combination of efforts to enhance awareness, change behavior and create environments that support good health practices. Of the three, supportive environments will probably have the greatest impact in producing lasting change.” (American Journal of Health Promotion, 1989:5)

Given the incumbent relationship between mortality and deprived neighborhoods (Winkleby and Cubin, 2003; Lantz et al, 1998; Anderson et al, 1997), researchers explore contributing factors to higher mortality in low-income areas (Law et al, 1998). For instance, consistent with smoking mortality rates, Law et al (1998) found that not only did smoking account for geographic variation in mortality for low-income areas, but poorer people in deprived neighborhoods are less likely to stop smoking even after early diagnosis of diseases such as a non-fatal stroke, or chronic bronchitis. Using a collective perspective may provide a better insight as to why poorer people are less likely to stop smoking despite health problems. For instance, Stead et al (2001) found that stressful environments, strong community norms, isolation from wider social norms, and limited opportunities for recreational activities combined not only to foster smoking but also to discourage or undermine cessation.

Similarly, other researchers (i.e. Giles-Corti and Donovan, 2002; Macintyre et al, 1993; Ross and Mirowsky, 2001) concur that low socioeconomic status (SES) is a reliable predictor of engagement in unhealthy behaviors.

Notably, these studies emphasize neighborhood level SES above and beyond individual level SES. Coming out of this relationship is a closer examination of *how* neighborhood level SES contributes to unhealthy behavior. For instance, Macintyre et al (1993) found that people living in areas with low SES had very poor access to recreational facilities because of inequitable distribution.

Consistent with this, Giles-Corti and Donovan (2002) found that people living in low SES areas were significantly less likely to undertake vigorous physical activity, but were more likely to walk for transportation. However, this minimal activity did not merit statistical significance. Although a majority of the research relates low-income areas with unhealthy behaviors (i.e. Macintyre et al, 1993), Giles-Corti and Donovan found that people living in low SES areas actually had equal or better access to recreational facilities, but were choosing not take advantage of these accessible facilities, and consequently, had poorer lifestyles. This indicates larger social, cultural, and or normative factors that may influence use of facilities, rather than just access or economic status (Giles-Corti and Donovan, 2002). These social factors suggest a collective reasoning for the low utilization of recreational facilities by residents living in deprived areas. While this research does identify the behavioral tendencies of these neighborhood residents, it is limited because it does not identify the possible reasons that may have affected utilization of recreational facilities.

One of the earliest studies examining how neighborhood characteristics affect well-being include Russ-Eft's (1979) work on neighborhood effects on

quality of life. Russ-Eft identified five neighborhood factors that shape quality of life: physical and environmental conditions; economical conditions; facilities and services; political conditions; and personal/interpersonal relationships (Wilson et al, 2004). Similar research following this conjecture shows how parallel characteristics have affected quality of life (Sirgy and Cornwell, 2002). Sirgy and Cornwell narrows neighborhood characteristics to the physical, economical, and social features. Previously in this research, manifestations of neighborhood characteristics were established. For the purposes of this research, this section will expound on neighborhood characteristics and will highlight how researchers have examined these characteristics in relation to lifestyle behaviors.

Zeibland et al (1998) conducted a large-scale study to explore impeding factors to lifestyle change and distinguished between internal and external barriers. For instance, internal barriers included such things as being too lazy, lacking willpower, enjoying the supposedly “bad behavior” (e.g. unhealthy eating). External behaviors included lack of facilities, lack of money, caregiving responsibilities, the behavior and attitude of family and friends. The results indicated that internal barriers were most often selected for both exercise and eating habits. Also, respondents mentioning only internal barriers were less likely to make a lifestyle change than those citing only external barriers. Zeibland et al assert that respondents identifying external limitations will be better inclined to circumvent them.

Existing literature also shows that there is a difference in the types of

barriers mentioned by different income groups (Ellaway et al, 2001; Giles-Corti and Donovan, 2002; Cauley et al, 1991; Yen and Syme, 1998). For instance, Brownson et al (2001) found that those in low-income groups were more likely to describe environmental barriers and report heavy traffic, unattended dogs, and foul air from cars and factories. Furthermore, the most frequently mentioned personal barriers were lack of time, feeling too tired, obtaining enough physical activity at one's job, and no motivation to be physically active. There was no consistent pattern related to income differences for personal barriers. However, the findings showed that women were more likely to have more personal barriers to physical activity than men (Brownson et al, 2001). Additionally, Ellaway et al (2001) found not only were those in the lowest income groups significantly more likely to report neighborhood problems (lack of recreational facilities, burglaries, discarded needles and syringes, lack of safe place for children to play, and smells and fumes from industry), but they were more likely to perceive their health as poor. Moreover, Steptoe and Feldman (2001) also found that there was significant association between neighborhood problems (traffic, pollution, dirt, noise, lack of amenities, safety concerns) and psychological distress, self-rated health, and impaired physical function. Self-reported measures are widely used in research and have been linked with mortality in more than 25 studies (Idler and Benyamini, 1997). Also, self-reported measures of health behaviors, namely physical activity, are used extensively in research, and are again, predictive of mortality and morbidity. Hence, Ellaway et al (2001) argue that self-reported

measures of health can be "...steps along the pathway between residential circumstances and mortality." (2314).

King et al (2000) identified personal and environmental barriers to physical inactivity among women of different ethnic backgrounds (with 60% of the sample with a household income below \$35,000) and compared these groups of women with white women. The study found that, similar to existing literature, only 9% of respondents from the survey met the definition of being physically active, with the American Indian-Alaskan Native and African American women largely falling in the inactive category. Furthermore, personal barriers ranked significantly for the racial-ethnic subgroups (i.e. caregiving responsibilities and lack of energy to exercise). In addition, lack of time and feeling too tired were also among the most frequently mentioned barriers. Also, the ethnic subgroups were more likely to report environmental barriers such as unattended dogs and heavy traffic. Lacking a safe place to exercise was also observed more strongly with the African American group and self-consciousness about physical appearance greatly influenced physical activity levels for the Hispanic group. King et al suggests that self-consciousness about appearance affects physical activity level in adverse or positive ways; appearance motives may increase interest in physical activity to improve appearance, or may adversely incite more criticism from others for choosing to spend time exercising. Other perceived barriers to physical activity for the sample as a whole, as well as for each of the subgroups assessed separately, were, being less educated or older, lacking energy

to exercise, reporting a lack of hills in one's neighborhood, perceived poor health, and infrequently observing others exercising in one's neighborhood (King et al, 2000).

Additionally, Seefeldt et al (2002) found that there were several social and environmental factors that consistently emerged as determinants of physical activity. For ethnic minorities, the main barriers are unaffordable facilities, unavailable childcare, high crime rates, and fear for personal safety. In terms of facilitators, social support from families, peers, communities and healthcare providers were observed as particularly advantageous. Low SES is also associated with parallel barriers and facilitators. Likewise, Giles-Corti and Donovan (2002) also found further verification to support evidence of barriers experienced by people with low SES and further noted that pleasant scenery, open space and a sense of safety were significant predictors of walking for leisurely purposes.

Studies focusing on contextual effects suggest that spatial access to amenities may influence lifestyle behavior. For instance, Troped et al (2001) found that perceived and measured distance to recreational facilities were significantly associated with decreased physical activity levels. Additionally, Hofstetter et al (1990) noted that positive perceptions about the convenience of facilities and neighborhood safety increased physical activity. Inequitable distributions are of concern to investigators due to findings (i.e. Sallis et al, 1990) indicating enhanced access was associated with higher levels of participation in

physical activity regardless of one's socioeconomic status.

In a comparison of individual, social, and physical determinants to physical activity, Giles-Corti and Donovan (2002) found that while physical environments (access to recreational facilities) determined physical activity levels, individual (previous habit of exercising) and social determinants (people to exercise with, participation in team sports) were more significant predictors of physical activity. This finding supports the increasing importance attached to social environments as determinants of health and health behaviors. For instance, Mitchell et al (2000) found that social characteristics, such as being an active participant in one's community, were significant predictors of health. Also, differences in health were most marked among individuals with lower social status (Mitchell et al, 2000). Moreover, Stead et al (2001) explored how established neighborhood characteristics may influence smoking in disadvantaged communities. The study found that likelihood of smoking was increased by social community norms. Cessation of smoking was difficult in a community where most people smoked and smoking was an integral part of life. Studies have associated unhealthy behaviors, such as smoking, with low social capital in a community (Cooper et al, 1999). Social capital is defined as "features of social organization, such as networks, norms and trust that facilitate co-ordination and co-operation for mutual benefit" (Putnam, 1993:167). Although the communities investigated in Stead et al's (2001) study had low social capital in many respects (i.e. sense of safety), they were also high in certain aspects such as neighborliness

and attachment to area. Similarly, this positive aspect of the social environment was parallel to other studies of socially excluded communities (Joseph Rowntree Foundation, 1999). Conclusively, Stead et al (2001) argue that the collective aspects of smoking (sharing, lending and borrowing cigarettes, jointly collecting coupons) provided a means of social support and helped unite people together. These collective aspects combined together to reinforce and promote smoking. Additionally, Stahl et al (2001) found strong evidence for social environments and their influence on lifestyle behavior. The study found that those who perceived low social support from personal environments (i.e. family, friends, school, and workplace) were significantly less likely to partake in physical activities than those reporting high social support.

### **2.6.1 Summary of Empirical Research on Contextual, Compositional, and Collective effects on Health**

Essentially, there is evidence to suggest that contextual, compositional, and collective aspects represent important health effects. There is also evidence to suggest that neighborhood level socioeconomic status has an important influence on health. Economically disadvantaged neighborhoods provide fewer resources and present more constraints to individuals, thus negatively affecting health and health behaviors. Furthermore, studies examining how *perceptions* of neighborhoods are as important to health as the physical environment in which people live were highlighted. For instance, people who perceive an unsafe

neighborhood are less likely to make use of physical surroundings. This underscores the importance of targeting *people* in places as well as the characteristics of *places*.

Strong evidence was also presented linking unhealthy lifestyle behavior and mortality or chronic diseases. Although a majority of individuals may experience barriers to lifestyle change, the contextual, compositional and collective aspects can differentially influence how barriers are experienced by individuals. For instance, an individual living in a neighborhood with high traffic density may perceive that contextual characteristics pose more of a barrier. In this sense, emphasis should be placed on changing the characteristics of *place* to eliminate barrier. Although there is lack of consensus as to which is the most important, policies should target all three levels in order to effectively reduce health inequalities.

## 2.7 Chapter Summary

This chapter began by a discussion of the population health approach and its broad determinants of health. Shifting perspectives on health was characterized by changing directions of strategies in health promotion. The following section placed the geographies of health. In particular, Curtis and Tacket's detailed account highlighted the shift from traditional to contemporary health geography. This research was then placed within the cultural sphere of contemporary health geography. Additionally, there was an examination of the

different social theories (structural functionalism, conflict theory, and symbolic interactionism) that are typically used in medical geography, thus negating the 'atheoretical' assumptions of medical geography. Moreover, this research partially draws on assumptions from the symbolic interactionist framework and assumes that 'place' as a social construct has an important role in the health of individuals.

Also, the theoretical framework that will be employed in this research was identified: contextual, compositional, and collective. Macintyre et al (2002) suggested that place effects research was sorely lacking in conceptualizing and operationalizing of appropriate measurements. For instance, the collective aspects of smoking (i.e. accepted norms for smoking) are also part of the context in which the person resides, hence, it is destructive to treat either as being mutually exclusive. Thus, it is more constructive to combine contextual, compositional, and collective characteristics when analyzing health inequalities. Understanding all three factors will be useful when applied to all four neighborhoods being investigated for this study.

Additionally, three empiric strategies used to study neighborhood effects on health were highlighted. Moreover, this research was situated within the empiric strategy employed by this thesis (e.g. a comparison of a small number of well-defined neighborhoods).

Finally, empirical studies representing contextual, compositional, and collective effects on health were highlighted. Not only are neighborhoods

important to health, but the perceived environment can also significantly influences health and health behaviors. Thematically, the literature around lifestyles and health can be placed within the contextual, compositional, and collective framework. Presumably, lifestyle factors are influenced by the combination of these three factors. Also, there was an exploration of barriers and facilitators to lifestyle change provided in the literature. Existing research posits that characteristics of the contextual and collective environment, as well as the compositional traits of individuals determine the types of barriers expressed by individuals. For instance, an individual residing in low socioeconomic status neighborhoods are likely to perceive more barriers to lifestyle change. Conversely, individuals living in affluent neighborhoods have more opportunities in terms of recreational facilities. Notably, an individual's compositional characteristic (i.e. lack of time) may also pose as a barrier to improving lifestyle. In this sense, both the contextual and compositional characteristics combine to form a barrier to lifestyle change. However, research indicates that people with low socioeconomic status' and ethnic minorities tend to perceive more barriers (contextually, compositionally, and collectively) than their counterparts. Ultimately, existing evidence shows that all three frameworks can present barriers and facilitators to lifestyle change.

## **CHAPTER THREE**

### **COMMUNITY PROFILE: HAMILTON, ONTARIO**

#### **3.0 Introduction**

This chapter provides a community profile of Hamilton, Ontario, Canada and the four study neighborhoods. The chapter commences with a brief summary of the establishment of Hamilton. The historical context explores the spatial class divide incumbent in the region and marks the population growth to illustrate changes in social, economical, and political activities. The development of the steel factories is also discussed to highlight demographic economic trends. The chapter then describes the physical structure of city. Finally, the chapter concludes by detailing the social geography of Hamilton and highlighting the distinct characteristics of the four study neighborhoods.

#### **3.1 The Establishment of Hamilton**

Hamilton was established in 1788 (Gentilcore, 1987). It was considered a mere townsite that made unimpressive economic contributions. It was not until the 1820s (Gentilcore, 1987) that its economic prosperity began to improve and even rivaled the successful markets of the neighboring towns, Dundas and Ancaster. An important factor that helped boost economic activity was the significant numbers of immigrants that began to pour in from 1834 to 1841, increasing the town's population from 1,367 to 3,414 (Gentilcore, 1987). Soon, there was increased importing and exporting of goods and the town attracted a

considerable work force. Furthermore, stove making became a successful contribution to the growing industrial economic base and marked a historical beginning in the linkage of Hamilton with steel manufacturing (Gentilcore, 1987)

Following this economic prosperity, the town shifted its focus on political development and established the Act of Incorporation of 1833 whereby more concrete boundaries were sought to identify the areas on an official map. It was in this political development that the North End and Corktown became distinct from the downtown core, where the town Court House Square and the main market were now located. Corktown was an area with low-income housing that attracted mainly Irish Catholics. This area was considered unpleasant because of the tendency for floods due to its low elevation. The higher income houses developed elsewhere, mainly just below the escarpment, west of the downtown core.

By about 1857, the town had reached a population of 25,000 and had turned into a bustling urban regional center (Gentilcore, 1987). Around this time, some prominent town leaders recognized the need to build railway companies in order to further improve a successful economy. This proved to be a prosperous endeavor and brought more vigorous economic activity to an already successful regional center.

In 1891, the population had doubled to 50,000 and was considered the fourth largest city in Canada until the following century (Gentilcore, 1987). The increase in population led to an increase in manufactured goods, including iron,

nails, tacks, screws, and various machinery. The industrialization and modernization of the city was followed by an apparent class division. The southwestern part of the city below the Mountain was monopolized by upper class homes, and the north end was dominated by working class people that favored the area due to its proximity to factories and railways. These spatial differences according to class and economic status still remain a trait of Hamilton to this present day.

In addition, the inner city areas were experiencing physical deterioration, a change that became evident in the twentieth century. Prior to this time in the late nineteenth century, descriptions of Hamilton were quite favorable, “the city’s economic development in the latter part of the nineteenth century was reflected in the many examples of magnificent commercial, institutional, and residential architectural adornment” (Peace and Burghardt, 1987:290) and “the built environment was...a reflection of the city’s prosperity at the turn of the century” (290). However, despite this prosperity, over the following years, inner city neighborhoods were deteriorating and had a ‘rundown’ appearance.

From the years 1900 to 1911 the industrial market had improved more noticeably and required the increase of labor participation by 107 percent, a rate of growth twice that of Toronto, Ontario (Wood, 1987). This increase accounted for the employment of half of the labor force (Wood, 1987). By 1914, Hamilton was a prosperous industrial city and was characterized by a substantial working class. According to Wood, however, despite its economic prosperity, Hamilton

was sadly lacking in its social conditions because the working class were often poor, unhealthy, and lived in undesirable housing conditions. Furthermore, Wood adds that towards the end of 1938, differences between the rich and the poor were magnified.

Investigators (e.g. Wilkinson, 1996) argue that large gaps between the rich and poor produce an unhealthy society. In other words, the equitable distribution of income is needed to minimize health problems and to provide equal opportunity for the poor working class. Moreover, spatial differences by income groups were also accompanied by a spatial concentration in certain areas of ethnic groups. Thus, people were choosing to live together based on their ethnicity, religion, and language, a trait mainly reserved for poor working class citizens (Wood, 1987). These apparent spatial patterns by income and ethnic or cultural backgrounds inspired studies of the social geography of the city.

Perhaps the most well-known aspect of Hamilton is the steel industry. The late nineteenth to early twentieth centuries were characterized by an immense demand for steel. Anderson (1987) states there are four primary reasons contributing to the prompt demand for steel in Hamilton: first, the building of the railways (the development of Canada's western regions led to increasing demand for railroads and the expansion of the agricultural equipment); second, the federal and local government policies intention to encourage industrialization (for instance, the 'National Policy' of protection established by Prime Minister Macdonald in 1879 freed the blast furnaces and rolling mills of Ontario and

Quebec from competition with larger U.S. industries); third, the provision of cheap electricity; and fourth, the inception of a metals based industrial complex in the Hamilton area.

Subsequently, Hamilton joined a few other regions (Sault Ste Marie, Nova Scotia) as one of the three major steel producing areas. This was primarily due to the ideal physical location of Hamilton, which was situated near the Harbor. This advantageous location facilitated the transport of materials to and from the Great Lakes Region and led to the dominance of Hamilton as the most prominent steel producer. The Steel Company of Canada (Stelco) in 1910 was consequently established in Hamilton. Stelco is both the largest steel producer in Canada and private employer in Hamilton. The Dominion Foundaries and Steel Corporation (Dofasco) was soon after established as the second major steel producer in 1912.

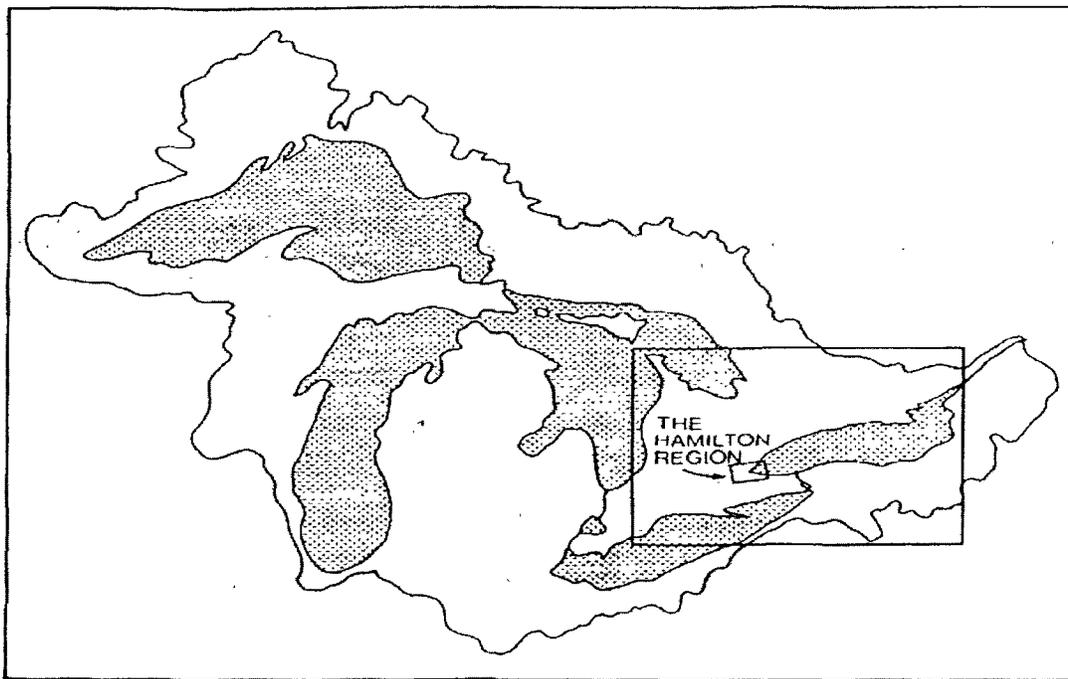
The steel industries experienced stagnation and physical deterioration during the depression years of 1930s. However, the demand for steel increased once more in the 1940s due to the requirement for steel products during the Second World War.

While Hamilton is still the leading producer of steel in Canada, the industry is experiencing declining employment and capacity, not only in Hamilton but throughout North America and Europe (Anderson, 1987). Designed to lower production costs by economizing on fuel, materials, and labor power, the technological development of the iron and steel industry had a direct impact on the labor force and unemployment rate. Currently, Hamilton is responsible for 60

percent of the steel productions throughout Canada and 47 percent world-wide. This is a significant decrease from roughly 70 percent in the 1970s. Much of the economic activity is heavily reliant upon the success of the Hamilton steel industries, however, the steady decline observed in current trends may be damaging to the Hamilton economy.

### 3.2 Community Location

Hamilton is located in the eastern part of the Great Lakes basin, at the head of the lowest of the Great Lakes, Lake Ontario (McCann, 1987) (see Figure 3.1).



**Figure 3.1:** The Great Lakes Basin, showing the location of Hamilton region (McCann 1987)

The physical landscape of Hamilton is characterized by steep, hilly terrain (McCann, 1987). According to McCann, the physical landscape has affected the human occupation of certain areas in two ways: firstly, the physical environment has been instrumental in land settlement, the development of industries, and the advancement of Hamilton as a major city; secondly, the use of the physical landscape as a recreational or cultural resource has also influenced human occupancy (McCann, 1987). The physical landscape of Hamilton has been instrumental in the development of the city. There are two features of the landscape that prominently affect the pattern of human occupancy: the protective natural harbor; and the restrictive mountain barrier. Hamilton's main industries are based on bulky raw materials. The natural harbor has facilitated the transport of raw materials and allowed for the early development of sites along the southern parts of the harbor. This was because the northern side of the harbor blocked access to the waterfront, making the area less ideal for development. Consequently, the city developed on the south side of the bay. Additionally, the flat, low-lying land, with natural creeks in the south side of the bay allowed for early development of harbor and industrial facilities (McCann, 1987). The mountain barrier was largely responsible for averting the extension of the city southwards for roughly a hundred years (McCann, 1987). It was not until 1914 that the expansion of the city eastwards initiated. The westwards expansion was pre-empted by the swampy surface of Chedoke Creek.

Furthermore, the recreational development of the city was greatly enhanced by conservationists (the Hamilton Region Conservation Authority and the Royal Botanical Gardens) that provided public access to various sites including hiking, ski trails, and other recreational sites. Conservation areas are mainly located in the Dundas Valley, the western part of the city. Also located in the western part of the city is Cootes Paradise, which is arranged in a network of trails.

### **3.3 Social Geography of Hamilton**

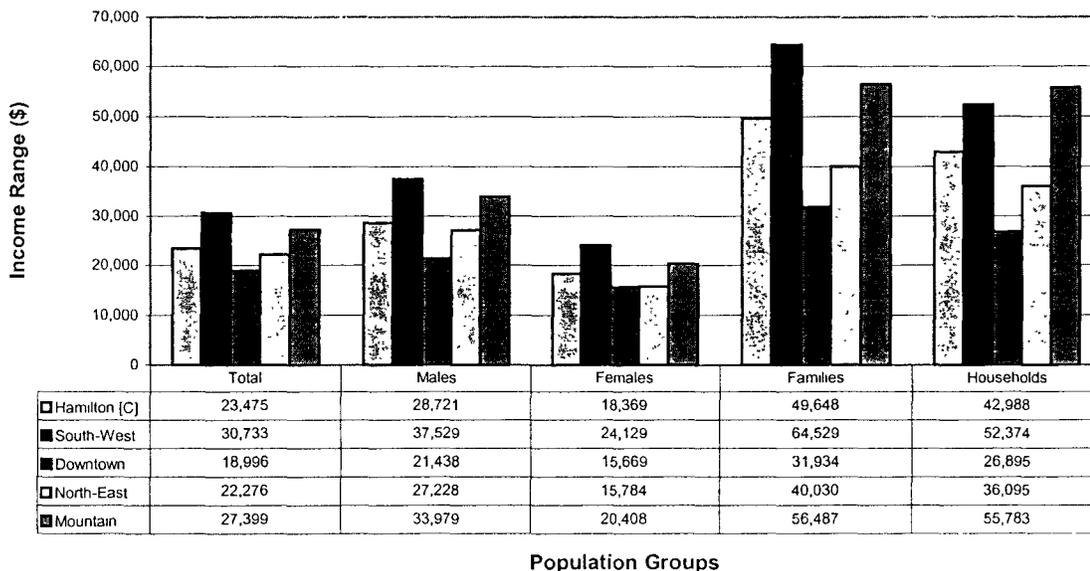
Hamilton is characterized by significant variations in culture, social, and income groups (Lierman, 1996). According to Taylor (1987), these variations show a distinct pattern rather than a random dispersal. For instance, Taylor claims that socioeconomic contrasts in Hamilton are extreme and reveal a clearly discernable pattern. Luginaah et al (2001) agree that socioeconomic status accounted for the most variance in the social structure for Hamilton, with higher status in the west end, and low status along the harbor and industrial areas in the north and northeast sections of the city. Furthermore, resources or amenities in the early part of the twentieth century as well as late nineteenth century were scarce for people living in these lower class neighborhoods. The only available public park in the late nineteenth century located in these areas was the Gore (Taylor, 1987).

A method often used to analyze and interpret this form of spatial patterning or variance is factorial ecology. This approach uses statistical analysis to study social composition of areas (e.g. income status), then interprets and maps the results (Taylor, 1987). The purpose of this approach is to identify spatial commonalities and differences and interpret the results from the emerging social patterns. For instance, factorial ecology may identify the concentration of ethnic groups in the downtown area in Hamilton.

Using factorial ecology, a group of researchers in Hamilton (Taylor, 1987) studied social change for the period 1961-1981. The social characteristics of interest were economic status, family status, and ethnic status. The aim was to determine if there was a spatial pattern in the city of Hamilton according to these social characteristics. The findings showed that by far, socioeconomic status accounted for the most variance in the Hamilton neighborhoods. The west end neighborhoods and the Mountain had high socioeconomic status throughout the period studied. The north and east parts of Hamilton have low socioeconomic status. Many factorial ecology studies on socioeconomic status have found that low status areas are concentrated around environmentally deteriorated locations, such as industrial areas (Taylor, 1987). Thus, it is not surprising that the areas with a high number of industrial companies (i.e. north and east end) correspond with low socioeconomic status.

A more recent examination of the socioeconomic status differences in Hamilton also suggest the same trends and indicates that little has changed over the progression of time. Using data gathered from 1996 census, figures are presented depicting the differential socioeconomic trends (income, education, and unemployment rate) among four distinct neighborhoods (Downtown, Industrial, Mountain, and Aberdeen) (see Chapter 4 for a detailed explanation for selection of the four study neighborhoods). Generally, the Downtown and Industrial neighborhoods tend to have lower income, education, and higher rates of unemployment. Residents of the Downtown neighborhoods have lower average incomes (\$18,996) than the rest of Hamilton (\$23,475) (Figure 3.2).<sup>1</sup>

**Figure 3.2**  
1996 Average Income for the City of Hamilton and Four Selected Neighbourhoods  
 (individuals 15 years of age or older)



<sup>1</sup> All figures were adapted from 1996 National Census and were compiled into a report by the *Determinants of Health at the Local Level* project team on behalf of McMaster University.

