

Organizational Commitment, Sense of Place, and “Green” Urban Neighbourhoods

by

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B.A., University of Victoria, 2004

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of

MASTER OF SCIENCE

in the Department of Psychology

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## ABSTRACT

Research on organizational commitment in work settings is unclear about its generalization to broader environments; sense of place is typically measured to capture belonging and identification in communities. Whether the constructs of organizational commitment and sense of place are perceived distinctly by neighbourhood residents was investigated. Based on associations between natural design content and prosocial outcomes, it was hypothesized that individuals living in neighbourhoods with numerous green attributes would experience more organizational commitment to their community, as well as a stronger sense of place. Although participants did not perceive organizational commitment and sense of place distinctly, organizational commitment significantly correlated with the number of green features in a neighbourhood. However, sense of place and the degree of greenness in a neighbourhood were not related. This may be because these two constructs are closely related but not identical. Findings highlight the value of studying organizational commitment and sense of place when addressing neighbourhood research.

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## Acknowledgements

I gratefully acknowledge the ongoing encouragement of my family, my friends, and my Nana, for all kinds of important reasons.

For almost ten years, Dr. Robert Gifford has contributed greatly to my education, my aspirations, and my confidence. Thank you.

I thank my committee members: Dr. Elizabeth Brimacombe and Dr. Larry McCann for your interest and eagerness.

Thank you to the staff at the Capital Regional District for their assistance.

I also acknowledge the Sara Spencer Foundation for helping to fund this research.

## Dedication

I dedicate this thesis to my husband, whose trust and support of my research and my dreams does not waiver.

## Chapter 1: Introduction

Every neighbourhood possesses unique physical, social, and economic aspects that set it apart from others near and far. Sometimes these identifying facets are obvious: historic buildings, unconventional streetscapes, or characteristic murals may identify a neighbourhood as distinct from the city at large. Less overt cues of a neighbourhood's identity may be its ethnic composition or an unspoken understanding between residents about accepted levels of noise or property upkeep. Beyond exuding a sense of distinctiveness, *green* neighbourhoods allow residents' lives to overlap in positive ways (Walljasper, 2007). This thesis aims to clarify how the subjective constructs of organizational commitment and sense of place interact with objective, sustainable attributes within communities in order to enable efficient and informed community development.

Previous research has investigated links between environmental orientation and behaviour change in neighbourhood residents (Chan & Yam, 1995). Though, the field of environmental psychology lacks discussion about organizational commitment experienced by neighbourhood residents. This is because organizational commitment has typically been reserved for understanding relations between people and workplace settings. The concept of organizational commitment resides in the literature of organizational/industrial psychology as an attitude based on the degree of identification with, or attachment to, the organization for which one works (Schultz & Schultz, 1998). It has been conceptualized and measured to determine conditions that lead to its development, as have the behaviours and psychological states involved in its manifestation (Allen & Meyer, 1990). Differences among the antecedents of organizational commitment afford opportunities to pursue the nature of this construct outside work environments.

Similarly, the concept of sense of place is also open to interpretation within attitude research (Jorgensen & Stedman, 2001/2006). An individual's sense of place is based on cognitive, affective, and conative relations with molar environments such as homes, communities, and cities (Jorgensen & Stedman, 2001/2006). Generally, those who experience a strong sense of place toward a neighbourhood do not want to leave it because of emotional, rational, symbolic, and spiritual elements as a result of the relationship between themselves and the physical environment (Casakin & Billig, 2009). This may be similar to the way a committed employee feels toward his or her organization. Whether neighbourhood residents will feel organizational commitment toward their community in the same way that they might feel a sense of place is unclear. Thus, investigation into the degree to which each construct is felt by neighbourhood residents, and whether they are singular or separate constructs, when measured in such a setting, is prudent.

Green design commonly describes the incorporation of environmentally sustainable and healthy architecture into built space. Many large-scale organizations such as Leadership in Energy and Environmental Design (LEED), the Green Building Certification Institute (GBCI), and the Canada Mortgage and Housing Corporation (CMHC) use the word "green" to refer to homes, commercial buildings, neighbourhoods, and cities that utilize eco-conscious practices and emphasize occupant comfort and health. At the neighbourhood level, psychologists have endeavored to understand physical features that effect resident wellbeing (Hur et al., 2010; Moser, 2009; Kellert, Heerwagen, & Mador, 2008; Giuliani, 2003; Kweon, 1999; Lord & Rent, 1987; Jirovec et al., 1985; Fried, 1984). Whether neighbourhoods with green attributes affect residents' organizational commitment and sense of place is a timely and important question.

The present study is organized into two parts to best illustrate the extent to which organizational commitment and sense of place are interrelated, and whether they are affected by green attributes in neighbourhoods. Part I focuses on whether organizational commitment and sense of place are perceived similarly or distinctly by those living in a neighbourhood setting. Part II measures whether the number of green attributes in a neighbourhood is significantly associated with either construct.

*Part I: Organizational commitment and sense of place: Distinct or similar constructs?*

*Organizational commitment in the workplace.* Organizational commitment is correlated with motivation and satisfaction at work, and is understood via three key experiences: (1) acceptance of the values and goals of an organization, (2) willingness to exert effort for an organization, and (3) having a strong desire to remain affiliated with an organization (Mowday, Porter, & Steers, 1982). To further delineate organizational commitment in workplace settings, Allen and Meyer (1987) developed a three-component model composed of affective, continuance, and normative commitment, respectively.

Affective organizational commitment is defined by personal characteristics and experiences at work (Allen & Meyer, 1987). Work experiences provide the strongest contribution to a person's development of affective organizational commitment because they fulfill a psychological need for comfort and competence in a work role (Allen & Meyer, 1987). Continuance organizational commitment is based on the magnitude and number of investments an employee has in his or her organization, together with a perceived lack of alternatives (Becker, 1960; Farrell & Rusbult, 1981; Rusbult & Farrell, 1983). The greater an individual's perceived chances of obtaining a different job, and the greater desirability of that alternative position, the lower an individual's continuance organizational commitment tends to be (Bateman

& Strasser, 1984). Finally, normative organizational commitment develops through experiences prior to, and following, entry into an organization (Wiener, 1982). Allen and Meyer (1990) provide an example in which an individual with strong normative organizational commitment has a family member employed by the same organization that emphasizes the importance of organizational loyalty. Organizational socialization also contributes to an individual's level of normative organizational commitment if an organization communicates expectation of employee loyalty (Allen & Meyer, 1990).

These three components appear to be experienced somewhat differently by employees, and an individual may experience all three components to varying degrees (Allen & Meyer, 1990). Essentially, employees with strong affective organizational commitment remain working for an organization because they *want* to, whereas those with strong continuance organizational commitment remain because they feel they *need* to, and employees with strong normative organizational commitment stay because they feel they *ought* to (Allen & Meyer, 1990).

Behaviours associated with organizational commitment are known as organizational citizenship behaviours (Organ, 1988). These are characterized as discretionary actions that promote effective functioning of the organization but are not directly recognized by a formal award system (Organ, 1988). Organizational commitment appears to predict more instances of organizational citizenship behavior in the workplace (Organ, 1988). Thus, measuring organizational commitment in a neighbourhood setting may provide insight into similar pro-social attitudes and behaviours that occur in the community.

*Organizational commitment in the neighbourhood.* Despite little research to suggest that organizational commitment is experienced outside the workplace, it may be possible to reference research on the drivers and effects of organizational commitment at work in a broader

environment, such as a residential neighbourhood. However, considering whether organizational commitment can be experienced in a neighbourhood setting is important because a neighbourhood is not typically perceived as an “organization.” But perhaps residents feel organizational commitment in a neighbourhood when they identify with that neighbourhood’s values and goals. In this way, a neighbourhood might be perceived similarly to an organization. This perception may occur if residents notice ways in which a community organizes itself similar to an organization. This might manifest in the form of a neighbourhood advisory committee that meets to discuss alterations to the physical attributes of the neighbourhood, plan community events, or liaise with a larger municipal body concerning city-wide issues.

More specifically, factors that influence the development of affective organizational commitment in the workplace (e.g., personal characteristics, work experiences) may also translate to a neighbourhood environment. Personal characteristics undoubtedly determine whether an individual accepts, and fits in with, an organization or community. An individual’s previous experience living in other neighbourhoods could also align with the antecedent factor of previous work experiences. Thus, it appears that the formative factors of affective organizational commitment have the potential to be present in both workplace and neighbourhood settings.

Similarly, continuance organizational commitment might be experienced in a neighbourhood setting as a willingness to exert effort for the community because of a feeling of investment. A resident might become involved in a community event, pick up litter in the neighbourhood, or use his or her leisure time to serve on a local advisory board. Again, it seems that continuance organizational commitment could be similarly experienced at work and in the community.

In the same way, normative organizational commitment could also occur in a neighbourhood setting if a resident strongly desired to remain affiliated with the area because of personal, familial, cultural or organizational socializations, just as is felt toward an organization.

Given these commonalities, organizational commitment is likely experienced, to some degree, by community residents and can be studied outside of the work environment. However, when researching emotional facets of neighbourhood residency, sense of place is often measured to capture feelings of belonging and identification with an immediate living area. Perhaps the rudiments of organizational commitment are already contained in the well-researched construct of sense of place.

*Sense of place defined.* Complex interrelationships exist between an individual's sense of place and his or her attitudes and emotions concerning belonging and commitment (Dixon & Durrheim, 2004; Relph, 1976; Tuan, 1977; Shamai, 1991). Like organizational commitment, sense of place is made up of three components: Place identity, place attachment, and place dependence (Jorgensen & Stedman, 2001/2006). Like the three components of organizational commitment, the three components of sense of place noticeably overlap, but also contain distinguishable elements (Bonnes & Secchiaroli, 1995). Interrelations among them are not fully understood or agreed upon by social scientists (Hammit & Stewart, 1996; Kaltenborn, 1997, Jorgensen & Stedman, 2001/2006) and several attempts to articulate the links between them have been made. For example, although Jorgensen and Stedman (2001/2006) affirm that place identity, place attachment, and place dependence can be thought of as a singular "sense of place" factor, others posit that place attachment may subsume place identity and place dependence (Altman & Low, 1992; White, Virden, & van Riper, 2008).

*Place identity.* Harold Proshansky led much of the early research on place identity, defining it as an individual's identity in relation to the physical environment. Place identity is formed through patterns of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals, and behavioural tendencies relevant to the environment (Proshansky, 1978). In a later study, Proshansky and his colleagues further explained that individuals incorporate places into their larger self-concept during the development of place identity (Proshansky et al., 1983).

Place identity and normative organizational commitment appear to be similar concepts. Both lead to a strong desire to remain in a place due to socialization and identity-forming experiences. Recall Allen and Meyer's (1990) example of an employee whose family member stresses job loyalty because he works for the same organization. As a result, the employee experiences normative organizational commitment toward the organization because he or she feels as though they ought to. An individual who experiences place identity may feel similarly. For example, if someone of Italian descent grows up in the neighbourhood of Little Italy in New York City, he or she may develop place identity toward the neighbourhood and not wish to leave because of familial socialization and feelings of loyalty and obligation.

*Place attachment.* The component of place attachment is an emotional bond between an individual and the environment (Altman & Low, 1992; Williams et al., 1992). It is defined as the affective relationship between people and a landscape that goes beyond cognition, preference, or judgment (Riley, 1992). Altman and Low (1992) explain place attachment as the interplay of emotions, knowledge, beliefs, and behaviours in reference to a place. Further, place attachment also refers to the richness of meaning that comes with familiarity (Gold & Burgess, 1982). Place attachment may be similar to affective organizational commitment: both serve as the emotional component in their respective three-component models. Just as someone who

experiences affective organizational commitment accepts the values, goals, and nuances of an organization, someone who feels place attachment accepts the values, goals, and nuances of the place to which they are attached. This is partly why residents of damaged or contaminated communities do not move away from the area more often than residents of undamaged or uncontaminated communities (Hunter, 1998).

