RESEARCH REPORT

Neighbourhood Effects and Levels of Concentration for Aboriginal People in Large Cities in Canada

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NEIGHBOURHOOD EFFECTS AND LEVELS OF CONCENTRATION FOR ABORIGINAL PEOPLE IN LARGE CITIES IN CANADA

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RESEARCH HIGHLIGHT

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Neighbourhood Effects and Concentration Levels of Aboriginal People in Large Canadian Cities

INTRODUCTION

Concerns about the effects of neighbourhoods on life chances have a long history in academic debates, but there has been no work that specifically considers effects on Aboriginal individuals living in Aboriginal neighbourhoods in Canadian cities. This highlight summarizes a study that investigated the housing patterns of urban Aboriginal people and the relation of the patterns to socio-economic outcomes.

Based on the literature, the study team derived a model of neighbourhood effects that had four types of positive and negative outcomes as well as mediating factors.

The study used focus groups to test the model for relevance to the urban Aboriginal population. The research also examined Census variables for use as indicators of the outcomes and for mediating factors.

Using 2001 Census data, statistics describing residential settlement patterns of Aboriginal people were generated for major urban areas with substantial Aboriginal populations. This made it possible to calculate indices of spatial distributions (evenness, clustering, concentration, centrality and exposure) of the population at different levels of geographic aggregation. The statistics were then analyzed with the mediating factor variables in a stepwise regression against the outcome variables.

NEIGHBOURHOOD EFFECTS: A LITERATURE REVIEW AND A MODEL

The study reviewed literature addressing neighbourhood outcomes associated with two types of concentration: concentration by ethnicity or culture and concentration by race and poverty. This literature suggested that there are also mediating factors that can affect whether concentration has positive or negative effects.

The literature on concentration by ethnicity or culture identified mainly positive outcomes, including the maintenance of a distinct culture, improvement in access to employment (through ethnic businesses); a change in attitudes toward an area (it becomes associated with a particular group); and an improvement in the quality of services through the emergence of culturally appropriate services. The mediating factors that result in positive outcomes include growing urban economies, group capacity and positive attitudes toward particular minority groups.

The literature on concentration by race and poverty identified mainly negative consequences, including the maintenance or emergence of cultures that were oppositional to mainstream cultures; a change in access to employment as employers moved out of the area; stigmatization of the area; and a change in access to quality services as services were overwhelmed or fled. The mediating factors that contribute to negative outcomes include negative attitudes toward racial groups, erosion of a social safety net and declining urban economies.

The model developed from this review identified four main outcomes that could either be positive or negative and thus be used as indicators:

1. **Emergence or maintenance of distinct cultures.**
   Positive—support for the maintenance of distinct cultural practices.
   Negative—the development of cultures that are oppositional to mainstream societal values.

2. **Change in access to employment.**
   Positive—increase in employment opportunities.
   Negative—movement of employment opportunities out of the area.

3. **Change in attitudes toward an area.**
   Positive—the area is seen as more desirable.
   Negative—neighbourhoods are stigmatized.

4. **Change in access to quality of services.**
   Positive—provision of culturally appropriate services that can meet the particular needs of minority groups.
   Negative—existing services are overwhelmed or flee.

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The model identified four mediating factors:

1. The characteristics of families and individuals.
2. Attitudes toward particular minority groups.
3. The characteristics of urban areas, including community capacity and the nature of urban economies.
4. The nature of the social safety net.

URBAN ABORIGINAL PEOPLE'S EVALUATION OF THE RELEVANCE OF EXISTING MODELS OF NEIGHBOURHOOD EFFECTS

Several interviews and focus groups were conducted with urban Aboriginal representatives in Winnipeg and Saskatoon to determine if the model of neighbourhood effects derived from the literature was relevant.

The idea of "neighbourhood effects" was extremely difficult to communicate. The difficulty suggests that research should use statistical tools to explore this issue whenever possible. Participants expressed considerable discomfort with research that associated particular effects with levels of concentration of Aboriginal people.

Aboriginal participants said that neither model could be entirely adopted, although elements of each applied in part.

Participants felt that concentrations of Aboriginal residents could reinforce Aboriginal identities and support informal networks. They emphasized that negative effects associated with concentration were the result of poverty, lack of funding, support or opportunities.

Further, they said that some Aboriginal businesses were beginning to emerge in areas of Aboriginal concentration, but not enough to change access to employment. They did not feel that businesses had fled from Aboriginal neighbourhoods.

With respect to changes in attitudes toward an area with relatively higher concentrations of Aboriginal people, participants felt that this would make that area more desirable and comfortable for some people and that it would have the opposite effect for others.

Finally, participants associated an increase in Aboriginal services with areas of concentration, but indicated that this increase was not significant enough to make a difference in outcomes. They said that services had not declined as a result of concentrations of Aboriginal residents.

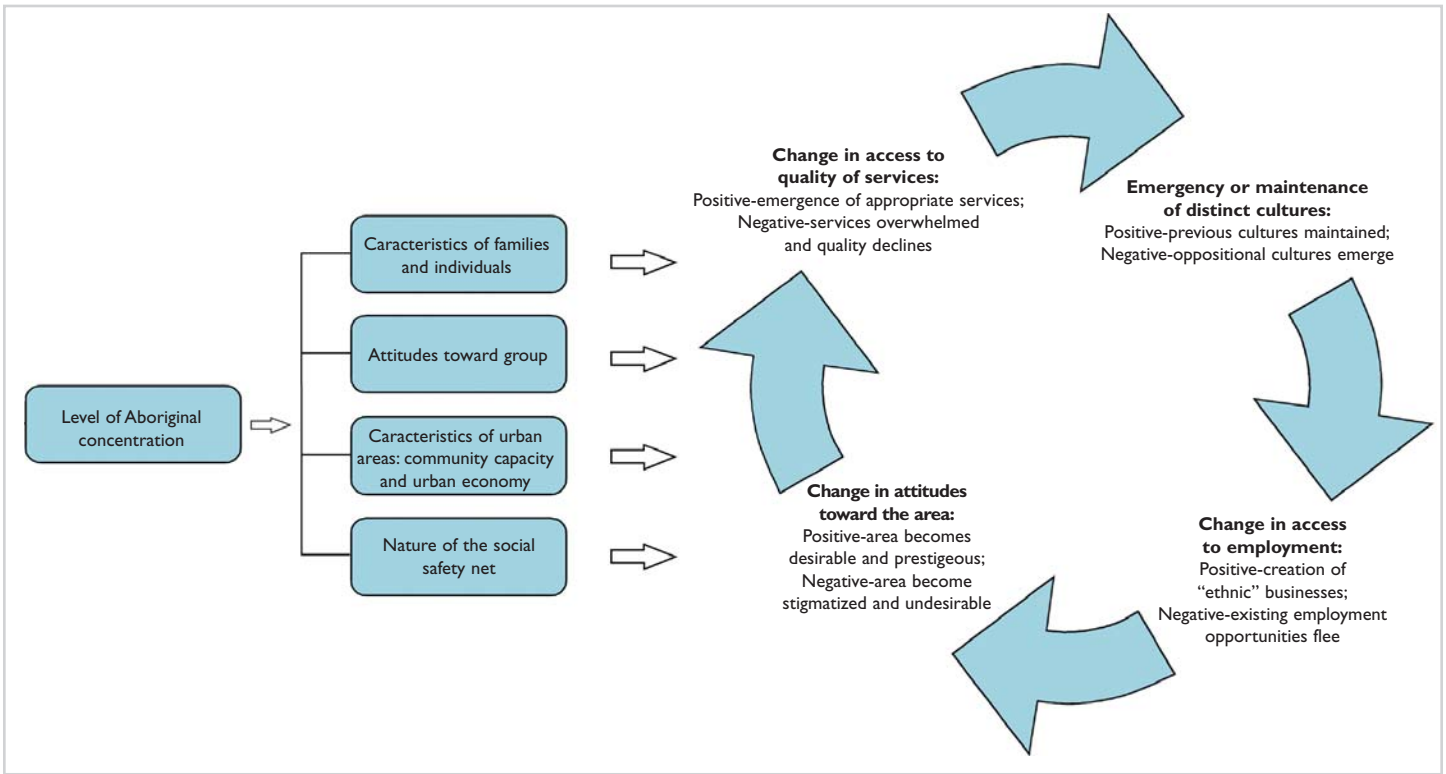

Figure 1 Model of neighbourhood effects

DATA AND METHODS

Each part of the analysis required some decisions regarding data and method. Because different census definitions of "Aboriginal" result in different averages of socio-economic indicators for the group, the study compared concentration indices for the Aboriginal identity population to those of the single-origin Aboriginal ancestry population.

The comparison population group for measures of concentration was the white Caucasian population, consistent with the *Employment Equity Act,* 1995. Because some concentration indices are sensitive to geographic scale, measures calculated at the census tract and dissemination area levels were also compared. The concentration indices were based on Massey and Denton's (1988) classic paper[1] that argued that residential concentration had five dimensions—evenness, exposure, concentration, clustering and centralization.

Given budget constraints, it was not possible to obtain socio-economic data for individuals, so the data was aggregated at the census tract level. The need to minimize the number of cells with values of zero due to area suppression, cell suppression or random rounding partially affected the selection of variables that the study used to measure neighborhood effects. It was not possible to measure changes in attitudes toward an area using census data.

The variables selected to measure neighbourhood effects of Aboriginal concentration included:

- emergence or maintenance of distinct cultures;
- change in access to employment;
- change in access to quality of services.

It was necessary to make some decisions regarding which mediating factors to include. While there is debate about which individual characteristics are related to which neighbourhood effects, this study included household type, education, employment, poverty, age and mobility.

Where the dependent variable included a measure of education or employment, the independent variables linked to employment or education were not used because of the high degree of collinearity this would create.

Data was not available to explore geographic variations in attitudes toward Aboriginal people or variations in the nature of the social safety net. The study used a ratio of advertised Aboriginal community organizations and programs to the total urban Aboriginal population as a measure of community capacity, and calculated the percentage change in manufacturing and in business services between 1981 and 2001 as a measure of growth or decline in urban economies.

The analysis followed a step-by-step procedure that initially entered only levels of concentration into analysis and assessed their importance for neighbourhood outcomes. Then, the other mediating factors were added to assess their effects on the significance of the relationship between concentration and neighbourhood outcomes. The analysis was limited to census tracts with 250[2] or more Aboriginal residents because many variable values for census tracts with smaller Aboriginal populations equalled zero. This substantially decreases the possibility of uncovering any significant relationships between dependent and independent variables.

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[1] Massey, D. S., Denton, N. A. (1988). "The Dimensions of Residential Segregation", *Social Forces.*

[2] This number was selected because Statistics Canada applies cell and area suppression to areas with a population lower than 250 for the majority of socio-economic variables. Also, the larger the population of an area, the less it is affected by the random rounding (Statistics Canada 2002).

CONCENTRATION PATTERNS OF ABORIGINAL PEOPLE IN CANADIAN CENSUS METROPOLITAN AREAS (CMA)

Using information for the Aboriginal identity population at the census tract level, settlement patterns were generally characterized by:

- even to moderately even distribution of the Aboriginal population across census tracts;
- low likelihoods of exposure of Aboriginal people only to other Aboriginal people;
- relatively high levels of concentration—Aboriginal people occupy a relatively small amount of urban space;
- low likelihood that census tracts inhabited by Aboriginal people adjoin each other; and
- high tendencies to live close to the city centre in Prairie cities and moderate tendencies to live near the city centre in the eastern cities and in Vancouver.

Using the Aboriginal ancestry instead of the Aboriginal identity definition resulted in concentration indices that were slightly higher. However, these differences were small. Concentration indices calculated with dissemination area data were slightly higher than those calculated using census tract data.

Because of these results, the Aboriginal identity population data at the census tract level was chosen for subsequent analysis of the relationship between socio-economic outcomes and levels of concentration.

To summarize concentration patterns, an average rank of concentration indices was calculated for each city, with the lowest values receiving a 1 and the highest a 9.

LEVELS OF CONCENTRATION AND NEIGHBOURHOOD OUTCOMES

The analysis explored the three main effects that could be assessed using census data:

1. the emergence or maintenance of distinct cultures;
2. access to employment; and
3. quality of services.

The analysis attempted to assess whether different levels of concentration were associated with these effects, either positively or negatively.

None of the models explained a large proportion of the variation in neighbourhood outcomes. In the models that explained the highest amounts of variation, levels of concentration were either weakly significant, or not significant at all. Overall, individual and family characteristics explained the largest amount of variation in neighbourhood effects. Nevertheless, there were some significant relationships between metropolitan levels of concentration and measures of neighbourhood outcomes.

Outcome—Emergence of Distinct Cultures

There is no evidence of the emergence of more supportive cultures in cities with higher levels of concentration. These areas do not seem to have the characteristics of some ethnic clusters where ethnic groups create local, culturally supportive organizations and activities.

However, the measure used here (proportion of Aboriginal residents in a census tract with an Aboriginal language as mother tongue) is a very indirect indicator. The lack of a significant relationship should not be interpreted as an indication that these activities and networks do not exist—just that they could not be measured with the data available.

On the other hand, there is also no evidence that oppositional cultures are emerging in cities with higher levels of concentration. The dependent variable used to measure this—labour force participation rates of adult Aboriginal males—corresponds to measures used in the U.S. literature to identify dysfunctional adaptive strategies emerging in "underclass ghetto" areas. This suggests that the processes emerging in U.S. cities are not occurring in Canadian cities.

Outcome-Access to Employment

Fewer individuals were self-employed in cities that were more concentrated. This supports the comments in focus groups that Aboriginal businesses had not yet emerged in areas of Aboriginal concentration.

The analysis also showed that in cities with higher concentrations of Aboriginal residents, there were fewer employed Aboriginal people who lived and worked in the same census tract. This finding is consistent with the trend toward a migration of jobs out of the inner city in many metropolitan areas. Individual poverty was significantly related to this variable, suggesting that there may be a link between areas of lower-cost housing, the location of low-income Aboriginal residents and a lack of employment opportunities in these areas. The dynamics of these linkages are complex and beyond the scope of this paper to explore.

Outcome—Access to Services

The data available to assess this outcome did not suggest that organizations and programs were more likely to emerge in cities with higher levels of concentration. However it must be noted that the variable used to measure this—Aboriginal organizations and programs—does not include more informal types of support networks and relationships. At the same time, there is no evidence suggesting that concentration levels are associated with declining service quality as measured by drop-out rates.

CONCLUSION

The analysis in this study suggests that neighborhood outcomes associated with Aboriginal concentration in Canadian cities do not fit easily into models of neighborhood effects for other populations. At present, concentration does not seem to be associated with the emergence of businesses, culturally focused organizations, or services that are associated with areas of ethnic concentration in the literature. At the same time, higher levels of Aboriginal concentration are not consistently associated with the emergence of oppositional cultures found in certain inner city neighborhoods in U.S. cities. It is therefore important to examine the processes and dynamics occurring among the urban Aboriginal population in Canadian cities as distinct processes that cannot be extrapolated from the experiences of other minorities or ethnic groups.

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Research Report: *Neighbourhood Effects and Levels of Segregation for Aboriginal People in Large Cities in Canada*

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LE POINT EN RECHERCHE

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Externalités de voisinage et degrés de concentration des Autochtones dans les grandes villes canadiennes

INTRODUCTION

Depuis longtemps, les préoccupations quant aux effets que peuvent avoir les quartiers sur les chances d'épanouissement de leurs occupants font l'objet de débats théoriques. Or, aucun chercheur ne s'est encore penché sur ces externalités de voisinage en ce qui concerne les Autochtones qui habitent dans les quartiers autochtones des villes canadiennes. Le présent Point en recherche résume une étude qui a été réalisée sur les habitudes de logement des Autochtones vivant en milieu urbain, et sur les relations entre ces habitudes et les résultats socioéconomiques.

En se fondant sur les documents existants, l'équipe d'étude a construit un modèle d'externalités de voisinage, qui contient quatre genres de résultats pouvant être positifs ou négatifs, de même que des facteurs médiateurs.

Le modèle a été mis à l'essai à l'aide de groupes de discussion pour déterminer s'il s'applique aux Autochtones vivant en milieu urbain. Les chercheurs se sont également penchés sur les variables du Recensement, afin qu'elles servent comme indicateurs des résultats et pour les facteurs médiateurs.

En utilisant les données du recensement de 2001, des statistiques décrivant les types de peuplement résidentiel des Autochtones ont été produites sur les grandes agglomérations urbaines comptant une population autochtone importante. Il a été ainsi possible de calculer des indices des répartitions géographiques (homogénéité, regroupement, concentration, centralisation et exposition) de la population à divers degrés de regroupement géographique. Les statistiques ont ensuite été analysées avec les variables de facteur médiateur dans une analyse de régression par degrés par rapport aux variables de résultat.

EXTERNALITÉS DE VOISINAGE : ANALYSE DOCUMENTAIRE ET MODÈLE

Les auteurs de l'étude ont passé en revue des documents traitant des résultats des quartiers liés à deux genres de concentration, soit la concentration en fonction de l'ethnicité ou de la culture et la concentration en fonction de la race et de la pauvreté. Ces documents laissent entendre que les facteurs médiateurs peuvent également déterminer si les effets de la concentration seront positifs ou négatifs.

Les documents sur la concentration en fonction de l'ethnicité ou de la culture faisaient état principalement de résultats positifs, notamment le maintien d'une culture distincte, l'amélioration de l'accès à l'emploi (grâce aux entreprises ethniques), le changement d'attitude envers un quartier (qui devient associé à un groupe particulier), et l'amélioration de la qualité des services, grâce à l'émergence de services pertinents sur le plan culturel. Les facteurs médiateurs qui se traduisent par des résultats positifs comprennent les économies urbaines en croissance, la capacité des groupes et l'attitude positive envers des groupes minoritaires particuliers.