Figure 3.3

1996 Education Level for the City of Hamilton and Four Selected Neighbourhoods

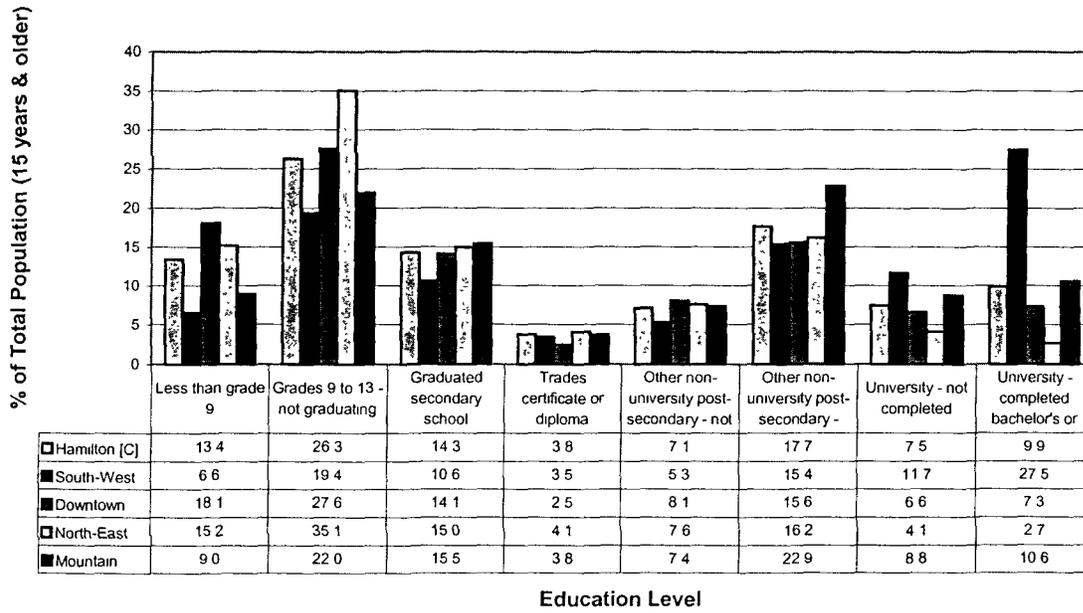
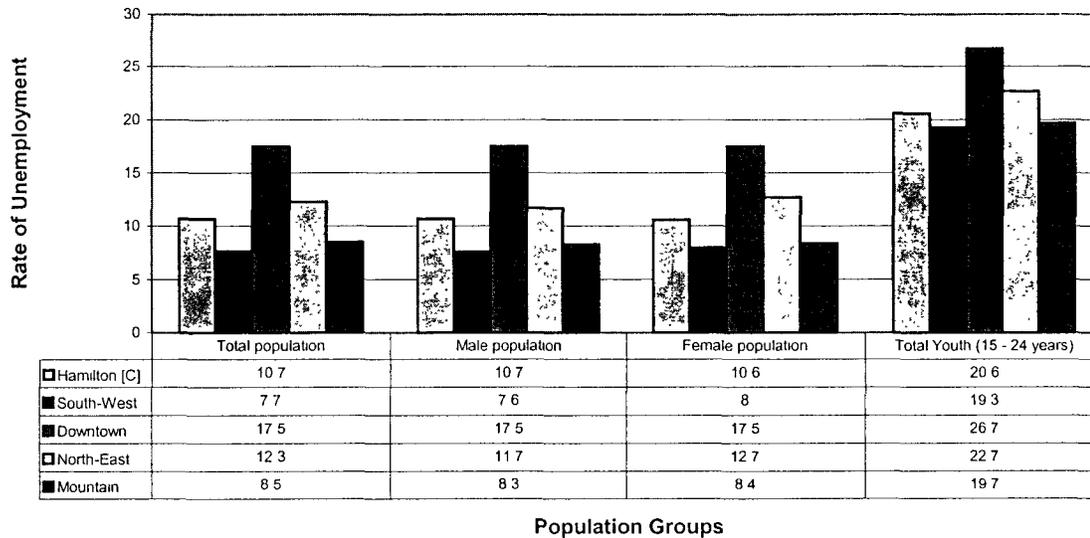


Figure 3.4

**1996 Rate of Unemployment for the City of Hamilton and Four Selected Neighbourhoods  
(15 years of age and older)**



With regards to education, overall, the Downtown neighborhood tends to have lower levels of education than the rest of Hamilton (Figure 3.3). Comparatively, 7.3% of individuals in the Downtown neighborhood have completed a bachelor's degree, compared with 9.9% for the rest of Hamilton. Census data show that the rate of unemployment for the Downtown neighborhood (17.5%) is higher compared to the rest of Hamilton (10.7%) (Figure 3.4). The figures indicate that income and unemployment account for the most significant variance.

Residents of the Industrial neighborhood also have a lower average income (\$22,276) compared to the rest of Hamilton (\$23,475) (Figure 3.2). With regards to education, again, trends show that the Industrial neighborhood tends to have lower levels of education compared with the rest of Hamilton (Figure 3.3). Only 2.7% of individuals completed a bachelor's degree as compared with 9.9% for the rest of the city. Similar to trends in the Downtown neighborhood, the Industrial neighborhood also has higher unemployment rates (10.7%) than the rest of Hamilton (12.3%) (Figure 3.4). The figures indicate that education significantly accounts for the observed variance across the city.

Collectively, the Mountain neighborhood tends to have higher incomes (\$27,399, which is \$12,795 higher than rest of city) (Figure 3.2), education (10.6%) (Figure 3.3), and lower unemployment rates (8.5%) (Figure 3.4). Briefly, the Aberdeen neighborhood has higher income (\$30,733) (Figure 3.2), education (27.5%) (Figure 3.3), and lower unemployment rates (7.7%) (Figure 3.4). The figures for the Aberdeen neighborhood indicate education levels account for the most significant variance.

Possible rationales for the higher unemployment rates in the Downtown and Industrial neighborhoods may be due to the general nature of businesses found in these areas. For instance, 1996 census data shows that the economically disadvantaged neighborhoods tended to have industrial divisions with a high turn over rate (manufacturing and retail). Comparatively, although the Mountain neighborhood was generally comparable to the rest of the city, the Aberdeen

neighborhood has industries that remain invariable with typically low unemployment rates (health and social services, educational services).

Generally, with regards to family status, families tend to avoid business and inner city areas and show a preference for suburban neighborhoods. In particular to Hamilton, there is a high concentration of immigrants in the north and east ends of the city (Taylor, 1987; Luginaah, 2001). Taylor asserts the reason for this concentration is because inner city areas tend to have affordable housing and access to low paying jobs, which appeal to low income immigrant groups.

Luginaah et al (2001) argue the city of Hamilton provides a useful case study because the geographical development has affected its neighborhood development, whereby certain areas were deliberately chosen for development at different times for economic and social purposes. This selective development essentially led to vast differences in neighborhood characteristics and shaped the economic structures of the neighborhoods (Luginaah et al, 2001).

Furthermore, based on the above information of spatial differences, particularly income and ethnicity, it is not surprising that Hamilton would provide a useful case example. Peace and Burghardt (1987) appropriately describe these spatial variations and say that “in some ways it is a schizophrenic city” (298) to illustrate how vastly different one area is from the other. In summation, the spatial differences between the rich and the poor are obvious patterns that should warrant more in-depth examinations of the consequences of living in the low-

income areas. Also, since the premise of this research generally accepts that environments and other well-known determinants of health (e.g. socioeconomic status, ethnicity) have a profound affect on population or individual health, it is prudent to view health differences in a diverse city such as Hamilton.

### **3.4 Chapter Summary**

This chapter has provided a community profile of Hamilton. The profile chronicles historical, economical, political, and social trends incumbent within the city of Hamilton. The chapter also characterizes the driving force of Hamilton's economy, the steel factories, and their inception. Finally, using 1996 census information, this chapter detailed the income, education, and employment patterns of each of the four study neighborhoods.

## **CHAPTER FOUR**

### **STUDY DESIGN AND METHODS**

#### **4.0 Introduction**

This chapter presents the study design and methodology employed for data analysis. The chapter begins by providing a brief overview of the larger research project, *Deconstructing the Determinants of Health at the Local Level in Hamilton*, of which this thesis is a component. The chapter then outlines the study design (parallel case study) and provides a rationale for the use of qualitative techniques. Additionally, the chapter describes the setting, sampling techniques, and data collection procedures. Finally, the chapter summarizes the data analysis and interpretation protocol and outlines the use of qualitative computer software to facilitate the analysis.

#### **4.1 Deconstructing the Determinants of Health at the Local Level in Hamilton**

This thesis is one component of an on-going research project, *Deconstructing the Determinants of Health at the Local Level in Hamilton*. A survey was undertaken in four zones in Hamilton (Downtown, Industrial, Mountain, and Chedoke/Aberdeen). Using a combination of statistical configurations (i.e. factorial ecology), neighborhoods were selected based on socioeconomic variables, demographic information, and other risk factors such as smoking

(information for smoking was gathered from a random survey of adults aged 20-24) in order to represent well-known determinants of health (Wilkinson, 1996; Jerrett et al 1998; Birch et al, 2000)). The use of data compiled from 1996 Census Canada supplanted information gathered from factorial ecology and revealed a city diverse in socioeconomic status (Luginaah et al, 2001). Also, Luginaah et al (2001) note that census tract divisions may not correspond to residents' perceptions of neighborhood boundaries, but they also add that census tracts "...are used as the smallest geographic units for which adequate count data are available for computing mortality statistics."

Table 4.1 depicts the characterizations of the study neighborhoods adapted from the health survey. The characterizations showed there were significant economic, demographic, and social diversity among the four study neighborhoods (Table 4.1).

**Table 4.1**

	<b>Income</b>	<b>Education</b>	<b>Unemployment</b>	<b>Recent Immigration</b>
Chedoke-Kirekendall	<b>High</b>	High	Low	Many
Central Downtown	Low	Low	High	Many
Northeast Industrial	Low	Low	High	Few
Southwest Mountain	High	<b>High</b>	Low	Few

**Source: Keller-Olaman, 2004**

In addition to standard questions from health surveys, a total of 1,500 respondents were asked questions about health status, lifestyle behaviors, social networks, and demographic questions, including age, education, occupation or whether they were out of the workforce. Questions were also asked designed to

elicit information about the physical structure of the neighborhoods (i.e. disrepair, age of dwellings, etc).

#### 4.2 Study Design

This research employs a parallel case study design. Yin (1994) argues that case studies are effective research tools for qualitative research. While a few different research strategies may be used to answer unquantifiable inquiries such as “why” or “how”, investigators generally agree that the case study is the preferred research strategy (Miles and Huberman, 1994; Yin, 1994). In addition to focusing on the “how’s” and “why’s”, case studies are most suitable to this research for the two following reasons: it does not require control over behavioral events such as the experimental method; and it requires a focus on contemporary events, unlike the historical method (Yin, 1994).

Qualitative researchers often grapple with defining the actual ‘case’. Miles and Huberman (1994) state the ‘case’ is the actual phenomenon occurring in a bounded context. The context may include the sample, setting, or any other concepts that are useful tools in addressing the research questions. The case is the unit of analysis. Stake (1994) considers the ‘case’ as the *object of study* and not a generality (e.g. policy). Yin (1994) further specifies that a case:

“Investigates a contemporary phenomenon within its real-life context, especially when the boundaries between a phenomenon and context are not clearly evident” (13).

Regardless of differing perspectives, investigators concur that case studies are an exploration of a *bounded system* (i.e. time, place, events, individuals, organizations) (Creswell, 1998; Stake, 1994; Miles and Huberman, 1994; Yin, 1994)

Cases may be parallel or “multi-site” (Creswell, 1998: 61). Miles and Huberman (1994) argue that multiple cases offer researchers a more richer, and deeper understanding of the processes and outcomes of cases, the chance to test hypotheses, and a clearer insight into the processes of causality.

Given this information, each of the four study neighborhoods constitutes a ‘case’. The multiple (or parallel) cases will provide a basis for comparison *within* and *across* the neighborhoods. Often, investigators may select cases that illustrate differing perspectives and a variety of characteristics. However, some investigators select cases that are accessible or unusual (Creswell, 1998). Furthermore, Creswell adds that researchers typically choose no more than four cases. Researchers that choose a substantial number of cases do so to allow for generalizability – “...a term that holds little meaning for most qualitative researchers.” (Creswell, 1998:63).

Relatedly, common concerns regarding case studies are observed in its limited capacity to provide scientific generalizations. However, Yin (1994) asserts that case studies are generalizable to “theoretical propositions and not to populations or universes” (10). Thus, the purpose of case studies is to make theoretical generalizations, rather than statistical ones. Consequently, the issue of

generalizability becomes less salient for qualitative researchers. Rather, qualitative investigators are concerned with ‘transferability’ or ‘applicability’ (Guba and Lincoln, 1989; Koch, 1994). Guba and Lincoln use the term ‘fittingness’ to describe the degree of similarity between two (or more) contexts. The criteria for fittingness is met when: “...its findings can ‘fit’ into contexts outside the study situation and when its audience views its findings as meaningful and applicable in terms of their own experiences.” (Koch, 1994:977). Additionally, Schofield (2002) reports that transferability is when the unit of analysis, concepts, population characteristics, and settings are adequately defined and described in order for other investigators to use findings as basis for comparison. In this sense, the aim of this thesis is to provide conceptual linkages in which main findings are ‘transferred’ to other larger theoretical themes.

#### **4.3 The Value of Qualitative Techniques**

Qualitative methods have increasingly been accepted as relevant to scientific inquiry (Creswell, 1998; Crabtree and Miller, 1999). Marshall and Rossman (1989) argue that the “strength of the qualitative study that aims to explore a problem or describe a setting, a process, a social group, or a pattern of interaction will be its validity.” (145)

Qualitative techniques seek to interpret reality in order to understand how people create meaning in their lives (Eyles, 1988). Conversely, quantitative strategies attempt to establish a relationship between well-defined variables

(Creswell, 2003). However, the complexity of the relationships cannot easily be established through statistical analysis. Thus, qualitative strategies are needed to understand the intricacy of related variables (Hammersley and Atkinson, 1982).

This research employs both inductive and deductive approaches to analyze emerging themes. Inductive approaches are often useful in exploratory research and are commonly associated with grounded theory (Dey, 1999). The primary intent of grounded theory is to discover or generate a theory closely related to the context or phenomenon being studied (Creswell, 1998). Alternatively, deductive approaches are typically used when there is extensive prior knowledge on the topic of inquiry. Employment of both approaches are becoming increasingly common in research (Miles and Huberman, 1994).

Moreover, the qualitative features of this research both build and draw upon the original survey. The survey was instrumental in identifying the neighborhood characteristics, but was limited in addressing the “how’s” and “why’s”. Alternatively, Yin suggests that surveys are “advantageous when the research goal is to describe the incidence or prevalence of a phenomenon or when it is to be predictive about certain outcomes” (6). Relatedly, researchers have increasingly turned to mixed methods to expand the scope and improve the validity, reliability, and transferability of scientific knowledge (Creswell, 2003; Sandelowski, 2000). Therefore, employing a qualitative technique is not only complementary to the quantitative survey but may also address gaps observed in the original survey.

Qualitative research has often been criticized for lacking rigor, transferability, and dependability, therefore being invalid as a form of scientific inquiry (Koch, 1994; Sandelowski, 1993; Schofield, 2002). However, Elliott, (1999) argues qualitative research is more suitable to capturing the essence of certain phenomenon that is otherwise unanswerable by a quantitative approach. For instance, Berg (1998) delineates qualitative and quantitative techniques and notes that qualitative researchers are more focused on the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things. Thus, “qualitative procedures provide a means of accessing unquantifiable facts about the actual people researchers observe and talk to, [and] as a result, qualitative techniques allow researchers to share in the understandings and perceptions of others and to explore how people structure and give meanings to their daily lives” (Berg, 1998:7).

#### **4.4 Setting**

The setting for this research is the city of Hamilton. Four neighborhoods were selected based on distinct characteristics (see Table 4.2) to compare differences and similarities: the Mountain; Kirkendall/Aberdeen/Chedoke (southwest); the Industrial area (northeast); and the Downtown core (Figure 4.1). The four neighborhoods were chosen to allow for maximum variation (i.e. documenting diverse variations by identifying discrepancies and commonalities) of distinct characteristics (Table 4.2). Additionally, the neighborhoods were

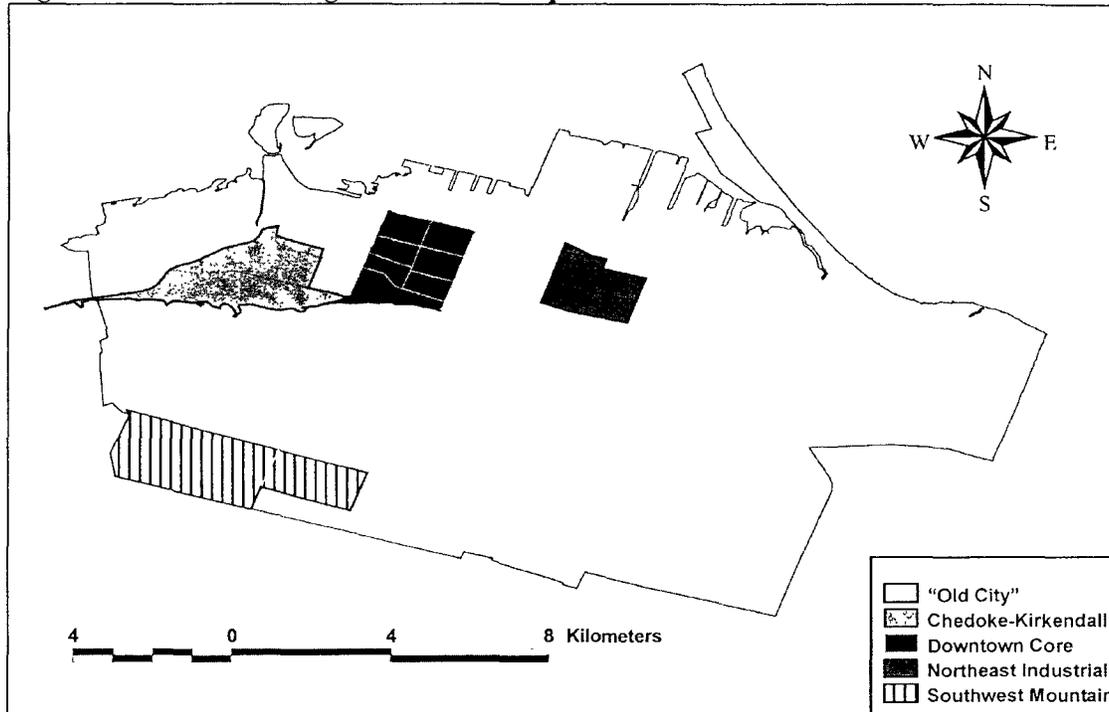
selected in order to represent well-known determinants of health (e.g. socioeconomic status). Table 4.2 shows that the Aberdeen and Downtown neighborhood have high diversity (e.g. high *and* low socioeconomic status), whereas the Northeast Industrial and the Mountain have low diversity.

**Table 4.2:** Characteristics of neighborhoods in Hamilton, Ontario

Neighborhood (1996 census population)	Characteristics
Downtown Core Low income High diversity	High proportion of recent immigrants and a non-English or French speaking population, high levels of mobility, low levels of education and income, high unemployment, and a high proportion of visible minorities
Northeast Industrial Low income Low diversity	Lies adjacent to the city's industrial area, contains a low recent immigrant population, low levels of education and income, fairly high unemployment, and a small visible minority population
Chedoke-Kirkendall High income High diversity	Moderately high proportion of recent immigrants, a mainly English or French speaking population, high levels of education and income, low unemployment, a moderate visible minority population presence, and high income inequality
Southwest Mountain High income Low diversity	Located within a rapidly expanding suburban location, fewer recent immigrants, high education and income levels, low unemployment, and a large visible minority population most of whom are able to speak either English or French

Source: (Wilson et al, 2004) Information for neighborhood characteristics was taken from 1996 census.

**Figure 4.1: Selected neighborhoods for qualitative interviews**



The precise definition of a *neighborhood* or rather the definition of the geographic area whose characteristics may be relevant to specific health outcomes is difficult to delineate. Research requires the precise definitions of neighborhoods in order to accurately link health to either individual or area level attributes (Diez Roux, 2001).

Luginaah et al (2001) suggests a few defining characteristics typically associated with definitions of neighborhoods, including, the area, common ties, and social interaction. Although the unique characteristics of a particular area may be well recognized, there is a lack of consensus when trying to define the physical boundaries. According to Luginaah et al (2001), researchers often resort

to intuitive and theoretical conceptualizations of the boundaries when empirical evidence becomes ambiguous.

Coulton et al (2001) have expressed the need to use residents' opinions to define neighborhoods for researchers. They argue that the reliance on census-based definitions of neighborhoods may bias the results. Furthermore, while census-based definitions have been very useful due to information on crime, housing values, and other administrative data in specific areas, Coulton et al, (2001) suggest that mapping areas based on people's perception of neighborhood provide more meaningful and relevant settings that are more representative of the actual neighborhood context. Often, quantitative analyses observing multiple geographical areas tend to be limited in their capacity to correspond to the theoretically relevant area (Diez Roux, 2001; Coulton et al, 2001).

#### **4.5 The Sample**

Miles and Huberman (1994) offer some basic features of qualitative sampling. Firstly, it is generally known that qualitative researchers use a small sample. This is in order to gain an in-depth understanding of the subjects, rather than to formulate larger generalizations. Qualitative studies are theory-driven and aim to generate larger theoretical connections based on emerging themes. Consequently, "the most useful generalizations from qualitative studies are *analytic*, not "sample-to-population" (Miles and Huberman, 1994:28). Thus, the primary intent of qualitative research is not to select a representative sample, but

rather to enhance understanding of certain phenomena. Secondly, in qualitative research, the sample is chosen purposefully, rather than randomly, which is typically a quantitative strategy. Sampling is selected with the purpose of understanding and addressing certain issues, and striving for information richness (Crabtree and Miller, 1999). Furthermore, sampling is purposive because social processes have a certain logic and coherence that is made more difficult to decipher and interpret when there is random selection (Miles and Huberman, 1994).

The sample for this study was purposefully derived from the *Deconstructing the Determinants of Health at the Local Level in Hamilton* Survey. The sample consists of people between the ages 18 to 64 to allow for maximum variation. Prior to the collection of data for the survey, individuals were asked if they would like to participate in any future research with McMaster University. A letter of consent was collected from the individuals who had previously given permission for their future participation. Subsequently, an introductory letter for the qualitative follow-up was sent to respondents who indicated desire to participate, informing household members of the research project and the upcoming telephone call they would receive from the investigator. Participants were also reassured of the strict adherence to privacy and were informed of the preference for face-to-face interviews.

In addition, snowball sampling was used towards the last phase of the interview process to ensure saturation of themes. Snowball sampling occurs when

individuals are asked to identify cases of interest from people who know what cases are information rich (Miles and Huberman, 1994; Patton, 1990). Thus, based on a referral method, the researcher moves from one recommended person to another.

#### **4.6 Data Collection Procedures**

The main source of data collection for this study was individual interviews. An interview schedule was developed using the previous survey as a guide (See Appendix A). The qualitative interviewing process assumes that the perspectives of others are “meaningful, knowable, and able to be made explicit” (Patton, 1990:278). This study used a standardized open-ended method (Patton, 1990), also known as a semi-structured approach. This type of interviewing is guided with an interview schedule, and has three main advantages (Patton, 1990):

- The exact instrument or method used in the original evaluation is available for examination by various interest groups, such as relevant decision-makers;
- The variations among interviewing styles are minimized in cases where there are many interviewers for one study, making the evaluation or interpretation less difficult;
- Finally, given the highly focused nature of these types of interviews, the time of the interviewee is efficiently used.

There were 40 interviews, (n=10 per neighborhood) with 5 men, and 5 women from each neighborhood. Data were collected to allow for saturation. Saturation is defined as the state where there are no new reoccurring themes emerging from the data (Creswell, 1998). The interviews were approximately 30-45 minutes. All interviews were taped and transcribed for subsequent thematic analysis. All respondents were given pseudonyms to maintain privacy and confidentiality.

#### **4.7 Data Analysis**

The interviews were transcribed verbatim and loaded into a qualitative computer software (N.VIVO) for data management. Richards and Richards (1992) indicate that using computer software allows for more complete and easily retrievable information. Also, they add that the use of computer software facilitates the credibility and validity of the analysis. Additionally, without proper data management, there is a tendency to miscode, mislabel, mislink, and mislay important information (Miles and Huberman, 1994). Coding for this study was guided by the research objectives and interview schedule (See Appendix B for a list of the thematic codes. Members of the research team were involved in reviewing the coding process to enhance agreement and strengthen the credibility of linkages between observed themes.

This research employed a within case and cross-case analysis to facilitate the comparison of emerging themes. A within case analysis is made by analyzing

information gathered within each neighborhood; for instance, the data gathered from the respondents in the Industrial neighborhood was synthesized and themes were generated for this particular area. A cross-case analysis was made by comparing the information gathered across all four neighborhoods; for instance, the information gathered from the Industrial neighborhood was compared to all three remaining neighborhoods and themes were subsequently generated. Where appropriate, the results of the analyses are displayed in table formats to organize data.

#### **4.8 Chapter Summary**

This chapter provided the study design and methodology utilized in this research. The chapter opened by a brief synopsis of the larger research project, *Deconstructing the Determinants of Health at the Local Level*, of which this study is one part. The chapter then detailed the use of parallel case study approach to effectively compare and contrast emerging themes. This was followed by a discussion of the value of qualitative techniques. The chapter then described the setting, sampling strategies, and the use of individual interviews for data gathering. The chapter concluded by discussing data analysis and the use of NVIVO as a qualitative analysis software.

## **CHAPTER FIVE**

### **RESULTS**

#### **5.0 Introduction**

This chapter reports the results of the analysis of the key informant interviews conducted across four neighborhoods in Hamilton, ON. The results are organized around the three research objectives;

- To explore individuals' perception of neighbourhood.
- To document perceived meanings of health.
- To investigate (individual and neighbourhood level) facilitators and barriers to healthy lifestyle.

Within each section, major themes are highlighted (Perception and definition of neighborhood, perception of health, and so on). Where appropriate, tables are used to illustrate the frequency of reporting of major theme codes. These data are punctuated by direct quotations taken from the interview transcripts.

#### **5.1 Perception of Neighborhood**

When asked to describe their neighborhoods more generally, respondents provided a range of positive and negative responses (Table 5.1).

**Table 5.1**  
**Description of Community**

Descriptors of Community	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Positive Descriptions</b>		
Strong social network (nice people)	22 (23)	17 (43)
Quiet	17 (18)	12 (30)
Family oriented	8 (9)	6 (15)
Sense of place	10 (11)	6 (15)
Sense of trust	5 (5)	5 (13)
<b>Negative Descriptions</b>		
Social isolation	16 (17)	10 (25)
Sense of distrust	8 (9)	7 (18)
Noisy	8 (9)	6 (15)

43% of respondents described the strong social network in their neighborhood:

“Neighbors are excellent. They are very friendly, kind and considerate. I actually consider us friends with most of the neighbors. They all take an active interest in their house so they are not just living there letting their grass grow. They continue to improve upon the appearance of their house.” (Ian, Mountain)

Respondents reporting a strong social network were mostly residents in the Mountain and Aberdeen neighborhoods:

“We socialize quite often. We let go. We drink. We sing. We dance. We party. Therefore, my blue box might be more inclined to have more empty wine bottles. The fact is, we entertain people a lot. We like to entertain and we entertain. And that’s part of staying healthy.” (Roy, Mountain)

By contrast, 25% of respondents reported there was a sense of social isolation in their neighborhood; these were all from the Downtown and Industrial neighborhoods.

“We never see each other, so we don’t know each other. I’m gone all day, so you know your neighbors to say “hi”, but that’s about all you know about each other. (Susan, Industrial)

“I’m not involved with anything right in my community. I’m not involved with any programs.” (Sheila, Downtown)

“People are more closed in and they are not seeing what goes on around them. I mean, for instance, the next door neighbor had his van stolen twice and no one around here saw what happened. I mean, that’s kind of sad really when you see all the neighbors around and no one sees a van stolen twice. (James, Industrial)

Almost one third of respondents described their neighborhood as being quiet:

“As I said, the neighborhood is very, very quiet and very peaceful. I could leave my garage door (and have by error) open all night and nothing would be stolen. My van would be unlocked. Nothing would be stolen. Thank my lucky stars. I would credit the neighborhood. Very little police presence here, very little.” (Dan, Mountain)

Respondents describing their neighborhood in this manner were primarily from the Mountain neighborhood (n=8).

Respondents reporting a strong sense of place (Table 5.1) were all from the Industrial neighborhood:

“This is a neighborhood that is older and lot of the people have been here for years. So [there are] a lot of the people you know. My mother-in-law grew up with them. I think this is a neighborhood where a lot of people come back to their roots.” (Brad, Industrial)

“It’s friendly, down to earth, nobody feels better than anybody else. People accept their own place and help each other. [It is a] form of community. [The people are] comfortable, just comfortable. They are not rich. They are not - they don’t outdo each other. They are more or less close to my age ... around the corner you have the younger rowdy ones, but they stick to their own turf.” (Cory, Industrial)

While few respondents described a sense of distrust in their neighborhood, those that did were concentrated in the Downtown neighborhood. A feeling of distrust was inextricably linked with safety concerns:

“[There are] people that look fairly threatening and...not actively threatening... sometimes you do see people from the Wellesley Center that are coming across the clearing that are obviously out of their mind or on bad drugs or both or that are doing the things that are physically alarming. But it’s not a constant state. You do see people like, for instance, by their dress and the way they walk and look that can tell that they are potentially threatening people.” (Sally, Downtown)

“Unfortunately, even though the police did their best I did have my apartment broken into and I know it was [the neighbors] that did it but you don't have any proof. It's just that because they lived at the back and they lived up on the top floor, they were aware of anybody's going and comings. And I just think - I know they did it. The police can't prove it, but I had my apartment broken into and I was very upset. So that situation about 7 years ago with these people who were drug pushers - they are not there anymore. I am aware that they are substantially in the community but I do believe with the police program that they have, that I don't see that it's as prominent. As long as they are not near me.” (Sheila, Downtown)

### **5.1.1 Likes and Dislikes about Neighborhood**

Respondents were asked what they liked about their neighborhoods (Table 5.2).

**Table 5.2**  
**Reported Neighborhood Likes**

Neighborhood Characteristics	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
Access to amenities	50 (54)	33 (83)
Diversity	14 (15)	5 (13)
Sense of community	13 (14)	10 (25)
Affordable	12 (13)	8 (20)
Peaceful	4 (4)	4 (10)

The majority of respondents (83%) reported access to amenities as the primary neighborhood characteristic they liked.