*Place dependence.* Place dependence is defined as an individual's perceived positive or negative association between him or herself and a particular place (Stokols & Shumaker, 1981). It is often formed after an individual makes an evaluation of how well a setting serves goal achievement given a range of alternatives (Jorgensen & Stedman, 2001). Thus, place dependence has more to do with whether an environment allows for behavioural goals to be attained, rather than whether affect toward the place is strong.

Place dependence may be analogous with continuance organizational commitment. A person who experiences place dependence does not necessarily feel positively about that place, just like someone who feels continuance organizational commitment feels committed to an organization because of a lack of alternatives, and feelings of investment. Both concepts outline that dependence on an organization or a place can motivate a person to remain in an environment for reasons that are not altogether germane to that environment.

Because of the similarities between the three components of sense of place and the three components of organizational commitment, understanding whether neighbourhood residents perceive the constructs similarly or distinctly may help develop optimal community plans and neighbourhood engagement strategies.

*Part II: Influences of green design attributes on organizational commitment and sense of place*

While investigating how the constructs of organizational commitment and sense of place are related to each other at the neighbourhood level, it is important to ask whether these constructs correlate with how environmentally and socially sustainable or “green” a neighbourhood is.

*Green neighbourhoods defined.* Generally, a neighbourhood is where day-to-day life experiences occur (Beatley, 2008; Hur et al., 2010). It is a community within a town or city where residents recognize each other. However, defining a green neighbourhood is more challenging. Several large-scale organizations have specified what makes a green neighbourhood, and how to create one. The term "green" is often used interchangeably with "sustainable" and "healthy." Typically, sustainable designs maximize the use of natural and renewable resources in order to lower consumption of non-renewable energy and materials while healthy designs focus on human comfort and health (Williams, 2007). Despite the semantic differences between these terms, green design refers to both sustainable and health attributes.

The Canada Mortgage and Housing Corporation (CMHC) defines a green neighbourhood as one that protects the environment through green design and ensures an affordable legacy by offering homes located near shops, schools, recreation, work, and other daily destinations (Canada Mortgage and Housing Corporation, 2009). Typically exuding a village-like atmosphere, green neighbourhoods are pleasant, convenient, healthy, and safe (Canada Mortgage and Housing Corporation, 2009).

The United States Green Building Council (USGBC) is currently developing LEED criteria for neighbourhoods emphasizing sustainable design and public health (United States Green Building Council, 2009). Also, in both the U.S. and Canada, the new Living Building

Challenge 2.0 released by the Cascadia Region Green Building Council includes biophilic prerequisites for building, neighbourhood, and landscape projects (International Living Building Institute, 2009). To qualify for the challenge, projects must integrate six biophilic design elements per 2,000 square meters of area as described by Kellert, Heerwagen, and Mador (2008). These elements can take the form of natural shapes, patterns, processes, place-based connections, or human-nature relations.

Further, neighbourhoods are often considered green if they connect to larger natural areas and integrate eco-conscious design elements, such as deliberate green space at the street and block levels (Beatley, 2008). Alternative mobility options, such as safe walking routes, bike lanes, and convenient public transit stops are typically designed into these neighbourhoods. Many green design features serve a functional, as well as an aesthetic, purpose. Rainwater harvesting and traffic calming are two examples of green design acting dually as an environmental and mechanical benefit to the neighbourhood (Beatley, 2008).

*Green neighbourhoods, attitudes, and behaviour.* Research suggests that green design elements in the physical environment affect our attitudes and behaviours (Hur et al., 2010; Beatley, 2008; Kweon, 1999; Coley, Sullivan, & Kuo, 1997). Because vegetation and water features are often integrated into the interior and exterior spaces of green neighbourhoods, studies on the influence of nature-based architecture on cognitive and emotional functioning can be drawn upon in the present study. Humans have an emotional association with nature and it follows that contact with natural forms is healthy and restorative (Joye, 2007). Studies on the aesthetic appeal of natural content in built environments show that calm water features and vegetative attributes contribute to liking reactions within buildings (Joye, 2007). In addition, a recent study by Hur et al. (2010) suggest that residents' neighbourhood satisfaction increases

with the amount of actual and perceived greenness in the community.

Another link between green design, attitudes, and behaviour can be understood through the concept of mirroring. Mirroring occurs when a built space suits an occupant's customary living and working habits, social pattern, or cultural background (Gifford, 2002). In the present study, residents of neighbourhoods that are more or less green may feel that their community mirrors their attitudes and behaviours. Such a value alignment might influence the development of sense of place or organizational commitment toward a green neighbourhood because they often emphasize residents' needs, comfort, and accessibility.

*Green neighbourhoods and organizational commitment.* Part I of the present study notes that organizational commitment is typically studied in the workplace. However, commonalities exist between green neighbourhoods and work settings known to foster high organizational commitment. Individuals employed by organizations that encourage autonomy and engagement (e.g., by providing opportunities for employees to use their strengths or special abilities) are more likely to be organizationally committed (Schultz & Schultz, 1998). Green communities that offer opportunities for residents to become involved and use their skills toward making their community better (perhaps through community gardens, advisory committees, or neighbourhood markets) may foster organizational commitment toward the neighbourhood by the same means as in the workplace.

Research has also revealed a link between organizational commitment, effort, and performance at work (Saal & Knight, 1988). The higher an individual's organizational commitment, the greater effort he or she is willing to invest on its behalf and the better their performance. In addition, highly organizationally committed workers are better able to cope with stress (Jamal, 1984). Also, those who feel organizationally committed at work are less likely to

search for alternative positions (Baron & Greenberg, 1990). This finding can inform neighbourhood occupancy and revitalization strategies so that residents can be encouraged to remain in a neighbourhood for longer time periods.

These associations could be utilized by social scientists. Resident involvement in neighbourhood sustainability action plans, advisory committees, or perhaps more hands-on contributions such as a litter pick-up program, or tending to a community garden, may be best promoted if the influences of organizational commitment on neighbourhood resident behaviour are better understood.

*Green neighbourhoods and sense of place.* Despite a lack of consensus about what sense of place fully consists of, or how it should be assessed (Hammit & Stewart, 1996; Kaltenborn, 1998; Jorgensen & Stedman, 2001/2006; Casakin & Billig, 2009), research has been done to relate the development of sense of place to an individual's interactions within a community (Peggy & Huang, 1996). The presence of distinctive physical terrain in urban design appears to be related to place identity (Uzzell, Pol, & Badenas, 2001). Also, stronger place attachment has been reported by neighbourhood residents with access to a garden (Sime & Kimura, 1988). Further, residents who live on a quiet street are more likely to feel attached to their neighbourhood than residents living on a busy street (Pinet, 1988).

All of these design aspects are included in this study's definition of a green neighbourhood (e.g., traffic calming, access to green space, etc.). However, residents who live in single-family dwellings are more likely to be "rooted" (longer-term residency with plans to stay), compared to those living in multi-unit places (Riger & Lavrakas, 1981). Interestingly, single-family homes are not one of the pillars of a green neighbourhood. Thus, it is valuable

investigating whether green neighbourhoods designed to encourage feelings of safety, environmental concern, and rootedness in residents, evoke feelings of sense of place.

The meaning-mediated model of place attachment (Stedman, 2003) suggests that individuals do not become directly attached to tangible objects or sensory experiences offered by various environments. People form bonds with the meanings they have projected upon places. This model suggests that for an objective feature of a neighbourhood to affect a resident's sense of place, it will hold a positive meaning. In particular, place attachment is not based totally on the physicality of an environment, but also on familiar social interactions that occur within it (e.g., Fried, 1963; Hidalgo & Hernandez, 2001). We know that residents with more social ties in their neighbourhood feel more attached to it (Mesch & Manor, 1998), and that place attachment is partially based on routine social neighbouring behaviours (e.g., smiling, saying hello) (Woldoff, 2002).

These behaviours fit with this study's assertion that green neighbourhoods include amenable, village-like attributes that afford opportunities for residents to recognize and interact with each other. Thus, measuring whether sense of place is linearly related to the number of green design attributes in a neighbourhood may indicate how residents interpret the meaning of social and environmental sustainability in their community.

### *Hypotheses*

*Part I.* Because of a lack of literature about organizational commitment outside of the work setting, and insufficient research to indicate whether organizational commitment and sense of place are at all analogous, Part I of the present study is exploratory and a non-directional hypothesis is put forward.

*Part II.* Based on the emphasis on resident wellbeing in green neighbourhoods, and the restorative associations between natural content and aesthetic preference, it is hypothesized that despite how similarly organizational commitment and sense of place are perceived by neighbourhood residents, both will be linearly related to the number of green design attributes in a neighbourhood.

## Chapter 2: Method

### *Participants*

*Pilot study.* A convenience sample of 30 individuals were asked to complete a pilot questionnaire about attitudes and behaviours concerning organizational commitment and sense of place. Sixteen individuals chose to participate (9 males and 7 females, mean age = 38 years,  $SD = 13.09$ ).

The average number of months participants had lived in their neighbourhood was 84.28, or 7 years ( $SD = 104.38$ ). Most participants rented their home ( $M = 1.31$  or 75%), with the closest description of their residence was "detached house" ( $M = 3.67$  or 31%,  $SD = 2.38$ ). An average of 2 other people resided in participants' households ( $SD = 0.85$ ). The average annual income of participants was \$74,285 ( $SD = 30,923$ ).

Participants reported a Master's degree as their highest completed level of education ( $n = 6$  or 38%). Four (25%) had completed some post-bachelor degree; 4 (25%) had a Bachelor's degree; and, 2 (13%) completed some college, technical/vocational school, or university. No one reported having completed only some secondary school, or having only a secondary school diploma, a PhD or professional degree.

*Main study.* Eighty-four residents (26 males and 58 females) across three neighbourhoods (Neighbourhood 1:  $n = 24$ ; Neighbourhood 2:  $n = 33$ ; Neighbourhood 3:  $n = 27$ ) in a mid-sized

Canadian city were asked to complete a questionnaire about their organizational commitment and sense of place. Participants were recruited by sending 900 questionnaires, as unaddressed ad mail, to various letter carrier routes within each neighbourhood; the response rate was 9%.

The mean age of participants was 52 years ( $SD = 14.59$ ). Broken down by neighbourhood, the mean ages were 55 years ( $SD = 16.35$ ) in Neighbourhood 1; 50 years ( $SD = 13.64$ ) in Neighbourhood 2; and, 52 years ( $SD = 13.84$ ) in Neighbourhood 3 (see Table 2 for neighbourhood differences with respect to demographic variables). The only restriction concerning the characteristics of participants was that they be 18 years of age or older. If more than one person in a household wished to complete the questionnaire, the lead researcher could be contacted to obtain an additional copy of the survey. Thus, each completed questionnaire represented one person's responses.

The average number of months participants had lived in their neighbourhood was 144.74, or 12 years ( $SD = 122.85$ ). In Neighbourhood 1, the average number of months spent in the neighbourhood was 162.96 or 14 years ( $SD = 146.05$ ). In Neighbourhood 2, the mean was 156.47 months or 13 years ( $SD = 110.44$ ), and in Neighbourhood 3, the mean was 114.22 months or 10 years ( $SD = 113.36$ ). Most participants owned their home ( $M = 1.70$  or 63%,  $SD = 0.53$ ) with the closest description of their residence was "detached house" ( $M = 3.27$  or 61%,  $SD = 1.92$ ). An average of 2 other people resided in participants' households ( $SD = 1.37$ ). The average annual income of participants was \$78,500 ( $SD = 56,782$ ). Table 2 displays the means of these variables in each of the three neighbourhoods.