Les documents portant sur la concentration selon la race et le niveau de pauvreté font principalement état de conséquences négatives, notamment le maintien ou l'émergence de cultures qui vont à contre-courant des cultures dominantes, le changement de l'accès à l'emploi, alors que les employeurs ont quitté le quartier touché, la stigmatisation du quartier, et le changement de l'accès à des services de qualité, puisque ceux-ci ne suffisent plus à la demande ou qu'ils ont cessé d'être offerts. Les facteurs médiateurs qui contribuent aux résultats négatifs comprennent l'attitude négative envers des groupes raciaux, l'érosion du filet de sécurité sociale et le déclin des économies urbaines.

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Le modèle élaboré à partir de cet examen a permis de définir quatre résultats principaux, qui peuvent être positifs ou négatifs et, ainsi, servir d'indicateurs, notamment :

1. **Émergence ou maintien de cultures distinctes**
   Résultat positif — Maintien de pratiques culturelles distinctes.
   Résultat négatif — Émergence de cultures qui vont à contre-courant des valeurs sociétales dominantes.
2. **Changement de l'accès à l'emploi**
   Résultat positif — Augmentation des possibilités d'emploi.
   Résultat négatif — Déplacement des possibilités d'emploi à l'extérieur du quartier.
3. **Changement d'attitude envers un quartier.**
   Résultat positif — Quartier considéré comme plus désirable.
   Résultat négatif — Stigmatisation des quartiers.
4. **Changement de l'accès à des services de qualité.**
   Résultat positif — Offre de services pertinents sur le plan culturel susceptibles de satisfaire les besoins particuliers de groupes minoritaires.
   Résultat négatif — Services existants qui ne suffisent plus à la demande ou qui ne sont plus offerts.

Le modèle a défini quatre facteurs médiateurs, notamment :

1. Les caractéristiques des familles et des particuliers.
2. L'attitude envers des groupes minoritaires particuliers.
3. Les caractéristiques des agglomérations urbaines, y compris la capacité de la collectivité et la nature des économies urbaines.
4. La nature du filet de sécurité sociale.

ÉVALUATION PAR LES AUTOCHTONES DE LA PERTINENCE DES MODÈLES D'EXTERNALITÉS DE VOISINAGE EXISTANTS

Plusieurs entrevues et groupes de discussion ont été organisés avec des représentants des Autochtones vivant en milieu urbain, à Winnipeg et à Saskatoon, afin de déterminer si le modèle d'externalités de voisinage construit à partir des documents était pertinent.

L'idée d'« externalités de voisinage » a été extrêmement difficile à communiquer. La difficulté laisse supposer que cette question doit être

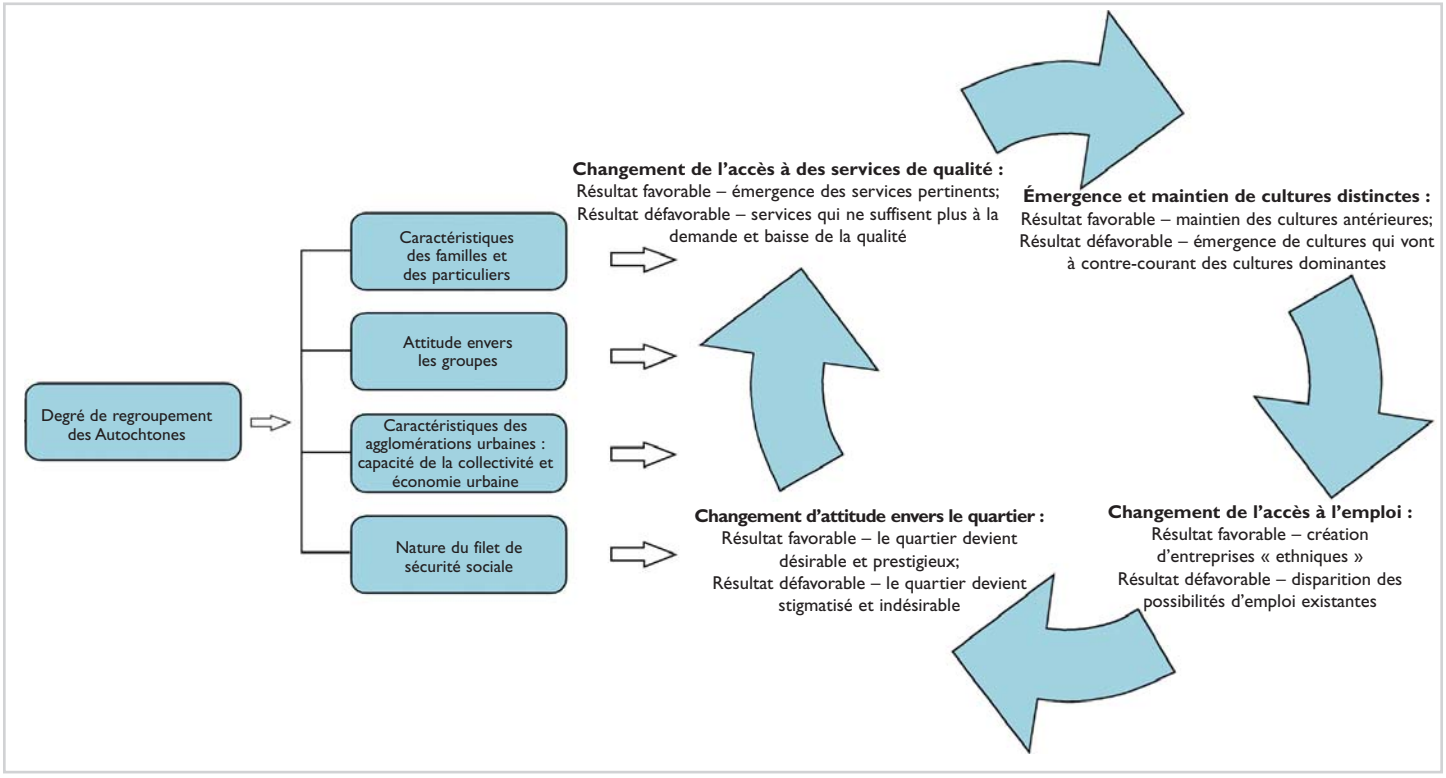

Figure 1 Modèles d'externalités de voisinage existants

étudiée à l'aide d'outils statistiques dans la mesure du possible. Les participants se sont dits très mal à l'aise avec la recherche qui associe des effets particuliers à des degrés de concentration d'Autochtones.

Les participants autochtones ont indiqué que ni l'un ni l'autre des modèles ne pouvait être entièrement adopté, même si certains de leurs éléments s'appliquent en partie.

Pour les participants, les concentrations de résidents autochtones peuvent renforcer l'identité autochtone et favoriser l'émergence de réseaux informels. Ils ont souligné que les effets négatifs associés à la concentration étaient le résultat de la pauvreté et du manque de financement, de soutien et de possibilités.

Ils ont ajouté que quelques entreprises autochtones commencent à s'ouvrir dans les quartiers à forte concentration autochtone, mais pas suffisamment pour avoir des répercussions sur l'accès à l'emploi. Ils ne pensaient pas que les entreprises avaient quitté les quartiers autochtones.

Pour ce qui est des changements d'attitude envers un quartier comptant des concentrations relativement plus élevées d'Autochtones, les participants estimaient que ce type de quartier est plus désirable pour certaines personnes qui se sentent plus à l'aise, alors qu'il a un effet contraire sur d'autres personnes.

Enfin, les participants ont associé une augmentation des services à l'intention des Autochtones aux quartiers où ils sont concentrés, mais ils ont indiqué que cette augmentation n'était pas suffisamment importante pour faire une différence dans les résultats. Ils ont ajouté que les concentrations de résidents autochtones n'avaient pas entraîné une baisse du niveau de service.

DONNÉES ET MÉTHODES

Pour chaque partie de l'analyse, on a dû prendre certaines décisions sur les données et la méthode. Comme les diverses définitions des « Autochtones » dans le Recensement se soldent en des moyennes différentes d'indicateurs socioéconomiques pour le groupe, les auteurs ont comparé les indices d'identité autochtone et les populations d'origine autochtone unique.

Le groupe de population servant à la comparaison en vue des mesures de concentration était la population de race blanche, selon la définition de la Loi sur l'équité en matière d'emploi de 1995. Comme certains indices de concentration peuvent varier en fonction de la situation géographique, des mesures calculées au niveau du secteur de recensement et de la région de dissémination ont également été comparées. Les indices de concentration se fondaient sur le document faisant autorité de Massey et Denton (1988)[1], qui faisait valoir que la concentration résidentielle se présente en cinq dimensions, soit l'homogénéité, l'exposition, la concentration, le regroupement et la centralisation.

Compte tenu des contraintes budgétaires, il a été impossible d'obtenir des données socioéconomiques sur les particuliers. Par conséquent, les données ont été regroupées au niveau du secteur de recensement. La nécessité de réduire au minimum le nombre de cellules ayant comme valeur zéro en raison de la suppression de quartiers, de la suppression de cellules ou de l'arrondissement aléatoire a partiellement influencé le choix des variables servant à mesurer les externalités de voisinage. Il a été impossible de mesurer les changements d'attitude envers un quartier en utilisant les données du Recensement.

Les variables choisies pour mesurer les externalités de voisinage découlant de la concentration des Autochtones comprenaient :

- Émergence ou maintien de cultures distinctes;
- Changement de l'accès à l'emploi;
- Changement de l'accès à la qualité des services.

Certaines décisions ont dû être prises concernant les facteurs médiateurs à inclure. Même si l'on discute toujours des caractéristiques individuelles associées à des externalités de voisinage données, cette étude comprenait le genre de foyer, l'éducation, l'emploi, la pauvreté, l'âge et la mobilité.

Lorsque la variable dépendante comprenait une mesure de l'éducation ou de l'emploi, les variables indépendantes liées à l'emploi ou à l'éducation n'ont pas été utilisées en raison du degré élevé de colinéarité que cela aurait créé.

Aucune donnée n'était disponible pour étudier les écarts attribuables à des considérations géographiques dans l'attitude envers les Autochtones ou les écarts dans la nature du filet de sécurité sociale. Les chercheurs ont utilisé le rapport entre les organisations et les programmes communautaires autochtones annoncés, et la population autochtone urbaine totale pour obtenir une mesure de la capacité de la collectivité. Pour évaluer la croissance ou le déclin des économies urbaines, on a calculé l'évolution en pourcentage du secteur manufacturier et des services commerciaux entre 1981 et 2001.

L'analyse s'est effectuée par un processus étape par étape, qui n'a initialement intégré que des degrés de concentration, lesquels ont été évalués quant à leur importance pour les résultats obtenus par les

[1] Massey, D. S., Denton, N. A. (1988). « The Dimensions of Residential Segregation », *Social Forces*.

quartiers. Ensuite, les autres facteurs médiateurs ont été ajoutés pour évaluer leur incidence sur l'importance des relations entre la concentration et les résultats obtenus par les quartiers. L'analyse s'est limitée aux secteurs de recensement comptant 250[2] résidents autochtones ou plus parce que de nombreuses variables de secteurs de recensement abritant une population autochtone plus faible avaient une valeur égale à zéro. Cela réduit considérablement la possibilité de mettre à jour toute relation importante entre les variables dépendantes et indépendantes.

TENDANCES EN MATIÈRE DE CONCENTRATION DES AUTOCHTONES DANS LES RÉGIONS MÉTROPOLITAINES DE RECENSEMENT (RMR) DU CANADA

En utilisant les renseignements sur la population autochtone au niveau du secteur de recensement, les types de peuplement se caractérisaient généralement ainsi :

- une répartition allant d'homogène à modérément homogène de la population autochtone entre les secteurs de recensement;
- de faibles probabilités d'exposition d'Autochtones seulement à d'autres Autochtones;
- des degrés de concentration relativement élevés - les Autochtones occupent une superficie relativement faible de l'espace urbain;
- une faible probabilité que les secteurs de recensement où habitent les Autochtones soient contigus;
- une tendance élevée à vivre proche du centre-ville des villes des Prairies et une tendance modérée à vivre proche du centre-ville des villes de l'est du pays et de Vancouver.

L'utilisation de la définition de l'origine autochtone au lieu de l'identité autochtone donne lieu à des indices de concentration légèrement plus élevés. Toutefois, ces écarts étaient faibles. Les indices de concentration calculés avec les données sur le secteur de dissémination étaient légèrement plus élevés que ceux calculés en utilisant les données des secteurs de recensement.

En raison de ces résultats, les données sur la population d'origine autochtone au niveau des secteurs de recensement ont été retenues en vue d'une analyse subséquente des relations entre les résultats socioéconomiques et les degrés de concentration.

Pour résumer les tendances de concentration, une note moyenne des indices de concentration a été calculée pour chaque ville selon une échelle allant de 1 à 9.

DEGRÉS DE CONCENTRATION ET RÉSULTATS OBTENUS PAR LES QUARTIERS

L'analyse a étudié les trois principales externalités susceptibles d'être évaluées en utilisant les données du recensement :

1. l'émergence ou le maintien de cultures distinctes,
2. l'accès à l'emploi et
3. la qualité des services.

Elle a tenté de déterminer si des degrés différents de concentration étaient associés de manière positive ou négative à ces externalités.

Aucun des modèles n'a expliqué une grande proportion de l'écart entre les résultats obtenus par les quartiers. Dans les modèles qui expliquaient l'écart le plus élevé, les degrés de concentration étaient peu importants ou sans importance. Dans l'ensemble, les caractéristiques des particuliers et des familles ont expliqué le plus grand écart dans les externalités de voisinage. Néanmoins, il y avait quelques relations importantes entre les degrés de concentration dans les agglomérations urbaines et les mesures des résultats obtenus par les quartiers.

Résultat — Émergence de cultures distinctes

Il n'y a aucune preuve de l'émergence de cultures plus favorables dans les villes où le degré de concentration est plus élevé. Ces secteurs ne semblent pas avoir les caractéristiques de certains regroupements ethniques où des groupes ethniques créent des organisations et des activités locales et de soutien sur le plan culturel.

Toutefois, la mesure utilisée ici (proportion de résidents autochtones dans un secteur de recensement dont la langue maternelle est une langue autochtone) constitue un indicateur très indirect. Le manque de relations importantes ne doit pas être interprété comme une indication que ces activités et ces réseaux n'existent pas — cela veut simplement dire qu'il a été impossible de les mesurer avec les données disponibles.

En revanche, il n'existe pas non plus la moindre preuve que des cultures qui vont à contre-courant des cultures dominantes se font jour dans les villes où le degré de concentration est plus élevé. La

[2] Ce nombre a été choisi parce que Statistique Canada met en application la suppression des cellules et des secteurs aux régions comptant une population inférieure à 250 âmes dans la majorité des variables socioéconomiques. En outre, plus la population d'une région est élevée, moins elle est touchée par l'arrondissement aléatoire (Statistique Canada, 2002).

variable dépendante utilisée pour mesurer cela — taux de participation au marché du travail des hommes adultes autochtones — correspond aux mesures utilisées dans les documents publiés aux États-Unis pour déterminer les stratégies adaptatives dysfonctionnelles émergentes dans les secteurs où se développent des « ghettos de classe marginale ». Cela laisse supposer que les processus observés dans les villes américaines ne se produisent pas dans les villes canadiennes.

Résultat — Accès à l'emploi

Il y avait un plus petit nombre de travailleurs autonomes dans les villes où la concentration était plus élevée. Cela corrobore des commentaires faits lors des groupes de discussion selon lesquels il n'y a pas encore d'entreprises autochtones dans les secteurs à concentration élevée d'Autochtones.

L'analyse a également indiqué que, dans les villes où le degré de concentration de résidents autochtones était plus élevé, un plus petit nombre d'Autochtones vivaient et travaillaient dans le même secteur de recensement. Cette constatation est conforme à la tendance relevée, à savoir la migration des emplois hors des centres-villes dans nombre de régions métropolitaines. La pauvreté des gens était étroitement liée à cette variable, ce qui laisse supposer qu'il y a peut-être un lien entre les quartiers où se trouvent des logements moins chers, le lieu où se trouvent les résidents autochtones à faible revenu et le manque de possibilités d'emploi dans ces quartiers. La dynamique de ces liens est complexe et son étude dépasse le cadre du présent document.

Résultat — Accès aux services

Les données disponibles pour évaluer ce résultat n'ont pas permis de croire que des organisations et des programmes étaient plus susceptibles d'apparaître dans les villes où le degré de concentration est plus élevé. Toutefois, il convient de noter que la variable utilisée pour évaluer la présence d'organisations et de programmes autochtones ne comprend pas de genres plus informels de réseaux de soutien et de relations. Parallèlement, rien ne laisse supposer que les degrés de concentration sont liés à la baisse de la qualité du service, mesurée par les taux de décrochage.

CONCLUSION

Les analyses effectuées indiquent que les résultats obtenus par quartier en matière de concentration des populations autochtones dans les villes canadiennes ne s'intègrent pas aisément aux modèles d'externalités de voisinage des autres populations. À l'heure actuelle, le phénomène de concentration ne semble pas être lié à l'émergence de commerces, d'organismes axés sur la culture ou de services associés à des domaines de concentration ethnique dans la littérature. Parallèlement, les niveaux plus élevés de concentration des populations autochtones ne cadrent pas toujours avec l'émergence de cultures opposées que l'on trouve dans certains quartiers du centre de villes des États-Unis. Il importe donc d'examiner les procédés et la dynamique qu'exhibe la population autochtone urbaine dans les villes canadiennes à titre de processus distincts que l'on ne peut extrapoler à partir des expériences d'autres minorités ou groupes ethniques.