“I love everything. I love that there's [stores]- to be able to shop. I love that the gym is close. I love that there is Zarky's on Dundurn, the beer store, and liquor store on Dundurn. Everything is [close] to the highway. I love the Fortino Plaza. I can walk everywhere. I don't need my car. I love the fact that I can walk to work.” (Jennifer, Aberdeen)

“Everything is accessible so I chose it for that reason - that I could walk everywhere. I don't have a car so I am close to the banks, close to my physio, doctor etc. Everything is in this area, the library, downtown, the market. So I can do my shopping and I can go to the doctor, my bank, and everything within a 10 minute walk.” (Anna, Downtown)

Those less likely to report access to amenities as a neighborhood like were residents of the Mountain neighborhood:

“Not [convenient]...you need a car” (Cindy, Mountain)

25% of respondents reported they liked the sense of community in their neighborhood:

“I like the sense of community that I have created for myself here. I like the level of community and the community involvement that can happen if you chose to have it happen. I like the area. I feel safe here. I find the services I need. I find the sense of involvement

and engagement that I need. It's quite acceptable to me. (Karen, Downtown)

As Karen indicates above, the level of social interaction among neighbors is an essential component of sense of community.

Of those mentioning sense of community, half were from the Mountain neighborhood, and only one from the Industrial neighborhood. Therefore, there seems to be a stronger sense of community in the more affluent neighborhoods:

“The one thing that I like the best about this neighborhood right now is actually the neighbors because I think there is a lot of respect amongst everybody who lives in the neighborhood toward each other.” (Katie, Mountain)

While affordability was only mentioned by eight respondents, it is important to note that these individuals were concentrated in the Downtown and Industrial neighborhoods:

“I like the fact that I can afford it but it’s really a last measure. I only do it because I can’t afford to live elsewhere.” (Sally, Downtown)

“The reason I moved down to this end is because houses are lower in price. It is very affordable.” (Cory, Industrial)

Affordability was not an issue for all respondents in the Downtown and Industrial neighborhoods:

“I have money to be able to access things that I want to do. I can go to the [art] show. I can go to restaurants. I can go sit in a bar with some of my friends and drink and have fun and this sort of thing. There are people who are living below the poverty line in this area/in this building who can't do that. There are people who are living in this building who are Muslim who can't speak English and who, I know, probably do not consider this a particularly healthy neighborhood because they are limited in their choices

by inability to speak the language, lack of financial resources” (Karen, Downtown)

Respondents were asked to describe neighborhood dislikes (Table 5.3).

**Table 5.3**

**Reported Neighborhood Dislikes**

Neighborhood Characteristics	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
Noise and traffic	22 (40)	14 (35)
Nothing	12 (22)	12 (30)
Pollution	9 (16)	7 (18)
Drugs and bars	6 (11)	5 (13)
Rundown appearance	6 (11)	4 (10)

Noise and traffic was the most frequently mentioned neighborhood dislike

(Table 5.3):

“Traffic on Aberdeen can be a little bit noisy...the noise level I think probably would be the main thing.” (Nancy, Aberdeen)

Residents from the Downtown and Industrial neighborhoods were more

likely to report noise and traffic as a dislike in the neighborhood:

“There is a tremendous number of transport trucks that go up and down this access coming up from Stelco and Dofasco. It's phenomenal, especially during the night. You hear them during the daytime but at night time they are just trucking up there all the time. So that's my [problem]. (Sheila, Downtown)

It is important to note that almost one third of respondents reported disliking nothing about their neighborhood (Table 5.3).

“There’s not really anything that I don’t like. The only thing that I don’t like about the neighborhood, really, is the stoplights down at Dundurn and Main. They’re terrible. They’re far too short for people to cross. But other than that, I’ve always liked it here...when I moved out on my own I wanted to live in this area.” (Diane, Aberdeen)

“[There is] nothing really [I dislike]. Sometimes it can be quite busy in the summertime with so many kids, but other than that, we are happy. Other than the fact that my husband doesn't like the fact that the homes are maybe too close together. But that's about it.” (Connie, Mountain)

Not surprisingly, most of the respondents that reported disliking nothing were residents of the Mountain and Aberdeen neighborhoods.

While only seven of the respondents reported pollution as a neighborhood dislike (Table 5.3), they were concentrated in the Downtown and Industrial neighborhoods.

“If I have the windows open in the summertime/spring/summer/fall, that kind of thing, I could probably dust three times a day if I was an addict about it just because you dust and then 2-3-4 hours later you can see a bit of the level of dust. And God knows what pollutants are in that sort of thing, but hey, when you live in downtown Hamilton, what do you expect.” (Karen, Downtown)

“And it is also physically noisy and dirty, stinky. All the garbage on the streets is just incredible. You have to be out there to clean it up daily. It is brought along by traffic. It’s hard to sleep well. You have to sleep back in the house and in the front room you can’t sleep because of the noise around the clock.” (Sally, Downtown)

Of those reporting pollution as a dislike, 71% (n=5) were concentrated in the Industrial neighborhoods:

“The nearness of the factories, that’s another thing because sometimes you can step out the door and you can smell the sulphur in the air. It smells really bad. It smells like rotten fish or rotten eggs. It smells really bad.” (James, Industrial)

Similarly, reported dislikes related to drugs and bars were concerns expressed only by residents in the Downtown and Industrial neighborhoods:

“Sometimes some of the drawbacks when you live downtown there are often lots of bars and restaurants and of course they close late at night and you get people coming out of the bars at three o'clock in the morning and sometimes they are yelling and screaming” (Karen, Downtown)

“Our house backs on to [street, and] we have a lot of drug use in the area - a lot of drinking. It's just a very run down area right now.” (Susan, Industrial)

Overall, the majority of respondents (85%) were generally satisfied with their neighborhood:

“I have some really good neighbors. I've gotten to know a lot of people around the area really well. And Locke Street has really changed over the years and has become, you know, a really interesting area, so I really love the fact that there's lots of things I can do, just walking around the corner basically.” (Lindsay, Aberdeen)

Respondents expressing dissatisfaction were concentrated in the Downtown (n=3) and Industrial neighborhoods (n=3)

“It's a vicious circle you know of dirt, and noise, and poverty, and dilapidated appearance that draws the wrong elements to this neighborhood and that prevents the better elements from coming here. Like I said, I am only here because I can't afford to be elsewhere and that would apply to most people here, except for the ones that first established here before the area degenerated...the issues of homelessness and crime are linked.” (Sally, Downtown)

“There's so many different things, the garbage, the neighbors, I mean, you've got the older teenagers that hang out and they drink right on the corners.” (James, Industrial)

## 5.2 Perceptions of Health

When asked to generally describe their health, respondents reported their health as being ‘good’ or ‘not good’ (Table 5.4).

**Table 5.4**  
**Description of Health Status**

Self-Rated Health	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Good</b>	<b>39 (37)</b>	<b>32 (80)</b>
Infrequent illnesses	21 (20)	18 (40)
Maintain healthy lifestyle	20 (19)	18 (40)
<b>Not Good</b>	<b>15 (14)</b>	<b>8 (20)</b>
General emotional and physical health problems	11 (10)	8 (20)

The majority of respondents (80%) perceived their health as being good (Table 5.4). Respondents in this category attributed infrequent illnesses and healthy lifestyles to their perceived health status:

“I’m sick far less often than most people -- my siblings, people that I work with. I think I just eat a lot better than a lot of people do. So, but, overall, I’m very rarely sick...I don’t remember the last time I had the flu. Over the winter, I only had one cold.” (Diane, Aberdeen)

Respondents describing their health as being good because of a healthy lifestyle were primarily in the Mountain (n=8) and Aberdeen (n=7) neighborhoods:

“Well, I’m 55 years old and I feel like 25. I am very active. I have done a lot of athletics in my lifetime and I still maintain a desire to do so - on a limited basis. Whereas I used to run a lot - marathon running - I have become more of a golfer now. So I can walk around or take a cart around the course. But I keep active.” (Roy, Mountain)

“I keep an exercise regime. I look at people who started working with 25 some odd years ago. A lot of them look really old. I think because I am active I don’t feel as old as I am.” (Sue, Mountain)

“Because I work out at least three times a week. I try to eat right even though I don't. And I try to not drink too much alcohol. Overall, I feel great compared to a lot of people my age/a lot of my friends.” (Jennifer, Aberdeen)

Respondents perceiving their health as ‘not good’ referred to general emotional and physical health problems (Table 5.4):

“I am 45 years old but I am experiencing lots of aches and pains and that kind of thing and feeling tired but that could be directly related to life, you know. It can be tiring certainly. The aches and pains that could be directly related to age.” (Ester, Industrial)

“My nerves are bad. I am on medical disability right now. It seems to be generally acknowledged that I have an adaptive disorder. I am going to be going for cognitive behavioral therapy in the fall. I have been seen by psychologists and psychiatrists to try to distinguish why it is that I find it so difficult to deal with this environment.” (Sally, Downtown)

Those more likely to perceive their health as ‘not good’ were residents of the Downtown (n=5) and Industrial (n=3) neighborhoods:

“My health is fair to poor. I have had 2 heart attacks...and I have diabetes.” (Cory, Industrial)

Respondents were asked what they perceived as key determinants of health (Table 5.5).

**Table 5.5**  
**Determinants of Health**

Determinants of Health	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
Lifestyle	45 (34)	32 (80)
Holistic	32 (24)	25 (63)
Environment	18 (14)	13 (33)
Social network	13 (10)	10 (25)
Positive mental health (i.e. optimistic attitude)	19 (15)	9 (23)
Genetics	4 (31)	4 (10)

Lifestyle factors was the most frequently reported (80%) (Table 5.5):

“You want to maintain your health by keeping fit physically, incorporating an exercising program - walking, water exercises, going to the gym, or whatever you can do to make it work for you. It's important to do that. You have to change your thoughts and take the time to make yourself number one and important. To go out there and walk and to commit because no one else can do it for you unless you do it for yourself.”  
(Sheila, Downtown)

63% of respondents also described the importance of viewing health in holistic

terms:

“I guess the overall outlook on life. I mean if you are going to be depressed all the time then it's going to - if you are eating all the good things in the world but if you are really depressed it could work on your psyche so I think you kind of have to have a pretty good balance and how you are thinking up here. You can be a little bit down but you can't let it drag you down. You know. So I think basically you have to have a good outlook on life. You have to kind of be positive more so than negative. And I am a little bit both!” (Anna, Downtown)

33% of respondents described environmental factors as key determinants of health. Environmental determinants were noted by a range of factors, including, proximity to amenities and services, home life, community life, and poverty:

“...in terms of the environmental pieces I mean, looking at things like air pollution, proximity to/availability of services. And when I use services in that kind of term I am thinking more in terms of availability/access to health care, access to education. Other things like just the quality of the physical environment which you live in. Do you have a landfill right in your backyard, do you not, do you have ...matter floating down from the smoke stacks or not?” (Gary, Aberdeen)

Although the majority of respondents reported lifestyle factors as key determinants of health, residents of the Downtown and Industrial neighborhoods were more concerned with maintaining positive mental health:

“A good mind and a healthy mind is important. It’s most essential because if we are afflicted with something from genetics or from environment or an accident to overcome the most important thing is your attitude/your mind. That’s the most important thing because we are bound to be affected in some way by many, many things, external factors and then internal factors, of course. I think it is our mind/our souls that are the most important. So it’s not as important to agonize and obsess about health and weight and healthy lifestyle as it is to have a good mental attitude about things. If you’ve got a good head, then you can get through anything. And life hands us a lot, right?” (Ester, Industrial)

Respondents were also asked what they perceived to be the risk factors for cardiovascular disease (CVD). Responses showed little variation across the four neighborhoods (Table 5.6).

**Table 5.6**  
**Perceived Risk Factors for Cardiovascular Disease (CVD)**

CVD Risk Factors	# of Mentions (%)	# of Respondents n=40 (%)
Poor lifestyle	59 (66)	39 (98)
Genetics	15 (17)	13 (33)
Stress	12 (13)	10 (25)
Substance abuse (e.g. illegal drugs)	3 (3)	3 (8)

98% of respondents reported poor lifestyle factors as key determinants to CVD

(Table 5.6). The homogeneity of responses may indicate that regardless of area of residence, people are receiving health promotion messages and emphasis on healthy lifestyles:

“Well, I guess from what you hear, smoking would probably be the number one thing. Overweight. Unhealthy eating styles, no exercise. I think that’s about it. I’ve been through it with my husband, he had a triple bypass, so.” (Susan, Industrial)

Overall, a majority of respondents were satisfied with their health (88%):

“Well, I think it a large part because I don’t experience very many health problems and the ones that I do are relatively minor. So, again, I have a couple of allergies in the spring which are frustrating and annoying but fundamentally they are not life threatening and they don’t really affect my day-to-day life. I take some drugs and I am over it. And similarly, I occasionally get sick but not very frequently in terms of just having a cold. All the other illness are just injuries from different sports so it’s the kind of thing where I am doing the stuff that I love and I end up getting into trouble.” (Gary, Aberdeen)

Generally, respondents from Downtown and Industrial neighborhoods reported satisfaction despite serious health complications:

“...I had a heart attack in 1937 - a major heart attack and another one 2 years later. I'm still here today so I'm happy!” (Cory, Industrial)

It is important to note that while few respondents reported dissatisfaction with health, they were concentrated in Downtown and Industrial neighborhoods.

Some respondents from Downtown and Industrial neighborhoods conveyed a sense of resigned acceptance of health ailments and status:

“I have what I have. You know. I have some of my health ailments because I had open heart surgery and appendicitis and that's over now. Diabetes and heart trouble. So I can let all of the health issues that I've had over the years, I can let them rule my life so to speak or I can just make it so that it is not I mean, it's there, I have to deal with it but it's not the focal point of my life because, you know, I have what I have. And how satisfied am I? I have what I have. I can blame my parents because I have Diabetes or because I have heart ailments or whatever, you know, but what good would that do. Nothing. My genetics are my genetics. I am heavy, you know. I have a predisposition to inertia.” (Ester, Industrial)

In order to explore perceptions of healthy neighborhoods, respondents were asked if they perceived their neighborhoods to be healthy. Responses indicated a range of factors contributing to the health of their neighborhoods (Table 5.7).

**Table 5.7**  
**Perception of Healthy Neighborhood**

Perception of Healthy Neighborhood	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Healthy</b>	<b>29 (18)</b>	<b>20 (50)</b>
Lack of pollution	10 (6)	8 (20)
Clean	8 (5)	5 (13)
Access to amenities	9 (6)	4 (10)
Sense of community	5 (3)	4 (10)
Physical structure promotes healthy activities (i.e. abundant trails, greenspace)	4 (3)	4 (10)
Safe/no crime	4 (3)	4 (8)
Affluent area	3 (2)	3 (8)
<b>Unhealthy</b>	<b>36 (23)</b>	<b>20 (50)</b>
Pollution	31 (20)	21 (53)
Drug abuse	12 (8)	7 (18)
Noise and Traffic	5 (3)	3 (8)

50% of respondents reported they perceived their neighborhoods to be healthy (Table 5.7). Respondents most likely to perceive a healthy neighborhood were residents of the Mountain (n=10) and Aberdeen neighborhoods (n=8) (85%):

“Physically, it’s a very clean, manicured kind of neighborhood where everything is kept clean and that neighbors take care of their properties. There is green space which I think is extremely important. We have green space in our area. If I look out the front window I see what looks like a mini forest and that makes me feel good.” (Roy, Mountain)

“I feel it’s a pretty healthy neighborhood. The infrastructure is good. It’s really set up in a way that I think it makes it easy for people to be healthier. If people can walk you can. And you don’t have to drive everywhere. They can either walk. We could walk to downtown. If we wanted we could walk to Locke. We can walk to the library, the school.” (Gary, Aberdeen)

Lack of pollution was the most frequently reported characteristic contributing to a healthy neighborhood (20%) (Table 5.7):

“I think the air is probably a little bit cleaner up here than it is, you know, going towards the north end where all the factories are. Street-wise it’s fairly clean. Upper Wentworth is a busy street but it’s not like busy pedestrian wise so you don’t get a lot of like, garbage and paper.” (Katie, Mountain)

“I don’t think the West End is that bad compared to the city as a whole.” (Lindsay, Aberdeen)

Although few respondents reported sense of community, sense of safety, and affluence of neighborhood made their neighborhoods healthy, it is important to note those that did were residents of the Mountain and Aberdeen neighborhoods:

“The other thing that I guess I haven’t really mentioned, it’s more about just the general health of the neighborhood...I sense there is a bit of a network in the sense that people generally do know who their neighbors are. You might not know all of them though I know a fair number. I think that plays an important role. And part of that’s just in terms of social connectedness and feeling like I am connected to these people, I am connected to this place. But also in the sense that I know that our neighbor down the way is walking his dog 12 times a day and that he knows that if there is anything unusual going on in the neighborhood. The feeling that if there was an emergency there is somebody that you could contact. So I think that may not have come out, but I think it is something that I have experienced here.” (Gary, Aberdeen)

As Gary indicates above, a strong social network is an essential component contributing to perceptions of a healthy neighborhood.

“I feel safe. I know and trust the neighbors ...either to the left or the right I don’t have to be concerned. There haven’t been any incidences of violence in our neighborhood.” (Ian, Mountain)

“Well, it’s more of a financially well-off area, I think it’s a little more well-off than most. I tend to find the people that have financial problems will be affected in terms of personal well-being.” (Brian, Aberdeen)

Not everybody from the less affluent neighborhoods perceived their neighborhoods as unhealthy:

“I’m not sure everybody necessarily would identify this as a healthy neighborhood. But from my perspective because of what I like about the neighborhood - the diversity, the being able to get out and walk about, access to cultural events and places, access to decent shopping, things to do, entertainment, interesting places to go and look at and see, just to generally walk about - yeah, I would say my neighborhood is healthy. But that’s colored with the fact that I can afford to make choices and access things that others can’t. So, I would have to temper my thinking about whether it’s a healthy neighborhood. From my perspective, yes, it’s healthy because of what I can choose. There are others who are living here who would probably not describe it as healthy because they don’t have the choices that I have.” (Karen, Downtown)

Karen’s case is unique because her elevated financial status allows her more choices and opportunities.

Of those reporting an unhealthy neighborhood, 53% reported pollution as a significant contributor (Table 5.7):

“I think that’s [pollution] the biggest, and you know it has an effect. Like, I used to hang my clothes out on the line and whatnot, but it got to the point where you were bringing them in and they were covered in black specks and whatnot. You know, the veranda, you could clean it twice a day and it’s still got that black dust on it...so you know it affects your neighborhood.” (Susan, Industrial)

Not surprisingly, those more likely to report pollution as part of what made their neighborhoods unhealthy were residents of Downtown and Industrial neighborhoods (81%):

“There are always the fumes from the cars and I am very aware of that. I also know there is the pollution from Stelco and Dofasco and from the north end because that's very prominent and sometimes during the summer when their emissions are really high...but there are a lot of pollutants in the downtown core from the factories in the north end. It's very evident because I can go out and I can clean my car windows - say last night, and I can go out the next morning and there's just soot and dust all over. However, that's the way it's always been and probably I breathe that in, and I know it does affect a lot of people who have respiratory problems. Fortunately I don't have any respiratory problems but it probably is doing some damage to my lungs.” (Sheila, Downtown)

“I wouldn't plant vegetables in my back garden although the people who lived here before me did. I don't what would make them do that. All that pollution that is coming from the plants is going into the air, is falling down, and you are eating it. I don't know what kind of metals or carbons that are going into the plants that you are eating. I wouldn't eat anything that's planted around here.” (James, Industrial)

These illustrations indicate that visible signs of pollution had impacts on the daily lives of respondents in the Downtown and Industrial neighborhoods (e.g. not being able to make use of garden)

While only seven respondents reported drug abuse made their neighborhoods unhealthy, they were all in the Downtown and Industrial neighborhoods (Table 5.7):

“I just don't think people take care of themselves properly in my neighborhood because there is a lot of drinking and drugs. I just know from being at the store and because I live on a main street, you always see people walking by that you can tell are loaded [on drugs] and stuff and I would say that it doesn't contribute very well to the healthy environment.” (Rachel, Industrial)

When asked to generally describe their neighbors, responses showed a range of positive and negative descriptions (Table 5.8).

**Table 5.8**  
**Perception of Neighbors**

Description of people in Neighborhood	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Positive Descriptions</b>		
Healthy lifestyle (i.e. physically active, not obese, well-groomed)	43 (28)	22 (55)
<b>Negative Descriptions</b>		
Unhealthy	42 (28)	18 (45)
Unhealthy lifestyle (i.e. consumption of alcohol, smoking, obesity, physically inactive, poor nutrition)	39 (26)	33 (83)
Involved in illicit activities (i.e. prostitution, selling or using of drugs)	15 (10)	11 (28)
Financial difficulties	12 (8)	12 (30)

55% of respondents reported they perceived their neighbors as healthy (Table 5.8):

“We have little kids that are out playing and the kids down here come around and play in the court because it’s safe. Every night they come and play there which is nice because mine did that when they were young. Also, we don’t have any really obese people. We had a couple - that I know personally in this immediate block - that have totally changed their lifestyle in that area. They have both lost over a hundred and some pounds. They cycle and walk, etc.” (Brenda, Mountain)

As Brenda indicates above, respondents were more likely to report healthy neighbors if there were visible images of people partaking in physical activities or low obesity rates.

Those more likely to report healthy neighbors were residents of the Mountain and Aberdeen neighborhoods (86%):

“A lot of joggers. There’s one down the street. He would be in his 70s and he is jogging up and down the street or up and down Upper Paradise. A lot of walkers as well.” (Dan, Mountain)

“I think generally people are active in the neighborhood. Just up at the top of Dundurn Street, there’s trails up there, the golf course and there’s hundreds of people up there every day, running, biking, walking their dogs, and it’s the same people every day and so you go up there and if you up there often enough, you’ll start recognizing people. And a lot of people in the area have dogs and take them out for walks and stuff like that.” (Diane, Aberdeen)

45% of respondents perceived their neighbors as unhealthy (Table 5.8):

“I don’t think they’re [neighbors] healthy because they drink a lot. Drinking is a major attraction here. Especially in the immediate neighborhood and surrounding area.” (Bruce, Downtown)

Of those reporting unhealthy neighbors, 83% mentioned their neighbors were unhealthy because of poor lifestyle behaviors (Table 5.8).

“A lot of them are not active. It’s not that type of a neighborhood. It’s where you see a lot of people sitting out drinking, it’s not a very active neighborhood in that respect.” (Susan, Industrial)

“I have not questioned them, but from looking at them, you see that they smoke and drink and they just hang around doing nothing. You don’t see them exercising or doing anything. My impression is that there is no awareness of fitness or nutrition or anything like that around here. Or if people are aware of it, they say, this is not for us.” (Sally, Downtown)

Not surprisingly, those more likely to perceive their neighbors as unhealthy were all residents of Downtown and Industrial neighborhoods (89% n=16).

Respondents were asked if they would like to make changes for a healthier neighborhood. Respondents also described what aspects they would like to change for a healthier neighborhood (Table 5.9).

**Table 5.9**  
**Changes for a Healthier Neighborhood**

Changes for healthier neighborhood	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Changes needed</b>	<b>41 (26)</b>	<b>30 (75)</b>
Pollution	35 (22)	27 (68)
More health promoting facilities/programs	18 (12)	16 (40)
Less traffic	12 (8)	8 (20)
Better Scenery	11 (7)	6 (15)
Footpaths/Bike paths	8 (5)	6 (15)
Address safety issues	6 (4)	5 (13)
Less vacant buildings	5 (3)	5 (15)
Better sense of community	5 (3)	4 (10)
<b>Changes not needed</b>	<b>15 (10)</b>	<b>10 (25)</b>

75% of respondents perceived changes needed to take place in their neighborhoods to make it healthier (Table 5.9). Respondents were asked what neighborhood characteristics they would like to change the most to improve the

health of their neighborhoods. Pollution was the most frequently reported characteristic (68%):

“I’m talking in terms of pollution ...and I don’t really know what kind of regulations there are. I am sure there can be a little bit more done about it and I don’t think the people of Hamilton voice their opinion too much in terms of that. They usually wait for something to happen. Like that recycling plant or that fire. \* People are still being affected 5 years later. No one really knew what chemicals were in that building. And we are living next door to all these buildings. It’s still not regulated. That’s my concern. (James, Industrial)

Not surprisingly, the majority of respondents mentioning pollution were from the Downtown and Industrial neighborhoods (85%).

40% of respondents recommended that more health promoting facilities or programs would considerably improve the health of their neighborhoods (Table 5.9):

“...just make everybody more aware of their eating habits and, I think that if they did something, I guess maybe they should be doing something in the schools with kids...maybe teachers... should be teaching it in schools. And how important eating healthy is, but you see, the general population probably don’t go to a health food store” (Erin, Aberdeen)

There are obvious differences with respect to recommendations for health promoting facilities or programs. Responses showed a slight variation across the four neighborhoods. For instance, John, a resident of the Downtown neighborhood recommends a program offering ‘hope’ and ‘opportunity’:

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\* This is in reference to a fire that occurred in July 1997 at Plastimet Inc., and continued for 3 days. Plastimet Inc. is a plastics recycling plant in Hamilton, ON. Although hazardous substances were emitted from fire, Public Health officials anticipate no long-term adverse health effects. However, this may have little influence on perceived harmful effects by some residents of Hamilton who were exposed to fire.

“Give people a chance to grow or opportunities to move on. Make people feel hopeful. That’s a hard one.” (John, Downtown)

Also, Josie indicates that a program for single mothers would be beneficial

“Maybe have a Mom’s group of some sort, single moms... it would probably help a lot of people, there are a lot of single mothers where I live, so it gives them a break. Somewhere where they can just where you can go and let it all out and learn, you can have people come in and learn about different ways of discipline or different ways of getting picky eaters to eat and stuff like that. It would be pretty informative if you did it right.” (Josie, Downtown)

Alternatively, residents of Aberdeen and Mountain neighborhoods recommending changes were more likely to emphasize lifestyle factors:

“The City recreation centers are still very oriented to sport stuff as opposed to things like yoga and Pilates and some of the newer things that people are really getting into. And, if those kinds of things are available, I would probably be more interested. I have taken yoga classes, but I had to drive somewhere to them and I like the idea of having something a lot closer though. (Lindsay, Aberdeen)

“To make it a healthier place to live? What would I do? Blow up McDonalds for starters. I would say I would like to get the message out about better eating habits.” (Roy, Mountain)

Although few respondents expressed a desire to improve sense of community, those that did were concentrated in the Downtown and Industrial neighborhoods:

“I think the thing that makes a neighborhood healthy is communication. So, yeah, if there was some way to get everybody talking to each other...you know, just saying ‘hello’.” (Bruce, Downtown)

“I think people in the neighborhood should be a little bit more - community-oriented as to where the community gets involved in everything that goes on. I mean, protecting people’s property. Being more neighborly, yes... Maybe we should have a neighborhood watch. Maybe that’s sort of what I am talking about. Along those lines or maybe a community council. Something that would get the community more together and to get everybody on the same wave length.” (James, Industrial)

Overall, residents from the Downtown and Industrial neighborhoods were more likely to recommend changes for a healthier neighborhood:

“There is no place to actually congregate where you could even stop and have a conversation with somebody other than on the corner of the street with a mass of cars going by and this sort of thing. So, the old concept of the town square, the community park where there would be park benches, the old fashioned band shell, and this sort of thing. Just a nice gathering or nice green spaces for people to gather. I would think that that would be a rather healthy way to have people be able to come together and help - I mean, literally physically help create a sense of community and support that kind of environment. If you physically create those kinds of spaces then you will help to encourage the creation of a community. But if there is no place for people to gather publicly, then they won't.” (Karen, Downtown)

Alternatively, residents from Mountain and Aberdeen neighborhoods more likely to report a desire to change nothing:

“Healthier for living right in this environment here? I don’t think so. I mean, if I was living by hydro wires or by a factory I would say: yes, remove the hydro wires, remove the factory. But I can’t think of anything in this exact vicinity. No we are so close to the schools - I mean, the kids have the playgrounds. We have the playground access. You have the gymnasium access. If you wanted to start up a group I’m sure you could start up an exercise group if you went to the school and talked to

somebody. I don't think it pertains to me as I am satisfied where I live.”  
(Brenda, Mountain)

### 5.2.1 Lifestyle Behavior

With regards to lifestyle behavior, all 40 respondents reported they participated in some form of physical activity. However, responses indicated a variation across the four neighborhoods. For instance, Mountain and Aberdeen residents were more likely to report 'intentional' forms of exercise:

“I exercise almost every day. At least 5 times a week, I walk for one hour and climb the stairs up the mountain and back. I do some bicycling. I just, you know, I walk a lot, and I eat reasonably healthfully” (Lindsay, Aberdeen)

“I have an exercise routine - stretching and breathing. I do 40 minutes on the treadmill every day. I used to swim 50 laps at the pool 2 times a week.” (Sue, Mountain)

Alternatively, Downtown and Industrial residents reported more 'unintentional' forms of exercise:

“In my case, exercise is a side effect. It's not the intention. I know that several of the people who live in my building walk downtown. I know that several of the people over in this building here that just walk downtown, but that's out of economic necessity. In so far as they can't afford a car.” (Michael, Downtown)

“Work is enough. It's very fitness [oriented] and very demanding. I do lots of hours...” (Jason, Industrial)

“I don't have to [exercise]. I start at six o'clock in the morning and go to one o'clock in the morning and that doesn't include housework.” (Josie, Downtown)

“I don't exercise. Although I do in a sense that I walk a lot. But I am not one to work out or anything like that”. (Ester, Industrial)

As the above responses indicate, walking for transportation, physically demanding occupations, and household chores are perceived as a form of physical activity. In this sense, they are unintentional forms of exercise rather than a deliberate attempt to outline an exercise routine.