Participants reported a bachelor's degree or a technical/vocational degree, or diploma as their highest completed level of education ( $n = 28$  or 33%). Fifteen participants (18%) had a Master's degree; 14 (17%) had completed some college, technical/vocational school, or

university; 11 (13%) had a PhD or professional degree; 10 (12%) reported to have completed some of a post-bachelor's degree; and, 6 (7%) had a secondary school diploma. No one reported having completed only some secondary school (see Table 2 for means per neighbourhood).

### *Materials*

*Pilot study.* The lack of literature made it necessary to identify relevant organizational commitment-specific attitudes and behaviours that might occur in a neighbourhood setting. A questionnaire asking how much participants agreed with 12 attitudinal and 12 behavioural examples associated with organizational commitment and sense of place was given to the convenience sample (see Appendix B). The questionnaire used 5-point Likert scales, ranging from strongly disagree (1) to strongly agree (5), to measure possible organizational commitment attitudes (2 of affective organizational commitment, 2 of continuance organizational commitment, and 2 of normative organizational commitment), as well as sense of place attitudes (2 of place identity, 2 of place attachment, and 2 of place dependency). Sense of place behaviours (2 of place identity, 2 of place attachment, and 2 of place dependency), and possible organizational commitment behaviours (2 of affective organizational commitment, 2 of continuance organizational commitment, and 2 of normative organizational commitment) were also measured using the same 5-point scale.

Each question was conceptualized from the body of literature on attitudes and behaviours exhibited by individuals who have felt organizationally committed at work, and a strong sense of place toward their home. For example, employees who report strong affective organizational commitment at work often perform citizenship behaviours such as attending non-mandatory meetings, becoming informed about organizational issues, and participating in social activities within the workplace (Bolino, Turnley, & Bloodgood, 2002). Thus, questions to determine

relevant behaviours linked to affective organizational commitment in a neighbourhood setting asked about consistent patronage of local grocery stores, volunteering on neighbourhood advisory councils, etc. Participants also had the opportunity to add other examples of both constructs in open-ended form.

Demographic questions, such as year born, gender, highest level of education completed (e.g., “bachelor’s degree;” “some post-bachelor degree,” etc.), number of months spent living in the neighbourhood, number of people residing in the household, annual income (optional), and whether the residence was “rented” (1), “owned” (2), or “other” (3) were included. Participants were also asked to choose the closest description of their residence (e.g., “basement suite” = 1; “detached house” = 2; “part/room of a house” = 3; “duplex” = 4; “condominium” = 5; “apartment with 5 floors or more” = 6; and, “apartment with 4 floors or fewer” = 7).

*Main study.*

*Measuring green design in neighbourhoods.* To objectively measure environmental and social sustainability in a neighbourhood setting, a list of green design attributes was created (the Green Neighbourhood Scale or GNS). The 18 attributes (see Appendix A) reflected characteristics of green neighbourhoods taken from USGBC, CMHC, and Kellert, Heerwagen, & Mador (2008). For example, 1 point was awarded to a neighbourhood if an observer noticed compact homes with shared walls, and 1 point was given if a community market event was clearly communicated to residents, etc.

In order to become a community, people must have a regular meeting place that incorporates social interactions such as eating, drinking, and selling goods and services (Bechtel, 1987). Thus, the number of green attributes in six neighbourhoods in a mid-sized Canadian city was counted inside a radius of a half-mile, or 800 meters (approximately 10 minutes walking

distance), from a chosen commercial landmark. Each landmark served as the neighbourhood's behavioural focal point - the behaviour setting most accessible to the largest number of people in a geographical area (Bechtel, 1987).

Residents may disagree about the boundaries of their neighbourhood (Guest & Lee, 1984). To avoid responses pertaining to an area outside a neighbourhood's boundaries, the questionnaire included a street map of the appropriate neighbourhood illustrating its behavioural focal point (e.g., Appendix C). The questionnaire also included instructions to answer by visualizing the neighbourhood as "spanning a 10 minute walk from the central point indicated by the "A" on the map."

*Measuring organizational commitment in neighbourhoods.* Variants of the three scales typically used to measure organizational commitment were used to gauge affective, continuance, and normative organizational commitment in neighbourhood residents (Allen & Meyer, 1990). The 8-item Affective Commitment Scale (ACS) assessed employees' emotional attachment to, identification with, and involvement in an organization (Allen & Meyer, 1990; Solinger, van Olffen, & Row, 2008). Similarly, the 8-item Continuance Commitment Scale (CCS), and the 8-item Normative Commitment Scale (NCS) assess residents' feelings of investment, and loyalty toward an organization, respectively. One item from the CCS and 1 item from the NCS were removed because of a lack of relevance to the neighbourhood setting.

To discern whether the concept of organizational commitment is relevant in a neighbourhood setting, the word "organization" was replaced with the word "neighbourhood" in all three scales. For example, the first question of the original ACS asks participants to agree or disagree with the statement, "I would be very happy to spend the rest of my life in this organization" whereas, in this study's revised scale, the word "organization" was replaced with

“neighbourhood.” Responses on the revised scales were made on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7), identical to the original scales.

*Measuring sense of place in neighbourhoods.* The questionnaire included the sense of place scale originally used to measure participants’ thoughts, feelings, and behavioural commitments for their residential lakeshore properties (Jorgensen & Stedman, 2001). This scale is made up of 12 items (4 questions per 3 subscales representing the constructs making up sense of place: Place identity, place attachment, and place dependence).

Sense of place scale items were altered in the present study to include the word “neighbourhood” instead of the words “lakeshore property”, measured on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree.” For example, one of the questions concerning place identity asks participants to agree or disagree with the statement “My lake property says very little about who I am.” In this study’s revised version, the item states “My neighbourhood says very little about who I am.” Responses on the revised scale were made on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (7), identical to the original scale.

*Questions from the pilot study.* The 24 items from the pilot study concerning specific attitudes and behaviours related to the constructs of organizational commitment and sense of place were used in the main study. Questions were presented exactly how they were in the pilot study, using a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

*Other questions.* Demographic questions, such as year born, gender, highest level of education completed (e.g., “bachelor’s degree;” “some post-bachelor degree,” etc.), number of months spent living in the neighbourhood, number of people residing in the

household, annual income (optional), and whether the residence was “rented” (1), “owned” (2), or “other” (3) were included. Participants were also asked to choose the closest description of their residence (e.g., “basement suite” = 1; “detached house” = 2; “part/room of a house” = 3; “duplex” = 4; “condominium” = 5; “apartment with 5 floors or more” = 6; and, “apartment with 4 floors or fewer” = 7).

### *Procedure*

*Pilot study.* The convenience sample was recruited by sending an email to 30 individuals asking for participation so that questions for a thesis could be verified for internal consistency. The questionnaire was attached to the email. Completed questionnaires were returned by replying electronically to the original email; this process was not anonymous.

### *Main study.*

*Gathering information about the neighbourhoods.* Six neighbourhoods in a mid-sized Canadian city were observed concurrently by two researchers to determine the number of green attributes each neighbourhood contained. Each neighbourhood was within 9 kilometers of the city’s centre. Two observers walked for 10 minutes in four directions from the behavioural focal point in each neighbourhood and used the GNS to assign points.

The 6 neighbourhoods were chosen for observation based on their proximity to the city’s centre and that they were marketed as a “village” within the city’s tourism platform. Similarities among the neighbourhoods include several bus routes to downtown, and to the main college and university campuses in the city, promotion of locally-owned and operated businesses, and a range of housing types (e.g., rental and subsidized housing, single-family dwellings, basement suites, condominiums, etc.).

Observers counted the same number of attributes in each neighborhood; any discrepant observations were discussed and reconciled in the field. No inter-rater reliability measures were necessary because both observers agreed upon each neighbourhood's score on the GNS. The two neighbourhoods with the highest and lowest number of points were included in the main study's analyses (referred to as Neighbourhoods 1 and 3, respectively; see Figures 1 through 9). Because an even number of neighbourhoods were initially observed, the neighbourhood with the third-highest number of green attributes was also chosen (referred to as Neighbourhood 2).

The three neighbourhoods were similar in population size: Neighbourhood 1 had approximately 5,177 occupied dwellings at the time the study was conducted; Neighbourhood 2 had approximately 2,352 occupied dwellings; and, Neighbourhood 3 had approximately 744 occupied dwellings. Population estimates were based on unpublished 2006 census data gathered from the city's Capital Regional District (CRD) and are displayed in Table 1. Based on 2006 census data, 30% of residents in Neighbourhood 1 were property owners and 70% were renters, whereas 38% of those living in Neighbourhood 2 were owners and 62% were renters. In Neighbourhood 3, 92% owned their residence and only 9% rented.

Table 1 also outlines the total number of single detached houses, townhouses, duplex, and apartments in each neighbourhood. Table 2 lists each neighbourhood's complement of green attributes (score on the GNS).

*Gathering information about organizational commitment and sense of place in the neighbourhoods.* The main study's lengthier questionnaire, including the ACS, CCS, NCS, and sense of place scale, was sent through the mail on letter carrier routes serving the three neighbourhoods. The questionnaires were delivered to residences (of any type) as unaddressed ad mail. Nine-hundred residents (300 per neighbourhood) received a questionnaire, along with an

implied consent form, and a self-addressed, postage paid envelope to return the completed questionnaire. Letter carrier routes were chosen based on how many residences they included. For example, because no single route in Neighbourhood 3 had 300 residential addresses, two routes were chosen to ensure that all 300 questionnaires were delivered. Figures 10, 11, 12, and 13 show the letter carrier routes used for each neighbourhood.

## Chapter 3: Results

### *Pilot Study*

*Univariate outliers.* Box plots revealed 1 outlier for the number of months participants had lived in their neighbourhood, and 2 outliers for the number of people living in participants' residences. In total, 1 outlier was found on 4 items measuring organizational commitment and 1 item measuring sense of place. However, no outliers were excluded from the data because none were out of range.

*Missing data.* Nine participants did not provide their annual income. Because of the small sample size and the exploratory nature of the pilot study, no mean replacement or other transformation was done. No other missing data were found.

*Normality.* Each item was tested for normality based on recommendations by Kline (1997). All items met the criteria for acceptable skewness (values between +3 and -3) and acceptable kurtosis (values between +8 and -8).

*Scale reliability.* Items concerning organizational commitment-specific attitudes were combined into the Organizational Commitment Neighbourhood Attitude Scale. The Sense of Place Neighbourhood Attitude Scale, the Organizational Commitment Neighbourhood Behaviour Scale, and the Sense of Place Neighbourhood Behaviour Scale was created in the same fashion.

Reliability coefficients (Cronbach's  $\alpha$ ) were calculated for the four scales. The Organizational Commitment Neighbourhood Attitude Scale had poor internal consistency,  $\alpha = .34$ . One item in the scale had a negative corrected item-total correlation value, indicating that it should be coded inversely from the rest of the items. However, upon inspection of the questionnaire, the item's valance appeared to be in the correct direction. Thus, the item was

instead removed from the scale. The reliability of the scale was subsequently improved ( $\alpha = .46$ ).

Scales concerning specific organizational and sense of place behaviours were somewhat reliable,  $\alpha = .67$  and  $\alpha = .69$ , respectively. Most reliable was the Sense of Place Neighbourhood Attitude Scale,  $\alpha = .87$ .

The Spearman-Brown prophecy formula was employed to estimate the reliability of each scale by improving the sample size, assuming similar respondents. The sample was improved by a factor of 5, simulating results as though  $N = 80$ . Reliability was improved for scales concerning specific attitudes about organizational commitment and sense of place ( $\rho^*_{xx} = .81$ ,  $\rho^*_{xx} = .97$ , respectively), as was the reliability of the Organizational Commitment Neighbourhood Behaviour Scale and the Sense of Place Neighbourhood Behaviour Scale ( $\rho^*_{xx} = .91$ ,  $\rho^*_{xx} = .92$ , respectively). Thus, the four scales were included in the questionnaire used in main study.