Gestionnaire du projet de la SCHL : Phil Deacon

Rapport de recherche : *Neighbourhood Effects and Levels of Segregation for Aboriginal People in Large Cities in Canada*

Consultants : Evelyn J. Peters, Faculté de géographie, Université de la Saskatchewan, Oksana Starchenko, ministère des Relations gouvernementales, gouvernement de la Saskatchewan

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EXECUTIVE SUMMARY

1 INTRODUCTION

While concerns with the effects of neighbourhoods on life chances have a long history in academic debates, there is no work that specifically considers neighbourhood effects on Aboriginal individuals of living in Aboriginal neighbourhoods in Canadian cities. This paper attempts to provide such a study by investigating the housing patterns of urban Aboriginal people and their relation with socio-economic outcomes, either positive or negative. Housing settlement patterns in the major urban areas of Canada with substantial Aboriginal populations are described statistically, using established indices for spatial distributions of population (evenness, clustering, concentration, centrality and exposure) at different levels of geographic aggregation. The statistics are discussed in terms of the pros and cons of the indices and geographies for each urban centre. The statistics are analysed with a selection of socio-economic census variables chosen for their potential relevance to social and economic outcomes based on research literature.

2 NEIGHBOURHOOD EFFECTS: A LITERATURE REVIEW AND A MODEL

The study reviewed literature addressing neighbourhood outcomes associated with two types of concentration: concentration by ethnicity or culture (particularly the work on ethnic or immigrant groups in cities) and concentration by race and poverty (particularly the work on Black ghettos in US cities). This literature suggested that there are also mediating factors that can affect whether concentration has positive or negative effects.

The literature on concentration by ethnicity or culture identified mainly positive outcomes, including the maintenance of a distinct culture, improvement in access to employment (through ethnic businesses); a change in attitudes toward an area (it becomes associated with a particular group); and an improvement in the quality of services through the emergence of culturally appropriate services. The mediating factors that result in positive outcomes include, growing urban economies, group capacity, and positive attitudes toward particular minority groups.

The literature on concentration by race identified mainly negative consequences of concentration, including the maintenance or emergence of cultures that were oppositional to mainstream cultures, a change in access to employment as employers moved out of the area, stigmatization of the area, and a change in access to quality services as services were overwhelmed or fled. The mediating factors that contribute to negative outcomes include negative attitudes toward racialized groups, erosion of a social safety net, and declining urban economies.

The model developed from this review identified four main outcomes which could either be positive or negative and thus be used as an indicators- emergence or maintenance of distinct cultures, change in access to employment, change in attitudes toward an area, and change in access to quality of services. With respect to distinct cultures, a positive effect would be support for the maintenance of distinct cultural practices, while the negative

effect would be the development of cultures that are oppositional to mainstream societal values. Changes in access to employment can be positive (increase in employment opportunities) or negative (movement of employment opportunities out of the area). Change in attitudes toward an area could be positive if the area is seen as more desirable, or negative if neighbourhoods were stigmatized. Finally, changes in access to quality services can be positive, with the provision of culturally appropriate services that can meet the particular needs of minority groups, or negative if existing services are overwhelmed or flee.

The model identified four mediating factors - the characteristics of families and individuals; attitudes toward particular minority groups; the characteristics of urban areas, including community capacity and the nature of urban economies; and the nature of the social safety net.

3 URBAN ABORIGINAL PEOPLE'S EVALUATION OF THE RELEVANCE OF EXISTING MODELS OF NEIGHBOURHOOD EFFECTS

We conducted several interviews and focus groups with urban Aboriginal representatives in Winnipeg and Saskatoon, to obtain their perspective on whether the model of neighbourhood effects we derived from the literature was relevant for the urban Aboriginal situation. We found that the idea of "neighbourhood effects" was extremely difficult to communicate. The difficulty participants had in fully understanding the concept of "neighbourhood effect" suggests that this issue needs to be explored statistically, as fully as possible. Participants expressed considerable discomfort with research that associated particular effects with levels of concentration of Aboriginal people.

Aboriginal participants indicated that neither of the main models (the 'ethnic' model or the US inner city model) could be adopted in its entirety, although elements of each applied in part. Aboriginal participants felt that concentrations of Aboriginal residents could reinforce Aboriginal identities and support informal networks. They emphasized that negative effects associated with concentration were the result of poverty, lack of funding, support, or opportunities. Participants indicated that some Aboriginal businesses were beginning to emerge in areas of Aboriginal concentration, but not enough to make a change in access to employment. They did not feel that businesses had fled from Aboriginal neighbourhoods. With respect to changes in attitudes toward an area with relatively higher concentrations of Aboriginal people, participants felt that for some people this would make that area more desirable and comfortable, and for other it would have the opposite effect. Finally participants associated an increase in Aboriginal services with areas of concentration, but indicated that this increase was not significant enough to make a difference in outcomes. They indicated that there had not been a decline in services associated with concentrations of Aboriginal residents.

4 DATA AND METHODS

Each part of the analysis required some decisions about data and method. Because different census definitions of "Aboriginal" result in different averages of socioeconomic indicators for the group, we compared concentration indices for the Aboriginal identity and the single origin Aboriginal ancestry populations. Our comparator population group for measures of concentration was the white Caucasian population as defined by the Canadian Employment Equity Act of 1986. Because some concentration indices are sensitive to geographic scale, we compared measures calculated at the census tract and dissemination area levels. In order to measure concentration, we calculated indices based on Massey and Denton's (1988) classic paper that argued that residential concentration had five dimensions – evenness, exposure, concentration, clustering and centralization.

There were a number of challenges in selecting variables for our analysis given budget constraints. It was not possible to obtain socio-economic data for individual Aboriginal people, so the scale of available data describing the characteristics of urban Aboriginal individuals and families are aggregated at the census tract level. The selection of variables to measure neighbourhood effects was partially affected by the need to minimize the number of cells with values of zero due to area suppression, cell suppression or random rounding. It was not possible to measure changes in attitudes toward an area using census data. The variables selected to represent other outcomes are presented below.

Variables Selected to Measure Neighbourhood Effects of Aboriginal Concentration		
	Positive	*Negative*
Emergence or maintenance of distinct cultures	Proportion of Aboriginal residents in a census tract with an Aboriginal language as mother tongue	Labour force participation rates of Aboriginal adult male population by census tract
Change in access to employment	Proportion of Aboriginal population 15 + who were self-employed by census tract	Proportion of Aboriginal employed population that worked and resided in the same census tract
Change in access to quality of services	Number of Aboriginal organizations and programs per tract	Proportion of Aboriginal population 15-24 not in school

Some decisions were made with respect to mediating factors. Where the dependent variable included a measure of education or employment, the independent variables linked to employment or education were not used because of the high degree of colinearity this would create. There is debate about which individual characteristics are related to which neighbourhood effects; we explored household type, education, employment, poverty, age, and mobility. Data were not available to explore geographic variations in attitudes toward Aboriginal people, or variations in the nature of the social safety net. For a measure of community capacity, we used a ratio of advertised Aboriginal community organizations and programs to the total urban Aboriginal population. To measure growth or decline in urban economies we calculated the percentage change in manufacturing and in business services between 1981 and 2001.

In terms of analysis, we used a stepwise procedure where initially only levels of concentration were entered into analysis and their importance for neighborhood outcomes was assessed. Then the other mediating factors were added in order to assess their effects on the significance of the relationship between concentration and neighborhood outcomes. We limited the analysis only to census tracts with 250[1] or more Aboriginal residents because many variable values for census tracts with smaller Aboriginal populations equaled 0, substantially decreasing the possibility of uncovering any significant relationships between the dependent and independent variables.

5 CONCENTRATION PATTERNS OF ABORIGINAL PEOPLE IN CANADIAN CENSUS METROPOLITAN AREAS

Using information for the Aboriginal identity population at the census tract level, we found that settlement patterns were generally characterized by:

- even to moderately even distribution across census tracts;
- low likelihoods of exposure only to other Aboriginal people;
- relatively high levels of concentration, in other words, Aboriginal people occupy a relatively small amount of urban space;
- low likelihood that census tracts inhabited by Aboriginal people adjoin each other; and
- high tendencies to live close to the city centre in prairie cities and moderate tendencies to live near the city centre in the eastern cities and in Vancouver.

Using the Aboriginal ancestry definition resulted in concentration indices that were slightly higher. However, these differences were small, and may be influenced by the smaller size of this population as well as its relative disadvantage, socio-economically, to the Aboriginal identity population. Concentration indices calculated with dissemination area data were slightly higher than those calculated using census tract data. This could be a function of smaller areal size rather than representing a different pattern of concentration.

Because of these results, we chose to employ the Aboriginal identity population data at the census tract level for our subsequent analysis of the relationship between socio-economic outcomes and levels of concentration.

To summarize concentration patterns, we calculated an average rank of concentration indices for each city, with the lowest values receiving a '1' and the highest values receiving a '9.'

6 LEVELS OF CONCENTRATION AND NEIGHBOURHOOD OUTCOMES

[1] This number was selected because Statistics Canada applies cell and area suppression to areas with a population lower than 250 for the majority of socio-economic variables. Also the larger the population of an area, the less it is affected by the random rounding (Statistics Canada 2002).

We used a stepwise regression procedure to assess the significance of the relationship between levels of concentration and neighbourhood outcomes, controlling for the mediating characteristics of urban areas and the characteristics of individual residents. The analysis explored the three main effects that could be assessed using census data: the emergence or maintenance of distinct cultures, access to employment, and quality of services. The analysis attempted to assess whether different levels of concentration were associated with these effects, either positively or negatively.

None of the models explained a large proportion of the variation in neighborhood outcomes. In the models that explained the highest amounts of variation, levels of concentration were either weakly significant, or not significant at all. Overall, individual and family characteristics explained the largest amount of the variation in neighborhood effects. Nevertheless, there were some significant relationships between metropolitan levels of concentration and measures of neighborhood outcomes.

Outcome - Emergence of distinct cultures

With respect to the emergence of distinct cultures, there is no evidence of the emergence of more supportive cultures in cities with higher levels of concentration. These areas do not seem to have the characteristics of some ethnic clusters where ethnic groups create local, culturally supportive organizations and activities. However our measure is blunt, and the lack of a significant relationship should not be interpreted as an indication that these activities and networks do not exist – just that we could not measure them with the data we had to work with.

On the other hand, there is also no evidence that oppositional cultures are emerging in cities with higher levels of concentration. The dependent variable used to measure this – labour force participation rates of adult Aboriginal males – corresponds to measures used in the US literature to identify dysfunctional adaptive strategies emerging in "underclass ghetto" areas. This suggests that the processes emerging in US cities are not transferable to Canadian cities in any straight forward way.

Outcome – Access to employment

With respect to access to employment, fewer individuals were self-employed in cities that were more concentrated. This supports the comments in focus groups that indicated that Aboriginal businesses had not yet emerged in areas of Aboriginal concentrations. The analysis also showed that in more concentrated cities, there were fewer employed Aboriginal people who lived and worked in the same census tract. This finding is consistent with the trend in many cities of employment opportunities moving out of inner city areas. Individual poverty was significantly related to this variable, suggesting that there may be a link between areas of lower cost housing, the location of low-income Aboriginal residents, and a lack of employment opportunities in these areas. The dynamics of these linkages are complex and beyond the scope of this paper to explore.

Outcome – access to services

With respect to access to services, the data we had available to assess this outcome did not suggest that organizations and programs were more likely to emerge in cities with higher levels of concentration. However it must be noted that the variable we used to measure this aspect – Aboriginal organizations and programs – does not include more informal types of support networks and relationships. At the same time, there is no evidence to suggest that concentration levels are associated with declining service quality as measured by drop out rates.

1 INTRODUCTION

Concerns with the effects of neighbourhoods on life chances have a long history in academic debates. The relationship between neighbourhood, community and self identity were central to early 20th century sociology, which documented the existence and characteristics of various social and cultural communities in the context of views on urbanisation which associated city life with anonymity, individualism and competition (Buck 2001, Lupton 2003). More recently, theorists have associated social isolation by poverty and race in the US inner cities with a variety of "ghetto effects" leading to oppositional cultures and reduced individual opportunities. The availability of large scale, longitudinal data sets is now providing information to study the complex effects of living in particular neighbourhoods. There are also qualitative studies that seek to document the mechanisms through which neighbourhood effects work.

The study of neighbourhood (or area) effects attempts to understand the effect on life-chances and opportunities of living in or growing up in one type of neighbourhood rather than another. Research on the effects of neighbourhoods has considered the implications of concentration for a variety of economic, cultural and racialized groups in various time periods, in a variety of countries. There is no work that specifically considers neighbourhood effects of living in Aboriginal neighbourhoods on Aboriginal individuals in Canadian cities. This paper attempts to provide such a study.

The following section of the paper summarizes neighbourhood effects found in two main bodies of literature: literature which explores the implications of ethnic concentrations and work that addresses the effects of concentration by race and low socio-economic status. It develops a model that describes factors that seem to mediate the effects neighbourhoods have, and identifies the main elements that seem to create varying outcomes for individuals living in particular types of neighbourhoods. Following that is a discussion of the relevance of existing models for understanding neighbourhood effects for the situation of urban Aboriginal people. Data challenges and methods of analysis are described in section 4. The first data analysis section, section 5, describes levels of concentration for urban Aboriginal people in large Canadian cities and addresses the implications of different definitions of Aboriginal and scales of analysis for indices that measure concentration. The final data analysis section explores the relationships between levels of concentration and a variety of neighbourhood outcomes. A conclusion summarizes the results of the study.

2 NEIGHBOURHOOD EFFECTS: A LITERATURE REVIEW AND A MODEL

2.1 Literature Review

There are many ways of organizing the growing literature on the effects of neighbourhoods on individual life chances. Some researchers differentiate between quantitative studies and more qualitative case studies (e.g. Lupton 2003). Others focus on descriptions associated with particular situations in particular locations (e.g. Wilson 1987). The first section below briefly summarises neighbourhood outcomes associated with two types of concentration: concentration by ethnicity or culture (particularly the work on ethnic or immigrant groups in cities) and concentration by race and poverty (particularly the work on Black ghettos in US cities). Taken in combination, this research suggests that concentration can have both positive and negative effects. The research also suggests that there are some mediating factors that affect whether concentration has positive or negative effects. We propose a model of neighbourhood effects that summarises different outcomes in the context of mediating factors.

2.1.1 Concentration based on cultural, ethnic or racial identity

The first approach to concentration based on cultural, ethnic or racial identity builds on a model proposed by Burgess in 1925 (1967) that suggested that immigrants first settled in a "zone of deterioration" near the central business district, and gradually moved toward more suburban areas with success and in subsequent generations. This model has had a longstanding influence on urban studies (see for example Lieberson 1963, Clark 1998). Immigrant concentration was seen to have a number of positive effects, ultimately facilitating immigrant adjustment to their new environments. Researchers have documented the development of mutual support systems, increased abilities to maintain ethnic languages and customs, relief from discrimination, and the economic benefits of the emergence of ethnic businesses as some of the positive results of concentration (see for example Boal 1999, Breton 1964, Gans 1962, Peach 1996, Yancey et al 1976). Anderson (1991) showed how the development of areas of Chinese concentration in Vancouver reinforced ideas about the uniqueness of Chinese identity, affecting policy and helping to maintain a separate place for Chinese immigrants materially and conceptually.

This literature, then, identifies several kinds of neighbourhood, or area effects: the maintenance or emergence of distinct cultures; a change in access to employment (through ethnic businesses); a change in attitudes toward an area (it becomes associated with a particular group); and a change in access to quality of services (emergence of culturally appropriate services). This literature does not focus on individual outcomes, but some implications of the development of ethnic concentrations include the availability of employment and training in a supportive atmosphere and the creation of culturally appropriate services and supportive informal networks. Ethnic neighbourhoods act as reception areas that facilitate socio-economic integration of minority groups into the mainstream.

However, this model is based on certain assumptions about the nature of the immigrant group and the receiving city (Burnley and Hiebert 2001). It assumes that the ethnic group has the social and economic capacity to engage in entrepreneurship and in the development of services (Ward 1971, Warner and Burke 1969, Yancey et al 1976). It also assumes that the relationships between the majority and minority group allow for eventual integration and for social and economic mobility. As Boal (1999) points out, there are a variety of outcomes for minority groups associated with attitudes of the host society toward them. Other research has shown that improvements in socio-economic status do not necessarily translate into spatial advantages for all ethnic or cultural groups (Fainstein 1998, Fong 1996, Fong and Guila 1996). In other words, there are mediating factors that influence outcomes. These include the nature of urban economies, group capacity, and attitudes toward particular minority groups.

2.1.2 Concentration by race and poverty

A second model had its genesis in patterns of concentration among Black residents in US cities. Much of the contemporary discussion of the effects of concentration on life chances is influenced by the provocative thesis of an 'underclass ghetto'. The focus here is not only on concentration by race but also on the concentration of poverty. The underclass thesis emerged to explain developments in many of America's inner cities, as the concentration of disadvantaged residents was accompanied by increasing social problems such as rising levels of crime and gang activity, chronic joblessness and welfare dependency, and growing numbers of mother-led families.

Wilson's (1987, 1996) analysis is most closely associated with this work. He suggested that the deindustrialisation and decentralisation of urban economies, in combination with civil rights initiatives that allowed middle class Black residents to move out of the inner city, led to intense concentration of disadvantaged Black populations in the US inner cities. Accompanied by public and private disinvestment in inner cities, this concentration of poverty led to social and economic isolation from mainstream society, and the emergence of the social problems listed above. Wilson was concerned to avoid a 'culture of poverty' explanation, emphasising instead the structural components of urban economies and the deleterious effects of social exclusion.[2] The spatial extent of conditions of concentrated poverty meant that residents were isolated from mainstream values, opportunities for education and employment, and role models and social networks that would help individuals escape. The result was growing welfare dependency and illicit economies, the collapse of public institutions, and the emergence of "oppositional cultures" (Massey and Denton 1993, Oreopoulos 2003).[3]

[2] The use of the term "underclass" emerged from this structural emphasis. However subsequent work in this area has often used the term in the same manner as a culture of poverty argument that explains people's conditions with reference to their own personal and social characteristics. We put the term 'underclass' in scare quotes to attempt to draw attention to the potential assumptions associated with this term.

[3] Critics have questioned the homogeneity of these areas and implicit assumptions that individuals receiving social assistance do not act as positive role models (Dunnier 1992, Hughes 1989, 1990; Jargowsky 1996, Patillo 2003, Wacquant 1997).