Unintentional forms of exercise were not always behavioral characteristics of Downtown and Industrial neighborhoods:

“Well, obviously I’m getting a certain amount of exercise every day just by going shopping.” (Erin, Aberdeen)

However, as Katie from the Mountain neighborhood indicates, unintentional exercise is a supplementary, rather than a primary form of exercise:

“I walk. I keep fairly active trying to exercise every day. Close to an hour. And that’s at a fairly good pace of walking. And then I keep fairly active just around the house. I am not one to sit and watch TV or sit idle.” (Katie)

A number of factors can contribute to differences in lifestyle behavior across the four neighborhoods. For instance, reports from the Downtown and Industrial residents portrayed a certain amount of skepticism towards the benefits of exercising and consuming a healthy diet:

“I would exercise but I know too people that drop dead of cardiovascular trouble and they were very, very fit and very active and led a very healthy lifestyle. I think when our number is up, our number is up and we are going to go no matter what happened or how we lived our lives.” (Ester, Industrial)

“Well, you got people going to the gym and everything else, you know. They pay the big bucks to get in there and the next thing you know, they’re dropping dead at my age. Me, I just live the way I do. You know, there’s no way I’m going up the street to go to a gym. If there’s one across the street, I’d just sit there in my chair and watch them... That’s me, you know.” (Mark, Downtown)

Conversely, residents of Mountain and Aberdeen neighborhoods seemed to adhere to healthy lifestyles and their attitudes indicated a certain amount of faith towards the benefits of exercise and healthy diets:

“I try to eat fairly reasonably. Avoiding a lot of excess fat and eating lots of fruits and vegetables and trying to stay within the Health Canada health eating guidelines. I run fairly regularly. I bike to work at least once a week. My partner and I went down to one car just as a way to get us out moving a lot more. Even if I take the bus I have a 10 minute walk to catch the bus that gives me a direct route to work. I play tennis. So a lot of the things I really enjoy doing are physical activity/outdoor kinds of things.” (Gary, Aberdeen)

Therefore, differing *beliefs* and *attitudes* towards lifestyle behavior may account for likelihood of engagement in healthy behaviors.

Respondents were asked if they wanted to change aspects of their lifestyles to make it healthier (Table 5.10).

**Table 5.10**  
**Lifestyle Change**

Lifestyle Change	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Want change</b>	<b>60 (34)</b>	<b>33 (83)</b>
Improve lifestyle (i.e. increase in exercise and healthier diet)	51 (28)	34 (85)
Change body weight	22 (12)	16 (40)
Relocate to better neighborhood	15 (8)	14 (35)
Reduce stress	10 (6)	7 (15)
Gain financial security	5 (3)	2 (5)
<b>Do not want change</b> (i.e. happy with lifestyle and neighborhood)	<b>16 (9)</b>	<b>7 (18)</b>

The majority (83%) reported wanting to change one or more aspect of their lifestyle (Table 5.10). Of those expressing a desire to change lifestyle, 85% referred to an increase in physical activity:

“I’m happy with my diet, but I know I should be exercising and just getting out there more.” (Diane, Aberdeen)

“I know I need to be more physically active. I try, I’m not always successful. I have become much better at managing my stress level just by learning not to sweat the small stuff.” (Karen, Downtown)

There was little variation across the four neighborhoods with respect to lifestyle improvements. This may indicate that individuals are *aware* of health promotion messages and emphasis on lifestyle factors.

35% of respondents desired relocation to a ‘better’ neighborhood (Table 5.10):

“I wish I could leave but I can’t take a loss on real estate...this business of moving away from here would be a big improvement.” (Sally, Downtown)

Respondents reporting relocation were concentrated in the Downtown and

Industrial neighborhoods:

“It’s more of just a place for residence for now, for me, anyway. Obviously, it’s not something you stay in forever... when I buy my house - it won’t be in this neighborhood.” (Jason, Industrial)

“Well I’ll eventually [move] in the future...I’m not going to stay here my whole life, right? Eventually.” (John, Downtown)

Alternatively, residents from the Mountain and Aberdeen neighborhoods were

more likely to express desire to remain in neighborhood:

“I really don’t want to move out of my neighborhood, but down the line I would like to get a smaller house.” (Cindy, Mountain)

“Not really, no [plans to move]. I’m getting close to retirement and my children are all at university and I’ve separated. So, I’m on my own now, and I’ve thought about whether I should be thinking about moving, but I really like it here so, at this point, I do not have any plans” (Lindsay, Aberdeen)

Perception of neighborhood may influence desire for relocation. For instance, when Mountain and Aberdeen residents expressed desire to move, they did so for personal reasons and not due to negative perceptions of their neighborhoods:

“The only reason we are moving is because we are going to take over a family farm eventually, but other than that, no, I would never ever leave this area if I didn’t have to.” (Jennifer, Aberdeen)

“It’s just as far as an upgrade and maybe more land. That’s about it. Not because we are not happy with the neighborhood.” (Connie, Mountain)

Conversely, Downtown and Industrial residents were motivated to relocate due to negative associations with their surrounding environment:

“I guess it motivates me to save the money because then I can get out of this neighborhood. Do you know what I mean? So that's how the neighborhood motivates me in that way because it's not very nice and I don't want to live here.” (Rachel, Industrial)

Thus, perception of neighborhood seems to have an important influence on desire to relocate as part of a lifestyle change.

While only a few respondents reported a desire to reduce the amount of stress and gain financial security, it is important to note that they were concentrated in Downtown and Industrial neighborhoods:

“I guess the main thing that would make me healthier would be for me to get rid of some of the stress. To get rid of some of the stress would be to have something work out in court for the custody battle. If my support payments and everything are on time - or not necessarily on time, but everything is organized and I know what money I have come in and when it's coming, I can relax a little bit more and this month if I am in pain I don't have to push myself to do an extra sewing job. (Anna, Downtown)

### **5.3 Perceived Barriers and Facilitators to Lifestyle Change**

Three major themes emerged in respondents' description of barriers to lifestyle change: Individual; Physical; and Social level barriers (Table 5.11).

**Table 5.11**  
**Perceived Barriers to Lifestyle Change**

Barriers	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
<b>Individual Level</b>	46 (14)	<b>33 (83)</b>
Lack of Motivation	57 (18)	21 (53)
Lack of time	31 (10)	19 (48)
Financial	15 (5)	9 (23)
Stressful work	15 (5)	4 (10)
Health problems	5 (2)	5 (13)
Injury	3 (1)	3 (8)
<b>Physical Level</b>	60 (19)	<b>29 (73)</b>
Lack of recreational amenities	17 (5)	15 (38)
Safety concerns	17 (5)	7 (18)
Traffic	14 (4)	8 (20)
Pollution	13 (4)	6 (15)
Climate	4 (1)	4 (10)
<b>Social Level</b>	13 (4)	<b>9 (23)</b>
Lack of people to exercise with	9 (3)	7 (18)
Social anxiety	2 (1)	1 (3)
Lack of community social feeling	2 (1)	1 (3)

Individual level barriers were perceived to be the most important barrier to lifestyle change (83%):

“If I worked 9-5 or something like that, you can establish more of a routine when you have more regular working hours. But my work history is shift and irregular hours. Also, my husband has been like that all of his working life too.” (Ester, Industrial)

Lack of motivation was the most frequently reported barrier to lifestyle change for individual level characteristics (53%) (Table 5.11):

“I said when I hit 40 that I would exercise more and eat better. Right now I am forty so!!! Then I said I will wait until I’m forty-two – or no, next year for sure. Then after the New Year...I feel it's just laziness on my part. No motivation, etc.” (Jennifer, Aberdeen)

Those most likely to report lack of motivation were residents of the Mountain and Aberdeen neighborhoods (81%):

“Yeah, maybe if I had a little more...I don’t know whether it would be energy or just personal drive to be more energetic. I don’t think it’s the physical energy as much as it’s motivation... I’m just going to have be more disciplined.” (Katie, Mountain)

“I am not very active, myself. I would like to lose a little bit of weight. I just don’t have the motivation, which isn’t an excuse or a reason, but I do try to watch what I eat.” (Diane, Aberdeen)

As the above illustrations indicate, ‘laziness’, ‘procrastination’, or ‘lack of willpower’ seem to be characteristic of residents living in the affluent neighborhoods.

48% of respondents reported lack of time as a barrier to lifestyle change (Table 5.11):

“We have 7 children, 4 grandchildren and we’ve got one of the grandchildren living with us. We’ve got legal custody. So juggling this with some of the exercising is hard.” (James, Industrial)

Responses showed slight neighborhood variation with respect to lack of time. For instance, Connie from the Mountain neighborhood initially perceived lack of time as a barrier:

“I wish I had more time...I used to go 3 days a week [to the gym]. That, to me, is regular. Then when you get married and you have kids, and you work full-time as well, it's hard. It's busy.”

However, although Connie reported lack of time as a barrier, she also reported lack of motivation, and when asked which is the most important barrier, she perceived it to be: “Lack of motivation for sure, yeah. When my husband comes home at the end of the day I could probably say, ‘okay, see ya.’”. Therefore, although residents from the affluent neighborhoods reported lack of time, many also reported that the lack of time would not pose a significant barrier if they were to make an effort to change lifestyles. Hence, it seems that lack of time did not pose as much of a barrier as lack of motivation for the affluent neighborhoods.

Alternatively, residents of Downtown and Industrial neighborhoods reporting lack of time perceived other priorities took precedence over healthy lifestyles (i.e. demanding jobs, financial constraints, feeling ‘too tired’):

“I would like to have more time so that I could exercise more...It’s more putting it off because something else has to come first. I mean, obviously, a house has to come first before worrying about having an hour a day to go to the gym. So it’s more priority I would say...money makes the world go around. People say no, but whatever, it’s true. So you have to work, right? If you want nice things you have to work. I want a house so I work. I am working 60 hours a week forever now to buy my house. But after that, obviously, I will relax to 50 hours. What I mean, is I would like to have more time but I can’t right now.” (Jason, Industrial)

“Because I’m exhausted...but I think with the job, the lifestyle I lead, I work 5 days a week, you’re up at 5:00 in the morning and a lot of times you go to 10:30 - 11:00 at night, and I think it’s just exhaustion a lot of times. Working the job that I’m working doesn’t allow me to have that. So that’s why I haven’t made the changes.” (Susan, Industrial)

“Well, it all stems to money. If I had money I wouldn’t have to work as often. If I didn’t have to work as often, I’d have more time to be able to do things.” (Ester, Industrial)

The above illustrations from respondents living in the less affluent neighborhoods indicate that financial constraints, occupations requiring long hours, and simply feeling too tired may have represented more of a time constraint, rather than lack of motivation.

23% of respondents perceived financial limitations hindered healthy lifestyle change:

“I find to eat healthy, it costs you more. If you are buying soup without salt or without fat in it, it costs you more than actually buying it with all the stuff in it. That goes from salad right up. Why am I going to pay more for something without salt?” (Cory, Industrial)

“Wealthy people or people with money, they don’t have to worry about going to the grocery store and with just being very careful with what they spend and just getting the they can get the proper fruits and vegetables or whatever all the time, whenever. They can go to the gyms or whatever. They just are able to live a healthier lifestyle because they have the money. Money is what is unfortunately, a big part of health. And if you’ve got money, you also have better doctors. Your doctors treat you better. The hospitals treat you better. People that don’t have money and they look the part in that respect do not have good service.” (Ester, Industrial)

It is important to note that respondents reporting financial limitations as a barrier to lifestyle change were concentrated in the Industrial neighborhoods.

73% of respondents reported physical level barriers (Table 5.11):

“There are some attempts for a park. I think it’s called Beasley at Cannon and Catherine or thereabouts. But, again, there are some dirty graffiti and the behavior and language used all around and the appearance of the people that hang around there, it is certainly not first rate. It’s better than nothing. It alleviates the poverty that these people are living in, but it’s

certainly not somewhere that you would feel safe leaving your child there or taking your children there. They would learn very bad behaviors. I don't see other [amenities] around here really." (Sally, Downtown)

As Sally indicates above, 'dirty' graffiti and language, undesirable characters, and safety concerns are perceived as significant barriers to utilizing a nearby amenity.

Responses varied significantly across the four neighborhoods. Of those reporting physical level barriers, 76% were residents of the Downtown and Industrial neighborhoods:

"Better scenery would obviously make it better to jog. If you jog in the west end obviously you enjoy it. You jog down the hill, or you jog down a path. Or even if you jog way, way down in the east in Stoney Creek. You can go to Mount Albion up on the side of the ridge, whatever. But down here, it's all steel. Steel and concrete down here." (Jason, Industrial)

"Well, it [would be] very nice if we have sidewalks because if you go further up on Wellington there isn't, I try to go to the community garden but there is no sidewalk there. It's an extremely hard walk and I found that it took too much energy and by the time I was there I wasn't feeling too great, so I stopped going." (Sally, Downtown)

"There are not a lot of people exercising, I don't even see them walking, you see, like there's nowhere around here, if you look, like you have to walk at least, you know, probably at least a kilometer or two to get anywhere where you can even see anything besides, just houses and street. To go to Gage Park, its, you know, you got about a kilometer and a half, whatever to go there. So you have to walk there. Like around here, there's nothing really like that, even, it's all really tiny little areas, there's no real parks or anything around here. I mean, the people, I don't think they're motivated, well, you've got to go too far." (Chris, Industrial)

Lack of recreational amenities was the most frequently mentioned barrier to lifestyle change for physical level factors (Table 5.11). Of these respondents, more than half were residents of the Downtown neighborhood:

“Lack of foot paths. I guess in the summer everybody is riding their bikes and a lot of the times they are on the sidewalk when people are walking. That makes it a little bit dangerous so maybe if they rode more in the street - not to be hit by a car or anything - but it makes it a little bit more difficult for people walking because there are always bicycles up on the sidewalk.” (Anna, Downtown)

While few respondents reported safety concerns (18%) and pollution (15%), it is important to note that they were all residents of Downtown and Industrial neighborhoods. For instance, Sheila (Downtown) and Rachel (Industrial) illustrate how safety can be a barrier to lifestyle change:

“I don't think things in my neighborhood really make it easier for me. Let's just say if I had to look at walking around my neighborhood, I don't look at walking my neighborhood as being a real safe place. So, safety is one that comes up big for me. I walk around here in daylight but I would never be walking around here at dark. There has just been too much that's happened over the past. Last Friday night my girlfriend picked me up. I don't mind walking down to the coffee shop and her picking me up, but she lets me off right across from my place and she waits until I get in because safety is a really important issue for me. I think I'm just aware of my surroundings here because of the incidents that have happened over the past and with that assault that happened last year, it really kind of scared me. In the alleyway when the guy was assaulted because of drugs. It was on TV and the police came down and they corded it all off with their yellow markers. It was quite a terrible thing that happened and the issue was it happened in the alleyway quite close to me. That, in a way, did scare me and I was on a little bit of a ‘oh, I got to get out of here, I got to move.’” (Sheila, Downtown)

“If I didn't have my dog I wouldn't feel safe to walk because there are some shady characters.” (Rachel, Industrial)

Also, Leon and James illustrate how pollution can be perceived as an important barrier to healthy lifestyles:

“I mean, the gyms are open all the time. It's more the fact that I like exercising outside. I like breathing the fresh air. That's why the pollution is important to me. You can smell the difference when you get used to it when you are out there for a while. I would probably exercise more if not for the smell. It would be easier to get outside and exercise. During certain times of the year I can only breathe through out of my one nostril because the air smells like that. There are lots of reasons why you don't want to go outside obviously.” (Leon, Downtown)

“My other lifestyle change I would like is to move from this location because of the pollution. I think about [daughter] growing up here and I don't see it getting any better. The air quality here is pretty bad.” (James, Industrial)

Overall, it is important to note that residents of Downtown and Industrial neighborhoods were more likely to perceive physical level barriers and residents of Mountain and Aberdeen neighborhoods were more likely to perceive individual level barriers.

23% of respondents reported social level barriers (Table 5.11). Responses varied little across the four neighborhoods. Lack of people to exercise with was the most frequently reported social level barrier (18%):

“I think I would go more [gym] if I had a whole group of people to go with that I knew. It would be more enjoyable because I know after a while when you work out it gets boring.” (John, Downtown)

“It's basically not environmental reasons at all. Probably it's a combination of time and someone to do it with. Sometimes I'm not

terribly motivated when I am by myself so I don't do it..." (Nancy, Aberdeen)

Respondents were asked if they perceived their neighborhood environment played a role in their lifestyle behavior. Responses indicated that Downtown and Industrial residents were more affected by the physical aspects of their neighborhood:

"I think it does. I think it does because, obviously, if the tools aren't there in your neighborhood like the gyms, the YMCA, the parks if you eliminate all those things, obviously your lifestyle will probably change just a little bit because the tools and the other accesses of public things...you sort of need that." (James, Industrial)

"I think it plays a part in the lifestyle I have because you are kind of like - I don't know if necessarily stuck. You live in an apartment building, you don't have a car, there is not a lot different that I guess I could do in this area. If I moved out into the country I probably would be doing things differently" (Anna, Downtown)

Alternatively, respondents from Mountain and Aberdeen neighborhoods reported their neighborhood environment played a minimal role:

"No, because I don't think that I'm that far from the park if I want to go walking or if I wanted to go and jog, there's nothing from stopping me from doing that." (Katie, Mountain)

"No. I think we are all individuals and we just chose to lead the life that we have." (Connie, Mountain)

Those more likely to perceive their neighborhood environment negatively affected their lifestyle were residents of Downtown and Industrial neighborhoods:

“I consider this a very unhealthy neighborhood. I think that most people are not equipped to live a healthy lifestyle in this kind of neighborhood. They don’t have the education, the awareness, and the courage maybe to there is a lot of abuse lifestyles. The people are victimized and don’t believe in their ability to cope with these things and they think that they are trapped ... by their attitude.” (Sally, Downtown)

Alternatively, Gary from the Aberdeen neighborhood indicates that access to amenities and resources have positively shaped his lifestyle behavior:

“Yes. Oh I think it definitely does. I think the neighborhood definitely is important, this neighborhood has sort of shaped my experience of Hamilton as far as my lifestyle. From being able to just run up the rail trail or bike up the rail trail. And I think that’s probably true for other people. If the opportunities are there then you avail yourself of them.” (Gary, Aberdeen)

Respondents were asked if there were aspects of their neighborhood that facilitated their lifestyle change (Table 5.12).

**Table 5.12**  
**Perceived Facilitators to Lifestyle Change**

Facilitators	# of Mentions (%)	# of Respondents Mentioning n=40 (%)
Proximity to amenities	42 (42)	23 (58)
Sense of community	14 (14)	6 (15)
Sense of place	10 (10)	8 (20)
Physically active people	10 (10)	5 (13)
People to exercise with	7 (7)	4 (10)
Safe atmosphere	6 (6)	4 (10)
Access to vehicle	6 (6)	4 (10)
Pleasant scenery	4 (4)	3 (8)

The most frequently reported facilitator was proximity to amenities (58%) (Table 5.12):

“I got to stress, once again, that location, location, location. I mean, like I say, if the pool and the tennis weren’t so convenient, I don’t know if I could go that extra mile just to [exercise]... I might pay more in rent for location, but I mean, I choose to live the healthy lifestyle now.” (Brian, Aberdeen)

Residents of Aberdeen, Industrial and Downtown neighborhoods were more likely to perceive access to amenities as a facilitator. However, those most likely to report access to amenities specifically designed for a healthy lifestyle (i.e. recreational facilities, parks, trails) were residents of Aberdeen and Industrial neighborhoods:

“Well, the recreation center which I used to go to, and when my kids were younger, they used to go there a lot, there’s a pool and that’s something I would probably get back into if I had more time. There’s also a lot of access to rail trails for biking and the waterfront trail, and again, I do that a little bit. There’s certainly lots of access to things close by.” (Lindsay, Aberdeen)

“Well I think a lot of it has to do with the way the neighborhood is organized in the fact that you can walk to things. So it makes it very easy to incorporate that and walking into my everyday routine. The rail trail, the waterfront trail being close by and Hamilton being surrounded by so much conservation area. Those are also the things that really make it very easy to be able to do that.” (Gary Aberdeen)

“All the time I was growing up in the north end, there were lots of parks - right now they have a boy's club at the Center Mall - a kids club where kids can go and hang out. They have 3 parks in the area - smaller parks for little kids. The pools - there is one just around the corner up on McNaulty.” (Cory, Industrial)

Residents of the Downtown neighborhood were more likely to report access to resources necessary for daily living, rather than amenities conducive to a healthy lifestyle:

“Something in the neighborhood that makes it easier would be if I was shopping at the grocery food town, something like that - they deliver for me. Also the physiotherapy is right there and the pharmacy.” (Anna, Downtown)

This may indicate that residents of the Mountain, Aberdeen, and Industrial neighborhoods had more opportunities in terms of amenities conducive to a healthy lifestyle.

20% of respondents reported a sense of place facilitated their lifestyle change (Table 5.12). Those more likely to report sense of place as a facilitator were residents of Industrial neighborhood:

“I have lived in this area my whole life so I've gotten used to the smell. I work in the smell. It's just - I have friends that live on the mountain and the neighbors don't seem that friendly. They all keep to themselves. They are worried about what the other person is thinking.” (Cory, Industrial)

While few respondents reported sense of community, images of physically active people in neighborhood, safe atmosphere, access to vehicle, and pleasant scenery, it is important to note that respondents mentioning these characteristics were residents of Aberdeen and Mountain neighborhoods. Therefore, these residents had more facilitators to lifestyle change. For instance, Jennifer from the Aberdeen neighborhood perceived a sense of community facilitated a healthy lifestyle:

“The people in my neighborhood are great. They are very all the people that I hang out with, they are all healthy and they are all active.”

Perceptions of living in a safe environment helped Katie, Brenda, Nancy, and

Diane maintain an active lifestyle:

“Well, probably just the comfort of the neighborhood helps. Knowing that you are in a safe environment so that you are going to go out and walk. I mean, even through the day I would walk down to the park and I’ll walk the path that’s there.” (Katie, Mountain)

“I feel safe in my neighborhood - I walk every night.” (Brenda, Mountain)

“I might not feel as comfortable say of walking at night in another neighborhood because I can walk around here at 11 o’clock at night and feel reasonably safe. Another area of the city I might not be so inclined.” (Nancy, Aberdeen)

“I really don’t know, because I’ve grown up here my whole life and if I’d grown up in a different neighborhood, and had different things happen, like people fighting on the street and, like, you don’t really hear that in this neighborhood. So, I think I would have been a very different person, ‘cause, like, I have friends who just moved out of the East end, down on Gibson, and they were so excited because they’ve lived there for approximately ten years and had been saving to buy a nice house in a nice neighborhood. And they dealt with fights in the middle of the night and neighbors partying until four o’clock in the morning, and, you know, just houses broken into...and I think that if I’d grown up in that neighborhood, I think I’d be different because I would have gone to a different school, and it just, it just would have been different. It’s not as safe walking down the streets in that neighborhood.” (Diane, Aberdeen)

#### **5.4 Coping Techniques**

Responses indicated that several techniques were used as a form of coping with lifestyle behaviors, health, or neighborhood environment. Respondents provided two distinct forms of coping techniques: action-focused; and emotion-focused. Respondents more likely to use action-focused forms of coping were residents of Mountain and Aberdeen:

“I am satisfied where I live. When we moved in here - 13 years ago - we all got together and we lobbied for the park that’s at the end of the street. So that did happen way back then. And I did that when we lived in Windsor.” (Brenda, Mountain)

“I would be lobbying for an arena close by or swimming close by, and gymnasium facilities for the children and playground facility.” (Dan, Mountain)

“I was young, I was making lots of money, good money, and the opportunity was there and I had a brain injury and it totally changed things. Gave me a whole new outlook on life. At the time I was too busy making money and partying and being the young whippersnapper that I was. I mean, I ate good, but what I consider good now and considered good then is two different things. Back then, it was like steak and lobster and stuff like that. Now it’s more salads and it’s healthier.” (Brian, Aberdeen)

The above illustrations indicate that making a plan of action is an essential component to changing the contextual surroundings and lifestyle patterns for the affluent neighborhoods. The likelihood of using action-focused coping may be due to a perceived control or mastery over environment and life events.

Alternatively, those more likely to use emotion-focused forms of coping were residents of Downtown and Industrial neighborhoods. For instance, Ester coped with her multiple health issues by ‘avoiding’ the issue:

“I don’t think I wake up every day thinking ‘oh, I’ve got Diabetes or I’ve got heart trouble.’ I mean, that’s my health history but I don’t actually think about it too much. I just I go to work, and I come home, and I do floors or pick up after the baby or run after the baby. Mind you, my health is upside down. If I anticipate anything else, I’d only be disappointed so I am not going to think.” (Industrial)

Susan coped with her surrounding environment due to perceptions of ‘no other options’:

“Like I said, as far as cleaning up, what do you do when you have drug users and alcoholics and, what do you do? Tell them to get out and go to another neighborhood, or, there’s not much you can do about that.”  
(Industrial)

As the above illustrations suggest, a lack of control over health and environments may contribute to the likelihood of using emotion-focused forms of coping.

Other emotion-focused techniques included ‘minimizing the situation’. In this sense, respondents adapted to stressful situations by opting to emphasize positive aspects:

“Well, I wish that I could get around this disability, but it’s been going on for two years now and maybe it’s combined with the fact that I am now menopause I can see some physical signs of that as well. I know that my mother became extremely psychologically distressed when she reached this age and I seem to be following the same pattern. But, really I consider myself lucky not to have some terribly disorders that you just step out on the street and you see some people that are extremely unfortunate compared to me. So, I appreciate the fact that I am able to cope with my life without too much distress.” (Sally, Downtown)

“I am a pretty happy person. If I can pay my bills I am happy. You know. And if I have food to feed my kids and I can pay my bills, I am pretty happy. Give me a good book and I am in heaven. Overall, I think I am okay. Yeah. Things could be better but I am not - you know, going to hurt myself too much worrying about it because that just makes me feel worse.” (Anna, Downtown)

“Obviously I’m here. Although I am Diabetic and I do have trouble maintaining my levels properly but it seems that it is the more stress that I am going through, then that’s when my sugar levels will be affected considerably. I think overall I am healthy. Like I said, though, I do because I am functioning. (Ester, Industrial)

“I am one of those people who I would rather be fat than never enjoy anything. Do you know what I mean? Like, I am still going to eat steak, and go to McDonalds every once in a while.” (Rachel, Industrial)

Respondents also reported ‘rationalizing’ a situation to justify an unhealthy lifestyle:

“Even if I did quit smoking, start eating right or better or whatever with all the food groups, and exercise, and have fewer stresses or something or whatever in your life, I would drop dead. I would probably drop dead because I have seen that with so many.” (Ester, Industrial)

“I’ve got friends that are dead, you know, heart attacks and whatever, and I went to high school with them, we were the same age, but they’re all dead. And some are millionaires. I’m not envious of anyone. I choose my life and I live it my way. I’m not going to change to suit somebody else. Or, I’m not gonna go to a gym and start exercising because I’m 50. Christ, I was lucky to be, you know, to be here at 50, the way I lived before.” (Mark, Downtown)

“I eat too much. When I first had my heart attack, I went straight by the book. Watched my cholesterol, watched this, watched that. Almost drove myself crazy. I see people all around me dieting and exercising and they still get cancer. If you are going to get it, you’re going to get it. I am also concerned with missing out...I can’t have lobster, can’t have shrimp, can’t have this and that. I am thinking - you are 40 some odd years old, you have worked most of your life, why the hell can’t you have it. I am concerned about dying too young and not enjoying myself, basically. I wake up everyday saying ‘well, if I die today, I have had a full life’ - rather than, “If I die today, I haven’t done this, and that, etc.” (Cory, Industrial)

Respondents reported ‘isolating’ themselves from other people in their neighborhood as a way of coping and in order to detach themselves from negative images or stigmatization attached to neighborhood:

“So, like I said, I’m just here to save money. I don’t think I am like them [neighbors]. No. I am not going to be sitting there, 45 years old, a beer gut,

out on my front lawn. That's the image, that's the majority around here.”  
(Jason, Industrial)

“I know that some neighbors for instance, tried to get me to associate with them more to start going for tea and this sort of thing. I know that this is not a good thing to do because the subject of conversation that ever arises is not good and I don't want to find myself caught in a net of distrust and people taking sides and you know, you can see a lot of that happening and blaming. It would bring down my moral to associate with these people. There is never anything positive. They never do anything positive around here.” (Sally, Downtown)

## 5.5 Chapter Summary

This chapter reported the results of the research in terms of the three study objectives. First, respondents' perception of neighborhood was reported. Overall, responses indicated that residents of Downtown and Industrial neighborhoods were more likely to be dissatisfied with their neighborhoods and had more characteristics they disliked.