*Descriptives.* Means and standard deviations were calculated for all variables (Table 3). In general, responses were neutral concerning organizational commitment and sense of place attitudes and behaviours in a neighbourhood setting (all means near 3 on a 5 point scale). This suggests a negligible difference among the constructs of organizational commitment and sense of place.

*Preliminary correlations.* As a precursor to the main study, correlations between the four scales were examined. The Organizational Commitment Neighbourhood Attitude Scale and the Sense of Place Neighbourhood Attitude Scale were not significantly correlated ( $p > .05$ ). However, the Organizational Commitment Neighbourhood Behaviour Scale and the Sense of Place Neighbourhood Behaviour Scale were significantly correlated,  $r = .73$ ,  $p < .01$ .

Not surprisingly, the Sense of Place Neighbourhood Attitude Scale and the Sense of Place Neighbourhood Behaviour Scale were significantly correlated,  $r = .68, p < .01$ . Also, the Organizational Commitment Neighbourhood Behaviour Scale significantly correlated with the Sense of Place Neighbourhood Attitude Scale,  $r = .69, p < .01$ . These correlations suggest that behaviours related to organizational commitment and sense of place are not distinct, but that attitudes related to these constructs may be.

Finally, responses on the Organizational Commitment Neighbourhood Attitude Scale positively correlated with the number of people living in the household,  $r = .72, p < .01$ . Participants' age negatively correlated with the number of months spent living in the neighbourhood ( $r = -.69, p < .01$ ), the number of people living in the household ( $r = -.51, p < .05$ ), and annual income ( $r = -.93, p < .01$ ).

### *Main Study*

*Pre-analysis variable computations.* Six items from the 3 organizational commitment scales (4 from the ACS and 2 from the NCS) and 3 items from the sense of place scale were recoded so that all items scored in the same direction before summing. Items scored in the opposite direction relative to other items within a scale would yield negative inter-tem correlations (Warner, 2008).

*Univariate outliers.* Data were assessed for univariate outliers. Values on each measure were converted into standardized residuals, and z-score values in excess of 3.29 ( $p < .001$  for a two-tailed test) were considered extreme (see Tabachnick & Fidell, 2007). Two outliers were found on the Normative Commitment Scale. These values were not omitted because they were from the target population. To reduce their impact, both outliers were replaced with a score one

standard deviation smaller than the next most extreme score for that item (see Tabachnick & Fidell, 2007).

*Missing data.* The percentage of missing data for all measures and demographic items was low. Less than 1% of the data points in the data set were missing (i.e., 31 out of 5,628 or 0.6%). Because of the low percentage of overall missing data, each missing data point was replaced with the variable mean.

*Normality.* The normality of all items and scales was evaluated based on recommendations by Kline (1997). All variables met the criteria for acceptable skewness (values between +3 and -3) and acceptable kurtosis (values between +8 and -8).

*Scale reliability.* The internal consistency of each scale was assessed using reliability analysis. The internal consistency of the Sense of Place scale was high ( $\alpha = .87$ ). The 3 scales measuring the components of organizational commitment (the ACS, CCS, and NCS) also had strong reliabilities ( $\alpha = .83$ ,  $\alpha = .85$ , and  $\alpha = .76$ , respectively).

Although Cronbach's alpha remained strong when the 3 component scales were added together to form the Organizational Commitment Scale ( $\alpha = .83$ ), some negative inter-item correlations emerged after combining the scales. In particular, several items measuring continuance and normative commitment negatively correlated with items measuring affective organizational commitment. However, negative inter-item correlations did not occur between items measuring continuance and normative commitment. Also, no negative corrected item-total correlations for the Organizational Commitment Scale were revealed. This may mean that despite the apparent reliability of the Organizational Commitment Scale, relations between its components are not altogether clear.

The four scales measuring specific attitudes and behaviours concerning organizational commitment and sense of place were not as internally consistent as estimated by the Spearman-Brown prophecy formulae done in the pilot study. The two scales measuring specific attitudes about organizational commitment and sense of place in neighbourhoods were somewhat reliable ( $\alpha = .63$ , and  $\alpha = .86$ , respectively). The Organizational Commitment Neighbourhood Behaviour Scale and the Sense of Place Neighbourhood Behaviour Scale were also only somewhat reliable ( $\alpha = .64$ , and  $\alpha = .75$ , respectively).

*Power.* An *a priori* power analysis indicated that 42 participants were needed to reveal significant two-tailed correlations between variables at the  $p < .05$  level and a large effect size,  $f^2 = .50$  (Faul et al., 2009). Thus, 84 participants were sufficient to draw conclusions from significant correlations with a large effect size.

*Descriptives.* Means and standard deviations were calculated for all variables (Table 4). In general, responses concerning organizational commitment and sense of place attitudes and behaviours in a neighbourhood setting were higher than the pilot study (3 out of 4 means rounding to 4 on a 5 point scale). Means for the Organizational Commitment Scale and the Sense of Place Scale appear very similar ( $M = 3.56$ , and  $M = 3.53$ , respectively).

*Hypothesis testing – Part I.* A correlation analysis revealed a significant positive association between the Organizational Commitment Scale and the Sense of Place Scale ( $r = .61$ ,  $p < .001$ ), but only 37% of the variance of one variable is accounted for by the other. A scatterplot illustrates this linear relationship (see Figure 8). This suggests that neighbourhood residents do not perceive these constructs as two distinct attitudes. The degree of correlation between the two variables is shown in Figure 14.

*Hypothesis testing – Part II.* A correlation analysis was performed to understand whether the constructs of organizational commitment and sense of place associated with the number of green neighbourhood design attributes. Although community residents did not distinguish between organizational commitment and sense of place (as per Part I), organizational commitment was significantly associated with the number of green neighbourhood design attributes ( $r = .25, p < .05$ ), whereas sense of place was not ( $r = .20, p > .05$ ). Thus, green neighbourhoods are significantly associated with feelings of organizational commitment, but not with residents' sense of place toward their neighbourhood. However, because the  $r$  values do not differ greatly, it is possible that sense of place would significantly correlate with neighbourhood greenness in a larger sample.

Because residents did not strongly distinguish between these two constructs, the Organizational Commitment Scale and the Sense of Place scale were merged to form a single Commitment to Place Scale ( $\alpha = .89$ ). A supplemental correlation analysis was done to test whether this new variable associated with the number of green neighbourhood attributes. A significant positive correlation was found ( $r = .26, p < .05$ ). Thus, the degree of greenness in a neighbourhood appears to affect residents' feelings of commitment to place, even though the constructs of organizational commitment and sense of place are not perceived as two distinct attitudes.

Of the four scales composed of specific neighbourhood-related attitudes and behaviours concerning organizational commitment and sense of place, only the Organizational Commitment Neighbourhood Attitude Scale significantly correlated with the number of green neighbourhood attributes ( $r = .32, p < .01$ ).

Further evidence of the reliability of these attitude- and behaviour-specific scales is given by their significant positive relationships with the standardized scales measuring the degree to which residents feel organizational commitment and sense of place. For example, the Organizational Commitment Neighbourhood Attitude Scale and the Organizational Commitment Neighbourhood Behaviour Scale both correlated significantly with the Organizational Commitment Scale ( $r = .72, p < .001$ , and  $r = .30, p < .01$ , respectively). Similarly, the Sense of Place Neighbourhood Attitude Scale and the Sense of Place Neighbourhood Behaviour Scale both significantly correlated with the Sense of Place Scale ( $r = .86, p < .001$ , and  $r = .60, p < .001$ , respectively). These correlations indicate that the neighbourhood-specific attitudes and behaviours measured in the four non-standardized scales strongly associated with how much residents experience each construct.

In addition, the scales measuring neighbourhood-specific attitudes and behaviours concerning organizational commitment were strongly correlated to the scales measuring neighbourhood-specific attitudes and behaviours concerning sense of place (see Table 5). These results elucidate the finding in Part I that organizational commitment and sense of place are perceived as very similar constructs.

To understand which specific attitudes and behaviours concerning both organizational commitment and sense of place are associated most with green neighbourhoods, correlations between the number of green neighbourhood attributes and each item of the four scales were analyzed. With respect to neighbourhood-specific attitudes concerning organizational commitment, only one item significantly associated with a neighbourhood's greenness. The more green a neighbourhood was, the more people felt it was too costly to leave their neighbourhood ( $r = .30, p < .01$ ). Similarly, one question asking about neighbourhood-specific attitudes

concerning sense of place significantly correlated with neighbourhood greenness. The greener the neighbourhood, the more people agreed that their neighbourhood reflected the type of person they are ( $r = .23, p < .05$ ).

None of the questions about neighbourhood-specific behaviors concerning organizational commitment or sense of place significantly correlated with neighbourhood greenness (all  $ps > .05$ ).

Associations among demographic variables, neighbourhood greenness, and the seven study indices were also examined (see Table 5). Residents' age negatively correlated with their sense of place, organizational commitment, and the Commitment to Place Scale created from both measures ( $r = -.25, p < .05$ ;  $r = -.40, p < .001$ ; and  $r = -.39, p < .001$ , respectively). Residents' age was also significantly negatively correlated with the neighbourhood-specific behaviour scales concerning both organizational commitment and sense of place ( $r = -.37, p < .01$ ;  $r = -.24, p < .05$ , respectively). However, age only significantly correlated with the Organizational Commitment Neighbourhood Attitude Scale ( $r = -.32, p < .01$ ), but not the Sense of Place Neighbourhood Attitude Scale ( $p > .05$ ). Age also associated negatively with the number of months spent living in their neighbourhood, but correlated positively with the number of people living in the residence ( $r = -.56, p < .001$ ;  $r = .36, p < .01$ , respectively).

Residents' level of education negatively correlated with organizational commitment and commitment to place ( $r = -.31, p < .01$ ;  $r = -.26, p < .05$ , respectively), but not with sense of place ( $p > .05$ ). Similarly, education was negatively associated with the Organizational Commitment Neighbourhood Attitude Scale ( $r = -.32, p < .01$ ).

The number of months residents lived in their neighbourhood significantly related to their feelings of both organizational commitment, sense of place, and the Commitment to Place Scale

( $r = .31, p < .01$ ;  $r = .27, p < .05$ ; and  $r = .33, p < .01$ , respectively). In addition, the number of months residents lived in their neighbourhood strongly correlated with the Sense of Place Neighbourhood Behaviour Scale ( $r = .28, p < .01$ ).

The number of people living in a residence negatively correlated with how green a neighbourhood was ( $r = -.23, p < .05$ ). Also, residents' annual income was negatively related to a neighbourhoods' level of greenness, as well residents' feelings of organizational commitment and commitment to place ( $r = -.38, p < .01$ ;  $r = -.37, p < .001$ ; and,  $r = -.35, p < .01$ , respectively). Annual income also negatively correlated with the Organizational Commitment Neighbourhood Attitude Scale ( $r = -.37, p < .01$ ).

An independent samples *t*-test revealed gender differences among residents' feelings of sense of place. Mean responses on the Sense of Place Scale were higher for females ( $M = 3.63, SD = 0.71$ ) than males ( $M = 3.29, SD = 0.68$ ),  $t = -2.06, p < .05$ . Females ( $M = 3.72, SD = .80$ ) also responded more strongly than males ( $M = 3.29, SD = .81$ ) on the Sense of Place Neighbourhood Attitude Scale,  $t = -2.25, p < .05$  (see Table 6).

Lastly, a one-way ANOVA revealed no significant differences between residential description (e.g., condominium, duplex, etc.) and study indices (all  $ps > .05$ ). However, home owners ( $M = 3.86, SD = 0.62$ ) responded more strongly to the Organizational Commitment Neighbourhood Behaviour Scale than those who rented their residence ( $M = 3.55, SD = 0.66$ ),  $t = 2.07, p < .05$ . No other differences were found among renters and owners and study indices (all  $ps > .05$ ; see Table 7).