While the model of ethnic concentration highlighted mainly positive effects of concentration, the 'underclass' model focussed primarily on negative outcomes. These effects included the maintenance or emergence of distinct cultures that were oppositional to mainstream cultures, a change in access to employment as employers moved out of the area, stigmatization of the area, and a change in access to quality services as services were overwhelmed or moved out of the area. For individuals, the effects were interconnected, including poor performance in, or dropping out of, school, welfare dependency, poverty, participation in illegal economic activities, unemployment, and a range of values, behaviours and attitudes that deviated from those of the mainstream (Jencks and Mayer 1990, Ricketts and Sawhill 1988, Wilson 1987, 1996).

Like the research on the effects of ethnic concentrations, work on the effects of the concentration and poverty of contemporary Black inner city areas suggests that there are a number of mediating factors that influence whether concentrations will have positive or negative implications. Massey and Denton (1993) have identified attitudes toward race, and especially toward Black residents, as important contributors to the conditions found in Black inner city ghettos. Some of the factors that appear to be associated with these negative effects have to do with the degree of concentration of poverty (Wilson 1987). Researchers have also documented the uniqueness of the US situation, leading them to suggest that the emergence of 'underclass' ghettos was associated with the erosion of a social safety net in US cities (Poulson et al 2000). Finally, Jargowsky's (1997) study of areas of concentrated poverty found that the change in economic fortunes of a metropolitan area was the strongest predictor of whether socio-economic conditions for residents in these areas improved or worsened. By implication, strong urban economies could mediate some of the negative effects of concentrated poverty.

Contemporary studies (1990's onward) have attempted to document the effects of living in deprived neighbourhoods on an individual's life chances, focussing on the concentration of poverty rather than the concentration of ethnic or racialized groups. These papers use a variety of (mostly quantitative) measures, in some cases taking advantage of longitudinal,[4] large scale, or experimental studies,[5] and attempt to identify the mechanisms through which neighbourhood effects work. Many of these studies use the concept of 'deprivation' rather than poverty to define neighbourhoods, defining vulnerable neighbourhoods on a variety of measures including characteristics such as

[4] One example is the British Household Panel Survey (BHPS) which began in 1991 and is a multi-purpose study which follows the same representative sample of individuals. The survey interviews every adult member of sampled households. If adults split off from original households, all adult members of their new households are also interviewed. The first panel consisted of some 5,500 households and 10,300 individuals drawn from 250 areas of England. Samples from Scotland, Wales and Northern Ireland were added in subsequent years. The survey can be used to study a wide variety of elements of social and economic change at the individual and household level. Some of these studies have examined the effects in individuals of living in deprived neighbourhoods.

[5] One example is the Moving to Opportunities (MTO) demonstration, a US Department of Housing and Urban Development project in Boston, Baltimore, New York City, Chicago, and Los Angeles. The MTO program was designed to test whether families moving from inner-city, high poverty areas to low poverty areas would improve their situations. The MTO randomly assigns eligible applicants to one of three groups, two of which received vouchers which allow them to move out of the area, and a control group which experienced no change in assistance. MTO participants also received counseling and housing assistance.

unemployment, crowding, housing tenure, car ownership, and welfare dependency. Others identify neighbourhoods in terms of social exclusion. Most studies draw on large data sets that allow researchers to use increasingly sophisticated methodologies to address issues of scale, self-selection, simultaneity bias (what is causing what?), and other methodological challenges (Johnston et al 2004, Sampson et al 2002). However, there are also increasing numbers of qualitative studies that explore an individual's perceptions and experiences of neighbourhoods (e.g. Atkinson and Kintrea 2004).

This body of literature is voluminous and growing, and we make no attempt to summarise it here. However, some of the review articles reveal elements that are important for this study (see especially Ellen and Turner 1997, Galster 2002, Lupton 2003, Sampson et al 2002, Friederichs et al 2003). These reviews emphasize that there are factors that mediate the degree to which neighbourhood conditions affect residents. For example, some researchers suggest that the reasons why neighbourhood effects are more muted in Europe than in the US, is that significantly different housing supply and social welfare systems in Europe limit the variation of neighbourhood conditions, and ameliorate or compensate for these differences through other support programs (Friederich et al 2003, Kearns 2002). Séguin, and Divay (2002) make a similar point with respect to Canadian cities.

2.1.3 Conclusion

There are two main implications of these bodies of literature for constructing and testing a model of neighbourhood outcomes for urban Aboriginal residents. The first implication is that the effects of concentration are not only negative – they can be positive as well as negative. The second is that mediating or contextual effects need to be controlled for, since they affect the extent to which neighbourhood concentration affects outcomes for individuals.

2.2 A Model of Neighbourhood Effects

Figure 2.1 shows a model of neighbourhood effects that emerge from the review of the literature. It identifies factors that mediate the effects of concentration, and identifies the main dimensions of neighbourhood effects described in the literature. These are described below.

2.2.1 Mediating Factors

Increasingly, researchers attempting to identify the effects of the neighbourhood have recognized the importance of controlling for elements that affect socio-economic outcomes, independently of neighbourhood characteristics. Individual characteristics may create what appear to be neighbourhood effects because the structure of urban areas often means that people of similar age, education, and socio-economic status cluster. Researchers have also begun to recognize that some of what have been identified as area or neighbourhood effects are really results of processes working at a larger scale (for

example changes in urban economies) which affect particular neighbourhoods disproportionately. Atkinson and Kintrea (2001:2280) note that:

> [W]e set the neighbourhood in its wider context recognising that urban economic forces may ameliorate or exaggerate neighbourhood problems and that public policies beyond the neighbourhood may have more influence of residents' lives than specific area-base initiatives.

Finally, there are also group characteristics and attitudes toward groups that affect outcomes, independently from the effects that emerge from the concentration of a group into a particular area (Boal 1999; Breton 1964; Yancey et al 1976).

Our model identifies four sets of contextual or mediating factors that influence the type and degree of neighbourhood effect. These factors are: individual and family characteristics; attitudes toward different minority groups; characteristics of urban areas and the nature of the social safety net. The following paragraphs summarize some of the literature addressing each of these factors.

2.2.1.1 Characteristics of families and individuals

A number of researchers have identified the need to differentiate between the effects attributable to neighbourhood conditions and the effects attributable to the characteristics of the individuals and families who live in these neighbourhoods, as a central methodological challenge (Buck 2001, Lupton 2003). Reviewing different qualitative and quantitative methods and experimental designs, Buck (2001:2258) notes:

> None of this, however, gets away from recognising the key message of these methodological issues: that individuals interact with their neighbourhoods in complex ways which may in the end make it difficult to disentangle the individual from the area either conceptually or in terms of data.

Lupton (2003:13) argues that failing to account for individual characteristics may lead to the overestimation of neighbourhood effects, but cautions that the reduction in the significance of neighbourhood effects when individual characteristics are accounted must be carefully interpreted. She cites McCulloch's (2001) work.

> For example, McCulloch (2001) finds effects on a range of individual outcomes that are weaker but still significant after controlling for individual characteristics such as age, ethnicity, education and household type, but not significant after controlling for individual deprivation, measured by council tenure and non-employment. This may be interpreted as meaning that apparent 'area effects' are really a product of individual deprivation. Alternatively, Council tenure or non-employment may themselves be effects of area, or indeed of living in another poor area in an earlier period of life.

2.2.1.2 Attitudes toward different minority groups

Attitudes toward particular minority groups not only affect the degree to which these groups will concentrate, they also have implications for the outcomes of this concentration. Massey and Denton (1993) have argued that the condition of the US inner cities is the legacy of institutional racism, and that this racism is a key causal factor responsible for the social transformation of the Black community and concentration of poverty during the 1970s. Boal's (1999) work shows that different attitudes toward minority groups have different spatial and social consequences. He argued that attitudes, combined with economic disadvantages lead to different outcomes with respect to group distinctiveness and the development of ethnic organizations. Boal described different possibilities, with different implications for minority groups and individuals:

- assimilation – no distinct ethnic group, no ethnic concentration
- pluralism – moderate-low residential concentration, declining distinctiveness in neighbourhoods and institutions
- segmentation – moderate-high residential concentration, active ethnic institutions, inter-ethnic violence leading to the establishment of territories, relatively closed housing markets
- polarization – total residential concentration; distinct functional urban areas
- cleansing – no ethnic settlement, institutions destroyed or abandoned

2.2.1.3 Characteristics of Urban Areas: Community Capacity and Urban Economies

Researchers have identified both community capacity and the nature of urban economies as important mediating factors in neighbourhood outcomes. Communities have varying abilities to take responsibility at the local level, and their ability to organize collectively and confront problems is unequal from one community to another (Séguin and Divay 2002). An early study by Breton (1964), for example, demonstrated the effect on individuals of the emergence of ethnic institutions. Studying the implications of the presence of churches, welfare organizations, and newspapers and periodicals, Breton found that the institutional completeness of the immigrant's own ethnic community was positively related to the extent to which immigrants' social interaction occurred within that community. Although Breton did not emphasize this aspect, clearly the degree to which interaction occurs within a group affects the maintenance of cultures. Fong and Guilia (1996) summarised a number of studies that showed the role of ethnic networks in providing employment training and recruitment, emotional support, and appropriate services. Bryne (1998) found that ethnic businesses that offer employment can create areas of concentration that are socio-economically diverse. In this situation, community capacity can dilute the negative economic effects of concentration.

Researchers studying neighbourhood deprivation have suggested that local patterns and practices of neighbouring can ameliorate negative neighbourhood qualities. Forrest and Kearns (2001:2130) noted that "in disadvantaged neighbourhoods it may be the quality of neighbouring which is an important element in peoples' ability to cope with a decaying and unattractive physical environment" (see also Lupton 2003). At the same time, there

are many studies that link neighbourhood disorganization to a variety of social problems. For example, Kearns and Forrest (2000:1010) cited Putnam (1996) who suggested that, because poor neighbourhoods in the US have insufficient social capital, they are unable to take full advantage of government policies against poverty and social exclusion. Shaw and McKay (1969) linked delinquency to neighbourhood disorganisation. Others have found that in communities where friendship networks were sparse, teenage supervision was low, local organisational involvement was limited, and rates of crime and delinquency were relatively high (Hirschfield and Bowers 1997, Sampson and Groves 1989. See Sampson et al, 2002, for a detailed review of this material).

The available literature also suggests that the state of the urban economy lessens or exacerbates the negative aspects of neighbourhood effects. As a result of their comparison of neighbourhood effects in two cities, Edinburgh, a city with a successful service-led economy, and Glasgow, a city struggling from industrial decline, Atkinson and Kintrea (2001) found that the effects of neighbourhood deprivation were accentuated in cities that had a weak economy. Jargowsky (1997) found that positive changes in the economy of US cities impacted positively on poor ghettos, whose residents benefited from the upswing. Fong's (1996) paper on the residential proximity of various ethnic and racial groups with Charter groups found that the strength of the urban economy explained a significant amount of the variation across cities.

Some researchers suggest, though, that the impacts vary for different minority groups. Holloway et al (1999) found that increases in poverty at the metropolitan scale substantially increased exposure to neighbourhood poverty among poor Blacks, but not among poor Whites. Fong and Guila (1996) similarly found that the state of the city's economy impacted differently on different groups – that visible minorities were less likely to be able to take advantage of socio-economic status to improve the quality of their neighbourhood.

2.2.1.4 Nature of the social safety net

Séguin and Divay (2002:1) noted that "aspatial" policy interventions (in other words, interventions not targeted at particular neighbourhoods) by federal, provincial, and municipal governments have territorial effects, especially in poor neighbourhoods, since they provide poor populations with high quality services wherever they live, as well as encouraging a social mix in both under-privileged and other neighbourhoods. The work of other researchers lends support to the idea that the nature of the social safety net can ameliorate some of the more negative neighbourhood effects. Hamnett (1996) showed that patterns of social polarization were related to welfare state regimes, including the availability and level of social benefits, the extent of collective consumption such as education, health and childcare, and state labour market intervention. As a result, the situation in the US is not applicable to cities in other countries. Murie and Musterd's (2004) study of 22 disadvantaged neighbourhoods in eleven cities in six European countries found that the countries with the strongest welfare state were most likely to be those where neighbourhood effects were least important. The more muted evidence of neighbourhood effects in Europe than in the US have been linked to the significantly

different housing supply and social welfare systems that exist in these countries (Friederich et al 2003, Kearns 2002).

2.2.2 Neighbourhood effects

As Van Kempen and Özüekren (1998:1633) reported, the assumption often seems to be that concentration has negative outcomes, because concentration is associated with less choice in the urban area, and concentration may keep individuals from participating fully in the host society (see also Peach 1981). However, concentration may also be a reflection of choices, and can support a variety of positive outcomes. Our model therefore describes positive and negative results of concentration, using four main sets of neighbourhood outcomes: emergence or maintenance of distinct cultures; change in access to employment; change in attitudes toward an area; and change in access to quality of services. As the arrows show in Figure 1, these changes are often self-reinforcing.

2.2.2.1 The emergence or maintenance of distinct cultures

High levels of concentration can contribute to isolation or protection from mainstream cultures and values, and in this way, they can contribute to the emergence or maintenance of distinct cultures. The scale at which this isolation occurs is a matter of debate among researchers and needs additional research (Burgess et al 2001, Lupton 2003:6-8, Overman 2002). However it is beyond the scope of this paper. The intent here is to summarise some of the ways in which concentration is linked to the development of distinct cultures.

A large number of studies have documented the effects of ethnic concentration on the ability to preserve cultural values, languages and traditions, and on the ability to create economic opportunity. Yancey et al (1976: 396-398) argued that concentration could facilitate the development and maintenance of ethnic communities, contribute to institutional development which supports cohesiveness, and support the maintenance of kinship ties and strong informal networks (see also Balakrishnan and Hou 1999:202; Lieberson 1970). Peach (1996:233) found that concentration could result in the preservation of religion, language, and diet. Portes et al (1993) found that trust and ethnic networks were created in ethnic group concentrations (see also Fong and Guila 1996). Ethnic concentrations can also support community economic development. Portes and Zhou (1996) found that concentration supported ethnic enterprises that can provide a channel for social improvement (See also Peach 1981, Van Kempen and Özüekren 1998:1635-6). Sassen (1991) noted that in this way, individual investments of labour and money could benefit the community as a whole. [6]

However, Portes and Landeholt (1996:20) indicated that there can also be negative outcomes of concentration: “The same kinds of ties that sometimes yield public goods

[6] These developments do not accompany all ethnic concentrations. For example, Clark and Drinkwater’s (2002) study of the relationship between ethnically concentrated neighbourhoods and employment outcomes in England and Wales, found that self-employment was lower and unemployment rates were higher for minorities in concentrated areas. They concluded that: “[e]nclaves in England and Wales do not appear to offer many economic benefits to minority individuals” (2002:5).

also produce 'public bads': mafia families, prostitution rings, and youth gangs, to cite a few". Van Kempen and Özüekren (1998:1634) argued that the "physical proximity of like-minded people…can lead to the emergence and preservation of a culture that is not based on the norms and values of mainstream society but on those of a specific group." Balakrishnan and Hou (1999:202) noted that concentration can lead to the development of an "oppositional ghetto culture" that legitimizes behaviour that is more widely seen as deviant (Massey and Denton 1993). This type of effect is often linked to concentrations by poverty and race in the US inner cities, where inner city areas emerge as areas of high deprivation because of high joblessness, supporting the emergence of illicit economies, lack of role-models occasioned by the absence of a successful middle class, and low levels of social organisation (Jencks and Mayer 1990, Wacquant 1996, 1998, Wilson 1987, 1996, 1999). The resulting isolation and lack of contact with relevant individuals and institutions in these areas may have a devastating effect on social contacts and generate inaccessibility to information on the availability of jobs (Van Kempen and Özüekren 1998:1634). Researchers have also documented a contagion or epidemic effect where oppositional cultures are maintained because youth will imitate behaviour of other youth (Buck 2001, Jencks and Mayer 1990, Small and Newman 2001).

2.2.2.2 Change in access to employment

Concentration is also associated with changes in access to employment. Again, this change can be positive (increase in employment opportunities) or negative (movement of employment opportunities out of the area). The nature of the effects is related to some of the mediating factors including community capacity, and the nature of the urban economy. A number of researchers have identified a spatial mismatch between employment locations and the employment needs of inner city residents with the shift in urban employment toward suburbs. This is particularly the case for employment requiring low levels of skill and for situations when public transport services are poor (Ellen and Turner 1997; Wilson 1987, 1996). A change in access to employment is also related to other neighbourhood effects. For example, the characteristics of the culture that emerge from concentrations affect the area's attractiveness or lack of attractiveness for employers.

A positive change in employment is most closely linked to the literature on ethnic concentrations. A wide variety of sources have noted that ethnic concentrations can provide places of employment for members, while members create a market for their products. If employment is within an ethnic enclave, the group may continue to gain from socio-economic resources even if they face harsh competition in the wider labour market (Balakrishnan and Hou 1999, Fong 1996, Lieberson 1970, Peach 1981, 1996, Portes and Zhou 1996, Sassen 1991, Van Kempen and Özüekren 1998, Yancey et al 1976).

A negative change in employment on the other hand, has been associated with the emergence of Black inner city ghettos in US cities. Wilson (1987, 1996) and Wacquant (1996, 1998) documented the abandonment of poor neighbourhoods by basic elements of urban economy. This shift was related in part to the changing geographic structure of the urban economy. However, it was reinforced by the concentration of poor residents with

relatively little disposable income, and the emergence of a culture that made it difficult to employ local residents and risky to establish business enterprises. Sassen (1991) noted that the spatial concentration of poverty and ethnic or racial concentration could limit labour market participation regardless of skill level, encourage participation in informal and often illicit economic arrangements, resulting in high unemployment rates.