Second, perceptions of health were documented. Overall, lifestyle factors were perceived to be key determinants of health. Results indicated that the more affluent neighborhoods were likely to perceive lifestyle factors as determinants of health. Conversely, residents living in the less affluent neighborhoods were more likely to emphasize mental health as essential to overall health. Although most were satisfied with their general health, those most likely to be dissatisfied were residents of the Downtown and Industrial neighborhoods. Also, in terms of self-rated health, residents living in these less affluent neighborhoods were likely to perceive more health problems.

Additionally, perceptions of the healthiness of respondents' neighborhood were presented. Residents of the Mountain and Aberdeen neighborhoods were more likely to perceive their neighborhoods as healthy for a variety of reasons, including, lack of pollution, cleanliness of the area, access to amenities, sense of community and a sense of safety. By contrast, Downtown and Industrial residents were more likely to perceive their neighborhoods as unhealthy due to pollution, drug use in area, noise and traffic. Perceptions related to respondents' neighbors also showed significant neighborhood variation. Residents of the affluent neighborhoods were more likely to perceive their neighbors as healthy due to constant images of physically active individuals. Conversely, Downtown and Industrial residents were more likely to perceive unhealthy neighbors due to frequent images of unhealthy lifestyle behaviors (drinking, smoking, and being sedentary) and knowledge of neighbors being involved in illicit activities (prostitution, and selling of drugs). Relatedly, residents of Downtown and Industrial neighborhoods were more likely to report changes they perceived would make their neighborhoods healthier (e.g. health promoting facilities, green space, etc).

The lifestyle behaviors of respondents were also examined. Although all respondents reported some form of physical activity, there were significant neighborhood variations. Residents living in the less affluent neighborhoods reported walking as a form of transportation (unintentional forms of exercise), whereas residents of the affluent neighborhoods reported engaging in more formal

exercise routines (intentional forms of exercise). Also, residents of the Mountain and Aberdeen neighborhoods were more likely to want an improvement in lifestyle behaviors (increase physical activity, lose weight, etc) whereas residents of Downtown and Industrial neighborhoods were more likely to express relocation from area or financial security as a lifestyle change.

Third, barriers and facilitators to healthy lifestyle were investigated. Three distinct characteristics emerged related to barriers: individual; physical; social level. Individual level barriers were more frequently cited as impediments to healthy lifestyles. However, there were significant neighborhood variations related to individual and physical level barriers. Those most likely to perceive individual level barriers, such as lack of motivation and time constraints, were residents of the affluent neighborhoods. Differentially, residents of the less affluent neighborhoods were more likely to perceive physical level barriers, such as lack of recreational amenities, safety, financial limitations, traffic problems, and pollution. Social level barriers showed little neighborhood variation. Generally, residents of the affluent neighborhoods were more likely to perceive there were more facilitators in their neighborhoods than residents of the less affluent neighborhoods. Facilitating characteristics to healthy lifestyle change included proximity to amenities, sense of community and place, constant images of physically active people, people to exercise with, and sense of safety.

Finally, although initially not part of the original research objectives, coping responses to stressors was used by respondents to mitigate harmful effects

from neighborhood environments and lifestyle patterns. Respondents used action-focused and emotion-focused forms of coping to mitigate and make sense of life events. Coping techniques showed neighborhood variation. Those in the affluent neighborhoods were more likely to use action-focused forms of coping (e.g. lobbying for change in neighborhood), whereas those in the less affluent neighborhoods were more likely to use emotion-focused forms of coping (e.g. avoiding and minimizing the issue).

## **CHAPTER SIX**

### **DISCUSSION AND CONCLUSIONS**

#### **6.0 Introduction**

This final chapter presents a summary of key findings organized along the objectives guiding this research:

- To explore individuals' perception of neighbourhood.
- To document perceptions of health.
- To investigate (individual and neighbourhood level) facilitators and barriers to healthy lifestyles.

The findings are then linked to the broader literature surrounding neighborhood and individual effects on healthy lifestyles. The key findings are also related to Macintyre et al's (2002) conceptual framework for contextual, compositional, and collective effects on health and lifestyle behavior. This chapter closes with a discussion of research contributions, followed by policy implications and recommendations for future research.

#### **6.1 Key Findings**

##### **6.1.1 Perceptions of Neighborhood**

Results indicate there are significant variations in reported neighborhood perceptions among the four neighborhoods. Residents of the Downtown and Industrial neighborhoods were more likely to express negative perceptions and

reported more neighborhood dislikes. For instance, the less affluent neighborhoods were associated with characteristics such as sense of distrust, social isolation, noise, traffic, pollution, drugs, bars, rundown appearance, lack of safety, prostitution, and homelessness. Feelings of distrust were inextricably linked with safety concerns, reinforcing that safety issues were much more amplified in the Downtown and Industrial neighborhoods.

Alternatively, residents of the Mountain and Aberdeen neighborhoods had more positive perceptions and reported more neighborhood likes. For instance, residents reported having a strong social network, sense of trust, safety, and community, and a clean, and peaceful environment. Some neighborhood characteristics were interdependent. For instance, the findings indicated that sense of community fostered feelings of safety, "I feel safe. I know and trust the neighbors ...either to the left or the right I don't have to be concerned. There haven't been any incidences of violence in our neighborhood" (Ian, Mountain). In these neighborhoods, people are 'socially connected' to neighbors and believe that a form of community promoted greater awareness of illicit activities. It appears that that cultivating a strong sense of community may in turn promote general feelings of safety.

These findings are consistent with those found elsewhere (Ellaway et al, 2001; Picket and Pearl, 2000; Haan et al, 1987; Balfour and Kaplan, 2002; Steptoe and Feldman, 2001; Russ-Eft, 1979) documenting perceived neighborhood problems (traffic, noise, crime, garbage) and their association with

poor health. Given research linking negative perceptions of neighborhood with poorer health, it appears that Downtown and Industrial residents are more vulnerable to unhealthy behavioral patterns and chronic illnesses due to negatively associated neighborhood characteristics.

The Industrial neighborhood was notably associated with a deep sense of place. There are a number of factors contributing to a deep sense of place. Respondents reporting a sense of place were also long time occupants of the Industrial neighborhoods. Consequently, these residents were more likely to develop a strong sense of place and attachment.

Respondents also identified with their neighborhood in other ways. For instance, residents with a strong a sense of place seemed to have formed a culture or mentality unique to the East end. Contributing factors to this sense of 'belonging' to a neighborhood may be due to comparable lifestyles and shared hardships (e.g. Industrial residents that are employees of the Steel factories may share common experiences and views). As Cory expressed in the last chapter, "nobody feels better than anybody else...people accept their own place and help each other", some Industrial residents developed a sense of connection or belonging with others in their neighborhood. In addition, Wilkinson (1996) posits that perceptions of unequal income distributions produces negative feelings like shame and distrust. Theoretically, areas with similar income levels are less likely to feel shame, envy and distrust. Surprisingly however, sense of place did not translate into a strong sense of community. Many expressed that although they

knew their neighbors, there was limited social interaction. Thus, although residents of the Industrial neighborhood bonded together in an ‘us against the rest of Hamilton’ mentality, and felt connected due to the stigmatization of the East end, their level of social interaction was not analogous to that of the Mountain and Aberdeen neighborhoods. This is consistent with existing evidence suggesting that deprived neighborhoods provide fewer opportunities for social interaction and participation (Stead et al, 2001). Additionally, Stead et al observed that while disadvantaged communities had low social capital (i.e. low social interaction and safety concerns) certain aspects of social capital were high (neighborliness and attachment to area). Macintyre et al (2002) argue that social capital is often narrowly defined and often fails to capture other important producers of health inequalities. Thus, if the definition of social capital was limited to “enjoyment of living in a community, perceptions that it is safe, and has good facilities...” (Stead et al, 2001: 341), then it may be erroneously assumed that social capital is naturally low in deprived areas. The sense of place fostered by the Industrial neighborhoods show that there were *some* levels of social capital in this deprived community. If we were to conceptualize a continuum of levels of social capital for the four studied neighborhoods, we may find that the Industrial neighborhood has stronger social capital than the Downtown neighborhood due to indications of attachment to place, sense of belonging, and identity. Therefore, although the levels of social capital in the Industrial neighborhood are not comparable to that of the Mountain and Aberdeen neighborhoods (who have more essential

components of social capital such as trust, sense of community, social networks), the sense of belonging and identity that is fostered in the Industrial neighborhood may provide *some* health benefits.

### **6.1.2 Perceptions of Health**

The results from this research show there were key neighborhood differences in terms of self-rated health, perceived health of neighborhood, and lifestyle behavior. The less affluent neighborhoods (Downtown and Industrial) were more likely to perceive poorer health for themselves, to perceive unhealthy neighborhoods, and had poorer lifestyle behaviors. These results may have important implications for the role of contextual effects in shaping health.

The tendency for Downtown and Industrial residents to report poor self-rated health may be in part reflective of negative neighborhood perceptions. According to Steptoe and Feldman (2001), neighborhood problems (traffic density, pollution, dirt and noise, lack of facilities and amenities) were significantly associated with poor self-rated health, emotional distress, and impaired physical function (e.g. bending, kneeling, or stooping). Similarly, less affluent neighborhoods are more likely to experience higher levels of chronic stress due to high levels of crime, violence, noxious chemicals and pollutants (Sampson et al, 1997; Krieger et al, 1993). The social and physical characteristics (e.g. safety concerns, lack of people to exercise with, lack of amenities, pollution, traffic density), that can be observed in the Downtown and Industrial

neighborhoods highlight the role of place effects in determining self-rated health and well-being.

There were also reports of good self-rated health despite multiple health concerns. Although perceiving health in optimistic terms despite multiple chronic illnesses is a common coping strategy (Willoughby et al, 2000), surprisingly, individuals most likely to perceive their health in optimistic terms despite multiple ailments (heart disease, diabetes) were residents of the Downtown and Industrial neighborhoods. This may be a coping strategy (emotion-focused) used to adapt to what they perceive as unalterable situations (coping strategies are discussed in more detail in section 6.2.4). Adopting an emotion-focused form of coping by perceiving health in positive terms and minimizing or avoiding the situation may reduce stressors involved with multiple health ailments and the lack of control experienced by those living in poverty. This is consistent with existing evidence suggesting that health complications and unalterable situations produce a greater likelihood of using emotion-focused coping (Lazarus and Folkman, 1984).

Results indicated that residents of Downtown and Industrial neighborhoods were much more likely to perceive unhealthy neighborhoods. Pollution was identified as an important factor contributing to an unhealthy neighborhood for the less affluent neighborhoods. Conversely, lack of pollution was the primary factor contributing to a healthy neighborhood for the Mountain and Aberdeen neighborhoods. It was also observed that pollution had a

significantly more profound effect on the daily lives of Downtown and Industrial residents, for example, not being able to make use of their gardens, not being able to hang clothes outside to dry, etc. Respondents from these areas were also more likely to express perceptions of actual harm to individual as well as environmental health.

A strong social network seemed to be an essential component contributing to perceptions of healthy neighborhoods. A strong social network fostered feelings of safety due to the established trust between neighbors in the more affluent neighborhoods. Likewise, safety concerns amongst the less affluent neighborhoods may have stemmed from reports of drugs, prostitution, and crime in neighborhoods. Thus, the lack of trust among neighbors in these areas may discourage the development of a social network.

Not surprisingly, residents of the Downtown and Industrial neighborhoods were not only more likely to perceive their neighborhoods as unhealthy, but they were more likely to recommend improvements to their neighborhoods.

Notably, while residents of the Mountain and Aberdeen neighborhood were concerned with improving facilities associated with lifestyle factors (e.g. health promoting facilities), residents of the Downtown and Industrial neighborhood were more concerned with generating hope and opportunity in their neighborhoods. The tendency to emphasize hope and opportunity may be reflective of the associated neighborhood problems (crime, homelessness,

unemployment, and financial limitations) with less affluent neighborhoods (Ross, 2000).

This research corroborates existing literature with respect to patterns of lifestyle behavior and its relationship with place (Ellaway et al, 1996; Ross, 2000). The findings indicated lifestyle behavior was determined by area of residence. The affluent residents were more likely to engage in healthy lifestyle behavior than residents living in the poorer neighborhoods. For example, residents of these neighborhoods were more likely to report 'intentional' forms of exercise. There is evidence to suggest that neighborhood socioeconomic status (above and beyond individual socioeconomic status) is an important influential factor in observed differences in health behavior (Robert, 1998). Therefore, the tendency of Downtown and Industrial residents to exhibit unhealthy behavior may be explained by the characteristically low socioeconomic status in these neighborhoods.

An emerging theme in this research indicated that despite a perception of crime and safety concerns in the Downtown neighborhoods, residents reported walking frequently. This contradicts established research linking safety concerns and lower rates of physical activity (Wilson et al, 2004). Higher levels of crime and violence discourage people from participating in physical activity in their structural surroundings. Consistently, Ross (2000) found evidence to suggest that despite the structural effects of dangerous streets, fear did not overcome walking frequently in disadvantaged neighborhoods. Ross (2000) observes that there are

several contributing factors to this phenomenon. There could be a contagion (or collective) effect in which there is a culture of hanging out on the streets, and prevailing norms encourages walking and being outside. Giles-Corti and Donovan (2002) offer other explanations. Their study found that while lower socioeconomic status was generally linked with less physical activity, residents of low socioeconomic status neighborhoods were 33% more likely to walk for transportation and 21% less likely to walk for recreation. This is consistent with reports from Downtown and Industrial neighborhoods illustrating ‘unintentional’ forms of exercise – that is, walking for transportation, house chores, and physically demanding occupations. Although unintentional exercise is considerably more beneficial than being sedentary, levels of physical activity observed in the less affluent neighborhoods were not sufficient according to regulated standards (Health Canada, 2003).<sup>\*</sup> Thus, given literature surrounding unhealthy lifestyle behavior and morbidity and mortality (Lantz, 1998; US Department of Health and Human Services, 1990; McGinnis and Foege, 1980; Patterson et al, 1994), the Downtown and Industrial residents are more vulnerable to adverse health effects than the Mountain and Aberdeen residents. Evidence emerging from this study provides a strong basis for contextual factors and their importance in influencing lifestyle behaviors.

There is evidence to suggest that lifestyle behaviors are also affected by the collective aspects of neighborhoods. For instance, reports from residents of

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<sup>\*</sup> Experts recommend that levels of physical activity should include engaging in an activity that increases heart rate for 30-60 minutes 3-5 days a week (Health Canada, 2003).

the Downtown and Industrial neighborhoods portrayed a certain amount of scepticism towards the benefits of exercising and consuming a healthy diet. Residents of these less affluent neighborhoods indicated that there were many people who died or had chronic illnesses despite regular physical activity or consumption of a healthy diet. Therefore, if the collective perspective was applied in this case, it may explain how social attitudes or beliefs contributed to a cynical viewpoint towards the benefits of a healthy lifestyle.

### **6.1.3 Perceived Barriers and Facilitators to Healthy Lifestyles**

Neighborhood and individual level barriers have differential levels of importance for the four studied neighborhoods. While everyone from the four neighborhoods had some type of barrier to lifestyle change, the less affluent neighborhoods had barriers that were more difficult to overcome (e.g. pollution, safety concerns). More specifically, the Downtown and Industrial neighborhoods perceived more physical level barriers (lack of facilities, traffic, pollution, and safety concerns, drugs), whereas the Mountain and Aberdeen neighborhoods perceived more individual level barriers (lack of motivation, lack of time). Much of the literature suggests that disadvantaged communities are more influenced by physical level determinants, such as fear of harm, lack of amenities, and disrepair of structural surroundings (Lantz et al, 1998; Ross and Mirowsky, 2001).

Prior research focusing on neighborhood perceptions and health have typically emphasized neighborhood problems (Balfour and Kaplan, 2002;

Ellaway et al, 2001; Steptoe and Feldman, 2001). This research not only explores barriers (pollution, lack of amenities, lack of motivation) to lifestyle change, but facilitators as well (safe environment, abundant amenities, people to exercise with). Many of the impeding factors identified within this study correspond with those found in other studies of disadvantaged communities (Zeibland et al, 1998; Steptoe and Feldman, 2000; King et al, 2000). Research indicates that lack of amenities is typically an important barrier in disadvantaged neighborhoods (Seefeldt et al, 2002) and likewise, lack of recreational amenities emerged as a significant barrier for the Downtown neighborhood.

Recurring themes throughout interviews suggest that safety was an important aspect of this research for the less affluent neighborhoods. Ross and Mirowsky (2001) argue that while fear of safety did not result in limiting outdoor activities, “the daily stress associated with living in a neighborhood where danger, trouble, crime, and incivility are common apparently damages health.” (258). Saltonstall (1993) found that health beliefs were guided by social norms such as social constructions of gender. This was reflected in the frequency of safety issues brought up by women (Saltonstall, 1993). The women studied in Saltonstall’s study were middle-class, white, and between the ages 35 and 55 years. Consequently, this negated other studies that found a link between minorities, low socioeconomic status and concerns for safety (Ross and Mirowsky, 2001). Thus, it is possible that mentions of safety may be more strongly related to being female than level of income or area of residence.

Emerging themes in this research where women seem to be more concerned with personal safety issues supports this.

Interestingly, interviews with the Downtown and Industrial respondents revealed that lack of faith in the benefits of exercise and healthy lifestyle choices may account for likelihood of engagement in healthy lifestyles. Often, residents of the less affluent neighborhoods were well informed of the health consequences of unhealthy behaviors. However, despite this knowledge, respondents in these neighborhoods engaged in unhealthy lifestyle patterns. One explanation may be due to the physical barriers faced by residents of the less affluent neighborhoods. Neighborhoods with limited opportunities and resources may tend to rationalize or minimize their situation by adopting an ‘it does not matter’ attitude. In this sense, the more impeding factors that an individual has in their physical or social environment, the more likely they are to adapt to stressful situations by using an emotion-focused form of coping. These findings are consistent with a growing body of literature which supports the idea that it is the social and economic barriers, and not lack of information, that exert the most influence on health behavior (Williams, 1990; Gillis, 1993; Nelson, 1994).

Conversely, neighborhoods with higher education levels, home owners, safer environments, clean and peaceful surroundings, and well-kept properties, or in essence, have good social order, are associated with better health, despite personal socioeconomic status (Ross and Mirowsky, 2001; Ellaway et al, 2001). Similarly, although the Mountain and Aberdeen neighborhoods had more

individual level barriers (lack of motivation, lack of time), their social order or rather the facilitating features of their neighborhoods may contribute to better health and positive perceptions of neighborhoods.

Access to amenities emerged as an important theme in this study associated with lifestyle change and neighborhood perception. However, it is important to note that when residents of Downtown referred to accessible amenities, they often were classifying features of necessary daily functioning (groceries, banks, etc) whereas the other three neighborhoods (particularly Mountain and Aberdeen) were specifying recreational amenities (trails, parks, gymnasiums, etc). This may indicate that there are fewer resources and amenities in the Downtown neighborhoods; if residents are not typically exposed to recreational facilities and amenities in their daily environment, they may be less likely to notice them or perceive them as being necessary to healthy lifestyles. This research suggests that access to amenities are essential to healthy lifestyles, supporting existing evidence from the United States (U.S. Department of Health and Human Services, 2000). Additionally, Troped et al (2001) found that long self-reported measured distances to recreational facilities significantly decreased likelihood of using amenities. Thus, environmental barriers such as travel distance should be important considerations in policy making.

Also, while traffic and noise provided a basis for impeding lifestyle change in the less affluent neighborhoods, it did not constitute an influential barrier for the Aberdeen residents. Likely reasons that traffic and noise were not

perceived as barriers to healthy lifestyle in these neighborhoods may be due to reports of the abundance of recreational amenities (e.g. trails, running tracks) reported in the Aberdeen neighborhood. Therefore, although traffic and noise were described as a 'dislike' for these residents, it did not undermine perceptions of a healthy neighborhood or hinder healthy behaviors. Moreover, this also indicates that these individuals have a diversity of choices in terms of facilities conducive to healthy lifestyle.

Not surprisingly, financial limitations emerged as an important barrier for the Industrial neighborhood. There is evidence to suggest that individual and neighborhood level income affect lifestyle behavior and health (Lantz et al, 1998; Giles-Corti and Donovan, 2002). The effects of financial instability may actually be amplified for residents of the low-income neighborhoods. Often residents mentioning this factor were referring to the costliness of facilities and healthy food. This barrier may be amplified because the residents could not only afford facilities and healthy food in general, but the scarcity of facilities and healthy food outlets in their local environments may serve as a double barrier.

There is evidence to suggest that low-income areas have less affordable food outlets and that suburban areas have lower food prices (USDA, Kaufman et al, 1997). The scarcity of facilities and healthy food suggests a need to incorporate affordable amenities (i.e. trails, parks) and healthy food outlets to accommodate the low-income groups living in these neighborhoods.

Unexpectedly however, financial limitations did not emerge as a main barrier for

residents of the Downtown neighborhood. This was especially surprising considering that in comparison to the Industrial residents, the Downtown residents were more likely to perceive a lack of recreational amenities. Similar to the Industrial neighborhood, the Downtown neighborhood had costly food outlets (convenience stores, gas stations, etc). Thus, it was surprising that financial limitations did not present much of a barrier to healthy lifestyle for the Downtown neighborhood.\* The differences in perceived barriers with respect to financial limitations in the lower-income neighborhoods reinforce the fact that this barrier may be more individual than a physical level characteristic.

In summary, it appears that having physical level barriers may be associated with worse health effects than having individual level barriers. This may be due to lack of choice or control that individuals living in an environment with few resources and opportunities experience (typically imposed by physical level barriers). Consequently, less control and fewer choices translate into increased stress and adverse health effects (Wasylishyn and Johnson, 1998). On the other hand, people living in neighborhoods with abundant resources and opportunities are less limited and hence have more perceived control and choice.

Moreover, the findings suggest that 'lifestyle' is a very relative term, one that is perhaps significantly reshaped and redefined by neighborhood context, as well as personal experiences. One noteworthy aspect emerging from this research

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\* The research team counted the number of fast-food outlets, donut shops, cigarette stores, beer and liquor stores, bars, vacant buildings, parks, sports fields (soccer, baseball, etc), and tennis courts in each neighborhood to complement self-reports of contextual indicators for barriers and facilitators. The observed findings showed Downtown and Industrial had more barriers (i.e. donut shops, lack of trails, etc).

is what people perceive to be healthy lifestyle behavior varies greatly from individual to individual. Some individuals may perceive financial or social status as part of lifestyle factors, whereas others may define lifestyles in terms of traditional definitions (i.e. exercise, alcohol consumption, smoking, and nutrition). Based on themes from this study, perspectives may differ based on area of residence; if one was financially restricted or was socially isolated, one might feel that a healthy lifestyle meant improvements in either conditions, rather than traditionally defined lifestyle patterns.

The previous section on lifestyle change where respondents were specifically asked what aspects of their lifestyle they would like to improve supports this phenomenon. For instance, the Downtown and Industrial residents were more likely to desire financial security or relocation to a 'better' part of Hamilton as a lifestyle change. Alternatively, the Mountain and Aberdeen residents were more likely to express a desire to increase physical activity and improve diet as a lifestyle change. Therefore, the divergent responses showed a discernable neighborhood variation with respect to desired lifestyle change. Studies of residential decision-making or community relocation have demarcated divergent *push-pull* factors that influence this process (Carter, 1988; Lawton, 1985). Push factors may include economic problems, widowhood, and deteriorating health and pull factors may be availability of services, neighborhood, residential design, and social relationships (Ryff and Essex, 1992). For instance, an individual with more push factors (physical health problems, lack

of access to activities, excessive cost of home maintenance, loss of friends and neighbors nearby, death of spouse) would be more likely to have worse health (Ryff and Essex, 1992). Similarly, residents of the Downtown and Industrial neighborhoods were more likely to desire relocation due to push factors (i.e. safety concerns, pollution). Affordability was often the only pull factor for these residents, particularly for the Industrial neighborhood. Conversely, the Mountain and Aberdeen residents had more pull factors (i.e. positive relations with neighbors, parks, trails, safe environment). Push factors for these neighborhoods tended to relate to personal growth and a desire for a larger house. Given research surrounding community relocation, push-pull factors may have negative health effects for residents of Downtown and Industrial neighborhoods.

#### **6.1.4 Coping Strategies**

The most striking and unexpected findings of this study were the coping mechanisms respondents used to manage their lifestyle behavior and neighborhood environment. Ideally, coping mechanisms strive to improve the person-environment relationship by “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus and Folkman, 1984: 141). According to Mechanic (1974), there are multiple functions of coping, including: dealing with the social and environmental demands; creating the motivation to meet those demands; and maintaining a

psychological equilibrium to aim energy and skill toward external demands. Accordingly, Lazarus and Folkman distinguish between two forms of coping: emotion- focused; and problem-focused. Generally, emotion-focused forms of coping are more likely to occur when an individual feels that nothing can be done to modify harmful, threatening, or challenging environments. Alternatively, problem-focused forms of coping occur when an individual believes the environment is modifiable and therefore controllable. Additionally, dealing with adverse situations includes, strategies such as avoidance, minimization, distancing, selective attention, positive comparisons, and deriving a positive outcome from a negative situation. Essentially, these forms of coping are used to maintain hope and optimism, to deny reality, to refuse to acknowledge the worst, to act as if what happened did not matter (Lazarus and Folkman, 1984). Individuals who use problem-focused forms of coping react to adverse situations by taking action, based on a definition of the problem, generation of alternative solutions, and weighing the negative with the positive.

Likewise, the key findings suggested that respondents used action or emotion focused forms of coping. Results indicated that the Downtown and Industrial neighborhoods were more likely to use emotion-focused forms of coping. A rationale for this can be the reduced control and choice that residents of deprived neighborhoods typically experience (Wasylishyn and Johnson, 1998). Studies on coping mechanisms have signified that people invariably used emotion-focused forms of coping in managing daily stressors associated with low

income, disordered environments, and hence, diminished sense of control (Lazarus and Folkman, 1984). Additionally, forms of emotion-focused coping observed in this research are analogous to those observed in the literature (e.g. rationalizing a negative situation, maintaining a positive attitude, avoiding the stressful situation) (Lazarus and Folkman, 1984). It may be that a diminished sense of control arises from perceptions of unalterable situations for residents of the Downtown and Industrial neighborhoods.

Recurring themes indicated there was a resigned acceptance of life events or health problems. Many respondents from the Industrial and Downtown neighborhoods with severe health problems indicated that rather than dwelling on matters that are perceived unalterable, it was more productive to adopt a more 'functional' definition of health. Consistently, Calnan and Johnston(1985) found that women of lower class status tended to have more functional definitions of health such as "getting through the day".

The selection of a particular form of coping relies rather heavily on the resources available, such as social networks and financial security (Lazarus et al, 1984). For instance, the use of action-focused coping has been linked with greater involvement in the community (Elliott et al, 1993). This may explain the likelihood for the Mountain and Aberdeen residents to lobby for desired changes in their neighborhoods. These individuals are able to draw from available resources existent in their personal and external lives and alter an adverse situation.

A sense of detachment or isolation discourages social interaction among individuals living in deprived areas. Consequently, groups that lack a common identity with community members will be greatly affected in terms of overall health. The role of a sense of community or social network in producing healthy differences in terms of lifestyles and general health is established here and elsewhere (Wasylishyn and Johnson, 1998). Thus, individuals in the Downtown and Industrial neighborhoods are significantly disadvantaged due to reports of isolation and detachment, which impedes action-focused coping to change negative aspects of their neighborhoods

## **6.2 Linking Findings with Contextual, Compositional, and Collective Framework**

Results from this study suggest that contextual, compositional, and collective factors are mutually interdependent in producing health inequalities and influencing healthy lifestyles. The application of Macintyre et al's (2001) framework provides a conceptualization of neighborhood, social, and individual effects on healthy lifestyles. The findings from this study are consistent with literature supporting that health effects vary according to individuals, time, and place (Shaw et al, 2002). Adding a collective dimension (Macintyre et al, 2002) significantly enhanced the understanding of processes involved in healthy lifestyles. While Macintyre et al (2001) assert that the collective properties of local residents (i.e. accepting norms of smoking) are contextual in nature,

measuring the social functioning, values, norms, and culture of local environments (or collective aspects) can distinguish it from material effects, and thus, accurately determine health effects.

Similarly, as Williams (2003) has suggested, distinguishing one effect from another is counterproductive and problematic because of the relatedness and connectedness of the various health effects. For instance, if it were assumed that the Industrial neighborhood had only contextual and compositional effects, there would be a gap in the explanation of health inequalities. Generally, the industrial neighborhood did not perceive a significant lack of amenities for healthy lifestyles in relation to the Downtown neighborhood (e.g. trails, parks, etc). Despite this, these individuals had negative perceptions of their neighborhood and engaged in unhealthy lifestyle behaviors. In this regard, utilizing a collective framework may help explain why respondents were more likely to adopt unhealthy lifestyle behaviors despite provided amenities. For instance, normative cultures, values, and social behaviors may be more accepting of being physically inactive, smoking, and drinking alcohol. These normative attitudes fostered unhealthy behaviors. Interviews from the Industrial neighborhood indicated that there was a culture of youths loitering in the streets consuming alcohol, or individuals ‘hanging out’ on their porch and drinking alcohol or smoking. These constant images of people engaging in unhealthy behaviors may have resulted in people becoming ‘desensitized’ and or accepting such behavior as ‘normal’.