**Table 1: Population Estimates and Number of Housing Types in Each Neighbourhood from 2006 Census Data**

Neighbourhood	Pop.	Single detached house	Townhome	Duplex	Apartment
1	5,177	445	715	190	5,290
2	2,352	905	300	690	3,145
3	744	1,170	N/A	195	110

Note: Pop. = population estimates for each neighbourhood based on 2006 census data. Data in this table reflect both occupied and unoccupied dwellings. The number of townhouses in Neighbourhood 3 was not available because Neighbourhood 3 is in a different municipality than Neighbourhoods 1 and 2; data is collected differently among municipalities.

**Table 2: Demographic Mean Differences Between Neighbourhoods**

Demographic Variable	N1 ( <i>n</i> = 24)		N2 ( <i>n</i> = 33)		N3 ( <i>n</i> = 27)	
	Mean	SD	Mean	SD	Mean	SD
Year Born	1956.13	16.35	1961.24	13.64	1959.48	13.84
Gender	1.75 (F)	0.44	1.73 (F)	0.45	1.59 (F)	0.50
Education	4.29 (BD)	1.37	4.67 (SPB)	1.41	4.67 (SPB)	1.66
Months Lived in Neighbourhood	162.96	146.05	156.47	110.44	114.22	113.36
Residential Arrangement	1.33 (Renter)	0.48	1.94 (Owner)	0.43	1.74 (Owner)	0.53
Residential Description	4.92 (Condo)	2.19	2.64 (PH)	1.45	2.59 (PH)	1.22
Number of Residents	1.83	1.13	2.67	1.43	2.67	1.39
Annual Household Income	\$46,312	\$27,966	\$87,045	\$46,654	\$96,666	\$57,428

Note: N = Neighbourhood; *n* = number of participants who responded per neighbourhood; SD = Standard deviation; F = Female; BD = Bachelor's degree, Vocational/Technical degree or Diploma); SPB = Some Post-Bachelor's degree; PH = Part of a house.

**Table 3: Neighbourhood Scores on the Green Neighbourhood Scale (GNS)**

Neighbourhood	Score
Neighbourhood 1	25
Neighbourhood 2	19
Neighbourhood 3	12

**Table 4: Descriptive Statistics for Variables in the Pilot Study**

Variable	Mean	Standard Deviation
Organizational Commitment Neighbourhood Attitude Scale	2.99	0.70
Sense of Place Neighbourhood Attitude Scale	3.30	0.92
Organizational Commitment Neighbourhood Behaviour Scale	3.22	0.69
Sense of Place Neighbourhood Behaviour Scale	2.93	0.95
Year Born	1972.50	13.09
Gender	1.56 (Female)	0.51

Education	4.88 (Some post-Bachelor degree)	1.09
Months Lived in Neighbourhood	84.28	104.38
Residential Arrangement	1.31 (Renter)	0.60
Residential Description	3.66 (Duplex)	2.38
Number of Residents	2.06	0.85
Annual Household Income	\$74, 285	\$30, 923

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**Table 5: Descriptive Statistics for Variables in the Main Study**

Variable	Mean	Standard Deviation
Affective Commitment Scale	4.68	1.21
Continuance Commitment Scale	3.61	1.59
Normative Commitment Scale	2.25	1.01
Organizational Commitment Scale	3.56	0.88
Sense of Place Scale	3.53	0.71
Organizational Commitment Neighbourhood Attitude Scale	3.04	0.74
Sense of Place Neighbourhood Attitude Scale	3.59	0.83
Organizational	3.74	0.64

Commitment  
Neighbourhood Behaviour  
Scale

Sense of Place Neighbourhood Behaviour Scale	3.79	0.73
Year Born	1959.21	14.50
Gender	1.69 (Female)	0.47
Education	4.56 (Some post- bachelor degree)	1.48
Months Lived in Neighbourhood	144.74	122.85
Residential Arrangement	1.70 (Home owner)	0.53
Residential Description	3.27 (Part of a house)	1.92
Number of Residents	2.43	1.37
Annual Household Income	\$78, 500	\$50, 249

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**Table 6: Associations Between Scales, Neighbourhood Greenness, and Demographic Variables**

	Greenness	CP	OC	SOP	OCNAS	SPNAS	OCNBS	SPNBS	Age	Edu.	MIN	People in res.	Income
Greenness													
CP	.26*												
OC	.25*	.97***											
SP	.20	.80***	.61***										
OCNAS	.32**	.67***	.72***	.38***									
SPNAS	.10	.70***	.55***	.86***	.30**								
OCNBS	-.01	.36**	.30**	.39***	.20	.35**							
SPNBS	.20	.65***	.59***	.60***	.39***	.56***	.66***						
Age	-.08	-.39***	-.40***	-.25*	-.32**	-.18	-.37**	-.24*					
Education	-.09	-.26*	-.31**	-.08	-.32**	-.07	-.05	-.08	.01				
MIN	.16	.33**	.31**	.27*	.23*	.18	.22*	.28**	-.56***	.70			
People in res.	-.23*	-.15	-.11	-.20	-.10	-.19	.02	.04	.36**	.17	-.10		
Income	-.38**	-.35**	-.37***	-.20	-.37**	-.20	.03	-.10	.20	.30**	-.13	.33**	

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ . Greenness refers to the number of green attributes counted in neighbourhoods. CP refers to the Commitment to Place Scale. OC refers to the Organizational Commitment Scale. SP refers to the Sense of Place Scale. OCBAS refers to the Organizational Commitment Neighbourhood-Attitude Scale. SPNAS refers to the Sense of Place Neighbourhood-Behaviour Scale. OCNBS refers to the Organizational Commitment Neighbourhood-Behaviour Scale. SPNBS refers to the Sense of Place Neighbourhood-Behaviour Scale. MIN refers to the number of months participants have lived in their neighbourhood.

**Table 7: Gender Differences in Key Variables**

	<i>t</i>	<i>p</i>	Mean difference
Organizational Commitment Scale	-0.97	.33	-.20
Sense of Place Scale	-2.06	.04*	-.34
Commitment to Place Scale	-1.42	.16	-.25
Organizational Commitment Neighbourhood Attitude Scale	-1.44	.15	-.25
Sense of Place Neighbourhood Attitude Scale	-2.25	.03*	-.43
Organizational Commitment Neighbourhood Behaviour Scale	-.96	.34	-.14
Sense of Place Neighbourhood Behaviour Scale	-2.01	.05	-.34

Note: \*  $p < .05$ . Male = 1 and female = 2.

**Table 8: Residential Arrangement Differences in Key Variables**

	<i>t</i>	<i>p</i>	Mean difference
Organizational Commitment Scale	.29	.77	.06
Sense of Place Scale	-.56	.58	-.09
Commitment to Place Scale	.03	.98	.01
Organizational Commitment Neighbourhood Attitude Scale	1.94	.06	.32
Sense of Place Neighbourhood Attitude Scale	-.29	.77	-.06
Organizational Commitment Neighbourhood Behaviour Scale	-2.07	.04*	-.31
Sense of Place Neighbourhood Behaviour Scale	-.74	.46	-.13

Note: \*  $p < .05$ . Renter = 1 and owner = 2.



**Figure 1: Photograph of Neighbourhood 1 (a)**



**Figure 2: Photograph of Neighbourhood 1 (b)**



**Figure 3: Photograph of Neighbourhood 1 (c)**



**Figure 4: Photograph of Neighbourhood 2 (a)**



**Figure 5: Photograph of Neighbourhood 2 (b)**



**Figure 6: Photograph of Neighbourhood 2 (c)**



**Figure 7: Photograph of Neighbourhood 3 (a)**



**Figure 8: Photograph of Neighbourhood 3 (b)**



**Figure 9: Photograph of Neighbourhood 3 (c)**

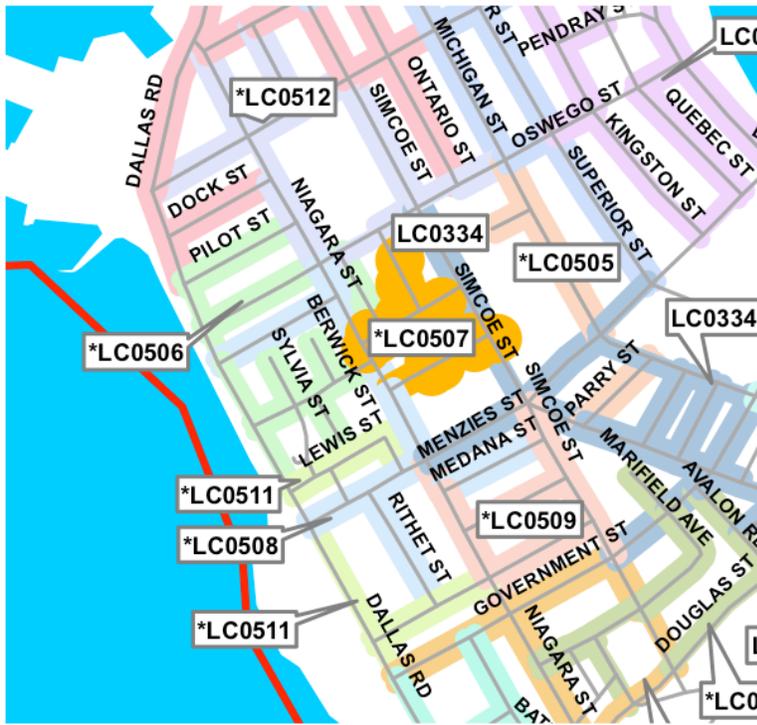


Figure 10: Letter Carrier Walk (LC0507) in Neighbourhood 1



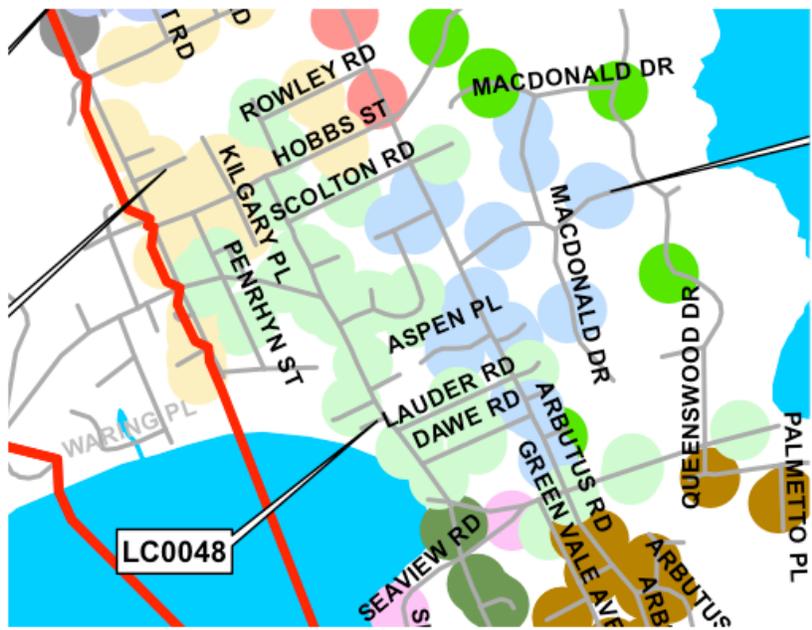
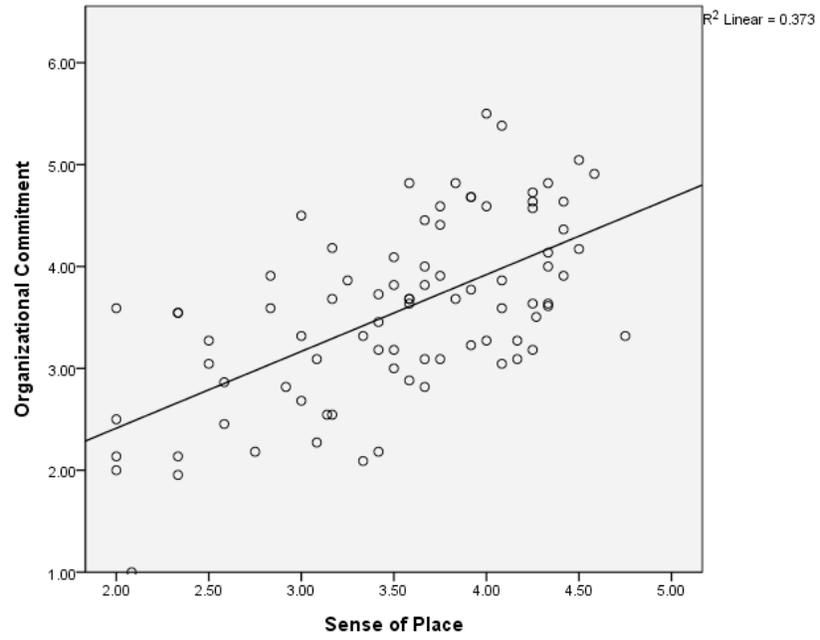


Figure 13: Second Letter Carrier Walk (LC0048) in Neighbourhood 3



## Chapter 4: Discussion

### *Part I*

This part of the study employed an exploratory survey design to understand whether the constructs of organizational commitment and sense of place were perceived similarly or distinctly by neighbourhood residents. It was not clear in previous literature whether community residents would experience organizational commitment in a neighbourhood apart from the construct sense of place – an attitude traditionally measured in community research.