2.2.2.3 Change in attitudes toward an area

Probably the most significant neighbourhood effect emerging from concentration has to do with attitudes toward an area, by residents, by employers and service providers, and by the general public. Atkinson and Kintrea's (2001:2290) comparison of deprived and mixed neighbourhoods in two cities concluded "The clearest message from the survey was the importance of reputation in structuring opportunities and experiences for the residents of the two deprived areas" (see also Ellen and Turner 1997, Séguin and Divay 2002).

Virtually none of the literature surveyed for this project addressed positive effects of concentration. However it is clear that, when a group is viewed positively by society, their concentration could make an area desirable and prestigious. Forrest and Kearns (2001:2130) described the neighbourhood as contributing to a sense of self-esteem/prestige. Most authors talked about the negative effects of concentration by poverty, or by ethnicity or racialization. Massey and Denton (1993) argued that an outcome of concentration was prejudice against places and people who resided in those places and Wacquant (1996) documented the stigmatization of poor neighbourhoods (see also Van Kempen and Özüekren 1998). Balakrishnan and Hou (1999:202) noted that a majority group can feel justified in their stereotypes and prejudices because concentration emphasizes differences, and the visible minority can be seen as an economic and political threat. While much of the available research has focussed on visible minorities, Bryne's (1995) study of concentrated poverty among primarily "white" residents in Cleveland County, UK, found negative perceptions of residents of these areas among police officers that was similar to documented cases of perceptions of visible minorities.
Bauder (2002) argued that stigmatization, and resulting cultural exclusion, was the main explanation for the correlation between neighbourhood circumstances and individual outcomes. He indicated two mechanisms through which stigmatization worked: through cultural discrimination against residents of stigmatized neighbourhoods and labelling of these areas; and through the ways services are delivered in these neighbourhoods because of the perception of residents by staff.

2.2.2.4 Change in access to quality services

Finally, access to quality services is a general category of neighbourhood outcome identified in the literature. The positive side of this effect has to do with the provision of culturally appropriate services that can meet the particular needs of minority groups. Yancey et al (1976) documented the importance of ethnic institutions in facilitating the adaptation of immigrant groups by providing services in their language. More contemporary work documents the desire of many Aboriginal people to access services

provided by Aboriginal people, although this element has not been linked to neighbourhood effects (Hylton 1999).

However, most of the available work in the area of neighbourhood effects has to do with the flight of public services from an area, or their decline in quality. Wilson (1987, 1996) and Wacquant (1996, 1998) documented the abandonment of poor neighbourhoods by urban institutions. Wacquant (1998) referred to this as "organizational desertification". Others argued that services in areas of high need can be overwhelmed (Buck 2001, Duffy 2000). Balakrishnan and Hou (1999:202) indicated that if concentration is viewed negatively, then it can function as a structural basis for institutional concentration, resulting in unequal access to education, economy, health and other public facilities. Van Kempen and Özüekren (1998) found that the concentration of poverty can have negative effects on the presence of commercial and non-commercial activities. The question of access to quality commercial services is not very well researched. Eisenhauer's (2001) US research documents the unavailability of certain types of businesses such as large grocery stores. Séguin and Divay (2002:13) found more cheque-cashing agents, pawnbrokers, consumer loan companies in poorer neighbourhoods of metropolitan Montreal, and fewer bank branches.

2.3 Summary

A considerable amount of research has been conducted on the effects that neighbourhoods with particular characteristics have on residents. Very little of this work has focussed on urban Aboriginal people (but see Drost (1995) and Richards (2001)). The existing literature suggests that concentration can have both positive and negative effects on residents, and that a variety of mediating factors help to ameliorate the nature of these effects. The following analysis explores some of these relationships that are accessible, given the data available.

3. URBAN ABORIGINAL PEOPLE'S EVALUATION OF THE RELEVANCE OF EXISTING MODELS OF NEIGHBOURHOOD EFFECTS

Many of the models and analyses in the literature describe non-Aboriginal populations. There is a real question, then, about their applicability to the urban Aboriginal people in Canada. Clearly, Aboriginal people moving to cities face some of the same challenges of other migrants – challenges associated with integrating into urban economies, interacting with diverse people from many origins, and finding appropriate housing and education. Like other migrants, many Aboriginal people also retain close ties to their communities of origin. There are some ways that Aboriginal migrants differ, though. Unlike these other migrants, many Aboriginal people (not all) have the option of returning to their reserve or rural communities of origin, and their circulation patterns may differentiate them from other urban migrants. Many Aboriginal people moved to cities in the last four or five decades, arriving at a particular stage in the development of urban labour markets and employment opportunities. Aboriginal people may also have unique kin and community relationships that affect their residential choices. The implication is that models created to explain the outcomes of residential patterns of other groups may not describe urban Aboriginal realities.

This project therefore attempted to obtain input from key representatives in the urban Aboriginal population to help assess the relevance of the existing literature on the positive and negative outcomes for Aboriginal individuals living in primarily Aboriginal neighbourhoods. We proposed to conduct focus groups in Saskatoon and Winnipeg to meet this requirement. Unfortunately the focus group scheduled for Saskatoon coincided with a winter ice storm that created treacherous driving conditions and meant that the scheduled focus group had to be cancelled. Given the very long lead time required to schedule a focus group that suited a variety of schedules, we made a decision to conduct individual interviews instead. In Winnipeg, representatives from the Institute of Urban Studies, University of Winnipeg, conducted a focus group that included six Aboriginal people on Friday, January 21, 2006, and the tape of the session was forwarded to Saskatoon for analysis. A copy of the focus group/interview questions is included in Appendix A. Focus group participants were also shown maps of Census tracts and dissemination areas with the percentage of the population that was Aboriginal in the 2001 Census in Saskatoon and Winnipeg. Figure 1 was modified for the focus groups and interviews so that it showed only neighbourhoods effects. Previous test interviews indicated that including mediating effects distracted participants from a focus on neighbourhood effects.

The idea of neighbourhood effects is complex, and it is more clearly understood in academia than by laypeople. Getting feedback about approaches and the relevance of the existing models was extremely challenging because it required the interviewer/focus group leader to attempt to explain the concepts before hand, but not put ideas into people's heads. It is not easy to think about the effects a neighbourhood might have, independent of the characteristics of residents. This is more easily approached through statistical analysis than through conversations. Because of the difficulty of the concept, the interviews and focus group conversations sometimes took unexpected or irrelevant

directions, and some of these are summarised at the end of this section. Nevertheless, they generated enough material to provide an evaluation of the relevance of the model. The following summarizes participant's answers to the individual questions.

3.1 Defining Relevant Neighbourhoods.

Respondents were asked: *Are there Aboriginal neighbourhoods in Saskatoon/Winnipeg?*[7]

In Saskatoon, participants were shown maps of census tracts and dissemination areas with the proportion of these areas that were Aboriginal. Most of the participants said there were Aboriginal neighbourhoods, and they identified the area in the middle of the west side of the river as the Aboriginal neighbourhood. At the same time, all of the participants indicated in one way or another during the process of the interview, that this neighbourhood was not homogeneous. They differentiated between more working class areas, areas with public housing, and "hard core" problem areas. They were also aware that different groups of Aboriginal people lived there (First Nations and Métis) and that non-Aboriginal people also lived there. One participant said that there was a concentration in terms of where Aboriginal households lived, but that there was not a neighbourhood in terms of there being a community.

In Winnipeg, there was resistance to calling a particular area an "Aboriginal neighbourhood". Participants argued that Aboriginal people were more concentrated in some areas than others, but that this did not mean that it was an Aboriginal neighbourhood. However, participants also found it very confusing to think about whether other neighbourhood characteristics (for example neighbourhood poverty) had effects on Aboriginal people living there. The focus group in Winnipeg questions therefore, used the phrase "neighbourhoods with high levels of concentration of Aboriginal people" rather that "Aboriginal neighbourhoods." However, in the subsequent conversation, participants sometimes talked about areas of high poverty (e.g. public housing areas), sometimes about areas with Aboriginal concentrations, and sometimes about Aboriginal neighbourhoods.

3.2 Neighbourhood Effects

Participants were asked to think about possible cultural, employment, perceptual or service effects of living in an Aboriginal neighbourhood or a neighbourhood with a high concentration of Aboriginal people.

Does it make a difference, culturally, to live in [an Aboriginal neighbourhood/neighbourhood with high concentrations of Aboriginal people]?[8]

[7] We asked this question in order to ground the conversation. We thought that it was important not to assume that participants thought there was an Aboriginal neighbourhood. It was also an attempt to focus participant's thoughts on the neighbourhood rather than the city or their block, although this was not entirely successful.

[8] We asked these four questions without referring to the model, in order to obtain responses with a minimum of examples from the literature that might set people thinking a particular way.

Most respondents in both cities thought that neighbourhoods made a difference, culturally. When they referred to culture, they mentioned it in terms of the comfortableness of being close to family and community, the way in which having other Aboriginal people around helps reinforce a sense of Aboriginal identity, and the way a neighbourhood could contribute to a sense of belonging. Some of the Saskatoon respondents pointed out though, that while the Aboriginal neighbourhood made it easy to mix with other Aboriginal people socially (e.g. bingo halls, recreation centres and bars) some of their culturally based socializing and participation occurred outside the Aboriginal neighbourhood, at university or other pow-wows or at extended family gatherings.

Does it make a difference in terms of employment, to live in [an Aboriginal neighbourhood/neighbourhood with high concentrations of Aboriginal people]?

Saskatoon respondents did not think that living in an Aboriginal neighbourhood affected employment. They indicated that, although Aboriginal organizations had begun some businesses in the area, these institutions did not employ a large number of people. They did indicate that the types of businesses had changed over the years – for example there were more second hand stores, pawn shops and bingo halls, but they related this to low income rather than to increased numbers of Aboriginal people.

Winnipeg respondents made similar comments with respect to businesses – that the nature of businesses had changed, but that business had not abandoned the area. They commented that pawn shops, loan shops, police stations "pop up in high poverty areas" and that banks and similar institutions move out. They also thought that Aboriginal people in the area were beginning to generate employment by establishing businesses, but that this was very much in the beginning stages. One respondent felt that the neighbourhood affected employment because an individual's address in a neighbourhood with a high concentration of Aboriginal people would make an employer automatically discount the applicant.

Does [an Aboriginal neighbourhood/neighbourhood with high concentrations of Aboriginal people] make a difference in terms of how people view an area?

Saskatoon residents were aware of the perception that Saskatoon was a divided city, and that the west side was portrayed negatively. However, one participant pointed out that the history of this perception pre-dated Aboriginal migration to urban areas. Saskatoon's urban beginnings lay in the establishment of a temperance colony on the east side, so all of the hotels were originally located on the west side. Historically there had been a Métis village there and later this area was used as a seasonal camp. Saskatoon participants also argued that different individuals evaluated the neighbourhood differently.

Winnipeg respondents suggested that high concentrations of Aboriginal people created negative perceptions of an area. This was particularly true of areas that were also high poverty areas. Like Saskatoon respondents, though, they indicated that the perception of

an area depended on perspective. For many "north enders" in Winnipeg, the north end was a desirable place to live. For some Aboriginal people, a high concentration of other Aboriginal people made an area attractive.

Does it make a difference in terms of quality of services, to live in [an Aboriginal neighbourhood/neighbourhood with high concentrations of Aboriginal people]?

Neither Saskatoon nor Winnipeg respondents seemed to think that the quality of services had declined because of higher concentrations of Aboriginal residents. In terms of commercial services, they said there had been change, but that change was related to poverty rather than the increase in Aboriginal households. In both cities though, respondents noted that more Aboriginal services had located in areas with higher concentrations of Aboriginal people,

Does living in [an Aboriginal neighbourhood/neighbourhood with high concentrations of Aboriginal people] isolate residents from the rest of the city?

None of the respondents felt that residents in Aboriginal neighbourhoods or neighbourhoods with high concentrations of Aboriginal people were isolated from the rest of the city. If there was some degree of isolation, it was related to poverty and the need to rely on public transport, or on isolation because of language barriers.

3.3 Evaluating the literature

Finally, respondents were asked to indicate whether the general effects identified in research about other groups were relevant for Aboriginal people.

Is the literature on positive or negative effects related to the emergence or maintenance of distinct cultures relevant for [Aboriginal neighbourhoods/neighbourhoods with a high concentration of Aboriginal people] in Saskatoon/Winnipeg?[9]

Respondents in both cities indicated that the situation of Aboriginal people was different from the models presented in the literature (as summarised in the interview or focus groups). With respect to the emergence or maintenance of distinct cultures, they said that there were both positive and negative elements. There were mixed views on how to define positive elements with respect to cultures. Some respondents noted that urban Aboriginal people were diverse, and that the situation was not one where pan-Aboriginal cultures were emerging as a result of neighbourhood concentrations. Instead, the positive effects with respect to culture were related to a feeling of belonging and a feeling of identity. Participants in both cities also noted that there were some negative effects related to poverty. However, they emphasized that the situation was not anything like the situation in US ghettos. In both cities, participants were very reluctant to elaborate on these negative elements, and preferred to focus on positive results.

[9] This is a summary of the question asked in the focus group (see Appendix C). It is somewhat redundant with the previous set of questions, but the intent was to obtain specific feedback about the literature.

Is the literature on positive or negative effects related to the change in access to employment relevant for [Aboriginal neighbourhoods/neighbourhoods with a high concentration of Aboriginal people] in Saskatoon/Winnipeg?

Saskatoon respondents did not view the emergence of an Aboriginal neighbourhood as linked to changes in access to employment. They noted that Aboriginal groups had created employment in the city, but this employment was not necessarily located near the Aboriginal neighbourhood. Respondents indicated that there was racism towards Aboriginal people, and that, given the number of Aboriginal people in the city one would expect to see more Aboriginal people employed in various institutions, but that this was not a neighbourhood effect. They indicated that the nature of businesses in the Aboriginal neighbourhood had changed, but that this was linked to poverty rather than to the growth in Aboriginal populations. There was no sense that employment opportunities had relocated from the neighbourhood or that they were inaccessible.

Like Saskatoon participants, Winnipeg participants felt businesses had changed with the increase in Aboriginal populations, but that this was related to poverty, not Aboriginal culture. They did indicate that some businesses had left the area, but some businesses made a conscious decision to stay. References to this were limited to one area. There was no sense that places of employment were inaccessible because individuals lived in the area of Aboriginal concentration. They also did not see Aboriginal people as creating employment opportunities for other Aboriginal people. However, there was a sense that this might be changing. "Thunderbird House, education institutions, are shaping/contributing to something. At sometime, something cultural will happen – it will lead to entrepreneurship." At present though, participants indicated that the creation of Aboriginal employment opportunities in areas of Aboriginal concentration was relatively limited.

Is the literature on positive or negative effects related to a change in attitudes toward an area relevant for [Aboriginal neighbourhoods/neighbourhoods with a high concentration of Aboriginal people] in Saskatoon/Winnipeg?

For both cities, the answers to this question were like the answers to the previous questions on how people viewed an area with a high concentration of Aboriginal people. Respondents were aware of some negative attitudes, but they insisted that attitudes depended on whether people were "insiders" or "outsiders."

Is the literature on positive or negative effects related to the change in access to quality services relevant for [Aboriginal neighbourhoods/neighbourhoods with a high concentration of Aboriginal people] Saskatoon/Winnipeg?

No participants indicated that the quality of services declined because of growing Aboriginal concentrations. However, there was also no strong emphasis in either city on the positive effect of the emergence of more appropriate services. In Saskatoon, one respondent indicated that a variety of culturally appropriate services should help to reduce drop-out rates, but that these were not linked only to the Aboriginal

neighbourhood. In Winnipeg, participants noted that Aboriginal services were important, but that they were not receiving enough support. Respondents did not link change in the quality of services to either of the main models in the literature.

3.4 Summary of Interview/Focus Group Results

The idea of "neighbourhood effects" was extremely difficult to communicate. The introduction to the question guide gave a clear definition, and the question guide we finally used in the focus groups and interviews was the third version, building on problems with earlier guides. Nevertheless, there were a number of ways that conversations veered off the topic, that were common to both interviews and focus groups. One side track was a focus on the effect on Aboriginal people of living in the city, rather than the effect of a particular neighbourhood. Another conversation that emerged was one that focussed on why Aboriginal people chose to concentrate in some areas rather than in others. In the Saskatoon interviews, in particular, there were some respondents who chose to focus very narrowly on "my neighbourhood" (i.e. block), even though the participant had identified a much larger "Aboriginal neighbourhood".

Finally, one theme that emerged particularly in the focus group, was considerable discomfort with looking at effects associated with levels of concentration of Aboriginal people. Some people talked about feeling that an underlying sub-text of the questions was that Aboriginal people posed a threat to neighbourhoods. Other people noted that if questions focus on the negative, then answers will also focus on the negative, and this needs to be avoided. It is difficult to know how to evaluate these comments, since the questions were purposely framed to avoid words like "ghetto," "deviant sub-cultures," or "maladjustment" that are sprinkled throughout the literature. Moreover, every effect was presented as potentially being positive or negative, and the respondents were asked to indicate which elements were relevant for Aboriginal people. We raise this issue because we think it points to some extreme sensitivity in this area. Participants felt that if there were negative outcomes associated with Aboriginal concentrations, these were due to lack of funding, lack of support, or lack of opportunities.

The following table summarizes Aboriginal participant's evaluations of existing models of neighbourhood effects. In the most general terms, Aboriginal participants indicated that neither of the main models (the 'ethnic' model or the US inner city model) could be adopted in their entirety, although elements of each applied in part. They did emphasize that some of the negative neighbourhood effects were associated with poverty rather than with Aboriginal identity. The difficulty participants had in fully understanding the concept of "neighbourhood effect" suggests that this issue needs to be explored statistically, as fully as possible.