Presumably, collective effects might also explain health differences in the Downtown neighborhoods. However, this was not apparent in the findings. One rationale for this is the tendency for the Downtown neighborhoods to be socially disconnected and detached from their neighbors. Although the Industrial neighborhoods generally had a weaker sense of community than the Mountain and Aberdeen neighborhoods, many expressed a sense of identification or bonding with their neighbors. Also, there was an indication of shared values and hardships. Thus, although the social norms and culture may have fostered negative health behavior, they were united in their perceived position of social and economic hierarchy. Similarly, if the collective explanation was applied to the Mountain and Aberdeen neighborhoods, a stronger sense of community resulted in the opposite outcomes. In these neighborhoods, social cohesion and a higher level of social interaction may have functioned to produce likelihood of healthy behaviors. Hence, integrating collective explanations, as well as contextual (i.e. pollution) and compositional (i.e. lack of time) would provide a conceptual lens to better understand the complexity of health effects in the four studied neighborhoods.

Alternatively, it is conceivable to presume that either contextual, compositional, or collective effects may be more pronounced in one neighborhood than another. For instance, the Downtown and Industrial neighborhoods had more contextual effects (for example, pollution, lack of recreational amenities, safety concerns) when compared with the Mountain and

Aberdeen neighborhoods. A collective explanation can be used to clarify the tendency for Industrial residents to engage in unhealthy behaviors despite available resources. Also, it was apparent that the Mountain and Aberdeen residents were more affected by compositional characteristics (for instance, lack of motivation, lack of time). Summarily, this study provided strong evidence that there are health differences at the local level, *and* that particular neighborhoods demonstrated a propensity to certain health effects (e.g. the Downtown and Industrial neighborhoods were more effected by contextual aspects).

Results indicate that forms of coping may be influenced by the contextual, compositional, and collective traits. For instance, the Downtown and Industrial residents characteristically had lower neighborhood level income, poorer perceived health, negative perceptions of their neighborhoods and showed a lower level of social interaction with their neighbors. Considering research establishing links between constrained resources and emotion-focused forms of coping (Cohen, 1994), conceivably, these same residents are responding to contextual effects. Also, some individuals may possess certain compositional traits that may counter negative effects from living in a poor neighborhood (i.e. higher individual income status). Likewise, the collective functioning of the Industrial neighborhoods may influence likelihood of ‘coping’ by smoking, consuming alcohol, etc. However, although there is evidence to suggest that forms of coping used by the Downtown and Industrial residents are ineffective (Lazarus and Folkman, 1984) (i.e. avoidance, and minimizing the situation), it is difficult to

correctly ascertain this if there were no other solutions available to individuals. In this case, avoiding the issue may in fact be successful (Becket, 1991).

It is not the intent to imply that Downtown and Industrial residents may have been successful or effective in their choice of coping strategies. In some cases, it may be obvious that a coping technique was ineffective. For instance, despite serious health complications (e.g. heart disease, diabetes), some residents from the less affluent neighborhoods did not believe that engaging in a healthy lifestyle would improve their situation. They coped by either minimizing the seriousness of their health status or by avoiding the issue.

Overall, the employment of the contextual, compositional, and collective theoretical framework contributed to the conceptualizations of place effects and enhanced the understanding of health differences at the local level.

### **6.3 Contributions to Knowledge**

This research has demonstrated that it is important to understand barriers to healthy lifestyles. Each of the barriers has subcategories of impediments that must be addressed if interventions to promote health are to be successful. For instance, low socioeconomic status has associated subcategories that must be addressed such as the challenges of caregiver responsibilities, physical labor as an occupation, lack of transportation, unsafe neighborhoods, and inflexible work schedules (Seefeldt et al, 2002). Social and physical environments that provide impediments to healthy lifestyles may have a bias against the public participation

of females in physical activity. Facilitators to healthy lifestyles should also be considered in interventions to help identify solutions for barriers in at risk areas. Therefore, successful health promotion must rely on the elimination of barriers that may interfere with healthy lifestyles (Bergstrom et al, 2001; Anderson et al, 2001; Brownson et al, 1996).

The findings from this research contribute to a growing body of literature emphasizing the importance of understanding the determinants of health at the local level (Ellaway et al, 2001; Ellaway et al, 1997; Saelens et al, 2003; McLaren and Gauvin, 2001). Using small-scaled studies is useful in documenting differences across neighborhoods and relating these differences to differential health and behaviors (Diez Roux, 2001).

The use of qualitative techniques for this research addressed several limitations imposed by the original quantitative survey. The original survey identified neighborhood characteristics and found that physical concerns dominated social ones as determinants of health. However, the survey could not determine how or why these neighborhood characteristics influenced health or health behavior (Wilson et al, 2004). This thesis not only identified significant differences in neighborhood characteristics (i.e. physical features important in Downtown and Industrial) but that individuals differentially experienced *barriers* and *facilitators* to healthy lifestyles. Presumably, everyone may have barriers or facilitators to maintaining a healthy lifestyle. However, this research identified that not everyone perceives barriers in the same way. Emerging patterns reveal

that Downtown and Industrial residents experienced more physical level barriers (i.e. safety, lack of amenities, pollution), whereas the Mountain and Aberdeen residents experienced more individual level barriers (lack of motivation, lack of time).

The original survey could not conclusively determine if perceptions of social and physical neighborhood characteristics are actual reflections of the neighborhood or individual level attributes. The delineation of individual versus neighborhood level characteristics can minimize bias and accurately identify actual health effects. For instance, a lack of proper distinction between neighborhood and individual level attributes shows that either people in poor health are more negative about their neighborhoods or people with pessimistic views are more likely to report both their health and neighborhoods are poor (Wilson et al, 2004, Ellaway et al, 2001).

Despite the relevance of local studies for urban regeneration policies, neighborhoods have been less often the focus in population health studies. The findings of this research demonstrate that key differential health and lifestyle behavioral patterns exist at the neighborhood level. Reducing health inequalities and concomitantly promoting healthy lifestyles depends on understanding differences in health observed at the local level.

This research advances the conceptual understanding of health effects. Employing the contextual, compositional, and collective theoretical framework generates understanding of the dynamic processes through which neighborhood

and individual factors may mutually influence health. Rather than attempting to attribute health differences to either contextual, compositional, or collective, future research should focus on the incorporation of all three characteristics for successful health promotion.

#### **6.4 Limitations**

While the results provide an examination of neighborhood and individual-based measures for health effects, this research is limited in its capacity to generalize beyond the four studied neighborhoods. However, the purpose of this research was not to generalize to a larger population, but rather to enhance understanding of the processes involved in neighborhood effects on health. This research also aimed to enhance the conceptualization of place effects on health.

Moreover, while self-reported data have been shown to be reliable and valid, information gathered may produce self-reported bias with regards to lifestyle behavior. Although the interview guide included indices related to smoking and drinking alcohol, the results were fairly unreliable. Due to the sensitivity of these issues, it is possible that respondents either exaggerated or lied about these lifestyle behaviors. Additionally, individuals probed on the eating habits of neighbors may not have reliable information since eating is usually done inside the home, where there is less visibility to others in the neighborhood.

## 6.5 Policy Implications

This research raises several issues relevant for policy making: where should policies aim for urban regeneration? What should be targeted in health promotion strategies, individuals (enhancing individual empowerment), areas (building more recreational facilities), or collective social functioning (enhancing empowerment and collective efficacy)? Succinctly, successfully reducing health inequalities requires the consideration of all three levels *before* policy developments take place. This is because an *exclusive* focus on either is counter-productive and can be costly. For example, there is no point in investing in a sports facility if local norms do not accept exercise, or if one cannot afford the facility (Macintyre et al, 2002). Similarly, Forest and Kearns (1999) assert that it is counter-productive to enhance collective functioning if there are no direct incentives, such as jobs or facilities.

Ultimately, policy makers need to recognize that the importance of each level may vary according to time, place, and person (Shaw et al, 2000). Thus, policies aimed at urban regeneration and health promotion should focus on *relevant* health effects tailored to particular neighborhoods or contexts. For instance, it appears that collective and contextual effects are more noticeable in the Industrial neighborhoods, contextual effects in the Downtown neighborhoods, and compositional traits in the Mountain and Aberdeen neighborhoods. This points to a need to target resources at certain levels based on a needs assessment. This is further supported by emerging themes from this research indicating that

the less affluent neighborhoods have poorer overall health and lifestyle behaviors. In short, based on previous research stating that low socioeconomic status areas are linked with poorer health and lifestyle behavior (Lantz et al, 1998), the less affluent neighborhoods (Downtown and Industrial) should be primary targets in policy formulations.

Additionally, the key findings of this thesis not only indicate that the less affluent neighborhoods have more barriers to lifestyle change, but they have barriers that are more difficult to overcome (e.g. pollution, lack of amenities, safety concerns). Policies aimed at reducing health inequalities can commence by addressing barriers identified in high-risk neighborhoods. For example, policies aimed at contextual health effects may implement safer walking and cycling trails. This may address barriers such as traffic density. Also, development of policies at collective levels may provide outreach programs designed to enhance community empowerment and collective action aimed at promoting health and healthy lifestyles. Finally, policies targeted at the compositional level may provide adult education and training to individuals in need. While this study may be limited in the number of neighborhoods investigated, the overarching assumptions are transferable to other neighborhoods sharing similar characteristics (high versus low socioeconomic status). Arguably, other neighborhoods with similar characteristics may exhibit similar health effects. In summation, several policy recommendations may be important considerations

based on findings from this research: first, target areas at most risk; second, target *people in places*.

## **6.6 Future Directions**

This research points to a number of important issues in which more research is necessary. First, the results of this study should be compared with the quantitative survey to validate general themes related to health and lifestyles.

This research provides a number of opportunities for the development of qualitative research strategies that complement and inform the quantitative survey process. The survey identified key neighborhood characteristics. However, it was not clear how these characteristics influenced lifestyle behavior and health or why. Although qualitative approaches are extremely advantageous in documenting differences across neighborhoods and understanding health inequalities, it was limited in the number of neighborhoods studied. Thus, the incorporation of triangulating various sources, methods, and investigators will strengthen credibility of findings (Denzin, 1978; Lincoln and Guba, 1985).

Secondly, future research should try to understand the relationship between lifestyle behavior and differential coping strategies. Although coping mechanisms in this study were comparable to those found elsewhere, the consistency of the results were limited due to a reliance on extracting implicit themes from the interviews. Future studies should try to explain in more detail how coping was related to self-rated health, lifestyle behavior, and neighborhood

environment. This may help understand how the contextual, compositional and collective characteristics provide supportive mechanisms for successful coping.

Thirdly, this study primarily used administrative proxies for definition of neighborhood boundaries. Although administrative and geographically defined neighborhoods may be useful when policies and features of the physical environment are thought to be important (e.g. the Industrial neighborhood and emissions from nearby factories), future studies should consider perceived neighborhood boundaries. Considering residents' perception of neighborhood boundaries yield more relevant and meaningful settings that are more representative of the neighborhood construct (Burton et al, 1997; Elliott and Huizinga, 1990; Meyer and Jencks, 1989). For instance, Kearns et al (2001) assert that individuals defining their neighborhoods in smaller units (5-10 minutes from one's home) are more likely to have a well developed psycho-social relationships. Kearns also adds that neighborhoods such as these that provide strong psycho-social relationships are marked by familiarity and a sense of community. There were some indications in this research that residents of the affluent neighborhoods suggested that familiarity was an important component of perceived neighborhood boundaries.

Finally, future research should focus on building more collaborative approaches to reducing health inequalities by bridging the gap between research to policy. Through the participation of several key stakeholders in the community (city planners, community members, Social and Public Health Services, and

Community Care Access Center), community input and consultations have been instrumental to this research. Partnerships with the community provided insight regarding the processes involved in the application of research at the community level. Enhancing understanding of how communities take ownership of health issues and neighborhood needs may, in turn, increase incentives for further research in health inequalities and provide more meaningful and relevant results.

## BIBLIOGRAPHY

- ABC CANADA Literacy Foundation. [Online] Available:  
[http://www.abc-canada.org/public\\_awareness/national\\_summit\\_notes.asp](http://www.abc-canada.org/public_awareness/national_summit_notes.asp)
- Acheson, D. 1998. Independent Inquiry into Inequalities in Health, Stationary Office: London, [Online] Available:  
[www.official-documents.co.uk/document/doh/ih/contents.htm](http://www.official-documents.co.uk/document/doh/ih/contents.htm)
- American Journal of Health Promotion. 1989. Definition of Health Promotion. Vol. 3 (3): 5
- Anderson, W.P. 1987. The changing competitive position of the Hamilton steel industry. In Dear, M.J., Drake, J.J., and Reeds, L.G. (1987) Steel City: Hamilton and Region. Toronto: University of Toronto Press
- Anderson, R.T., Sorlie, P., Backlund, E., et al. 1997. Mortality effects of community socioeconomic status, *Epidemiology*. 8: 42-47
- Anderson, R.E. 2000. Healthy People 2010: steps in the right direction. *Physician Sports Medicine*. 1:12-20
- Aneshensel, C.S. and Sucoff, C.A. 1996. The neighborhood context of adolescent mental health. *Journal of Health and Social Behavior*. 37: 293-310
- Balfour, J.L. and Kaplan, G.A. 2002. Neighborhood environment and loss of physical function in older adult: evidence from the Alameda County study. *American Journal of Epidemiology*. Vol. 155: 507-515
- Bauman, A. and Smith, B. 1999. Geographical influences upon physical activity participation: Evidence of a 'coastal effect'. *Australian and New Zealand Journal of Public Health*, 23(3): 322-324
- Becket, N. 1991. Clinical nurses' characterizations of patient coping problems. *Nursing Diagnosis*. Vol. 2(2):72-79
- Berg, B.L. 1998. Qualitative Research Methods for the Social Sciences. 3<sup>rd</sup> edition. Allyn & Bacon: Needham Heights.
- Bergstrom, A., Pisani, P., Tenet, V., et al. 2001. Overweight as an avoidable cause of cancer in Europe. *International Journal of Cancer*. 91:421-430

- Birch, S., Jerrett, M., Eyles, J., 2000. Heterogeneity in the determinants of health and illness: the example of socioeconomic status and smoking. *Social Science and Medicine*. Vol. 51: 307-317.
- Black, D. and Smith, C. 1992. The Black Report, in Townsend, P., Davidson, N. and Whitehead, M. (eds.) Inequalities in Health: the Black Report and the Health Divide Penguin, New York, NY.
- Brownson, Ross C., Baker, Elizabeth A., Housemann, Robyn A., Brennan, Laura K., and Bacak, Stephen J. 2001. Environmental and Policy Determinants of Physical Activity in the United States. *American Journal of Public Health*. Vol 91, No.12, 1995-2003.
- Burton, L.M., Price-Spratlen, T., and Spencer, M.B. 1997. On ways of thinking about measuring neighborhoods: Implications for studying context and developmental outcomes for children. In J. Brooks-Gunn, G.J. Duncan and Aber, J.L. (eds.), Neighborhood Poverty: Context and consequences for children. New York: Sage Publications (pp.132-144)
- Calnan, M. and Johnston, B. 1985. Health, health risks and inequalities: An exploratory study of women's perceptions. *Sociology of Health and Illness*. Vol.7(1):55-75
- Carter, J. 1988. Elderly local mobility: An examination of determinants derived from the literature. *Research on Aging*. Vol. 10: 399-419.
- Cauley, J., Donfield, S., Laporte, R., and Warhaftig, N. 1991. Physical activity by socioeconomic status in two population based cohorts. *Medicine and Science in Sports and Exercise*. Vol. 23:343-351
- Cohen, M. 1994. Impact of poverty on women's health. *Canadian Family Physician*. Vol. 40(5): 949-958
- Cooper, H., Arber, S., Fee, L., Ginn, J. 1999. The influence of social support and social capital on health. A review and analysis of British data. Health Education Authority, London.
- Coulton, C.J., Korbin, J., Chan, T., and Su, M. 2001. Mapping Resident's Perception of Neighborhood Boundaries: A Methodological Note. *American Journal of Community Psychology*. Vol. 29 (2):371-383
- Crabtree, B.F. and Miller, W.L. 1999. Doing Qualitative Research. 2<sup>nd</sup> Edition. Sage Publications: London.

- Crane, J. 1991. Effects of neighborhoods on dropping out of school and teenage childbearing. In: Jencks, C. and Peterson, P.E. (eds) 1991. The Urban Underclass. The Brookings Institution, Washington, DC, pp. 299-320.
- Creswell, J.W. 1998. Qualitative inquiry and research design: Choosing among five traditions. London: Sage Publications.
- Creswell, J.W. 2003. Research Design: Qualitative, quantitative, and mixed methods approaches. 2<sup>nd</sup> edition. Thousand Oaks, London: Sage Publications.
- Curtis, S. and Taket, A. 1996. Health and Society: Changing Perspectives. Edward Arnold.
- Dear, M. 1984. Health services planning: searching for solutions in well-defined places, in M. Clarke (ed) London Papers in Regional Science. London: Pion. Pp.7-21
- Dear, M.J., Drake, J.J., and Reeds, L.G. (eds.) 1987. Steel City: Hamilton and Region. Toronto: University of Toronto Press
- Denzin, N.K. 1978. The research act: A theoretical introduction to sociological methods. New York: McGraw-Hill.
- Dey, I. 1999. Grounding Grounded Theory: Guidelines for Qualitative Inquiry. San Diego: Academic Press.
- Diez Roux, A. (2001) Investigating Neighborhood and Area Effects on Health. *American Journal of Public Health*. 91 (11): 1783-1789
- Duhl, L.J. and Sanchez, A.K. 1999. Healthy Cities and the City Planning Process: A Background Document on Links Between Health and Urban Planning. World Health Organization, Regional Office for Europe.
- Duncan, C., Jones, K., and Moon, G. 1993. Do places matter: a multilevel analysis of regional variations in health related behavior in Britain. *Social Science and Medicine*. 37(6): 725-733
- Duncan, C., Jones, K., and Moon, G. 1998. Context, composition, and heterogeneity: using multilevel models in health research. *Social Science and Medicine*. 46: 97-117

- Eames, M., Ben-Shlomo, Y., and Marmot, M.G. 1993. Social Deprivation and premature mortality: regional comparison across England. *British Medical Journal*. 307: 1097-1102
- Ellaway, A., Anderson, A. and Macintyre, S. 1997. Does area of residence affect body size and shape? *International Journal of Obesity*. 21: 304-308
- Ellaway A. and Macintyre, S. 1998 Does housing tenure predict health in the UK because it exposes people to different levels of housing related hazards in the home or its surroundings? *Health and Place*. Vol. 4 (2): 141-150.
- Ellaway, A., Macintyre, S., Kearns, A. 2001. Perceptions of Place and Health in Socially Contrasting Neighborhoods. *Urban Studies*. Vol. 38, No. 12, 2299-2316.
- Elliott, D. and Huizinga, D. 1990. Mediating effects of social structure in high risk neighborhoods. University of Colorado.
- Elliott, S.J., Taylor, S.M., Walters, S., Steib, D., Frank, J., and Eyles, J. 1993. Modelling psychosocial effects of exposure to solid waste facilities. *Social Science and Medicine*, Vol. 37: 791-805
- Elliott, S.J. 1999. And the Question Shall Determine the Method. *Professional Geographer*. 51 (2)
- Emslie, C, Hunt, K, Macintyre, S. 1999. Gender differences in minor morbidity among full time employees of a British university. *Journal of Epidemiology and Community Health*. Vol. 53(8):465-475.
- Eyles, J. 1988. Interpreting the Geographical World: Qualitative Approaches in Geographical Research. In Eyles, J. and Smith, D. (eds) Qualitative Methods in Human Geography. Cambridge: Polity Press.
- Eyles, J. 1999. Health, Environmental Assessment and Population Health: Tools for a Complex Process. *Canadian Journal of Public Health*. 90 (1):S31-S34
- Eyles, J. and Woods, K.J. 1983. The Social Geography of Medicine and Health. London: Croom Helm.
- Eyles, J. and Donovan, J. 1986. Making sense of sickness and care. *Transactions, Institute of British Geographers*, 11, 415-427

- Evans, R.G. and Stoddard, G.L. In Evans, R., Barer, Marmor (eds). 1994. Why are Some People Healthy and Others Not? New York: Aldine de Gruyter.
- Federal, Provincial, and Territorial Advisory Committee on Population Health. 1994. Strategies for Population Health: Investing in the Health of Canadians.
- Forest, R. and Kearns, A. 1999. Joined-up places? Social cohesion and neighborhood regeneration. York: Joseph Rowntree Foundation.
- Gatrell, A.C. 2002 Geographies of Health: An Introduction. Oxford: Blackwell Publishers.
- Gentilcore, R.L. 1987 The beginnings: Hamilton in the nineteenth century. In Dear, M.J., Drake, J.J., and Reeds, L.G. (1987) Steel City: Hamilton and Region. Toronto: University of Toronto Press. pp99
- Gesler, W. 1992 Therapeutic Landscapes: medical issues in light of the new cultural geography. *Social Science and Medicine*. 34 (7): 735-746
- Giles-Corti, B. and Donovan, R. 2002. Socioeconomic Status Differences in Recreational Physical Activity Levels and Real and Perceived Access to a Supportive Physical Environment. *Preventive Medicine*. 35: 601-611
- Giles-Corti, B. and Donovan, R. 2002 The relative influence of individual, social, and physical environment determinants of physical activity. *Social Science and Medicine*. 54: 1793-1812
- Gillis, A. 1993. Determinants of a health-promoting lifestyle: An integrative review. *Journal of Advanced Nursing*. Vol.18:345-353
- Glouberman, S. and Millar, J. 2003. Evolution of the determinants of health, health policy, and health information systems in Canada. *American Journal of Public Health*. Vol. 93 (3) p388-392
- Guba, E.G. and Lincoln, Y.S. 1989. Fourth Generation Evaluation. Sage Publications, Newbury Park, California

- Haan, N., Kaplan, G.A., and Camacho, T. 1987. Poverty and health: prospective evidence from the Alameda County study. *American Journal of Epidemiology*. 125: 989-998
- Hammersley, M. and Atkinson, P. 1982. *Ethnography*, Tavistock.
- Health Canada .1986. *Achieving Health for All: A Framework for Health Promotion*
- Health Canada. 1992. Heart Health Equality-Mobilizing Communities for Action. Ottawa: Ministry of Supply and Services
- Health Canada. 2002. *Social Determinants of Health: An Overview for the Implications for Policy and the Role of the Health Sector*
- Health Canada. 2003. "Eat Well. Be Active. Have Fun. You can prevent type 2 diabetes." [Online] Available: <http://www.hc-sc.gc.ca/pphb-dgspsp/ccdpc-cpmmc/diabetes-diabete/english/prevention/activity.html#much>
- Hyndman, S. Making Connections Between Housing and Health. In Kearns, R.A. and Gesler, W.M. (eds.) 1998. Putting Health into Place: Landscape, Identity, and Well-Being. New York. Syracuse University Press
- Hofstetter, C.R., Hovell, M.F., and Sallis, J.F. 1990. Social learning correlates of exercise self-efficacy: Early experiences with physical activity. *Social Science and Medicine*. 31(10): 1169-1176
- Idler, E.L., Benyamini, Y. 1997. Self-rated health and mortality: A review of twenty-seven community studies. *Journal of Health and Social Behavior*. Vol. 38: 21-37
- Jargowsky, P.A. 1997. Poverty and Place. Russell Sage, New York.
- Jencks, C and Mayer, S.E. 1990. The social consequences of growing up in a poor neighborhood. In. Lynn, L.E. and McGeary, M.G.H. (eds.) 1990 Inner-City Poverty in the United States. National Academy Press, Washington, DC, pp111-184.

- Jerrett, M., Eyles, j., and Cole, D. 1998. Socioeconomic and environmental covariates of premature mortality in Ontario. *Social Science and Medicine*. Vol., 47 (1): 33-49.
- Jones, K. and Duncan, C. 1995. Individuals and their ecologies: analyzing the geography of chronic illnesses within a multilevel modeling framework. *Health and Place*. 1: 27-40
- Joseph Rowntree Foundation. 1999. Social cohesion and urban inclusion for disadvantaged neighborhoods. April, Ref: FO 4109
- Kearns, R.A. 1993. Place and Health: Towards a Reformed Medical Geography. *Professional Geographer*. 45:139-147
- Kearns, A. and Parkinson, M. 2001. The Significance of Neighborhood. *Urban Studies*. Vol. 38 (12): 2103-2110
- Kearns, R.A. and Gesler, W.M. 1998. Putting Health into Place: Landscape, Identity, and Well-Being. New York. Syracuse University Press
- Keller-Olaman, S. 2004. Exploring contributions of individual and neighborhood characteristics to health and lifestyles in Hamilton, Ontario. *McMaster Institute of Environment and Health*.
- Kennedy, B.P., Kawachi, I., Glass, R. and Prothrow-Stith, D. 1998 . British Medical Journal. 317: 917-921
- Kickbusch, I. 2003. The contribution of the World Health Organization to a new public health and health promotion. *American Journal of Public Health*. Vol. 93 ( 3) 383-387
- King, AC., Castro, C., Wilcox, S., Eyler, AA., Sallis, JF., Brownson, RC. 2000. Personal and Environmental Factors Associated with Physical Inactivity Among Different Racial-Ethnic Groups of U.S. Middle-Aged and Older-Aged Women. *Health Psychology*. Vol. 19, No. 4, 354-364.
- Koch, T. 1994. Establishing rigor in qualitative research: the decision trail. *Journal of Advanced Nursing*. Vol.19: 976-986
- Krieger, N., Rowley, D.L., Herman, A.A., Avery, B., and Phillips, M.T. 1993. Racism, sexism, and social class. Implications for studies of health, disease, and well-being. *American Journal of Preventive Medicine*. Vol. 9: 92-122

- Krieger, J. and Higgins, D.L. 2002. Housing and Health: Time Again for Public Health Action. *American Journal of Public Health*. Vol 92, No. 5: 758-768
- Lantz, P.M., House, J.S., Lepkowski, J.M., Williams, D.R., Mero, R.P., and Chen, J. 1998. Socioeconomic Factors, Health Behaviors, and Mortality: Results from a Nationally Representative Prospective Study of US Adults. *Journal of American Medical Association*. 279 (21): 1703-1708
- Lawton, M.P. 1985. Housing and living environments of older people. In Binstock, R.H. and Shanas, E. (eds.) Handbook of aging and the social sciences, 2<sup>nd</sup> edition. New York: Van Nostrand Reinhold. Pp 450-478
- Lazarus, R.S. and Folkman, S. 1984. Stress, Appraisal, and Coping. New York: Springer.
- Lierman, M., 1996. The Social Geography of Hamilton, 1961-1991. Unpublished Geography 4C6 Research Paper, Department of Geography, McMaster University, Hamilton, Ontario.
- Lincoln, Y. and Guba, E. 1985. Naturalistic Inquiry. Beverly Hills: Sage Publications.
- Litva, A. and Eyles, J. 1995. Coming out: exposing social theory in medical geography. *Health and Place*. Vol.1(1) 5-14
- Luginaah, I., Jerrett, M., Elliott, S., Eyles, J., Parizeau, K., Birch, S., Abernathy, T., Veenstra, G., Hutchinson, B., and Giovis, C. 2001. Health profiles of Hamilton: Spatial characterization of neighborhoods for health investigations. *GeoJournal*. Vol 53: 135-147.
- Lynch, J., Due, P., Muntaner, C., and Davey Smith, G. 2000b. Social Capital: Is it a good investment strategy for public health? *Journal of Epidemiology and Community Health*. 54: 404-408
- Macintyre, S. and Ellaway, A. 1998. Social and local variations in the use of urban neighborhoods. *Health and Place*. Vol. 4: 91-94
- Macintyre S., Macier, S. and Sooman, A. 1993. Area, Class and Health: Should we be Focusing on Places or People? *Journal of Social Policy*. 22 (2): 213-234

- Macintyre, S., Ellaway, A. and Cummins, S. 2002. Place effects on health: how can we conceptualise, operationalise and measure them? *Social Science and Medicine* Vol. 55, 125-139
- Marshall, C. and Rossman, G.B. 1989. Designing qualitative research. London: Sage Publications
- Mayer, J.D. 1992. Challenges to understanding spatial patterns of disease: philosophical alterations to logical positivism. *Social Science and Medicine*. 35:579-587
- McCann, S.B. 1987. Physical landscape of the Hamilton region. In Dear, M.J., Drake, J.J., and Reeds, L.G. (1987) Steel City: Hamilton and Region. Toronto: University of Toronto Press
- McCulloch, A. 2001. Ward-level deprivation and individual social and economic outcomes in the British Household Panel Study. *Environment and Planning A*. 33:667-684
- McGinnis, J.M. and Foege, W.H. 1993. Actual causes of death in the United States. *Journal of American Medical Association*. 270 (18) 2207
- McGlashan, N.D. (ed.) 1972. Medical Geography. London: Methuen.
- McLaren, L. and Gauvin, L. 2003. Does the 'average size' of women in the neighborhood influence a woman's likelihood of body dissatisfaction? *Health and Place*. 9: 327-335
- McMaster University. 1999. The Determinants of Health in Hamilton Neighborhoods Study: Profiles of Neighborhoods. *McMaster Institute of Environment and Health*. ,
- Mechanic, D. 1974. Social Structure and personal adaptation: Some neglected dimensions. In Coehl, G.G., Hamburg, D.A. and Adams, J.E. (eds.) Coping and adaptation. New York: McGraw-Hill. Pp 32-44
- Meyer, S.E. and Jencks, C. 1989. Growing up in poor neighborhoods: How much does it matter? *Science*. 17:1441-1445
- Miles, M.B. and Huberman, A.M. 1994. Qualitative Data Analysis. 2<sup>nd</sup> Edition. Sage Publications: London.