Participants did not strongly distinguish their feelings of organizational commitment from their sense of place toward their neighbourhood. This result suggests that it may not be appropriate to study the construct of organizational commitment in the neighbourhood environment, or outside the workplace setting in general. However, despite the significant association between the two constructs, they were not identical. Thus, in Part II, the two constructs were analysed separately and as a single variable.

### *Part II*

The hypothesis put forward in the present study predicted participants' feelings of organizational commitment and sense of place would increase as the number of green neighbourhood attributes increased. Although Part I revealed that residents did not distinguish between organizational commitment and sense of place, organizational commitment significantly associated with the number of green neighbourhood design attributes, whereas sense of place did not. Thus, green neighbourhoods are associated with feelings of organizational commitment, but not to a significant extent with residents' sense of place toward their neighbourhood.

This result may have occurred because the two constructs are not statistically the same, but closely related. It seems that differences in how people experience these constructs are revealed when measured against an objective variable, such as neighbourhood greenness. It is

not clear why a neighbourhood's degree of greenness would be so strongly related to residents' levels of organizational commitment and not sense of place. However, this finding suggests that although residents did not distinguish between their levels of organizational commitment and sense of place in their neighbourhood in general, organizational commitment can be experienced separately from sense of place in neighbourhoods with numerous green attributes and should be further examined.

In addition, the Commitment to Place Scale (formed by merging questions from the Organizational Commitment Scale and the Sense of Place Scale) strongly associated with the number of green neighbourhood design attributes. It would appear that, when combined with organizational commitment, sense of place is somewhat associated with green design and that this Commitment to Place Scale may be a worthwhile tool for measuring both constructs in future community research.

The aspect of *commitment* in particular seems important to how residents experience green neighbourhoods. Out of the four scales composed of neighbourhood-related attitudes and behaviours concerning organizational commitment and sense of place, only the Organizational Commitment Neighbourhood Attitude Scale significantly correlated with the number of green neighbourhood attributes. Perhaps the sustainable features in each of the three communities measured in the present study had been communicated to residents so that these design attributes were salient (e.g., via re-zoning applications, neighbourhood advisory meetings, or community publications and city plans). This may have allowed feelings of commitment toward the neighbourhood to emerge more easily, especially if residents were oriented toward the environment.

Research on the concept of psychological distance may provide support for an association between exposure and interest or commitment (Liberman and Trope, 1998). Psychological distance refers to the amount of temporal or spatial distance between an object and observer, affecting the amount and type of information available about that object. As noted by Liberman, Trope, and Stephan (2007), spatial distance can affect levels of construal. This means that the nearer an individual is to an object or social situation, the more likely that individual will develop higher-level construals about the information at hand. Extrapolating this theory into the realm of environmental psychology could allow connections to be made about how community residents' construals and commitments toward their neighbourhood are influenced, or even caused by, exposure to green design attributes nearby.

Despite such optimism, it is not clear why the Organizational Commitment Neighbourhood Attitude Scale was the only one of the four neighbourhood-specific scales to correlate with greenness. These four scales have not been widely tested and, possessing only moderate reliability, may not have been completely useful in the present study. The attitudes and behaviours measured in these scales strongly associated with the standardized scales measuring the degree to which residents felt organizational commitment and sense of place (i.e., the Organizational Commitment Neighbourhood Attitude Scale and the Organizational Commitment Neighbourhood Behaviour Scale both correlated significantly with the Organizational Commitment Scale and the Sense of Place Neighbourhood Attitude Scale and the Sense of Place Neighbourhood Behaviour Scale both correlated strongly with the Sense of Place Scale). However, the scales measuring neighbourhood-specific attitudes and behaviours concerning organizational commitment also strongly correlated to the scales measuring neighbourhood-specific attitudes and behaviours concerning sense of place (see Table 5). These intercorrelations

highlight the finding in Part I that organizational commitment and sense of place are perceived by neighbourhood residents as very similar constructs, and that it may not be useful to measure these constructs separately in a community setting.

Questioning the validity of the scales in the present study is important. Cronbach's alpha is commonly used to establish internal consistency and a value of .60 is considered acceptable for exploratory purposes (Garson, 2011). Although each of the scales had alpha values above .60, and social scientists often use the Organizational Commitment Scale and the Sense of Place Scale, none have been regularly employed at the neighbourhood level. In a larger study, observing real behaviours, such as picking up litter or attendance at neighbourhood advisory meetings may bolster the validity of each scale.

Some associations between organizational commitment, sense of place, and collected demographic information are compelling. Similar to the findings in Hay (1998), residents who lived in their neighbourhood for many months reported a strong sense of place. Perhaps this is due to an abundance of local knowledge, social networks, and community ties as Hay suggests.

In addition, homeowners responded more strongly to the Organizational Commitment Neighbourhood Behaviour Scale than those who rented their residence. There is evidence that employee ownership of a company contributes to higher levels of organizational commitment (Klein, 1987). Typically, this situation involves a company offering employees stock ownership plans (ESOPs). Organizational commitment has been reported to increase because of feelings of involvement in the company's financial decisions through this type of shared ownership scheme. This study's findings indicate a conceptual similarity between the workplace, the neighbourhood environment, and the influence of ownership on behaviours associated with organizational commitment.

Increasing residential density is a common strategy in green community planning. However, the number of people living in a residence negatively correlated with neighbourhood greenness in the present study. Hur et al. (2010) note, density is not clearly defined in research or practice. Two common definitions are population density, based on the number of people per given area (Kasanko et al., 2006; Nelson et al., 2008; Sundstrom, 1978) and residential density, based on floor area or the number of dwelling units (Song & Knaap, 2004). Hur (2004) found that residential density significantly associated with neighbourhood satisfaction, but the present study did not measure density this way. Future work should include a more detailed measure of density to test whether fewer people typically share a household in neighbourhoods with numerous green attributes.

Also, residents' annual income negatively correlated with neighbourhood greenness, as did residents' feelings of organizational commitment and commitment to place. Residents' level of education negatively correlated with organizational commitment and commitment to place, but not with sense of place. Research on the relationship between socio-economic status and attitudes, such as place attachment, is inconsistent. High income or higher education sometimes accompanies high place attachment (e.g., Krannich & Greider, 1984), but negative associations have also been found (Fried, 2000; Lewicka, 2005). It appears that the prosocial benefits of green neighbourhoods, and of feeling a sense of place or organizational commitment in a residential setting, are not always positively related to high social economic status (SES). This is consistent with this study's finding that age negatively associated with organizational commitment and sense of place (older people often have high SES) but contradicts previous research indicating that age positively predicts place attachment (Lewicka, 2010). Thus, relations between

demographic and attitudinal variables in the neighbourhood environment remain indirect and indeterminable.

#### *Limitations and Future Research*

Several limitations potentially confound the observed findings. First, although the Organizational Commitment Scale appears reliable, relations between its components are not altogether clear in the body of literature (Allen & Meyer, 1990). This emphasizes the challenges of conceptualizing organizational commitment outside of the workplace setting. Because research on organizational commitment is typically found in the realm of industrial/organizational psychology, it is important to broaden this body of work to strengthen the conclusions made by this and other studies. More research is needed to elucidate the relations between the three components of organizational commitment in order to draw strong conclusions from studies using the Organizational Commitment Scale.

Second, none of the neighbourhoods had zero green design attributes, and none had as many green design attributes possible. Only three neighbourhoods were measured and, because of the small number of participants responding from each community, were collapsed into a single "neighbourhood greenness" variable containing only three values. This action removed the opportunity to analyze levels of organizational commitment and sense of place within each neighbourhood. This neighbourhood greenness variable also ignores geographical and demographic differences between the three neighbourhoods. Thus, the results of the present study are unlikely to be generalized to larger populations.

Future studies should investigate associations between organizational commitment, sense of place, and neighbourhoods with broader ranges of green attributes. For example, neighbourhoods specifically designed to be environmentally sustainable; upscale or gated

neighbourhoods; less affluent areas; as well as suburban and inner city communities could all be considered in future work.

Third, the three neighbourhoods differed in many ways besides greenness. Future studies would also benefit from holding demographic variables such as the age of the neighbourhood and its residents, and residents' annual income constant when testing associations between greenness, organizational commitment, and sense of place.

Fourth, the present study did not require participants to report their orientation toward the environment. This could be accomplished in future work by including the New Ecological Paradigm scale (NEP) (Dunlap et al., 2000) in a survey to test whether those who felt more organizational commitment or a sense of place in green neighbourhoods were also very concerned about the environment. This would expand on the current study's findings and help social scientists tailor neighbourhood plans to those with different attitudes toward the environment.

Fifth, it cannot be verified that participants living in the three neighbourhoods perceived the green attributes counted by this study's observers. The observers counted the features that were perceivable to them; this does not ensure that those who completed the questionnaire perceived the attributes. However, by requiring observers to agree on the number of perceivable green attributes in each neighbourhood, the challenge of not knowing whether participants were aware of them is no more or less influential than in other community studies.

Sixth, social desirability may have impacted participants' responses. The title of the study, including the word "green," was printed at the top of the questionnaire and may have caused participants to over-report positive behaviours and attitudes. A subsequent study could

include a social desirability scale (e.g., the Marlowe-Crowne Social Desirability Scale) or use randomized response strategies in the questionnaire to ensure results would not be confounded.

### *Conclusions*

Social scientists and municipal decision-makers may be able to use this study's results to develop evidence-based policies concerning neighbourhood revitalization and resident mobility. Organizational commitment should be better researched in neighbourhood settings to understand further its positive link to green design, and capitalize on that association. When taken together, questions measuring organizational commitment and sense of place yield a reliable account of how individuals feel about their neighbourhood environment. Thus, rather than measure these two constructs separately in community research, it is prudent to pursue studies using the broader construct of Commitment to Place.

Green practices often yield long-term cost savings for individuals and municipalities; this is often discussed as the predominant advantage to sustainable neighbourhood design. This study highlights the value of attitudinal research in the community and affords a renewed focus on organizational commitment and its value outside of the workplace setting.