Table 3.1: Summary of Aboriginal Participant's Perspectives on Neighbourhood Effects

Effects	**Positive**	**Negative**
Emergence or maintenance of distinct cultures	Reinforce identity and informal networks	Associated with poverty, not Aboriginal culture
Change in access to employment	Some Aboriginal businesses, but not significant	Change in kinds of businesses, but no flight
Change in attitudes toward an area	Depends on perspective	Depends on perspective
Change in access to quality of services	Increase in Aboriginal services, but not enough to make a difference	No decline in quality of services

4 DATA AND METHODS

This section describes data and methods employed in this study. It begins with some data issues associated with measuring Aboriginal concentration and addresses the methods used to measure concentration. The second main section describes data used to explore the relationships between levels of concentration and socio-economic outcomes, and explains the method employed to analyze these relationships. The statistics focus on urban centers that contain 10,000 Aboriginal people (Table 4.1).[10]

4.1 Data and Methods for Measuring Concentration

4.1.1 Data Issues

4.1.1.1 Choice of Comparator Population Group

We argue that the most appropriate population group to compare with Aboriginal residents is the white Caucasian population as defined by the Canadian Employment Equity Act of 1986 (Boyd et al. 2000). The numbers for the white Caucasian population for each city are derived by subtracting visible minority numbers from the total population. Visible minority populations residing in major Canadian metropolitan areas experience moderate levels of concentration (Fong 1996; Bauder 2001; Bauder, Sharpe 2002). However, factors underlying residential concentration of visible minorities may be different from those affecting the Aboriginal population. Therefore, using white Caucasians as the majority population for calculating the concentration statistics allows us to control for the possible impact of residential concentration of the visible minority population. Additionally, using the white Caucasian population instead of the population of British and French ethnic origins, as is often done in the studies of this type (Bauder 2001; Bauder, Sharpe 2002), allows us to include the population of all possible ethnic origins that do not experience noticeable residential concentration in Canadian cities (Bourne et al. 1986; Driedger 1999; Fong and Gulia 1996). Limiting the reference population group to the population of only British and French origins would create misleading results, especially for the Prairie cities, where a significant proportion of the majority population is comprised of the population of non-Charter ethnic origins (Statistics Canada 2003).

4.1.1.2 Identifying Appropriate Definitions of "Aboriginal"

Choice of a definition of "Aboriginal" for analysis of changing settlement patterns is not straightforward. Data on ethnic and cultural origins have relied on questions about ancestry for many decades. However, the wording of this question and instructions to enumerators about administering it, have changed over the years (Goldmann and Siggner

[10] The generation of statistics on concentration requires a subdivision of the community into smaller units. Census tracts, which are smaller areas of typically 4,000 people, are traditionally used as they have many characteristics of "neighbourhoods". Prince Albert, a city in central Saskatchewan with substantial Aboriginal population, had to be excluded from the analysis at this level of geography because this metropolitan area is not divided into census tracts due to the small size of its population.

1995). Multiple origin responses were not captured until 1981, when they were not encouraged, but recorded if present. Beginning in 1991, multiple origin responses were encouraged by lists of options that respondents could check off. Also beginning in 1991, Aboriginal people were counted through a question that asked individuals if they identified with an Aboriginal group – North American Indian, Métis or Inuit. All of these considerations make it difficult to identify any one best definition of the Aboriginal population to use in an analysis of changing patterns of concentration over time.

Table 4.1 summarizes changing definitions of 'Aboriginal' over time, and the populations of Aboriginal people identified through these various definitions in urban areas that had an Aboriginal identity population of more than 10,000 in 2001.[11] Counts for single origin ancestry[12] are available for the longest period of time, and this population does not exhibit the large increases associated with both Aboriginal identity[13] and Aboriginal multiple origin ancestry[14] populations that seem to reflect changing patterns of self-identification.[15] However, some of our initial analysis found that the single origin ancestry Aboriginal population is consistently more socio-economically disadvantaged than the multiple origin or the Aboriginal identity population. Limiting the analysis only to the single origin population may give a biased perspective on the ability of the Aboriginal population to make meaningful choices about residential location. In addition, the smaller size of the single origin ancestry population may result in higher indices, because some concentration indices are sensitive to population size. Because of these considerations, we calculated concentration indices for both the Aboriginal identity and the Aboriginal single origin ancestry populations.

4.1.1.3 Assessing the Effects of Scale

Census tracts (CTs) or other similarly defined neighbourhood areas have commonly been used as a unit of census geography in the majority of studies of ethnic immigrant settlement within cities (Deacon 2002) as they are considered the best and closest

[11] We also have data for Native ancestry in urban areas in 1971, but the census did not include Métis and therefore these data are not comparable to data for subsequent years.

[12] Aboriginal single origin ancestry data refers to individuals who reported only Aboriginal ancestry in response to the census question on that topic.

[13] Aboriginal identity data refers to individuals who reported identifying with at least one Aboriginal group in response to the census question on that topic.

[14] Aboriginal multiple origin ancestry data refers to individuals who reported Aboriginal and non-Aboriginal ancestries in response to the census question on that topic.

[15] Between 1981 and 2001, the Aboriginal population grew at a rate that cannot be explained only by demographic measures such as fertility, mortality and migration (Guimond 2003). Part of this population increase is a function of changes in legislation, particularly Bill C-31, which allowed for the reinstatement of Registered Indians who had been removed from the Indian Register either through their own decisions or the decisions of their ancestors (often through marriage). Another part of the increase appears to be the result of individuals who did not identify as Aboriginal in previous census questions, now choosing to do so. There is some evidence that individuals who are in higher socio-economic status groups are disproportionately represented among individuals newly identifying as Aboriginal in the census (Siggner and Hagey 2003). The implication of this for settlement patterns is not clear. Classical models of minority settlement patterns assume that dispersal will occur with improvements in socio-economic status. For the Aboriginal populations, though, it may not be clear how much of the apparent change in concentration is a result of dispersal, and how much is due to changes in identity.

practical approximation to the concept of neighbourhood (White 1987). These units of geography are established by local committees in conjunction with Statistics Canada and are made internally as homogenous as possible (Statistics Canada 2002:246). Census tract boundaries are relatively stable over time making this unit of geography a good choice for comparative studies.[16]

Enumeration or dissemination areas are smaller in size compared to CTs comprising 400 to 700 persons, or one or two blocks (Statistics Canada 2002:251). In fact, they constitute the smallest standard geographic areas for which all census data are disseminated. Before 2001, corresponding units of geography were delineated based on dwelling counts rather than population counts and their boundaries were subject to change from census to census. Therefore, the enumeration/dissemination area level of geography is not suitable for temporal comparisons (Wong et al. 1999). Moreover, their relatively small size results in that certain socio-economic data including ethnicity and Aboriginal identity may be suppressed. However, using enumeration/dissemination area levels of geography allows us to explore patterns of residential concentration not evident at the census tract level. It has been noted that concentration patterns of some minority groups are expressed at more detailed levels of geography and could be easily missed, if studied at higher levels of aggregation (Murdie 1994; Peach 1996). Therefore we compared concentration indices using census tract and dissemination area levels of aggregation.

4.1.2 Methods of Measuring Aboriginal Concentration

4.1.2.1 Effects of Particular Housing Markets on Concentration

We expect that concentration of the Aboriginal population will vary between cities. It has been suggested that the circumstances in the housing market have an important influence on immigrant settlement patterns in Canada (Ray and Moore 1991; Ray 1994; 1998; Ray et al. 1997). In his study of the concentration among Asians and Blacks, Fong (1996) found that older cities, such as Montreal, had higher levels of concentration than younger cities, such as Vancouver. He argued that this could be explained by the specific structure of the housing market in older cities where older and cheaper housing stock tends to be concentrated in the centre of the city. On the other hand, urban renewal and gentrification change the quality of inner-city housing stock (Ley 1996) making it unaffordable to lower-income population groups, for example visible minorities (Pendakur 1998).

The Aboriginal population's relatively lower level of education and income makes it more likely to reside in the areas of cheaper and older housing mostly found in the inner city areas, unless special housing programs are in place. As a result, we would expect to find higher levels of all aspects of concentration in urban areas with large stocks of older, relatively low cost housing near the centre of the city. In urban areas where this housing

[16] Not all of Canada's metropolitan areas are divided into CTs. For a metropolitan area to be divided into CTs, the population of its urban core has to be equal or exceed 50,000. This rule resulted in that in 2001, only 19 out of 113 CAs were subdivided into CTs (Statistics Canada 2002:206). Consequently, Prince Albert, a CA whose Aboriginal population exceeded 10,000 in 2001, could not be analysed at the CT level of geography; the city of prince Albert had only a population of about 34,000.

stock has been extensively gentrified or redeveloped, concentration indices would be reduced. It is beyond the scope of this study to explore the relationships between housing characteristics and concentration in any great depth. However, we will relate the characteristics of urban housing structure and markets to patterns of Aboriginal concentration below.

4.1.2.2 Defining and Measuring Concentration

The dimensions of concentration have historically varied for different cultural and racialized groups. Some areas were often associated with particular minority groups even when their population was relatively mixed. This ambiguity was especially prevalent in the influential work of the Chicago sociologists (Hiebert 2000:312). Philpott (1978) noted that when the term 'ghetto' was applied to European immigrants, they often comprised less than half of the population. In contrast, Black residents often comprised over seventy percent of individuals living in areas identified as Black ghettos. Levels and characteristics of concentration are important in influencing neighbourhood effects.

Residential concentration has been measured in a number of ways in the academic literature. A variety of indices were proposed during the 1950s (Duncan and Duncan 1955) and again in the late 1970s (Massey and Denton 1988). In 1988, Massey and Denton explored the degree of overlap of the indices being used through a factor analysis. They demonstrated that all indices could be divided into five groups each describing certain aspect of residential concentration – evenness, exposure, concentration, clustering and centralization. Based on a systematic review and empirical analysis of all the measures available to date, Massey and Denton (1988) recommended a single best index for each dimension.[17] Table 4.2 describes the characteristics measured by each index and the interpretation of resulting values.

Recently, researchers have identified some difficulties in using these indices for comparisons over time, between cities, and for different scales. Poulsen, Johnston and Forrest (2002) noted that the indices relating to each of the dimensions identified by Massey and Denton are relative measures. Values are dependent on a group's absolute and relative size within the city and some are dependent on the size of areal unit employed in the study. A number of researchers have suggested alternative measures of residential concentration based on absolute numbers and proportions (Johnston, Forrest and Poulsen 2001; Peach 1996, 1999; Philpott 1978; Poulsen and Johnston 2000). However, these approaches result in very large tables of data, and can be difficult to interpret. In this research, we will use the various indices of concentration of Aboriginal people as independent variables that affect neighbourhood outcomes. Our approach here is to employ the indices of concentration, but to take into account group and area size in our interpretation.

[17] More recently, Iceland, Weinberg and Steinmetz (2002:9) proposed a slightly different selection of indices. Essentially, instead of the *relative concentration index* proposed by Massey and Denton (1988), they chose *delta* as the measure of concentration due to its better agreement with theoretical constraints. We employ the Iceland et al definition.

Table 4.2: Concentration indices
Evenness of the distribution of the minority population among census tracts of each city was measured using the *dissimilarity index (D)*. This index varies between 0 and 1.0 representing the proportion of a population that would have to change the area of their residence to achieve an even distribution throughout the city. Values of 0 to 0.3 are considered low, from 0.4 to 0.6 are considered moderate, and from 0.7 to 1.0 are considered high.
Relative exposure of the minority population to the residents in the majority population group was measured with the *isolation index* ($_xP^*_x$). This index measures the extent to which members of the minority population, in the course of their daily lives are exposed only to one another, rather than to the majority residents. It can be interpreted as the probability that a randomly drawn minority resident shares an area with another member of the minority group. The value of the isolation index varies between 0 and 1.0, with values of low, moderate and high corresponding to those of the dissimilarity index.
Degree of concentration, or amount of physical space occupied by minority residents was measured using Duncan's delta (δ). It measures the proportion of minority members living in areas with above average densities of the minority group. The value of δ varies between 0 and 1.0, with values of low, moderate and high corresponding to those of the previous two indices.
Clustering, or the degree to which areas where minority residents live adjoin one another, was measured with the White's spatial proximity index (*SP*). The *SP* represents the average of the intra-group proximities of the minority and the majority populations weighted by the fraction of each group in the population. The value of this index varies around 1.0 A value close to 1.0 means that there is no differential clustering between the minority and the majority populations. A value greater than 1 indicates minority group members live nearer to one another than to members of the majority, and a value less than one means they live nearer to majority members than to members of their own group.
The **centralization index** (*ACE*) measures spatial distribution of minority group residents compared to the distribution of land area around the city centre. Values of this index vary between +1 and -1. Positive values indicate a tendency for minority residents to live close to the city centre, while negative values indicate a tendency to live in outlying areas. A score of 0 means that the minority population is uniformly distributed throughout the city's area

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4.2. Data and Methods for Exploring Neighbourhood Effects

4.2.1 Data Issues

4.2.1.1 Mediating Factors

Characteristics of families and individuals

A number of researchers noted that failing to account for the characteristics of the individuals and families may lead to the overestimation of neighbourhood effects. Much of the analysis of neighbourhood effects focuses on individual outcomes and individual characteristics. For this study, however, the scale of available data describing the characteristics of urban Aboriginal populations are aggregated at the census tract level; obtaining data on individual characteristics of Aboriginal people was beyond the scope of this research. The data measuring 'individual characteristics' employ averages or proportions at the census tract level (for example average Aboriginal incomes or proportion or Aboriginal people unemployed). Because of this, some of the less significant relationships may be obscured.

There is a debate about which individual characteristics are related to which neighbourhood effects, so we explored a variety of characteristics. These characteristics had to do with household type, education, employment, poverty, age, and mobility (Table 4.3). Where the dependent variable included a measure of education or employment, the independent variables referring to employment or education were not used because the high degree of colinearity would create misleading results.

Table 4.3: Variables Selected to Measure Characteristics of Individual Aboriginal Residents

Characteristics of Aboriginal Individuals and Families	Census variable
Family Status	Percent of Aboriginal families with female lone parents
Educational Attainment	Percent of Aboriginal individuals 15+ with a high school certificate
Employment	Percent of the Aboriginal population employed
Income	Percent of Aboriginal individuals in households with incomes below LICO
Age	Percent of the Aboriginal population in census tract age 15-24
Mobility	Proportion of the Aboriginal population in the census tract that lived in another census subdivision at the last census

Attitudes toward different minority groups

There is some work in Canada that suggests that attitudes toward Aboriginal people vary geographically. We will not try to integrate these variations in this study, though, because it is difficult to determine which particular attitudes make a difference for neighbourhood effects, and what measure should be used to identify different "attitude categories". Part of the relevance of this mediating factor for the present study is to emphasize that the results cannot be generalized across different cultural or racialized groups.

Characteristics of Urban Areas: Community Capacity and Urban Economies

The census does not provide a straightforward measure of community capacity. Census data show that aggregate socio-economic characteristics of Aboriginal populations vary considerably among different cities (Graham and Peters 2002). However, it is not clear how these differences are related to community capacity. We use as a measure of community capacity a ratio of advertised Aboriginal community organizations and programs to the total urban Aboriginal population. The method was to count all entries in the 2004 local telephone book, looking in the white and yellow pages for entries under 'Aboriginal', 'Indian', 'Métis', and 'Native'. We recognize that these are not complete listings, and that it is also not possible to estimate the size or effectiveness of organizations or programs using this method. However, it is beyond the scope of this study to explore these elements. The measure we chose should act as a proxy for formal community capacity. A comparison of this index with the programs and organizations identified by Hanselmann (2002) for prairie cities and by Peters (2005) for Edmonton and Winnipeg, suggests that this index does capture major differences between cities.

To measure growth or decline in urban economies we calculated the percentage change in manufacturing and in business services between 1981 and 2001. Examination of these two variables revealed that they were highly correlated (r = -.714). Therefore we decided to use a linear combination of the two measures (a sum of their z-scores) in the analysis. A positive relationship between this variable and the dependent variable meant that values of the dependent variable increased where increases in quaternary employment outstripped declines in manufacturing (secondary) employment.

Table 4.4: Mediating Characteristics of Urban Areas

Characteristics	Census variable proxy
Community capacity	Ratio of total number of Aboriginal organizations and programs in each CMA to total Aboriginal identity population
State of the urban economy	Percentage change in number of individuals employed in manufacturing, 1981 - 2001
	Percentage change in number of individuals employed in FIRA and business services, 1981 - 2001

Nature of the social safety net

An analysis of differences in the social safety net for different cities is beyond the scope of this study. Moreover, the urban effects of changes to the social safety net can be counter-intuitive. Cities are not closed systems, and, particularly for First Nations people, changes to social assistance can mean that less economically secure households may move back to reserves, suggesting that overall economic conditions have improved. However, the importance of this factor will be acknowledged in an emphasis that the results cannot be generalized across different political areas.

4.2.1.2 Neighbourhood Effects

One of the major challenges in assessing neighbourhood effects is separating out the effects of individual and household characteristics from the effects of the neighbourhood (Buck 2001, Lupton 2003). For example, particular individual outcomes may be due to the individual's education levels and employment experiences, or they may be the result of living in a particular kind of neighbourhood in which people with certain education levels and employment experiences are concentrated The data available for this project does not support an analysis of individual records. However, we do have data available about the characteristics of Aboriginal people living in particular neighbourhoods. These data include levels of income, employment, education, and family and mobility status. We will use these data as proxies for individual variables.

The selection of variables was partially affected by the need to minimize the number of cells with values of zero due to area suppression, cell suppression or random rounding. We chose measures to represent both positive and negative outcomes of concentration. The variables selected to measure each outcome are presented in Table 4.5

The emergence or maintenance of distinct cultures

With respect to the emergence of distinct cultures, the expectation was that if concentration provided support for Aboriginal cultures, this would be reflected in higher proportions of Aboriginal residents with an Aboriginal language as mother tongue. If areas of relative concentration created oppositional cultures then, following the US literature, we would expect lower adult male participation rates. Participation rather than employment rates were selected because participation rates more closely reflect the attempt to be part of the labour force, while employment rate also requires that the attempt is successful. Clearly there are other measures that could be used, including juvenile delinquency, or participation in traditional activities. However, these variables are not available in the census. An indicator of participation in traditional activities is present in the Aboriginal Peoples Survey, but it is not available at the census tract level.