- Mitchell, R., Gleave, S., Bartley, M., Wiggins, D., Joshi, H. 2000. Do attitude and area influence health? A multilevel approach to health inequalities. *Health and Place*. Vol. 6: 67-79
- Mokdad, A.H. Marks, J.S., Stroup, D.F. and Gerberding, J.L. 2004. Actual causes of death in the United States, 2000. *Journal of American Medical Association*. 291 (10): 1238
- Nelson, M.A. 1994. Economic impoverishment as a health risk: Methodologic and conceptual issues. *Advances in Nursing Science*. Vol. 16 (3):1-12
- Patterson, R.E., Haines, P.S., and Popkin, B.M. 1994. Health Lifestyle Patterns of U.S. Adults. *Preventive Medicine*. 23: 453-460.
- Patton, M.Q. 1990. Qualitative Evaluation and Research Methods. Newbury Park CA: Sage Publications.
- Patton, M.Q. 2002. Qualitative Research and Evaluation Methods. 3<sup>rd</sup> Edition. Sage Publications
- Peace, W.G. and Burghardt, A.F. 1987. Hamilton today. In Dear, M.J., Drake, J.J., and Reeds, L.G. 1987. Steel City: Hamilton and Region. Toronto: University of Toronto Press. pp 286-301
- Pearl, M., Braveman, P., and Abrams, B. 2001. The relationship of neighborhood socioeconomic characteristics to birthweight among five ethnic groups in California. *American Journal of Public Health*. 91: 1808-1824
- Peet, R. 1998. Modern Geographical Thought. Oxford: Blackwell Publishers.
- Pickett, KE and Pearl, M. 2000. Multilevel Analyses of neighborhood socioeconomic context and health outcomes: a critical review. *Journal of Epidemiology and Community Health*. 55: 111-122
- Phillimore, P.R. and Morris, D. 1991. Discrepant legacies: premature mortality in two industrial towns. *Social Science and Medicine*. 33: 139-152
- Poland, B., Coburn, D., Robertson, A., and Eakin, J. 1998. Wealth, Equity, and Health Care: A Critique of a "Population Health" Perspective on the Determinants of Health. *Social Science and Medicine*. Vol. 46, No.7, pp785-798
- Putnam, R. (1993) Making Democracy Work: Civic Traditions in Modern Italy. Princeton, NJ: Princeton University Press.

- Raphael, D. and Farrell, E.S. 2002. Beyond medicine and lifestyle: addressing the societal determinants of cardiovascular disease in North America. *Leadership in Health Services*. i-v
- Richards, L. and Richards, T. 1992. 'Hard' results from 'Soft' data? Computing and Qualitative Analysis. Unpublished. La Trobe University. Bundoora, Melbourne, Australia.
- Robert, S.A. and Powell-Griner, E. 1991. Life expectancies of cigarette smokers and nonsmokers in the United States. *Social Science and Medicine*. 32: 1151-1159
- Robert, S.A. 1998. Community-level socioeconomic effects on adult health. *Journal of Health and Social Behavior*. Vol. 39: 18-37
- Rosenberg, M.W. 1998. Medical or Health Geography? Populations, Peoples and Places. *International Journal of Population Geography*. Vol.4, 211-226
- Ross, C.E. 2000. Walking, exercising, and smoking: does neighborhood matter? *Social Science and Medicine*. 51 (2): 265-274
- Ross, C.E. and Mirowski, J. 2001. Neighborhood Disadvantage, Disorder, and Health. *Journal of Health and Social Behavior*. 42: 258-276
- Ross, N.A, Tremblay, S., Graham, K. 2004. Neighborhood Influences on Health in Montreal, Canada. *Social Science and Medicine*, Vol. 59. No 7: 1485-1494
- Russ-Eft, D. (1979) Identifying components comprising neighborhood quality of life. *Social Indicators Research*. 6: 349-372.
- Ryff, C.D. and Essex, M.J. 1992. The interpretation of life experience and well-being: The sample case of relocation. *Psychology and Aging*. Vol. 7 (4):507-517.
- Saelens, B.E., Sallis, F., Black, J.B., Chen, D. 2003. Neighborhood-Based Differences in Physical Activity: An Environment Scale Evaluation. *American Journal of Public Health*. 93 (9):1552-1558
- Sallis, J.F., Hovell, M.F., Hofstetter, C.R. Elder, J.P., Hackley, M., Caspersen, C.J., et al. 1990. Distance between homes and exercise facilities related to frequency of exercise among San Diego residents. *Public Health Rep*. Vol. 105:179-185

- Saltonstall, R. 1993. Healthy Bodies, social bodies: Men's and women's concepts and practices of health in everyday life. *Social Science and Medicine*. Vol. 36 (1): 7-14
- Sampson, R.J., Raudenbush, S.W., and Earls, F. 1997. Neighborhood and violent crime: A multilevel study of collective efficacy. *Science*. Vol. 277: 918-924
- Sandelowski, M. 1993. Rigor or rigor mortis: The problem in qualitative research revisited. *Advances in Nursing Science*. Vol.16 (2):1-8
- Sandelowski, M. 2000. Focus on Research Methods: Combining qualitative and quantitative sampling, data collection, and analysis techniques in mixed-methods studies. *Research in Nursing and Health*. Vol. 23: 246-255
- Schofield, J.W. 2002. Chapter 8, Increasing the Generalizability of Qualitative Research. In Huberman, A.M and Miles, M.B. The Qualitative Researcher's Companion. Thousand Oaks, CA: Sage Publications. Pp 171-203
- Seefeld, V., Malina, R.M, and Clark, M.A. 2002. Factors Affecting Levels of Physical Activity in Adults. *Sports Medicine*. Vol. 32 (3): 143-168
- Shaw, M., Dorling D. and Mitchell, R. 2002. Health, place and society. With a preface by Peter Haggett. Pearson: London.
- Shim, J.K. 2002. Understanding the routinised inclusion of race, socioeconomic status and sex in epidemiology: the utility of concepts from technoscience studies. *Sociology of Health and Illness*. 24 (2): 129-150
- Sirgy, M.J and Cornwell, T. 2002. How neighborhood features affect quality of life. *Social Indicators Research*. 59: 79-114
- Sloggett, A., and Joshi, H. 1998. Deprivation indicators as predictors of life events 1981-1992 based on the UK ONS Longitudinal Study. *Journal of Epidemiology and Community Health*. 52: 228-233
- Smith, G., Noble, M., and Wright, G. 2001. How much does place matter? Do we care about area effects? *Environment and Planning A*. 33 (8): 1335 - 1369
- Smythe, W.E. and Murray, M.J. 2000. Owing the Story: Ethical Considerations in Narrative Research. *Ethics and Behavior*. Vol.10 (4).

- Sooman, A. and Macintyre, S. 1995. Health and perceptions of the local environment in socially contrasting neighborhoods in Glasgow. *Health and Place*. 51 (5): 276-284
- Stahl, T., Rutten, A., Nutbeam, D., Bauman, A., Kannas, L., Abel, T., Luschen, G., Rodriguez, Diaz J.A., Vinck, J., van der Zee J. 2001. The importance of the social environment for physically active lifestyle: results from an international study. *Social Science Medicine*. Vol. 52, 1-10.
- Stake, R. 1994. Case studies. In N.K. Denzin and Y.S. Lincoln (eds). Handbook of qualitative research. Thousand Oaks, CA: Sage Publications
- Stead, M., MacAskill, S., MacKintosh, A., Reece, J., and Eadie, D. 2001. "It's as if you're locked in": qualitative explanations for area effects on smoking in disadvantaged communities. *Health and Place*. 7: 333-343
- Steptoe, A. and Feldman, P.J. 2001. Neighborhood Problems as sources of chronic stress: development of a measure of neighborhood problems, and associations with socioeconomic status and health. *Annals of Behavioral Medicine*. Vol. 23: 177-185
- Taylor, S.M. 1987. Social change in Hamilton. In Dear, M.J., Drake, J.J., and Reeds, L.G. 1987. Steel City: Hamilton and Region. Toronto: University of Toronto Press. pp138
- Taylor, R.B. and Shumaker, S.A. 1990. Local crime as a natural hazard: implications for understanding the relationship between disorder and fear of crime. *American Journal of Community Psychology*. 18: 619-641
- Troped, Philip J., Saunders, Ruth P., Pate, Russell R., Reininger, Belinda, Ureda, John R., Thompson, Shirley J. 2001. Associations between Self-Reported and Objective Physical Environmental Factors and Use of a Community Rail-Trail. *Preventive Medicine*. Vol 32, 191-200
- Tyroler, H.A., Wing, S., Knowles, M.G. 1993. Increasing inequality in coronary heart disease mortality in relation to educational achievement: profile of places of residence, United States, 1962-87. *Annals of Epidemiology*. 3: S51-S54
- U.S. Department of Health and Human Services. 1979. The surgeon general's report on health promotion and disease prevention. Washington, DC: Public Health Service.

- U.S. Department of Health and Human Services. 1990. *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*. Washington, DC: U.S. Department of Health and Human Services. DHHS publication 91-50212.
- U.S. Department of Health and Human Services. 1996. *Physical activity and health: A report of the surgeon general*. Atlanta, GA
- Wasylishyn, C. and Johnson, J.L. 1998. Living in a Housing Co-operative for low income women: Issues of identity, environment, and control. *Social Science and Medicine*. Vol. 47 (7):973-981
- Wilkinson, R.G. 1996. *Unhealthy Societies: The Afflictions of Inequality*. Routledge: London
- Williams, G.H. 2003. The determinants of health: structure, context and agency. *Sociology of Health and Illness*. 25: 131-154
- Williams, D.R. 1990. Socioeconomic differentials in health: A review and redirection. *Social Psychology Quarterly*. Vol. 53 (2): 81-99
- Willoughby, D.F., Kee, C., and Demi, A. 2000. Women's psychosocial adjustment to diabetes. *Journal of Advanced Nursing*. Vol. 32 (6): 1422-1430
- Wilson, D.K, Kirtland, K.A, Ainsworth, B.E, and Addy, C.L. 2004. Socioeconomic status and perceptions of access and safety for physical activity. *Annals of Behavioral Medicine*. Vol. 28(1):20-28
- Wilson, K., Elliott, S., Law, M., Eyles, J., Jerrett, M, Keller-Olaman, S. 2004. Linking perceptions of neighborhood to health in Hamilton, Canada. *Journal of Epidemiology and Community Health*. Vol. 58:192-198
- Winkleby, M.A. and Cubbin, C. 2003. Influence of individual and neighborhood socioeconomic status on mortality among black, Mexican-American, white women and men in the United States. *Journal of Epidemiology and Community Health*. Vol. 57: 444-452.
- Wing, S., Barnett, E., Casper, M., Tyroler, H.A. (1992) Geographic and socioeconomic variation in the onset of decline of coronary heart disease mortality in white women. *American Journal of Public Health*. 82: 204-209

- Wood, H.A. 1987. Emergence of the modern city: Hamilton, 1891-1950. In Dear, M.J., Drake, J.J., and Reeds, L.G. 1987. *Steel City: Hamilton and Region*. Toronto: University of Toronto Press. pp119
- World Health Organization. 1986. *Ottawa Charter for Health Promotion*. Ottawa: Canadian Public Health Association.
- Yen, I.H., Syme, S.L. 1999. The Social Environment and Health: a discussion of the epidemiologic literature. *Annual Review of Public Health*. 20: 287-308
- Yin, R.K 1994. Case Study Research: Design and Methods. 2<sup>nd</sup> Edition. Sage Publications: London.
- Zeibland, Sue, Thorogood, Margaret, Yudkin, Pat, Jones, Lesley, and Coulter, Angela. 1997. Lack of Willpower or Lack of Wherewithal? "Internal" and "External" Barriers to Changing Diet and Exercise in a Three-Year Follow-up of Participants in a Health Check. *Social Science Medicine*. Vol 46, Nos 4-5, 461-465.

## APPENDIX A

### Lifestyle, Health, & Neighbourhood – Qualitative interview

#### **1. First, can we please talk about your neighbourhood.**

**A.** How long have you lived in your neighbourhood?

- why did you choose to live here?

**B.** Could you describe to me what you like about living in your neighbourhood?

- peace and quiet
- cheap rent
- convenience
- nice community
- is there anything else?

**C.** Now could you describe to me what you dislike about living in your - neighbourhood?

- noise
- inconvenience
- lack of services
- crime
- undesirable people
- is there anything else?

**D.** How would you describe your neighbourhood in terms of socioeconomic status?

- would you describe it as rich?,
- as poor?
- middle-income / average?
- would you describe your neighbourhood as working class, or middle class, or upper class?

**E.** When you have been describing your neighbourhood, where have you considered the boundaries or limits of your neighbourhood to be?

- the lake
- the escarpment
- your street?

**F.** Overall, how satisfied would you say you are with your neighbourhood?

- why do you say that?
- have you considered moving from your neighbourhood?

- Is there anything else?

**2. Now I would like to ask you some questions about your health.**

**A.** How would you describe your health compared to people your same age?  
 -why do you say that?  
 - is there anything else?

**B.** (depending on what they said previously...this question may have already been answered)

What do you think makes a person healthy?

- physical, social, mental, spiritual aspects?
- is there anything else?

**C.** Overall, how satisfied (or 'how happy) are you with your own health?  
 - why do you say that?  
 - Is there anything else?

**3. Could we now change topic a little and talk about healthy opportunities in your neighbourhood**

**A.** Do you think you live in a healthy neighbourhood?  
 - why do you say that?  
 - is there anything else?

**B.** Could you tell me all the lifestyle clubs, healthy-eating groups, the exercise and sports clubs and facilities that are in your neighbourhood? E.g., – 'Weight Watchers', YMCA, church exercise groups, sports clubs; exercise classes; swimming pools; ice rinks; school sportsgrounds; walking groups, jogging and biking trails?

**B.** What image do you have of the lifestyles of people in your neighbourhood?  
 - active people (or not)?  
 - healthy or unhealthy people?  
 - that they eat good food or not?  
 - good weights for their heights or not?  
 - is there anything else?

**4. Now I would like to talk about Your Lifestyle (Behaviour)**

**A. Heart Disease is the number one cause of death for men and women in Canada.**

Could you tell me what you think are the major risk factors for Cardiovascular Disease?

(-ask them to indicate which of the risk factors they have mentioned are the most and least important (i.e., ask them to prioritize them in order of highest and lowest risk)

**B. Could you describe to me what you do to stay healthy.**

- Exercise (e.g., ask frequency (how often in a typical week for example) and duration (e.g. about how long for usually?) and intensity.
- smoking behavior
- alcohol consumption, (frequency? wine/beer)
- diet (e.g., cutting down on salt, fat, junk food, more fruit, more fibre)
- do you believe you eat well enough to maintain health?
- Is there anything else?

**C. Are you satisfied with your lifestyle, (especially with regard to what you eat, and your level of physical activity and the time you set aside for exercising)?**

- (Yes/no) - why did you say that?
- Compared to people of your same age?
- Are you satisfied comparing yourself to people in your neighbourhood?
- Do you feel you are a good weight for your height?
- Is there anything else?

**D. What image do you think other people (e.g., neighbors) have of your lifestyle?**

- active (or not)?
- healthy or unhealthy?
- eat good food or not?
- Good weight for your height?
- is there anything else?

**E. Are you happy with this image others may have of you?**

-why , why not?

**Lifestyle change**

**E. Is there anything about your lifestyle that you would like to change to make it healthier?**

- what and why?
- Do you think these lifestyle changes could be made (or 'Do you plan or intend to make these changes?')
- How will you make these changes?

- Is there anything else?

### **Barriers**

**F.** Are there reasons these changes cannot be made?

- what are these reasons? (focus here on personal reasons, but environment may be mentioned)  
(e.g., lack of time, stage of life, lack of equipment, no people to go with, money, lack of child-care, inconvenience, children don't like healthier cooking...).
- is there anything else?

**G.** What are some things in your neighbourhood that make it easier for you (or help you) to change your lifestyle? (e.g., people to go with, good street lighting at night, someone to look after the children or elderly if caregiver).

**H.** What are some things in your neighbourhood that make it difficult for you to change your lifestyle? (e.g., too many take-away food outlets, feeling unsafe, bad or no sidewalks, too much traffic, expensive fruit and veggies)

**I.** Have you tried to make these changes before?

(if no, why not? – i.e., anything in addition to what has just been mentioned?)

(if yes, Reasons for not sticking with them, again any additional barriers mentioned here?)

**J.** Is there anything you think could make your neighbourhood a healthier place to live?

- physical aspects
- safety/ security
- social/ community feeling
- is there anything else?

### **5. Now I would like to ask you a few final questions about lifestyles**

**A.** Where do you get your information about healthy lifestyles from?

**B.** Do you think that your neighbourhood plays a part in the type of lifestyle you have or the

type of lifestyle you would like to have?

- why do you say that?
- is there anything else?

**B.** What one thing would you do, do you think, to make your neighbourhood a healthier place to live?

- better access to parks
- more open or green spaces
- more sports clubs

- better footpaths
- reduced pollution
- is there anything else?

**D.** Would you like to tell me anything else about your lifestyle, the 'healthiness' of your neighbourhood, and the healthy changes you would like to make?

Thank you very much for your time.

**APPENDIX B**

NVivo revision 2.0.161

Project: Lifestyle change User: Sophie Date: 10/08/2004 - 10:53:51 PM

**NODE LISTING**

Nodes in Set: All Nodes

Created: 18/06/2003 - 3:35:54 PM

Modified: 18/06/2003 - 3:35:54 PM

Number of Nodes: 474

- 1 Barriers
- 2 Lifestyle behav
- 3 lifestyle change
- 4 percep of health
- 5 Percep of healthy neigh'd
- 6 Percep of neigh'd
- 7 (1) /Perception of neigh'd
- 8 (1 1) /Perception of neigh'd/accessibility
- 9 (1 1 1) /Perception of neigh'd/accessibility/accessible amenities
- 10 (1 2) /Perception of neigh'd/community
- 11 (1 2 1) /Perception of neigh'd/community/~nice people~
- 12 (1 2 2) /Perception of neigh'd/community/noisy
- 13 (1 2 3) /Perception of neigh'd/community/~strange~
- 14 (1 2 3 1) /Perception of neigh'd/community/~strange~/mentallyill
- 15 (1 2 4) /Perception of neigh'd/community/quiet
- 16 (1 2 5) /Perception of neigh'd/community/dirty
- 17 (1 2 6) /Perception of neigh'd/community/vagrants+homeless
- 18 (1 2 7) /Perception of neigh'd/community/distrust+illfeeling
- 19 (1 2 8) /Perception of neigh'd/community/keptoselves
- 20 (1 2 9) /Perception of neigh'd/community/familiar
- 21 (1 2 9 1) /Perception of neigh'd/community/familiar/attachment
- 22 (1 2 10) /Perception of neigh'd/community/trust
- 23 (1 2 11) /Perception of neigh'd/community/family orient'd
- 24 (1 2 12) /Perception of neigh'd/community/nosey
- 25 (1 2 13) /Perception of neigh'd/community/clean
- 26 (1 2 14) /Perception of neigh'd/community/pride+kept property
- 27 (1 3) /Perception of neigh'd/crime
- 28 (1 3 1) /Perception of neigh'd/crime/less crime
- 29 (1 3 1 1) /Perception of neigh'd/crime/less crime/safe
- 30 (1 3 2) /Perception of neigh'd/crime/more crime
- 31 (1 3 2 1) /Perception of neigh'd/crime/more crime/drugs+bars
- 32 (1 3 2 2) /Perception of neigh'd/crime/more crime/robbed
- 33 (1 3 2 3) /Perception of neigh'd/crime/more crime/unsafe
- 34 (1 3 2 4) /Perception of neigh'd/crime/more crime/assault
- 35 (1 3 2 5) /Perception of neigh'd/crime/more crime/gangs

- 36 (1 4) /Perception of neigh'd/SES  
37 (1 4 1) /Perception of neigh'd/SES/poor  
38 (1 4 2) /Perception of neigh'd/SES/working class  
39 (1 4 3) /Perception of neigh'd/SES/average  
40 (1 4 4) /Perception of neigh'd/SES/middle class  
41 (1 4 5) /Perception of neigh'd/SES/mixture  
42 (1 4 5 1) /Perception of neigh'd/SES/mixture/working+middle  
43 (1 4 5 2) /Perception of neigh'd/SES/mixture/rich+upperclass  
44 (1 4 6) /Perception of neigh'd/SES/rich  
45 (1 4 7) /Perception of neigh'd/SES/upper class  
46 (1 5) /Perception of neigh'd/satisfied  
47 (1 5 1) /Perception of neigh'd/satisfied/it's okay  
48 (1 5 1 1) /Perception of neigh'd/satisfied/it's okay/couldbebetter  
49 (1 5 1 1 1) /Perception of neigh'd/satisfied/it's  
okay/couldbebetter/toomuch garbage+pollution  
50 (1 5 1 1 2) /Perception of neigh'd/satisfied/it's  
okay/couldbebetter/toomuch traffic  
51 (1 5 1 1 3) /Perception of neigh'd/satisfied/it's  
okay/couldbebetter/more afford housing  
52 (1 5 1 1 4) /Perception of neigh'd/satisfied/it's  
okay/couldbebetter/no pleasantscenario  
53 (1 5 1 2) /Perception of neigh'd/satisfied/it's okay/desire a smaller  
comt'y  
54 (1 5 2) /Perception of neigh'd/satisfied/accessible amenities  
55 (1 5 3) /Perception of neigh'd/satisfied/nice neighbors  
56 (1 5 3 1) /Perception of neigh'd/satisfied/nice neighbors/no one  
pretends to be better  
57 (1 5 3 2) /Perception of neigh'd/satisfied/nice neighbors/common  
values  
58 (1 5 4) /Perception of neigh'd/satisfied/never had problems  
59 (1 5 5) /Perception of neigh'd/satisfied/feels safe  
60 (1 5 6) /Perception of neigh'd/satisfied/everybody looks out  
61 (1 5 7) /Perception of neigh'd/satisfied/lots to do  
62 (1 5 8) /Perception of neigh'd/satisfied/attached and familiar  
63 (1 5 9) /Perception of neigh'd/satisfied/great atmosphere  
64 (1 5 10) /Perception of neigh'd/satisfied/wellkept properties  
65 (1 5 11) /Perception of neigh'd/satisfied/quiet & peaceful  
66 (1 5 12) /Perception of neigh'd/satisfied/clean  
67 (1 6) /Perception of neigh'd/dissatisfied  
68 (1 6 1) /Perception of neigh'd/dissatisfied/not safe to walk  
69 (1 6 2) /Perception of neigh'd/dissatisfied/no facilities  
70 (1 6 2 1) /Perception of neigh'd/dissatisfied/no facilities/walking  
trails  
71 (1 6 3) /Perception of neigh'd/dissatisfied/noisy

- 72 (1 6 4) /Perception of neigh'd/dissatisfied/rundown  
73 (1 6 5) /Perception of neigh'd/dissatisfied/toomanyhomeless  
74 (1 6 6) /Perception of neigh'd/dissatisfied/community  
75 (1 6 6 1) /Perception of  
neigh'd/dissatisfied/community/peopledrinkonstreet  
76 (1 6 6 2) /Perception of  
neigh'd/dissatisfied/community/nosocialfeeling  
77 (1 6 7) /Perception of neigh'd/dissatisfied/pollution  
78 (1 6 7 1) /Perception of neigh'd/dissatisfied/pollution/toomuch  
garbage  
79 (1 6 8) /Perception of neigh'd/dissatisfied/not home, just shelter  
80 (1 7) /Perception of neigh'd/Location  
81 (1 7 1) /Perception of neigh'd/Location/Downtown  
82 (1 7 1 2) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd  
83 (1 7 1 2 1) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd/neigh'd large area  
84 (1 7 1 2 1 1) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd/neigh'd large area/walking distance  
85 (1 7 1 2 1 1 1) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd/neigh'd large area/walking  
distance/2~3blocks  
86 (1 7 1 2 1 2) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd/neigh'd large area/class divide  
87 (1 7 1 2 1 3) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd/neigh'd large area/social divide  
88 (1 7 1 2 2) /Perception of neigh'd/Location/Downtown/Def'n of  
neigh'd/medium size  
89 (1 7 2) /Perception of neigh'd/Location/Industrial  
90 (1 7 2 1) /Perception of neigh'd/Location/Industrial/defn of neighd  
91 (1 7 2 1 1) /Perception of neigh'd/Location/Industrial/defn of  
neighd/neigh'd largearea  
92 (1 7 2 1 1 1) /Perception of neigh'd/Location/Industrial/defn of  
neighd/neigh'd largearea/divided by  
classtatus  
93 (1 7 3) /Perception of neigh'd/Location/Mountain  
94 (1 7 3 1) /Perception of neigh'd/Location/Mountain/defn of neigh'd  
95 (1 7 3 1 1) /Perception of neigh'd/Location/Mountain/defn of  
neigh'd/mediumarea  
96 (1 7 3 1 1 1) /Perception of neigh'd/Location/Mountain/defn of  
neigh'd/mediumarea/4 to 5 block radius  
97 (1 7 3 1 3) /Perception of neigh'd/Location/Mountain/defn of  
neigh'd/neigh'd smallarea

- 98 (1 7 3 1 3 1) /Perception of neigh'd/Location/Mountain/defn of  
neigh'd/neigh'd smallarea/2 blocks
- 99 (1 7 3 1 3 1 1) /Perception of neigh'd/Location/Mountain/defn of  
neigh'd/neigh'd smallarea/2 blocks/up to kids school
- 100 (1 7 3 1 3 2) /Perception of neigh'd/Location/Mountain/defn of  
neigh'd/neigh'd smallarea/just my street
- 101 (1 7 4) /Perception of neigh'd/Location/Aberdeen
- 102 (1 7 4 1) /Perception of neigh'd/Location/Aberdeen/neigh'd  
smallarea
- 103 (1 7 4 1 1) /Perception of neigh'd/Location/Aberdeen/neigh'd  
smallarea/just my street
- 104 (1 7 4 1 2) /Perception of neigh'd/Location/Aberdeen/neigh'd  
smallarea/walking distance
- 105 (1 7 4 2) /Perception of neigh'd/Location/Aberdeen/neigh'd  
largearea
- 106 (1 7 4 2 1) /Perception of neigh'd/Location/Aberdeen/neigh'd  
largearea/within jogging area
- 107 (1 7 4 3) /Perception of neigh'd/Location/Aberdeen/neigh'd  
mediumsize
- 108 (1 8) /Perception of neigh'd/Relocate
- 109 (1 8 1) /Perception of neigh'd/Relocate/yes+same neigh'd
- 110 (1 8 2) /Perception of neigh'd/Relocate/yes+diff neigh'd
- 111 (1 8 3) /Perception of neigh'd/Relocate/no
- 112 (1 9) /Perception of neigh'd/dislike
- 113 (1 9 1) /Perception of neigh'd/dislike/no houses
- 114 (1 9 2) /Perception of neigh'd/dislike/drugs+bars
- 115 (1 9 3) /Perception of neigh'd/dislike/noise+traffic
- 116 (1 9 4) /Perception of neigh'd/dislike/pollution
- 117 (1 9 4 1) /Perception of neigh'd/dislike/pollution/smell
- 118 (1 9 4 2) /Perception of neigh'd/dislike/pollution/allergies
- 119 (1 9 4 3) /Perception of neigh'd/dislike/pollution/garbage & litter
- 120 (1 9 5) /Perception of neigh'd/dislike/lackofaffordhousing
- 121 (1 9 6) /Perception of neigh'd/dislike/rundown
- 122 (1 9 7) /Perception of neigh'd/dislike/community
- 123 (1 9 7 1) /Perception of neigh'd/dislike/community/nosocialfeeling
- 124 (1 9 8) /Perception of neigh'd/dislike/noparking
- 125 (1 9 9) /Perception of neigh'd/dislike/nothing
- 126 (1 9 10) /Perception of neigh'd/dislike/loud teenagers
- 127 (1 9 11) /Perception of neigh'd/dislike/power lines
- 128 (1 9 12) /Perception of neigh'd/dislike/lowincometownhouse
- 129 (1 9 13) /Perception of neigh'd/dislike/traffic lights
- 130 (1 9 14) /Perception of neigh'd/dislike/larger neigh'ds
- 131 (1 9 15) /Perception of neigh'd/dislike/closetohighway
- 132 (1 9 16) /Perception of neigh'd/dislike/smallfrontporches