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## Appendices

## Appendix A: Green Neighbourhood Scale (GNS)

*Green neighbourhood attributes and scoring criteria*

Green attribute	Scoring criteria
Community gardens/local food production site	1 point per garden/site
Neighbourhood parks/playgrounds	1 point per park
“Community” schools	1 point per school
Walkability (traffic calming via speed bumps/rumble strips, accessible sidewalks, multiple crosswalks, compact distances between shops and services)	1 point if perceived by observer
Formal communication of native species and plants	1 point if perceived by observer
Green rooftop	1 point per roof
Mixed-use buildings	1 point per building
Access to alternative transportation (public transit, biking, carpooling)	1 point if bus stops perceived; 1 point if prominent bike lanes perceived; 1 point if car-pool access site communicated
Natural and rural areas in or near the neighbourhood preserved for farming, wildlife, or recreation	1 point if communicated
Homes located near shops, schools, recreation, destinations in the form of a village	1 point if perceived by observer
Variety of housing choices ranging from apartments and condos to townhomes, duplexes, and semi- or single-detached houses	1 point if perceived by observer
Presence of street trees	1 point if perceived by observer
Presence of compact homes with shared walls, such as a townhouse, semi-detached home, or apartment	1 point if perceived by observer
Community market events	1 point if communicated publicly that one exists regularly
Accessible streets and buildings	1 point if ramps, wide sidewalks, push-button door entry on shops and

	residences perceived by observer
Access to larger natural environments such as designated parks, trails, bodies of water	1 point if perceived by observer
Access to involvement in community outreach programs and organizations such as designated meeting places and formal neighbourhood associations	1 point if perceived by observer
Presence of historic/heritage buildings being used and kept up	1 point if perceived by observer

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## Appendix B: Pilot Study Questionnaire

### Connections Among Sustainable Urban Neighbourhoods, Organizational Commitment, and Sense of Place

#### *Instructions*

1. Please read each question carefully, visualizing your neighbourhood spanning a 10 minute walk from a central point such as a grocery store, coffee shop or pub.
2. When you are finished the questionnaire please drop it off in Lindsay McCunn's psychology department mail box in the Cornett Building or email to [lindsayjmccunn@gmail.com](mailto:lindsayjmccunn@gmail.com)
3. I hope you will offer your opinions, but you are not required to do so. If you submit a completed questionnaire, you consent to the anonymous use of your responses in scientific reports of this study.

#### SECTION A:

Please circle or highlight one option using the scale below:

1. "People in my neighbourhood share my values."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

2. "I feel as if my neighbourhood's problems are my own."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

3. "It would be too costly for me to leave my neighbourhood."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

4. "There are too few options for me to consider leaving this neighbourhood."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

5. "People move from neighbourhood to neighbourhood too often."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

6. "Remaining loyal to one's neighbourhood is valuable".

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

Please add sentences if those above do not fully capture your views:

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SECTION B:

Please circle or highlight one option using the scale below:

1. "My neighbourhood reflects the type of person I am."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. "My neighbourhood suits me and my lifestyle."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. "I would miss my neighbourhood after being away for too long."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. "I feel happiest when I spend time in my neighbourhood."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. "Other neighbourhoods in this city do not have as much to offer my lifestyle."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. "My neighbourhood is the best place for doing things I enjoy the most."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

Please add sentences if those above do not fully capture your views:

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## SECTION C:

Please circle or highlight one option using the scale below:

1. "I shop at my neighbourhood's local stores."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. "I attend community group meetings and events."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. "I work to improve my neighbourhood."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. "I pick up litter in my neighbourhood."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. "I stay in this neighbourhood even though other options have been available to me."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. "I tend to live in one neighbourhood for long periods of time."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

Please add sentences if those above do not fully capture your views:

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---

## SECTION D:

Please circle or highlight one option using the scale below:

1. "I participate in activities in my neighbourhood that reflect who I am."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. "I have investigated the history of my neighbourhood."

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. "I talk about my neighbourhood as though it were home."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

4. "I take photographs of things in my neighbourhood."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

5. "I participate in new activities in my neighbourhood."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

6. "I am able to pursue my hobbies in my neighbourhood."

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

Please add sentences if those above do not fully capture your views:

---



---

#### SECTION E:

*Note: Information provided in this section will be kept confidential. I am asking these questions to learn about different groups of people. I will not report the answers of anyone as an individual, only as part of an average.*

1. Year Born:
2. Gender:
3. What is the highest level of education you've completed?
  - a. Some secondary school
  - b. Secondary school diploma
  - c. Some college, technical/vocational school, or university
  - d. Bachelor's degree or technical/vocational degree or diploma
  - e. Some post-bachelor degree
  - f. Master's degree
  - g. PhD or professional degree
4. How many months have you lived in this neighbourhood?

5. What is the closest description of your residential arrangement?
  - a. Renter
  - b. Home owner
  - c. Other (specify: \_\_\_\_\_)
  
6. What is the closest description of your residence?
  - a. Basement suite
  - b. Detached house
  - c. Part of a house (e.g., renting a room or a floor of a house)
  - d. Duplex
  - e. Condominium
  - f. Apartment building (5 floors or more)
  - g. Apartment building (4 floors or fewer)
  
7. How many people reside in your household?
  
8. What is your annual household income? *Note: This question is optional and confidential; no financial data will be used outside of the analysis of this study's data.*

This is a pilot study. If there is anything you think should be altered about the nature or design of the survey, please inform me here:

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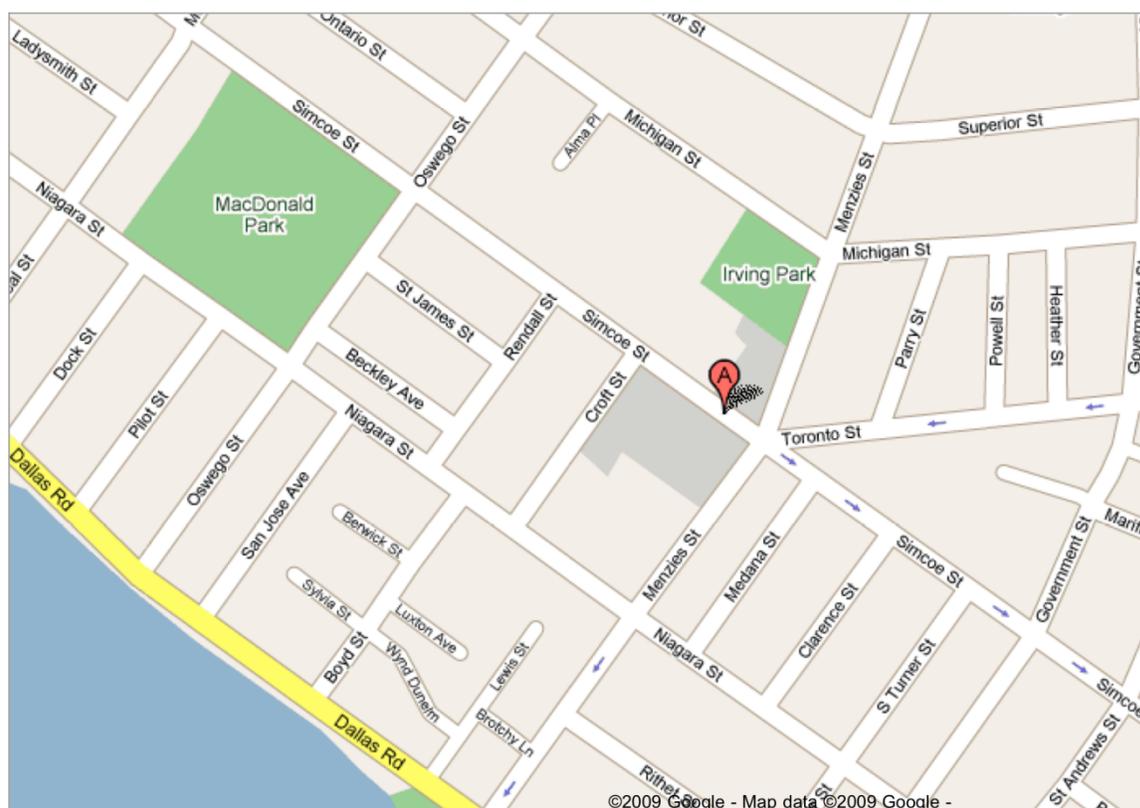
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THANK YOU FOR PARTICIPATING

## Appendix C: Main Study Questionnaire

### Organizational Commitment, Sense of Place, and Green Urban Neighbourhoods *Instructions*

4. Please visualize your neighbourhood using the map provided. Think about your neighbourhood spanning a 10 minute walk from the central point indicated by the “A” on the map.
5. Individuals 18 or older may complete the questionnaire. If there is more than one person 18 or older in your household who wishes to complete the questionnaire, please contact Lindsay McCunn for an additional copy at [lindsayjmccunn@gmail.com](mailto:lindsayjmccunn@gmail.com).
6. When you are finished the questionnaire please mail it back in the postage-paid envelope provided.
7. I hope you will offer your opinions, but this is voluntary. If you send back a completed questionnaire, you consent to the anonymous use of your responses in scientific reports of this study.



A = Thrifty Foods at 475 Simcoe Street



8. I do not feel a strong sense of belonging to *my* neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

SECTION B:

1. It would be hard for me to leave my neighbourhood right now, even if I wanted to.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

2. Too much in my life would be disrupted if I decided I wanted to leave my neighbourhood now.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

3. It would be too costly for me to leave my neighbourhood now.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

4. At present, staying in my neighbourhood is a matter of necessity as much as desire.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

5. I feel that I have too few options to consider leaving this neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

6. One of the serious consequences of leaving this neighbourhood would be the scarcity of available alternatives.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

7. One of the major reasons I continue to stay in this neighbourhood is that leaving would require considerable personal sacrifice – another neighbourhood may not match the overall benefits I have here.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

#### SECTION C:

1. I think that people these days move from neighbourhood to neighbourhood too often.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

2. I do not believe that people must always be loyal to their neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

3. Moving from neighbourhood to neighbourhood does not seem at all unethical to me.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

4. One of the major reasons I continue to live in this neighbourhood is that I believe loyalty is important and therefore feel a sense of obligation to remain.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

5. If I knew of a better place to live elsewhere I would not feel it was right to leave my neighbourhood to move there.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

6. I was taught to believe in the value of remaining loyal to a single neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

0 1 2 3 4 5 6 7

7. Things were better in the days when people stayed in one neighbourhood for most of their lives.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

0 1 2 3 4 5 6 7

#### SECTION D:

1. Everything about my neighbourhood is a reflection of me.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

2. My neighbourhood says very little about who I am.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

3. I feel that I can really be myself in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

4. My neighbourhood reflects the type of person I am.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

5. I feel relaxed when I'm in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

6. I feel happiest when I'm in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

7. My neighbourhood is my favourite place to be.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

8. I miss my neighbourhood when I'm away from it for too long.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

9. My neighbourhood is the best place for doing the things I enjoy most.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

10. For doing the things I enjoy most, no other place can compare to my neighbourhood.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

11. My neighbourhood is not a good place to do the things I most like to do.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

12. As far as I am concerned, there are better places to live than in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

#### SECTION E:

Please circle one option using the scale below:

1. People in my neighbourhood share my values.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. I feel as if my neighbourhood's problems are my own.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. It would be too costly for me to leave my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. There are too few options for me to consider leaving this neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. People move from neighbourhood to neighbourhood too often.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. Remaining loyal to one's neighbourhood is valuable.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

## SECTION F:

Please circle one option using the scale below:

1. My neighbourhood reflects the type of person I am.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. My neighbourhood suits me and my lifestyle.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. I would miss my neighbourhood after being away for too long.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. I feel happiest when I spend time in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. Other neighbourhoods in this city do not have as much to offer my lifestyle.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. My neighbourhood is the best place for doing things I enjoy the most.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

## SECTION G:

Please circle one option using the scale below:

1. I shop at my neighbourhood's local stores.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. I attend neighbourhood group meetings and events.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. I work to improve my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. I pick up litter in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. I stay in this neighbourhood even though other options have been available to me.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. I tend to live in one neighbourhood for long periods of time.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

#### SECTION H:

Please circle one option using the scale below:

1. I participate in activities in my neighbourhood that reflect who I am.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. I have investigated the history of my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. I talk about my neighbourhood as though it were home.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. I take photographs of things in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. I participate in new activities in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. I am able to pursue my hobbies in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

## SECTION I:

*Information provided in this section will be kept confidential. I am asking these questions to learn about different groups of people. I will not report the answers of anyone as an individual, only as part of an average.*

1. Year Born \_\_\_\_\_
2. Gender \_\_\_\_\_
3. What is the highest level of education you've completed?
  - a. Some secondary school
  - b. Secondary school diploma
  - c. Some college, technical/vocational school, or university
  - d. Bachelor's degree, technical/vocational degree or diploma
  - e. Some post-bachelor degree
  - f. Master's degree
  - g. PhD or professional degree
4. How many months have you lived in this neighbourhood? \_\_\_\_\_
5. What is the closest description of your residential arrangement?
  - a. Renter
  - b. Owner
  - e. Other (specify \_\_\_\_\_)
6. What is the closest description of your residence?
  - a. Basement suite
  - b. Detached house
  - c. Part of a house (e.g., renting a room or a floor of a house)
  - d. Duplex
  - e. Condominium
  - f. Apartment building (5 floors or more)
  - g. Apartment building (4 floors or fewer)
7. How many people reside in your household, including yourself? \_\_\_\_\_

*The next question is optional, anonymous, and confidential; no financial data will be used outside of the analysis of this study's data.*

8. What was your annual household income in 2009? \$ \_\_\_\_\_

THANK YOU FOR PARTICIPATING!