Change in access to employment

With respect to change in access to employment, the expectation was that if Aboriginal concentration supported the development of Aboriginal businesses, then these areas

would have higher rates of Aboriginal self-employment. If Aboriginal concentrations resulted in employment opportunities moving out of the area, then individuals living in these areas would have longer journeys to work, measured by a lower proportion of Aboriginal people who were employed working in the same census tract where they lived.

Table 4.5: Variables Selected to Measure Neighbourhood Effects of Aboriginal Concentration

Effects	Positive	Negative
Emergence or maintenance of distinct cultures	Proportion of Aboriginal residents in a census tract with an Aboriginal language as mother tongue[18]	Participation rates of Aboriginal adult male population by census tract
Change in access to employment	Proportion of Aboriginal population 15 + who were self-employed by census tract	Proportion of Aboriginal employed population that worked and resided in the same census tract
Change in attitudes toward an area	Cannot measure with census data	Cannot measure with census data
Change in access to quality of services	Number of Aboriginal organizations and programs per tract[19]	Proportion of Aboriginal population 15-24 not in school

Change in attitudes toward an area

The Census does not provide measure of stigmatization, and while qualitative analysis of sources such as media could provide a measure of these characteristics, this type of analysis is beyond the scope of this study. A variety of other measures might demonstrate stigmatization or prestige (vacancy rates or changes in house prices, housing conditions) but these are also correlated with other characteristics such as age of housing, changes in local housing markets, housing conditions, and local by-laws. It is beyond the scope of the present study to measure this aspect.

[18] We included both individuals who listed only an Aboriginal language as mother tongue, and individuals who listed as their mother tongue both an Aboriginal and another language.

[19] Aboriginal organizations and programs in each metropolitan area were identified using two phone directories available on-line, SuperPages.ca and YellowPages.ca. The method was to count all entries in the 2004 local telephone book, looking in the white and yellow pages for entries under 'Aboriginal', 'Indian', 'Métis', and 'Native'. Where addresses were not listed, we called to obtain them.

Change in access to quality services

With respect to the relationship between concentration and the quality of services, we initially expected that if concentration resulted in more culturally appropriate services then one measure of this outcome would be higher employment of Aboriginal people in government or community services in census tracts with concentrations of Aboriginal residents. However, because this measure resulted in a large number of cells with values of zero, we chose the number of Aboriginal organizations and programs per census tract to measure this aspect. If concentration resulted in a decline in the quality of services, this should be reflected in educational achievements. We initially attempted to measure this by drop out rates (percent of the Aboriginal population 15 to 19 without high school, not attending school). However, the high number of cells with zero values led us to adopt a somewhat broader definition – the proportion of the Aboriginal population 15-24 not in school. Clearly some individuals in this age group would have completed school. However, higher drop out rates should be reflected in a higher proportion of this age group outside of school.

4.2.2 Method of Measuring Neighbourhood Effects

As Buck (2001) notes, there are some difficult methodological challenges in identifying neighbourhood effects. One of these challenges is to establish causality – in other words, to establish whether outcomes occur because there are social and economic externalities associated with the concentration of a group, or whether these consequences are simply related to group characteristics. "The problem is in effect one of simultaneity. People are influenced by their context and, at the same time, influence the context" (Buck 2001:2256). Another challenge has to do with identifying which elements affect which outcomes. In Ellen and Turner's (1997) review, they found that no consensus emerged about which characteristics affected which outcomes, which types of households might be most affected by neighbourhood conditions or which causal mechanisms were involved. They suggested "some caution in interpreting the evidence" (1997:833).

Ellen and Turner (1997) argued that neighbourhoods <u>do</u> have an impact on individual life chances, but one that is less important than family or individual characteristics. Friedrichs et al's (2003:800) summary indicated that the neighbourhood environment "makes a non-trivial, independent difference for a variety of outcomes, although the impact is not nearly as decisive as parental or individual characteristics or macro-economic conditions." Lupton (2003) suggests that the reason why neighbourhood effects have been found to be relatively small is because the available data are not sufficiently sophisticated to measure their complexity (Lupton 2003).

Keeping in mind the difficulty of establishing relationships with absolute certainty, we proposed a multilevel framework that attempted to fit successive models to particular outcomes. The model successively fit neighbourhood characteristics, characteristics of individuals and families, and characteristics of cities in an attempt to discover whether neighbourhood characteristics remain significant as these mediating factors were added.

Initially, all census tracts with any number of Aboriginal residents were considered. However, an examination of this dataset revealed that the majority of the variable values for census tracts with smaller Aboriginal populations equaled zero. This could have resulted from one of the three procedures (area suppression, cell suppression, or random rounding) routinely applied to census data by Statistics Canada to insure confidentiality of respondents (Statistics Canada 2002: 295-6). Keeping all of these records in the analysis would have substantially decreased the possibility of uncovering any significant relationships between the dependent and independent variables. Consequently, it was decided to limit the analysis only to census tracts with 250[20] or more Aboriginal residents. The resulting dataset contained 216 census tracts. Because on average the population of a census tract is about 4,000, the resulting dataset does not have a bias toward census tracts with larger proportions of the Aboriginal residents. It needs to be mentioned, however, that, as a result of this decision, all census tracts within the Montreal CMA, all but two census tracts within the Toronto CMA, and all but one census tract within the Ottawa CMA were eliminated from the analysis.

In order to gauge the contribution of concentration and the impacts of controlling for urban characteristics and the characteristics of Aboriginal individuals and households, we used stepwise multiple regression, a multivariate statistical technique which "provides a means of objectively assessing the degree and character of the relationship" (Hair et al 1998: 159) between one dependent and a number of independent variables. First, only levels of concentration were entered into analysis and their importance for neighbourhood outcomes was assessed. Then the characteristics of urban areas (change in manufacturing and quaternary employment and community capacity) were added to see if this set of mediating factors reduced the importance of concentration. Finally the socio-economic characteristics of Aboriginal individuals and families were added to the regression in order to assess the effects of these factors on the significance of the relationship between concentration and neighbourhood outcomes.

Regression models were evaluated based on the values of R and R^2, which reflect the strength of the relationship between the dependent and independent variables and the amount of variance in the data set explained by the model, respectively. We also considered the condition index, which describes the amount of multicollinearity between the independent variables. A condition index greater than 15 indicates a possible problem and an index greater than 30 suggests a serious problem with colinearity. This allowed us to evaluate the significance of the regression models. The relative importance of variables in each regression model was assessed using their β and t values, which reflect the significance of each variable to the model.

4.3. Summary

This section has described data and methods used to conduct the two primary tasks of this study – to explore levels of concentration of Aboriginal populations in large cities in

[20] This number was selected because Statistics Canada applies cell and area suppression to areas with a population lower than 250 for the majority of socio-economic variables. Also the larger the population of an area the less it is affected by the random rounding (Statistics Canada 2002).

Canada, and to relate these levels to socio-economic outcomes. There are some difficult methodological challenges associated with exploring neighbourhood effects, and the data and techniques available for measuring them are less than ideal. Nevertheless we concur with Lupton (2003) when she argues that the possibility that there may be neighbourhood effects is significant enough that researchers should attempt identification. She (2003:12) notes that, even though the available data are too crude to be completely reliable, "[t]he best that can be done is to acknowledge that the missing variables may be important, perhaps even more important than the ones that are included, but to report on findings nonetheless."

5 CONCENTRATION PATTERNS OF ABORIGINAL PEOPLE IN CANADIAN CENSUS METROPOLITAN AREAS

Academic research about the concentration of urban Aboriginal people in Canadian cities has produced contradictory messages. Lee's (2000) and Kazemipur and Halli's (2000) work on minority group settlement patterns also emphasize Aboriginal concentration. Two recent pieces of Canadian research argued that Aboriginal residential concentration in poor inner-city neighbourhoods affected employment and life chances (Drost et al. 1995: 48; Richards 2001). Media accounts also create the impression that the urban Aboriginal population is a concentrated one (Polèse 2002; Stackhouse 2001)..Hayden (2004: F6) used inner city US ghetto conditions to describe Aboriginal residents in Saskatoon, Saskatchewan in the *Globe and Mail*.

However, the available academic work that uses some of the classic indices of concentration has questioned the idea that Aboriginal people are concentrated, finding that these indices are uniformly low to moderate in value **(**Maxim et al. 2000**)**. Researchers using 1981, 1991 and 1996 census data for large urban areas in Canada found moderate dissimilarity indices for Aboriginal people, ranging from about .2 to about .4 (Bauder and Sharpe 2002; Clatworthy 1994: 256; Darden and Kamel 2002; Maxim et al. 2000).

To date, however, most researchers have used only one measure – the dissimilarity index, or *D*, or a limited number of indices. None have explored the full range of indices proposed by Massey and Denton (1988) and whether these indices were appropriate for describing the residential patterns of urban Aboriginal people. Moreover, there has been little attention to the effects of using different definitions of Aboriginal populations and almost no work on the effect of scale on the value of concentration indices (but see Deacon 2002). This section assesses urban Aboriginal concentration patterns using all five of the classical indices, and explores the effects on index values of using the Aboriginal identity and the single origin ancestry populations, and of using census tracts and dissemination area scales of analysis.

5.1 Exploring the effects of different definitions of 'Aboriginal'

Because of differences in the characteristics of Aboriginal populations associated with different definitions of "Aboriginal" in census data, we compared concentration indices for both the Aboriginal identity and the Aboriginal single origin ancestry populations.

5.1.1 Patterns of concentration at the census tract level, Aboriginal identity population, 2001

We used patterns of concentration at the census tract level for the Aboriginal identity population in 2001 as our beginning point (Table 5.1). Patterns of concentration show a great deal of consistency between cities. The Evenness index (*D*) varied between .284 (Ottawa) and .459 (Montreal). Most cities therefore fell in the low range on this index, with Montreal and Toronto slightly higher. The results for Montreal and Toronto can

probably be attributed to the smaller relative size of the Aboriginal population in these two large cities. The Exposure index (${}_xP^*_x$) varied from .010 (Montreal) to .204 (Winnipeg). This index is close to .2 for Winnipeg, Regina and Saskatoon, and less than .1 for all of the rest of the cities. However, all cities fall in the low range for Exposure. The Concentration index (δ) is high for all of the cities, varying between .704 (Vancouver) and .941 (Regina). Winnipeg and Saskatoon rank high on this index, as well. The Clustering index (*SP*) for all cities was close to or equal 1 suggesting that no differential clustering existed among the census tracts occupied by the Aboriginal and majority populations. The Centralization index (*ACE*) showed considerable variation between cities. It varied from a low of .366 in Vancouver to a high of .926 in Saskatoon. Montreal and Toronto had moderate levels of centralization, while other cities fell in the high range. The results for the Centralization index probably reflect both urban housing structure and the size of the Aboriginal population. Toronto, Montreal, and Vancouver have all experienced considerable gentrification, and the Aboriginal population comprises a relatively small proportion of total city populations.

This analysis suggests that the Concentration index (δ) and the Centralization index (*ACE*) are of particular importance in understanding the nature of Aboriginal concentration in Canadian cities. The Dissimilarity or Evenness index (*D*) is the index most often used to describe concentration generally is of lesser importance. Even though it has higher values than the Exposure (${}_xP^*_x$) or Clustering (*SP*) indices, this most likely is a result of its sensitivity to the size of the Aboriginal population. Cities where the Aboriginal population was small in absolute and relative terms, such as Montréal or Toronto, were characterized by higher values of *D*. Concentration and Centralization are the only indices that reflect generally high values independent of the Aboriginal population size. In other words, Aboriginal settlement patterns in Canadian cities, measured with the Aboriginal identity data at the census tract level are generally characterized by:

- Even to moderately even distribution across census tracts;
- Low likelihoods of exposure only to other Aboriginal people;
- Relatively high levels of concentration, in other words, Aboriginal people occupy a relatively small amount of urban space;
- Low likelihood that census tracts inhabited by Aboriginal people adjoin each other; and
- High tendencies to live close to the city centre in Prairie cities and moderate tendencies to live near the city centre in the east and in Vancouver.

5.1.2 Comparing indices for the Aboriginal identity population and the single origin Aboriginal ancestry population

Table 5.2 compares concentration indices for the two definitions of 'Aboriginal.' The different definitions of 'Aboriginal' by and large yielded similar results with respect to concentration indices. The Evenness index varied between .3 and .5 for both types of data, which corresponds to low to moderate levels of concentration. Except for Montréal, calculations using Aboriginal single origin ancestry data were slightly higher than those

obtained using Aboriginal identity data. The results for calculations of relative exposure of Aboriginal populations to the majority population group (${}_xP^*_x$), were also similar for the two definitions of 'Aboriginal'. Values of ${}_xP^*_x$ were all low, ranging between close to 0 and .2. Overall, the Aboriginal single origin ancestry data yielded lower values of this index.

All of the values of the concentration index (δ) were high ranging between .7 and close to 1.0. For all of the cities, the index for Aboriginal identity definition was very close to the index for Aboriginal single origin ancestry definition. Only Toronto showed a difference of slightly more than .1 between the two definitions. Except for Edmonton, the index of concentration was slightly higher for the Aboriginal single origin ancestry population than for the Aboriginal identity population. The difference between indices for Edmonton, however, is very small. The values of the Clustering index (*SP*) for both definitions show low degree of clustering of Aboriginal residents in the nine cities, and the differences for the two definitions were minimal. For all of the cities except Winnipeg, the Aboriginal single origin ancestry population was somewhat more clustered than the Aboriginal identity population. This may be due to either the smaller size of the former, or to their relative economic disadvantage. However, differences for the two definitions were minimal.

The values of the Centralization index (*ACE*) ranged between .3 and .9 for the Aboriginal identity data and .5 and .9 for the Aboriginal single origin ancestry data. There was no easily defined pattern with respect to which definition yielded higher index values; sometime the index based on Aboriginal identity was higher, sometimes the index based on Aboriginal single origin ancestry was higher. The greatest difference created by definitions occurred in Vancouver, with the identity data yielding a value of .366, and the ancestry data yielding a value of .537. However, both of these values fall in the moderate range of concentration**.**

We used hierarchical clustering, to determine whether using different definitions of "Aboriginal" resulted in the identification of different patterns of concentration. Hierarchical clustering is a method that sequentially merges the most similar cases to produce non-overlapping clusters (Aldenderfer, Blashfield 1984). According to this analysis, the nine cities analyzed in this study can be divided into four groups (Tables 5.3 and 5.4). Although group membership differs slightly when different definitions of the Aboriginal population are used, the results of the two analyses are consistent, with Toronto and Vancouver forming a separate category, depending on which definition is used.

5.1.3 Conclusion

Concentration (δ) and Centralization (*ACE*) are the most significant dimensions in describing the residential concentration patterns of urban Aboriginal people, with Evenness (*D*) making a moderate contribution. The differences in patterns that emerge for data based on Aboriginal identity and Aboriginal single origin ancestry are very small. Differences between cities are not large, but cities can be grouped. The first group

includes three Prairie cities – Winnipeg, Regina, and Saskatoon – which have moderate levels of unevenness in the distribution, low levels of isolation, very high levels of concentration, low levels of clustering, and very high levels of centralization of the Aboriginal residents at the census tract level. The second group consists of Ottawa-Hull, Edmonton, and Calgary. These three cities have low to moderate levels of unevenness in distribution (*D*), very low levels of isolation ($_xP^*_x$), high levels of concentration (δ), very low levels of clustering (*SP*), and high levels of centralization (*ACE*) of the Aboriginal residents. The third group includes three largest Canadian metropolitan areas – Toronto, Montreal, and Vancouver. On average, these cities are characterized by the low to moderate levels in unevenness in the distribution, very low levels of isolation, high levels of concentration, no differential clustering, and low to moderate levels of centralization of Aboriginal residents.

5.2 Scale

Researchers have noted that the settlement patterns of some minority groups are expressed at more detailed levels of geography than census tracts, and could be easily missed, if studied at higher levels of aggregation (Murdie 1994; Peach 1996).Given that even large Aboriginal populations constitute only a small fraction of the overall CMA population, the nature of their settlement patterns can be obscured if they are examined only at the census tract level. We calculated concentration indices for the 2001 Aboriginal identity population (Table 5.5) at the level of dissemination areas to allow us to assess concentration patterns within census tracts.

Almost without exception, the values for the Evenness index (*D*), Exposure index ($_xP^*_x$), Concentration index (δ), and Clustering index (*SP*) are higher when they are calculated using dissemination areas than using census tracts. For the Centralization index (*ACE*), values are higher for census tracts than for dissemination areas, with the exception of Toronto. However, the differences are relatively small. Except for Evenness index (*D*) calculations at the dissemination area level did not change the category in which indices generally fell, in other words, indices remained at the low, medium, or high level for both levels of geography. For most cities, concentration measured by the Evenness index (*D*) moved from the top of the 'low' category (.0 – .3) to the bottom of the 'medium category (.4 – .6). For Montreal and Toronto, the values for the Evenness index (*D*) were high when measured at the dissemination area level and moderate when measured at the census tract level. The higher values of concentration indices obtained for the dissemination area level of census geography may in part be explained by the fact that the indices are affected by the size of areal units employed in the study (Peach, 1999; Wong et al., 1999). Therefore differences in index values obtained at various levels of aggregation need to be interpreted with caution as they could result, not from real differences in levels of concentration, but rather from size of areal units.

Exposure index ($_xP^*_x$) values were all low, although values based on dissemination areas were slightly higher than values based on census tracts. Concentration index (δ) values were all high, although again, values were slightly higher for dissemination area geographies. Clustering index (*SP*) values were all close to 1.0, with difference being

very small in magnitude. Like values based on census tract geographies, values for the Centralization index (*ACE*) showed the most variation between cities. Ottawa demonstrated the lowest centralization, with the values of - .175 suggesting that the Aboriginal population was dispersed in suburban areas rather than concentrated in the centre of the CMA. Regina had the highest level of centralization with a value of .955, suggesting that, even at the dissemination area level, most of the Aboriginal population is clustered in the centre of the CMA.