- 133 (1 9 17) /Perception of neigh'd/dislike/small backyard +no garage  
 134 (1 9 18) /Perception of neigh'd/dislike/parking problems  
 135 (1 10) /Perception of neigh'd/likes  
 136 (1 10 1) /Perception of neigh'd/likes/diverse  
 137 (1 10 2) /Perception of neigh'd/likes/convenience  
 138 (1 10 2 1) /Perception of neigh'd/likes/convenience/need a car  
 139 (1 10 2 2) /Perception of  
 neigh'd/likes/convenience/walkeverywhere  
 140 (1 10 3) /Perception of neigh'd/likes/cheapplace  
 141 (1 10 4) /Perception of neigh'd/likes/visuallypleasing  
 142 (1 10 5) /Perception of neigh'd/likes/community  
 143 (1 10 6) /Perception of neigh'd/likes/cleanair  
 144 (1 10 7) /Perception of neigh'd/likes/no traffic  
 145 (1 10 8) /Perception of neigh'd/likes/peaceful  
 146 (1 10 9) /Perception of neigh'd/likes/greenspace  
 147 (2) /Perception of health  
 148 (2 1) /Perception of health/good  
 149 (2 1 1) /Perception of health/good/no abnormal illnesses  
 150 (2 1 2) /Perception of health/good/maintain healthylifestyle  
 151 (2 1 2 1) /Perception of health/good/maintain  
 healthylifestyle/exercise+eatright  
 152 (2 1 2 2) /Perception of health/good/maintain  
 healthylifestyle/partic in sports  
 153 (2 1 2 3) /Perception of health/good/maintain  
 healthylifestyle/active for my age  
 154 (2 1 3) /Perception of health/good/not overweight  
 155 (2 1 4) /Perception of health/good/keep my mind busy  
 156 (2 1 5) /Perception of health/good/rarely see a doctor  
 157 (2 1 6) /Perception of health/good/mentally happy  
 158 (2 2) /Perception of health/not good  
 159 (2 2 1) /Perception of health/not good/aging symptoms  
 160 (2 2 2) /Perception of health/not good/depressed  
 161 (2 2 3) /Perception of health/not good/healthprob  
 162 (2 3) /Perception of health/defn health  
 163 (2 3 1) /Perception of health/defn health/holistic  
 164 (2 3 1 1) /Perception of health/defn  
 health/holistic/optimistic+positive attitude  
 165 (2 3 1 2) /Perception of health/defn health/holistic/upbringing  
 166 (2 3 1 3) /Perception of health/defn health/holistic/being happy  
 167 (2 3 2) /Perception of health/defn health/lifestyle  
 168 (2 3 3) /Perception of health/defn health/healthproblems  
 169 (2 3 4) /Perception of health/defn health/genetics  
 170 (2 3 5) /Perception of health/defn health/social network  
 171 (2 3 6) /Perception of health/defn health/respect for others

- 172 (2 3 7) /Perception of health/def'n health/environment  
 173 (2 3 7 1) /Perception of health/def'n  
 health/environment/proximity+avail of amen  
 174 (2 3 7 2) /Perception of health/def'n health/environment/occupation  
 175 (2 3 7 3) /Perception of health/def'n health/environment/home life  
 176 (2 3 7 4) /Perception of health/def'n  
 health/environment/community life  
 177 (2 3 7 5) /Perception of health/def'n health/environment/poverty  
 178 (2 3 8) /Perception of health/def'n health/doing things you enjoy  
 179 (2 3 9) /Perception of health/def'n health/active mind  
 180 (2 3 10) /Perception of health/def'n health/access to healthcare  
 181 (2 4) /Perception of health/overall healthstatus  
 182 (2 4 1) /Perception of health/overall healthstatus/satisfied  
 183 (2 4 1 1) /Perception of health/overall healthstatus/satisfied/could  
 be worse  
 184 (2 4 1 1 1) /Perception of health/overall healthstatus/satisfied/could  
 be worse/dontgetsickoften  
 185 (2 4 1 1 2) /Perception of health/overall healthstatus/satisfied/could  
 beworse/no chronic illnesses  
 186 (2 4 1 1 3) /Perception of health/overall healthstatus/satisfied/could  
 be worse/cant change it  
 187 (2 4 1 1 4) /Perception of health/overall healthstatus/satisfied/could  
 be worse/I'm still alive  
 188 (2 4 1 1 5) /Perception of health/overall healthstatus/satisfied/could  
 be worse/dont go to doctor often  
 189 (2 4 1 2) /Perception of health/overall  
 healthstatus/satisfied/couldbebetter  
 190 (2 4 1 2 1) /Perception of health/overall  
 healthstatus/satisfied/couldbebetter/slightly overweight  
 191 (2 4 1 2 2) /Perception of health/overall  
 healthstatus/satisfied/couldbebetter/need better lifestyle  
 192 (2 4 1 2 3) /Perception of health/overall  
 healthstatus/satisfied/couldbebetter/more muscular  
 193 (2 4 1 2 4) /Perception of health/overall  
 healthstatus/satisfied/couldbebetter/shouldcutoutsnaack'g  
 194 (2 4 1 2 5) /Perception of health/overall  
 healthstatus/satisfied/couldbebetter/wish i was younger  
 195 (2 4 1 3) /Perception of health/overall healthstatus/satisfied/no  
 health problems  
 196 (2 4 1 4) /Perception of health/overall healthstatus/satisfied/try to  
 stay active  
 197 (2 4 1 5) /Perception of health/overall healthstatus/satisfied/good  
 nutrition

- 198 (2 4 1 6) /Perception of health/overall  
healthstatus/satisfied/physically fit
- 199 (2 4 1 6 1) /Perception of health/overall  
healthstatus/satisfied/physically fit/lost weight
- 200 (2 4 1 7) /Perception of health/overall healthstatus/satisfied/enjoy  
life
- 201 (2 4 2) /Perception of health/overall healthstatus/dissatisfied
- 202 (2 4 2 1) /Perception of health/overall  
healthstatus/dissatisfied/health problems
- 203 (2 4 2 2) /Perception of health/overall  
healthstatus/dissatisfied/overweight
- 204 (2 4 2 3) /Perception of health/overall  
healthstatus/dissatisfied/could be better
- 205 (2 4 2 3 1) /Perception of health/overall  
healthstatus/dissatisfied/could be  
better/needtobemoreactive
- 206 (2 4 2 3 2) /Perception of health/overall  
healthstatus/dissatisfied/could be better/need to quit  
smoking
- 207 (2 5) /Perception of health/average
- 208 (2 5 1) /Perception of health/average/couldbebetter
- 209 (2 5 1 1) /Perception of health/average/couldbebetter/health  
problems
- 210 (2 5 1 2) /Perception of health/average/couldbebetter/overweight
- 211 (2 5 1 3) /Perception of  
health/average/couldbebetter/needtobemoreactive
- 212 (2 5 2) /Perception of health/average/no health problems
- 213 (3) /Percep of healthy neigh'd
- 214 (3 1) /Percep of healthy neigh'd/healthy
- 215 (3 1 1) /Percep of healthy neigh'd/healthy/programs
- 216 (3 1 1 1) /Percep of healthy neigh'd/healthy/programs/assist poor
- 217 (3 1 2) /Percep of healthy neigh'd/healthy/diverse
- 218 (3 1 2 1) /Percep of healthy neigh'd/healthy/diverse/accessible  
amenities
- 219 (3 1 3) /Percep of healthy neigh'd/healthy/communityinvolvement
- 220 (3 1 3 1) /Percep of healthy  
neigh'd/healthy/communityinvolvement/strong  
socialnetwork
- 221 (3 1 4) /Percep of healthy neigh'd/healthy/nofactories+pollut
- 222 (3 1 5) /Percep of healthy neigh'd/healthy/clean
- 223 (3 1 6) /Percep of healthy neigh'd/healthy/safe
- 224 (3 1 6 1) /Percep of healthy neigh'd/healthy/safe/no crime
- 225 (3 1 7) /Percep of healthy neigh'd/healthy/green space
- 226 (3 1 8) /Percep of healthy neigh'd/healthy/financially well-off

- 227 (3 1 9) /Percep of healthy neigh'd/healthy/physical struc promotes activity
- 228 (3 2) /Percep of healthy neigh'd/not healthy
- 229 (3 2 1) /Percep of healthy neigh'd/not healthy/drug abuse
- 230 (3 2 2) /Percep of healthy neigh'd/not healthy/pollution
- 231 (3 2 2 1) /Percep of healthy neigh'd/not healthy/pollution/garbage
- 232 (3 2 2 2) /Percep of healthy neigh'd/not healthy/pollution/carfumes
- 233 (3 2 2 3) /Percep of healthy neigh'd/not healthy/pollution/industfumes
- 234 (3 2 2 4) /Percep of healthy neigh'd/not healthy/pollution/construction
- 235 (3 2 3) /Percep of healthy neigh'd/not healthy/prostitution
- 236 (3 2 4) /Percep of healthy neigh'd/not healthy/nogreenspace
- 237 (3 2 5) /Percep of healthy neigh'd/not healthy/noise+traffic
- 238 (3 2 6) /Percep of healthy neigh'd/not healthy/halfway houses
- 239 (3 2 7) /Percep of healthy neigh'd/not healthy/more obese people
- 240 (3 3) /Percep of healthy neigh'd/recreat facilities+amenities
- 241 (3 3 1) /Percep of healthy neigh'd/recreat facilities+amenities/abundant
- 242 (3 3 2) /Percep of healthy neigh'd/recreat facilities+amenities/access
- 243 (3 3 2 1) /Percep of healthy neigh'd/recreat facilities+amenities/access/healthyfood
- 244 (3 3 3) /Percep of healthy neigh'd/recreat facilities+amenities/dont know
- 245 (3 3 4) /Percep of healthy neigh'd/recreat facilities+amenities/not in neigh'd
- 246 (3 3 4 1) /Percep of healthy neigh'd/recreat facilities+amenities/not in neigh'd/trails
- 247 (3 3 4 2) /Percep of healthy neigh'd/recreat facilities+amenities/not in neigh'd/needcar
- 248 (3 4) /Percep of healthy neigh'd/people in neigh'd
- 249 (3 4 1) /Percep of healthy neigh'd/people in neigh'd/active
- 250 (3 4 2) /Percep of healthy neigh'd/people in neigh'd/singleparent
- 251 (3 4 3) /Percep of healthy neigh'd/people in neigh'd/struggling
- 252 (3 4 4) /Percep of healthy neigh'd/people in neigh'd/unhealthy
- 253 (3 4 4 1) /Percep of healthy neigh'd/people in neigh'd/unhealthy/smoke
- 254 (3 4 4 2) /Percep of healthy neigh'd/people in neigh'd/unhealthy/drink
- 255 (3 4 4 3) /Percep of healthy neigh'd/people in neigh'd/unhealthy/drugs
- 256 (3 4 4 4) /Percep of healthy neigh'd/people in neigh'd/unhealthy/dirty+unkeptproperty

- 257 (3 4 4 5) /Percep of healthy neigh'd/people in  
neigh'd/unhealthy/overweight
- 258 (3 4 5) /Percep of healthy neigh'd/people in neigh'd/eclectic mix
- 259 (3 4 6) /Percep of healthy neigh'd/people in neigh'd/inactive
- 260 (3 4 6 1) /Percep of healthy neigh'd/people in  
neigh'd/inactive/youngfamilies+children
- 261 (3 4 6 2) /Percep of healthy neigh'd/people in  
neigh'd/inactive/elderly
- 262 (3 4 7) /Percep of healthy neigh'd/people in neigh'd/poor nutrition
- 263 (3 4 8) /Percep of healthy neigh'd/people in  
neigh'd/uneduc&unemploy
- 264 (3 4 9) /Percep of healthy neigh'd/people in neigh'd/healthy
- 265 (3 4 9 1) /Percep of healthy neigh'd/people in neigh'd/healthy/not  
obese
- 266 (3 4 10) /Percep of healthy neigh'd/people in neigh'd/educated
- 267 (3 4 11) /Percep of healthy neigh'd/people in neigh'd/elderly
- 268 (3 4 11 1) /Percep of healthy neigh'd/people in  
neigh'd/elderly/healthy for their age
- 269 (3 4 12) /Percep of healthy neigh'd/people in neigh'd/well groomed
- 270 (3 4 13) /Percep of healthy neigh'd/people in neigh'd/theydrinkalot
- 271 (3 4 14) /Percep of healthy neigh'd/people in neigh'd/hard working
- 272 (3 4 15) /Percep of healthy neigh'd/people in neigh'd/criminals
- 273 (3 5) /Percep of healthy neigh'd/changes needed
- 274 (3 5 1) /Percep of healthy neigh'd/changes needed/smell
- 275 (3 5 2) /Percep of healthy neigh'd/changes needed/cleanup
- 276 (3 5 3) /Percep of healthy neigh'd/changes needed/lesstraffic
- 277 (3 5 4) /Percep of healthy neigh'd/changes needed/safer
- 278 (3 5 5) /Percep of healthy neigh'd/changes needed/pollution
- 279 (3 5 5 1) /Percep of healthy neigh'd/changes  
needed/pollution/overall Hamilton
- 280 (3 5 6) /Percep of healthy neigh'd/changes needed/foot paths
- 281 (3 5 7) /Percep of healthy neigh'd/changes needed/less drugs
- 282 (3 5 8) /Percep of healthy neigh'd/changes  
needed/lessvacantbuildings
- 283 (3 5 9) /Percep of healthy neigh'd/changes  
needed/bettercommunityfeeling
- 284 (3 5 10) /Percep of healthy neigh'd/changes needed/more  
oportun&hope
- 285 (3 5 10 1) /Percep of healthy neigh'd/changes needed/more  
oportun&hope/progforsingleparent
- 286 (3 5 10 2) /Percep of healthy neigh'd/changes needed/more  
oportun&hope/healthpromotion
- 287 (3 5 11) /Percep of healthy neigh'd/changes needed/greenspaces
- 288 (3 5 12) /Percep of healthy neigh'd/changes needed/affordhousing

- 289 (3 5 13) /Percep of healthy neigh'd/changes  
needed/healthclubs+food
- 290 (3 5 13 1) /Percep of healthy neigh'd/changes  
needed/healthclubs+food/healthfoodclasses
- 291 (3 5 13 2) /Percep of healthy neigh'd/changes  
needed/healthclubs+food/cheapfacilities
- 292 (3 5 13 3) /Percep of healthy neigh'd/changes  
needed/healthclubs+food/diverse rec classes
- 293 (3 5 14) /Percep of healthy neigh'd/changes needed/betterscenary
- 294 (3 5 15) /Percep of healthy neigh'd/changes needed/sort  
garbage+recylce more
- 295 (3 5 16) /Percep of healthy neigh'd/changes needed/nearby  
industries
- 296 (3 5 17) /Percep of healthy neigh'd/changes needed/need bike paths
- 297 (3 6) /Percep of healthy neigh'd/no changes
- 298 (3 6 1) /Percep of healthy neigh'd/no changes/happy
- 299 (3 6 2) /Percep of healthy neigh'd/no changes/lots of amenities
- 300 (4) /Lifestyle behav
- 301 (4 1) /Lifestyle behav/CVDriskfactors
- 302 (4 1 1) /Lifestyle behav/CVDriskfactors/poor lifestyle
- 303 (4 1 2) /Lifestyle behav/CVDriskfactors/diabetes
- 304 (4 1 3) /Lifestyle behav/CVDriskfactors/genetics
- 305 (4 1 4) /Lifestyle behav/CVDriskfactors/poverty
- 306 (4 1 5) /Lifestyle behav/CVDriskfactors/stress
- 307 (4 1 6) /Lifestyle behav/CVDriskfactors/age
- 308 (4 1 7) /Lifestyle behav/CVDriskfactors/drugs
- 309 (4 1 8) /Lifestyle  
behav/CVDriskfactors/hormonereplacementtherapy
- 310 (4 2) /Lifestyle behav/exercise
- 311 (4 2 1) /Lifestyle behav/exercise/walkdaily
- 312 (4 2 2) /Lifestyle behav/exercise/intense
- 313 (4 2 3) /Lifestyle behav/exercise/moderate
- 314 (4 2 4) /Lifestyle behav/exercise/occasional
- 315 (4 2 5) /Lifestyle behav/exercise/none
- 316 (4 2 6) /Lifestyle behav/exercise/dailychores
- 317 (4 2 7) /Lifestyle behav/exercise/physicaldemandjob
- 318 (4 3) /Lifestyle behav/healthyeating
- 319 (4 3 1) /Lifestyle behav/healthyeating/needsimprovement
- 320 (4 3 2) /Lifestyle behav/healthyeating/okay
- 321 (4 3 3) /Lifestyle behav/healthyeating/very good
- 322 (4 3 4) /Lifestyle behav/healthyeating/bad
- 323 (4 4) /Lifestyle behav/overall satisfaction
- 324 (4 4 1) /Lifestyle behav/overall satisfaction/needsimprovement

325 (4 4 1 1) /Lifestyle behav/overall  
satisfaction/needsimprovement/overweight

326 (4 4 1 2) /Lifestyle behav/overall  
satisfaction/needsimprovement/need healthier  
lifestyle

327 (4 4 1 2 1) /Lifestyle behav/overall  
satisfaction/needsimprovement/need  
better healthier lifestyle/eat

328 (4 4 1 2 2) /Lifestyle behav/overall  
satisfaction/needsimprovement/need  
lifestyle/exercise more healthier

329 (4 4 1 3) /Lifestyle behav/overall  
satisfaction/needsimprovement/need more motivation

330 (4 4 1 4) /Lifestyle behav/overall  
satisfaction/needsimprovement/toomanybarriersinmylife

331 (4 4 1 4 1) /Lifestyle behav/overall  
satisfaction/needsimprovement/toomanybarriersinmylife/tired

332 (4 4 1 4 2) /Lifestyle behav/overall  
satisfaction/needsimprovement/toomanybarriersinmylife/overworked

333 (4 4 2) /Lifestyle behav/overall satisfaction/satisfied

334 (4 4 2 1) /Lifestyle behav/overall  
satisfaction/satisfied/couldbeworse

335 (4 4 2 1 1) /Lifestyle behav/overall  
satisfaction/satisfied/couldbeworse/I am still alive

336 (4 4 2 2) /Lifestyle behav/overall  
satisfaction/satisfied/coulddobetter

337 (4 4 2 2 1) /Lifestyle behav/overall  
satisfaction/satisfied/coulddobetter/could lose weight

338 (4 4 2 2 2) /Lifestyle behav/overall  
satisfaction/satisfied/coulddobetter/moreenjoyableactivities

339 (4 4 2 2 3) /Lifestyle behav/overall  
satisfaction/satisfied/coulddobetter/compared to neighbors

340 (4 4 2 2 4) /Lifestyle behav/overall  
satisfaction/satisfied/coulddobetter/improve musclemass

341 (4 4 2 2 5) /Lifestyle behav/overall  
satisfaction/satisfied/coulddobetter/set  
aside more time

342 (4 4 2 3) /Lifestyle behav/overall satisfaction/satisfied/compared to  
ppl same age

343 (4 4 2 3 1) /Lifestyle behav/overall satisfaction/satisfied/compared  
to ppl same age/more active

344 (4 4 2 3 2) /Lifestyle behav/overall satisfaction/satisfied/compared  
to ppl same age/better nutrition

- 345 (4 4 2 4) /Lifestyle behav/overall satisfaction/satisfied/exercise  
enough
- 346 (4 4 2 5) /Lifestyle behav/overall satisfaction/satisfied/good  
nutrition
- 347 (4 4 2 6) /Lifestyle behav/overall satisfaction/satisfied/enjoy life
- 348 (4 5) /Lifestyle behav/smoker
- 349 (4 6) /Lifestyle behav/drinker
- 350 (4 6 1) /Lifestyle behav/drinker/2~week
- 351 (4 6 2) /Lifestyle behav/drinker/occasional
- 352 (4 6 3) /Lifestyle behav/drinker/frequent
- 353 (4 6 4) /Lifestyle behav/drinker/seldom
- 354 (4 7) /Lifestyle behav/enjoy life
- 355 (4 8) /Lifestyle behav/travel
- 356 (5) /Lifestyle change
- 357 (5 1) /Lifestyle change/want change
- 358 (5 1 1) /Lifestyle change/want change/more excercise
- 359 (5 1 2) /Lifestyle change/want change/less stress
- 360 (5 1 3) /Lifestyle change/want change/eat better
- 361 (5 1 4) /Lifestyle change/want change/lose weight
- 362 (5 1 5) /Lifestyle change/want change/gain weight
- 363 (5 1 5 1) /Lifestyle change/want change/gain weight/~anorexic~
- 364 (5 1 5 2) /Lifestyle change/want change/gain weight/muscular
- 365 (5 1 6) /Lifestyle change/want change/movetobetterneigh'd
- 366 (5 1 7) /Lifestyle change/want change/financial security
- 367 (5 1 8) /Lifestyle change/want change/quit smoking
- 368 (5 1 9) /Lifestyle change/want change/drink less
- 369 (5 1 10) /Lifestyle change/want change/move out of Hamilton
- 370 (5 1 11) /Lifestyle change/want change/better sleeping habits
- 371 (5 1 12) /Lifestyle change/want change/working less
- 372 (5 1 13) /Lifestyle change/want change/live in house with yard
- 373 (5 1 14) /Lifestyle change/want change/more energy
- 374 (5 2) /Lifestyle change/dont want change
- 375 (5 2 1) /Lifestyle change/dont want change/happy with lifestyle
- 376 (5 2 2) /Lifestyle change/dont want change/want to stay in neigh'd
- 377 (6) /Barriers
- 378 (6 20) /Barriers/Individual
- 379 (6 20 1) /Barriers/Individual/injury
- 380 (6 20 2) /Barriers/Individual/too tired
- 381 (6 20 3) /Barriers/Individual/lackoftime
- 382 (6 20 3 1) /Barriers/Individual/lackoftime/childcare
- 383 (6 20 3 2) /Barriers/Individual/lackoftime/work
- 384 (6 20 3 3) /Barriers/Individual/lackoftime/hobbies
- 385 (6 20 5) /Barriers/Individual/lackofmotivation
- 386 (6 20 5 1) /Barriers/Individual/lackofmotivation/lazy

- 387 (6 20 5 2) /Barriers/Individual/lackofmotivation/procrastinate
- 388 (6 20 5 3) /Barriers/Individual/lackofmotivation/lackof willpower
- 389 (6 20 12) /Barriers/Individual/healthproblems
- 390 (6 20 13) /Barriers/Individual/stressful work
- 391 (6 21) /Barriers/Physical
- 392 (6 21 2) /Barriers/Physical/safety
- 393 (6 21 2 1) /Barriers/Physical/safety/unsafe
- 394 (6 21 2 1 1) /Barriers/Physical/safety/unsafe/noise&fights
- 395 (6 21 2 1 2) /Barriers/Physical/safety/unsafe/drugs
- 396 (6 21 2 1 3) /Barriers/Physical/safety/unsafe/alot of robberies and  
burglaries
- 397 (6 21 2 1 4) /Barriers/Physical/safety/unsafe/shady charact's
- 398 (6 21 2 1 5) /Barriers/Physical/safety/unsafe/assault
- 399 (6 21 4) /Barriers/Physical/financial
- 400 (6 21 4 1) /Barriers/Physical/financial/costly food
- 401 (6 21 4 2) /Barriers/Physical/financial/childcare
- 402 (6 21 4 3) /Barriers/Physical/financial/costly facilities
- 403 (6 21 6) /Barriers/Physical/traffic
- 404 (6 21 7) /Barriers/Physical/foot paths
- 405 (6 21 9) /Barriers/Physical/unpleasantscenery
- 406 (6 21 10) /Barriers/Physical/pollution
- 407 (6 21 10 1) /Barriers/Physical/pollution/smog
- 408 (6 21 11) /Barriers/Physical/lackofspaces
- 409 (6 21 14) /Barriers/Physical/bike trails
- 410 (6 21 15) /Barriers/Physical/heat
- 411 (6 21 16) /Barriers/Physical/fastfoodrest
- 412 (6 21 17) /Barriers/Physical/rec facilities
- 413 (6 21 19) /Barriers/Physical/geographical area
- 414 (6 21 23) /Barriers/Physical/bad street lighting
- 415 (6 21 24) /Barriers/Physical/transport stolen
- 416 (6 22) /Barriers/Social
- 417 (6 22 1) /Barriers/Social/social anxiety
- 418 (6 22 8) /Barriers/Social/peopletoexercisewith
- 419 (6 22 18) /Barriers/Social/com'ty social feeling
- 420 (7) /Facilitators
- 421 (7 1) /Facilitators/community
- 422 (7 1 1) /Facilitators/community/active people
- 423 (7 1 2) /Facilitators/community/safe
- 424 (7 1 3) /Facilitators/community/everybody gets along
- 425 (7 1 4) /Facilitators/community/everyonesociallyconnect'd
- 426 (7 1 5) /Facilitators/community/relate well to people
- 427 (7 2) /Facilitators/convenience
- 428 (7 2 1) /Facilitators/convenience/amenities
- 429 (7 2 1 1) /Facilitators/convenience/amenities/bars

- 430 (7 2 1 2) /Facilitators/convenience/amenities/health food stores  
 431 (7 2 1 3) /Facilitators/convenience/amenities/parks  
 432 (7 3) /Facilitators/familiaritywithneigh'd  
 433 (7 3 1) /Facilitators/familiaritywithneigh'd/attachment  
 434 (7 4) /Facilitators/accesstovehicle  
 435 (7 5) /Facilitators/pleasantscenery  
 436 (7 6) /Facilitators/pets  
 437 (7 7) /Facilitators/peopletoexercisewith  
 438 (7 8) /Facilitators/livinginhouse  
 439 (7 9) /Facilitators/safe enviro  
 440 (7 10) /Facilitators/gym in house  
 441 (8) /Info source  
 442 (8 1) /Info source/TV  
 443 (8 2) /Info source/magazine and newspapers  
 444 (8 3) /Info source/books  
 445 (8 4) /Info source/family+friends  
 446 (8 5) /Info source/medical prof  
 447 (8 6) /Info source/work  
 448 (8 6 1) /Info source/work/health prof  
 449 (8 7) /Info source/internet  
 450 (8 8) /Info source/weightlossprog  
 451 (8 9) /Info source/school  
 452 (8 10) /Info source/healthfoodstore  
 453 (8 11) /Info source/Cdnfoodguide  
 454 (8 12) /Info source/recreational facility  
 455 (9) /coping mech  
 456 (9 2) /coping mech/isolated  
 457 (9 2 1) /coping mech/isolated/no common values w~neighbors  
 458 (9 3) /coping mech/dont identify w~neigh'd  
 459 (9 4) /coping mech/minimize the situation  
 460 (9 4 1) /coping mech/minimize the situation/try to look on the  
 bright side of th  
 461 (9 4 2) /coping mech/minimize the situation/weightdoesntmatter,  
 onlywhatsinside  
 462 (9 6) /coping mech/have basic needs, therefore happy  
 463 (9 7) /coping mech/even healthy people die  
 464 (9 7 1) /coping mech/even healthy people die/live life as I want  
 465 (9 8) /coping mech/get thru day by day  
 466 (9 8 1) /coping mech/get thru day by day/happy to be alive  
 467 (9 9) /coping mech/active coping  
 468 (9 9 1) /coping mech/active coping/lobby for change in neigh'd  
 469 (9 9 2) /coping mech/active coping/rediscovered myself and  
 changed  
 470 (9 10) /coping mech/avoidance coping

- 471 (9 10 1) /coping mech/avoidance coping/thats life
- 472 (9 10 4) /coping mech/avoidance coping/no other options
- 473 (9 10 5) /coping mech/avoidance coping/powerless
- 474 (9 10 6) /coping mech/avoidance coping/happy with lifestyle

## APPENDIX C

### SAMPLE CHARACTERISTICS

NAME	AGE	SEX	ETHNICITY	NEIGHBORHOOD
Anna	49	Female	Caribbean	Downtown
Josie	28	Female	Caucasian	Downtown
Sally	58	Female	Caucasian	Downtown
Sheila	59	Female	Caucasian	Downtown
Karen	51	Female	Caucasian	Downtown
Mark	54	Male	Caucasian	Downtown
Bruce	58	Male	Caucasian	Downtown
Michael	57	Male	Caucasian	Downtown
John	31	Male	Caucasian	Downtown
Leon	32	Male	Ghanian	Downtown
Wendy	59	Female	Caucasian	Industrial
Susan	54	Female	Caucasian	Industrial
Ester	48	Female	Caucasian	Industrial
Rachel	26	Female	Italian	Industrial
Teri	49	Female	Caucasian	Industrial
Brad	53	Male	Caucasian	Industrial
Chris	27	Male	Caucasian	Industrial
James	37	Male	Caucasian	Industrial
Jason	26	Male	Caucasian	Industrial
Cory	59	Male	Scottish	Industrial
Katie	41	Female	Caucasian	Mountain
Sue	53	Female	Italian	Mountain
Brenda	50	Female	Caucasian	Mountain
Cindy	57	Female	Caucasian	Mountain
Connie	29	Female	Italian	Mountain
Dan	56	Male	Greek	Mountain
Howard	28	Male	Jamaican	Mountain
George	29	Male	African Canadian	Mountain
Roy	56	Male	Caucasian	Mountain
Ian	33	Male	Jamaican	Mountain
Nancy	54	Female	Caucasian	Aberdeen
Lindsay	59	Female	Caucasian	Aberdeen
Erin	59	Female	Caucasian	Aberdeen
Diane	32	Female	Irish	Aberdeen
Jennifer	42	Female	Italian	Aberdeen
Paul	23	Male	Caucasian	Aberdeen
Jimmy	62	Male	Japanese	Aberdeen
Gary	33	Male	Caucasian	Aberdeen

Brian	45	Male	Caucasian	Aberdeen
Tom	56	Male	Caucasian	Aberdeen