## Appendix D: Letter of Information for Implied Consent for the Pilot Study

### ***PARTICIPANT CONSENT INFORMATION***

You are invited to participate in a research study conducted by Lindsay McCunn. Lindsay completed her Bachelor of Arts degree in psychology in 2004 and is now a Master's student in the department of psychology at the University of Victoria. You may contact her if you have further questions at (250) 893-0603.

As a graduate student, Lindsay is required to conduct research as part of the requirements for a degree in psychology. It is being conducted under the supervision of Dr. Robert Gifford. You may contact Dr. Gifford at (250) 721-7532.

This project consists of an initial study and a lengthier second study. The purpose of this research is to better understand the concept of organizational commitment outside of the workplace environment. Comparisons will be made between neighbourhood residents' perceptions of organizational commitment and sense of place toward their neighbourhood to test the assumption that they are distinct constructs at the neighbourhood level. The secondary objective of this research is to investigate whether residents' feelings of organizational commitment and sense of place are higher in neighbourhoods with more "green" urban attributes. To this end, questions about attitudes and behaviours associated with the concepts of organizational commitment and sense of place will be asked in order to determine whether residents of 'greener' neighbourhoods with fewer barriers to these concepts feel more organizationally committed or experience a stronger sense of place.

If you agree to voluntarily participate in this research, your participation will include responding to a questionnaire by making assessments based on perceptions about your current neighbourhood. There are no known or anticipated risks to you by participating in this research. The questionnaire will take between 10 and 20 minutes to complete. The potential benefits of your participation in this research include furthering the state of knowledge about this subject.

In terms of protecting your anonymity, no names will be placed on any questionnaire or used in any way in the analysis of the results. However, identifying information will be apparent if you email me your completed questionnaire. However, once questionnaires are received, responses will be coded without information about the person or residence from which they came. Thus, the questionnaires will not be linked to any identifying information after responses are coded. Data from this study will be destroyed after being locked in a filing cabinet for 5 years.

Your participation in this research must be completely voluntary. If you do decide to participate you may withdraw at any time without consequences or explanation. If you withdraw from the study, your data will not be used in the final analysis if it has not already been anonymously coded. However, if you choose to withdraw after your completed questionnaire has been sent to the University of Victoria, your data will be included in the analysis.

It is anticipated that the results of this study will be shared with others through possible academic publication and presentations at scholarly meetings. It is possible that data collected will be analyzed in the future for purposes other than this research project. It is also possible that other

researchers will use this project's data, supplied in an aggregated form.

In addition to contacting the researcher or her supervisor at the phone numbers provided above, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria at (250) 472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca).

By completing and submitting the attached questionnaire, free and informed consent is implied. This indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.

***Please retain a copy of this letter for your reference.***

## Appendix E: Letter of Information for Implied Consent for Main Study

**PARTICIPANT CONSENT INFORMATION**

You are invited to participate in a research study conducted by Lindsay McCunn. Lindsay completed her Bachelor of Arts degree in psychology in 2004 and is now a Master's student in the department of psychology at the University of Victoria. You may contact her with questions at (250) 893-0603.

As a graduate student, Lindsay is required to conduct research as part of the requirements for a degree in psychology. It is being conducted under the supervision of Dr. Robert Gifford. You may contact Dr. Gifford at (250) 721-7532.

The purpose of this research is to better understand the concept of organizational commitment outside of the workplace environment. Comparisons will be made between neighbourhood residents' perceptions of organizational commitment and sense of place toward their neighbourhood to test the assumption that they are distinct constructs at the neighbourhood level. The secondary objective of this research is to investigate whether residents' feelings of organizational commitment and sense of place are higher in neighbourhoods with more "green" urban attributes. To this end, questions about attitudes and behaviours associated with the concepts of organizational commitment and sense of place will be asked in order to determine whether residents of 'greener' neighbourhoods with fewer barriers to these concepts feel more organizationally committed or a stronger sense of place.

If you agree to voluntarily participate in this research, your participation will include responding to a questionnaire by making assessments based on perceptions about your current neighbourhood. There are no known or anticipated risks to you by participating in this research. The questionnaire will take between 10 and 20 minutes to complete. The potential benefits of your participation in this research include furthering the state of knowledge about this subject. If you choose to participate, please do so by **AUGUST 15, 2010**.

In terms of protecting your anonymity, no names will be placed on any questionnaire or used in any way in the analysis of the results. However, identifying information will be apparent when you mail your completed questionnaire, if you choose to provide a return name and address on the provided postage-paid envelope. However, once questionnaires are received, responses will be coded without information about the residence from which they came. Thus, the questionnaires will not be linked to any identifying information after responses are coded. Data from this study will be destroyed after being locked in a filing cabinet for 5 years.

Your participation in this research must be completely voluntary. If you do decide to participate you may withdraw at any time without consequences or explanation. If you withdraw from the study, your data will not be used in the final analysis if it has not already been anonymously coded. However, if you choose to withdraw after your completed questionnaire has been sent to the University of Victoria, your data will be included in the analysis.

It is anticipated that the results of this study will be shared with others through possible academic publication and presentations at scholarly meetings. It is possible that data collected will be analyzed in the future for purposes other than this research project. It is also possible that other researchers will use this project's data, supplied in an aggregated form.

In addition to contacting the researcher or supervisor at the phone numbers provided above, you may verify the ethical approval of this study, or raise any concerns, by contacting the Human Research Ethics Office at the University of Victoria at (250) 472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca).

By completing and submitting the attached questionnaire, free and informed consent is implied. This indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher. *Please retain a copy of this letter for your reference.*

## Appendix F: Revised Affective Commitment Scale

1. I would be happy to spend the rest of my life in this neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

2. I enjoy discussing my neighbourhood with people outside it.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

3. I feel as if this neighbourhood's problems are my own.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

4. I could easily become as attached to another neighbourhood as I am to this one.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

5. I do not feel like 'part of the family' in my neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

6. I do not feel emotionally attached to this neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

7. This neighbourhood has a great deal of personal meaning for me.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

8. I do not feel a strong sense of belonging to *my* neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0      1      2      3      4      5      6      7**

## Appendix G: Revised Continuance Commitment Scale

1. It would be hard for me to leave my neighbourhood right now, even if I wanted to.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

2. Too much in my life would be disrupted if I decided I wanted to leave my neighbourhood now.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

3. It would be too costly for me to leave my neighbourhood now.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

4. At present, staying in my neighbourhood is a matter of necessity as much as desire.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

5. I feel that I have too few options to consider leaving this neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

6. One of the serious consequences of leaving this neighbourhood would be the scarcity of available alternatives.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

7. One of the major reasons I continue to stay in this neighbourhood is that leaving would require considerable personal sacrifice – another neighbourhood may not match the overall benefits I have here.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0      1      2      3      4      5      6      7**

## Appendix H: Revised Normative Commitment Scale

1. I think that people these days move from neighbourhood to neighbourhood too often.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

2. I do not believe that people must always be loyal to their neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

3. Moving from neighbourhood to neighbourhood does not seem at all unethical to me.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

4. One of the major reasons I continue to live in this neighbourhood is that I believe loyalty is important and therefore feel a sense of obligation to remain.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

5. If I knew of a better place to live elsewhere I would not feel it was right to leave my neighbourhood to move there.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

6. I was taught to believe in the value of remaining loyal to a single neighbourhood.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

7. Things were better in the days when people stayed in one neighbourhood for most of their lives.

*(Strongly Disagree)*

*(Neutral)*

*(Strongly Agree)*

**0    1    2    3    4    5    6    7**

## Appendix I: Revised Sense of Place Scale

1. Everything about my neighbourhood is a reflection of me.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

2. My neighbourhood says very little about who I am.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

3. I feel that I can really be myself in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

4. My neighbourhood reflects the type of person I am.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

5. I feel relaxed when I'm in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

6. I feel happiest when I'm in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

7. My neighbourhood is my favourite place to be.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

8. I miss my neighbourhood when I'm away from it for too long.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

9. My neighbourhood is the best place for doing the things I enjoy most.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

10. For doing the things I enjoy most, no other place can compare to my neighbourhood.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

11. My neighbourhood is not a good place to do the things I most like to do.

**Strongly Disagree    Mildly Disagree    Unsure    Mildly Agree    Strongly Agree**

12. As far as I am concerned, there are better places to live than in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Unsure   Mildly Agree   Strongly Agree**

Appendix J: Organizational Commitment Neighbourhood-Attitude Scale

1. People in my neighbourhood share my values.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

2. I feel as if my neighbourhood's problems are my own.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

3. It would be too costly for me to leave my neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

4. There are too few options for me to consider leaving this neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

5. People move from neighbourhood to neighbourhood too often.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

6. Remaining loyal to one's neighbourhood is valuable.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

Appendix K: Organizational Commitment Neighbourhood-Behaviour Scale

Please circle one option using the scale below:

1. I shop at my neighbourhood's local stores.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

2. I attend neighbourhood group meetings and events.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

3. I work to improve my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

4. I pick up litter in my neighbourhood.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

5. I stay in this neighbourhood even though other options have been available to me.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

6. I tend to live in one neighbourhood for long periods of time.

**Strongly Disagree   Mildly Disagree   Neutral   Mildly Agree   Strongly Agree**

Appendix L: Sense of Place Neighbourhood-Attitude Scale

Please circle one option using the scale below:

1. My neighbourhood reflects the type of person I am.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

2. My neighbourhood suits me and my lifestyle.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

3. I would miss my neighbourhood after being away for too long.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

4. I feel happiest when I spend time in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

5. Other neighbourhoods in this city do not have as much to offer my lifestyle.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

6. My neighbourhood is the best place for doing things I enjoy the most.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

## Appendix M: Sense of Place Neighbourhood-Behaviour Scale

Please circle one option using the scale below:

1. I participate in activities in my neighbourhood that reflect who I am.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

2. I have investigated the history of my neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

3. I talk about my neighbourhood as though it were home.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

4. I take photographs of things in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

5. I participate in new activities in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**

6. I am able to pursue my hobbies in my neighbourhood.

**Strongly Disagree    Mildly Disagree    Neutral    Mildly Agree    Strongly Agree**