When we calculated average rank on all five dimensions of concentration for the nine cities used in this study, it was clear that using the dissemination area level geography creates more of a continuum among cities than concentration indexes at the census tract level. Nevertheless, dissemination area concentration indices have similar distributions and magnitudes as census tract area concentration indices. Concentration (δ) and Centralization index (*ACE*) values are most significant, with Evenness (*D*) at a moderate level. Prairie cities generally rank higher than eastern cities and the large cities of Montreal, Toronto, and Vancouver (although Edmonton also ranks relatively highly at the dissemination area level as well).

5.3 Conclusion

This section explored concentration measures for urban Aboriginal people in Canada. Calculations using the Aboriginal identity population at the census tract level showed that only two of the five indices were relatively high – concentration (tendency to occupy a small amount of space) and centralization (tendency to live close to the centre of cities). All of the other indices were low or moderate. Using the single original ancestry definition resulted in concentration indices that were slightly higher. However, these differences were small, and may be influenced by the smaller size of this population as well as its relative disadvantage, socio-economically, compared to the Aboriginal identity population. Concentration indices calculated with the dissemination area data were only slightly higher than those calculated using the census tract data. This result needs to be interpreted with caution, since it could be a function of smaller areal size rather than different patterns of concentration. Because of these caveats, we chose to employ the Aboriginal identity population data at the census tract level for our subsequent analysis of the relationship between socio-economic outcomes and levels of concentration.

To summarize concentration patterns, we calculated an average rank of these concentration indices for each city. For each index, the CMA with the lowest values received a '1' and the CMA with the highest value received a '9.' High averages indicate high indices of concentration and low averages indicate low indices. According to the ranking results, metropolitan areas could be divided into three groups. The first group consisted of the three prairie CMAs – Winnipeg, Regina, and Saskatoon, with averages ranging between 7.4 and 7.7, showing highest average values on all dimensions of concentration. These three CMAs were followed by Edmonton and Calgary with averages between 4.4 and 5.2. Vancouver, Montreal, and Ottawa all had average ranks of less than 4.0, with Toronto close at 3.9. At the same time, it is important to recognize that for all of the indices except Centralization, values were quite similar.

Table 5.6: Average Rank of Concentration Indices for CMA's, Aboriginal Identity Population at the Census Tract Level, 2001

CMA	Average Rank
Winnipeg	7.70
Regina	7.70
Saskatoon	7.40
Edmonton	5.20
Calgary	4.40
Toronto	3.90
Montréal	3.00
Vancouver	3.00
Ottawa-Hull	2.70

6 LEVELS OF CONCENTRATION AND NEIGHBOURHOOD OUTCOMES

The objective of this part of the project is to investigate relationships between neighbourhood effects or outcomes and levels of Aboriginal concentration in metropolitan areas in Canada. We used a stepwise regression procedure to assess the significance of the relationship between levels of concentration and neighbourhood outcomes, controlling for the mediating characteristics of urban areas and the characteristics of individual residents. The analysis explores the three main effects that could be assessed using census data: the emergence or maintenance of distinct cultures, access to employment, and quality of services. The analysis attempted to assess whether different levels of concentration were associated with positive or negative effects.

6.1 Emergence or Maintenance of Distinct Cultures

The dependent variable representing the positive dimension of this outcome - support for Aboriginal culture - was the *proportion of the Aboriginal residents in a census tract who have Aboriginal language as their mother tongue*. The dependent variable representing the negative dimension of this outcome – the emergence of oppositional cultures - was the *participation rate of the adult male Aboriginal population in a census tract*.

Results of the analysis suggest that levels of Aboriginal concentration do not consistently provide support for Aboriginal cultures. In the first model (Model A), concentration levels accounted for about 5 percent of the variation of the dependent variable (R^2 = .046), with a significance of $p < 0.01$ (Table 6.1). However when the characteristics of urban areas (state of urban economy and community characteristics) were entered into analysis (Model B), the impact of the levels of concentration completely disappears. When we run a full model that includes concentration levels, and controls for the characteristics of urban areas and of Aboriginal individuals and families (Model C), concentration levels are not significant, although the model does explain 36.6 percent of the variation in the dependent variable. In the full model, the only variables that are significantly related to the proportion of the Aboriginal population with an Aboriginal mother tongue are the nature of the urban economy, community capacity, employment and poverty. In other words, the stepwise regression analysis shows that, while there initially appears to be a weak relationship between concentration and the expression of Aboriginal culture through the use of an Aboriginal language, this relationship disappears when the characteristics of urban areas and of Aboriginal individuals and families are taken into account.

The analysis that examines the levels of concentration and male participation rates suggests that there may be a weak relationship between these two variables (Table 6.2). This relationship only emerges in the full model, when the characteristics of urban areas and individuals and families are taken into account. The full model explains 26 percent of the variation in the dependent variable, but employment and poverty are more significant that concentration levels. The relationship between participation rates and levels of concentration are positive, however, suggesting that higher levels of concentration are associated with higher male participation rates. Despite the relatively weak relationship

between these two variables, the result is interesting because the direction of the relationship is opposite to the one that we would expect from a situation where concentration leads to the emergence of oppositional cultures. In other words, this analysis, as far as it goes, provides no support for the idea that areas of Aboriginal concentration are creating conditions similar to the conditions created in inner city black areas in US cities. The only other variables related to participation rates were educational attainment (a positive relationship) and poverty (a negative relationship).

6.2 Access to Employment

The dependent variable representing the positive dimension of this outcome – creation of 'ethnic' businesses – was the *proportion of the employed Aboriginal residents in a census tract who were self-employed*. The dependent variable representing the negative dimension of this outcome – existing employment opportunities flee – *proportion of the employed Aboriginal population that lived and worked and in the same census tract*.

The results of the analysis suggest that there may be a relationship between concentration and access to employment (Table 6.3). However the direction of the relationship is different from that proposed by the model. Concentration levels were significantly related to the levels of self-employment for every stage of the stepwise regression model. However the relationship was negative, suggesting that as concentration levels increased, the proportion of the population who were self-employed decreased. The characteristics of urban areas were not significantly related to this variable. The characteristics of individuals and families that were related to the independent variable show that self-employment rates are negatively related to the proportion of families that are mother-led and positively related to high school completion. The lack of a relationship between self-employment and concentration levels supports the comments of some of the focus group members who indicated that Aboriginal neighbourhoods had not yet generated Aboriginal enterprises.

The level of concentration was significantly but negatively related to the proportion of Aboriginal people who lived and worked in the same census tract (Table 6.4). Higher levels of concentration within metropolitan areas corresponded to fewer Aboriginal residents living and working within the same census tract. This suggests a neighbourhood effect of employment opportunities moving out of areas of relative concentration of Aboriginal people. This relationship remained significant for all three models ($p < 0.05$). The characteristics of urban areas did not seem to be related to this outcome. High school attainment and poverty were both negatively related to this variable. The final regression, however, explained only 19.2 percent of the variation in the dependent variable. Concentration levels were more important than high school attainment, but less important that poverty in explaining the probability of living and working in the same neighbourhood.

6.3 Quality of Services

The dependent variable representing the positive dimension of this outcome – the emergence of appropriate services – was the *per capita counts of Aboriginal organizations and programs per census tract*. The dependent variable representing the negative dimension of this outcome – the decline of service quality because of overwhelming demand – attempted to measure drop-out rates with *the proportion of the Aboriginal population 15-24 not in school*.

The results of the analysis suggest that levels of concentration do not have a strong relationship with the per capita number of Aboriginal organizations and programs in the neighbourhood (Table 6.5). The direction of this relationship is negative, which means that higher level of concentration in a metropolitan area tend to correspond to fewer organizations and programs per Aboriginal person in neighbourhoods with 250 or more Aboriginal residents. However, concentration by itself does not seem to be related to the emergence of neighbourhood services directed toward Aboriginal populations. No other independent variable was significantly related to per capita number of Aboriginal organizations and programs in the neighbourhood. At the same time, it is important to recognize that this is a relatively coarse measure, and it does not address the possibility that a variety of more informal networks and relationships have emerged in these neighbourhoods; nor does it differentiate between businesses and non-profit service-delivery programs.

Levels of concentration were related to high school completion for all of the models (Table 6.6). The relationship was weakly significant, and negative. Urban characteristics were not significant for this model, and only mobility had a significant (negative) relationship with the dependent variable, showing that higher drop out rates were associated with higher migration rates. This relationship is difficult to interpret without more analysis, but the effect of mobility is not very strong. The model shows that increasing levels of concentration are related to decreasing drop-out rates. If drop-out rates reflect the quality of local educational services, then there is no evidence in this analysis that concentration rates are resulting in local services being overwhelmed, with a resultant decline in services.

6.4 Conclusion

In this part of the project we investigated whether levels of Aboriginal concentration were related to outcomes identified in the literature for other groups. Before we summarize the results of this analysis, it is important to remember that researchers have found it very difficult to uncover these types of relationships. This difficulty arises from a number of sources. First, many of the outcomes and the factors contributing to them are difficult to measure using census data, and because of this, researchers in a number of countries have developed large scale longitudinal projects to collect other types of information (see literature review). Secondly, there are complex interactions between individual and family characteristics and neighbourhood outcomes that are very difficult to control for in statistical analyses (Buck 2001, Ellen and Turner 1997, Lupton 2003). Finally, this study was not able to use individual or household level data to control for this level of factors,

employing census tract averages instead. Nevertheless, while the results of this analysis need to be interpreted cautiously, they show some interesting relationships.

None of the models explained a large proportion of the variation in the dependent variable. In the models that explained the highest amounts of variation, levels of concentration had either weak effects or no significant effect at all. Overall, individual and family characteristics explained the largest amount of the variation in the dependent variables that served as proxies for neighbourhood effects. Nevertheless, the analysis showed that there were some significant relationships between metropolitan levels of concentration and measures of neighbourhood outcomes (Table 6.7).

With respect to the emergence of distinct cultures, there is no evidence of the emergence of more supportive cultures in cities with higher levels of concentration. These areas do not seem to have the characteristics of some ethnic clusters where ethnic groups create local, culturally supportive organizations and activities. However our measure is blunt, and the lack of a significant relationship should not be interpreted as an indication that these activities and networks do not exist – just that we could not measure them with the data we had to work with. On the other hand, there is also no evidence that oppositional cultures are emerging in cities with higher levels of concentration. We argue that the dependent variable we used to measure this – labour force participation rates of adult Aboriginal males – corresponds to measures used in the US literature to identify dysfunctional adaptive strategies emerging in "underclass ghetto" areas (Hughes 1989, 1990 Ricketts and Sawhill 1988, Wilson 1987, 1996). If these strategies were emerging in Canadian cities, we would expect lower participation rates in cities with higher concentration levels. In our analysis, however, there was a positive relationship between levels of concentration and male labour force participation, in other words cities with higher concentration levels also experience higher participation rates. This suggests that the processes emerging in US cities are not transferable to Canadian cities in any straightforward way.

With respect to access to employment, fewer individuals were self-employed in more concentrated cities. This supports the comments in focus groups that indicated that Aboriginal businesses had not yet emerged in areas of Aboriginal concentrations. The analysis also showed that in more concentrated cities, there were fewer employed Aboriginal people living and working in the same census tract. This finding is consistent with the trend in many cities of employment opportunities moving out of inner city areas. Individual poverty was significantly related to this variable. This suggests that there may be a link between areas of lower cost housing, the location of low-income Aboriginal residents, and a lack of employment opportunities in these areas. The dynamics of these linkages is complex and beyond the scope of this paper to explore.

With respect to access to services, the data we had available to assess this outcome did not suggest that organizations and programs were more likely to emerge in cities with higher levels of concentration. However it must be noted that the variable we used to measure this aspect – Aboriginal organizations and programs – does not include more informal types of support networks and relationships. At the same time, there is no

evidence to suggest that concentration levels are associated with declining service quality as measured by drop out rates.

In summary then, the analysis in this study suggests that neighbourhood outcomes associated with Aboriginal concentration in Canadian cities do not fit easily into models of neighbourhood effects for other populations. At present, concentration does not seem to be associated with the emergence of businesses, culturally focused organizations or services that are associated with areas of ethnic concentration in the literature. At the same time, higher levels of Aboriginal concentration are also not consistently associated with the emergence of oppositional cultures found in US black inner city ghettos. The analysis presented here attempted to examine concentration and neighbourhood outcomes for urban Aboriginal people, using census data. Clearly, for some parts of this analysis it would have been useful to have finer measures. To the extent we were able to address questions of neighbourhood effects, though, this study suggests that it is important to examine the processes and dynamics occurring in the urban Aboriginal population, and not to extrapolate these from the experiences of other groups.

Table 4.1. Aboriginal Population in Canadian Metropolitan Areas, 1971 - 2001[21]

	Year	Aboriginal Identity, Total Responses	Aboriginal Identity, Single Responses	Total Ethnic Origins	Single Origin Ancestry	Multiple Origin Ancestry
Montreal	2001	11,085	10,205	49,355	8,720	41,300
	1991	--	6,770	45,230	12,730	32,960
	1981	--	--	15,030	12,295	2,740
	1971	--	--	--	9,850	--
Ottawa-Hull	2001	13,485	12,705	33,705	5,140	29,130
	1991	--	6,910	31,220	6,925	25,205
	1981	--	--	4,205	2,145	2,065
	1971	--	--	--	1,410	--
Toronto	2001	20,305	19,235	44,405	6,715	38,570
	1991	--	14,205	40,555	6,435	36,320
	1981	--	--	17,400	11,375	6,020
	1971	--	--	--	6,970	--
Winnipeg	2001	55,755	54,530	62,930	23,200	42,380
	1991	--	35,150	45,705	21,410	26,220
	1981	--	--	16,245	13,240	3,010
	1971	--	--	--	6,440	--
Regina	2001	15,685	15,230	16,745	8,490	9,150
	1991	--	11,020	13,055	7,675	5,770
	1981	--	--	6,410	5,615	800
	1971	--	--	--	2,870	--
Saskatoon	2001	20,275	19,715	21,985	17,090	12,655
	1991	--	11,915	14,530	7,940	6,920
	1981	--	--	4,235	3,480	750
	1971	--	--	--	1,080	--
Prince Albert	2001	11,640	11,340	11,420	5,635	5,125
	1991	--	6,330[22]	7,700	4,365	3,340
	1981	--	--	not available	2,620[23]	not available
	1971	--	--	--	1,145[24]	--
Edmonton	2001	40,930	39,785	55,170	17,410	40,965
	1991	--	29,235	43,355	16,580	29,060
	1981	--	--	13,795	9,875	3,920
	1971	--	--	--	5,275	--
Calgary	2001	21,915	20,925	33,855	8,716	26,560
	1991	--	14,075	24,595	6,805	19,255
	1981	--	--	7,320	4,790	2,525
	1971	--	--	--	2,305	--
Vancouver	2001	36,860	35,465	52,380	14,115	40,125
	1991	--	25,025	43,435	12,575	31,815
	1981	--	--	16,190	10,855	5,340
	1971	--	--	--	7,485	--

[21] Included are CMA and CAs that contained 10,000 or more Aboriginal residents in 2001.
[22] Includes only the City of Prince Albert and Wahpaton 94A counts. In 1991, Prince Albert CA consisted of Buckland No.491, RM; Wahpaton 94A, R; Prince Albert No.461, RM; and Prince Albert, C.
[23] In 1981, Prince Albert CA included Muskoday 99.
[24] In 1971 Prince Albert did not qualify as a CA. For purposes of comparison, this number includes the Aboriginal population numbers for the City of Prince Albert; Buckland No.491, RM; and Prince Albert No.461, RM.

Table 5.2 Patterns of Concentration for Different Definitions of 'Aboriginal', Census Tracts, 2001

Dimension of concentration	Evenness (*D*)		Exposure ($_xP^*_x$)		Concentration (δ)		Clustering (*SP*)		Centralization (*ACE*)	
	AI[25]	*SOA*	*AI*	*SOA*	*AI*	*SOA*	*AI*	*SOA*	*AI*	*SOA*
Montréal	0.459	0.435	0.010	0.009	0.724	0.728	1.000	1.000	0.577	0.552
Ottawa-Hull	0.284	0.353	0.023	0.014	0.754	0.766	1.002	1.002	0.736	0.726
Toronto	0.401	0.421	0.017	0.013	0.763	0.887	1.001	1.001	0.598	0.585
Winnipeg	0.387	0.475	0.204	0.167	0.853	0.887	1.056	1.060	0.890	0.912
Regina	0.387	0.398	0.176	0.134	0.941	0.965	1.039	1.036	0.913	0.941
Saskatoon	0.370	0.401	0.173	0.126	0.909	0.924	1.058	1.048	0.926	0.929
Edmonton	0.345	0.407	0.093	0.070	0.784	0.775	1.011	1.006	0.815	0.767
Calgary	0.321	0.396	0.056	0.075	0.823	0.827	1.010	1.006	0.854	0.863
Vancouver	0.329	0.427	0.058	0.048	0.704	0.776	1.013	0.939	0.366	0.537

Table 5.3. Classification of Canadian Cities Based on the Concentration Index Values, Aboriginal Identity Data, 2001

Group	*D*[26]	*xP*x*	*δ*	*SP*	*ACE*
Winnipeg, Regina, Saskatoon	0.381	0.184	0.901	1.051	0.910
Ottawa, Edmonton, Calgary	0.317	0.057	0.787	1.008	0.802
Vancouver	0.329	0.058	0.704	1.013	0.366
Toronto, Montreal	0.430	0.014	0.744	1.001	0.588

Table 5.4. Classification of Canadian Cities Based on the Concentration Index Values, Aboriginal Single Origin Ancestry Data, 2001

Group	*D*	*xP*x*	*δ*	*SP*	*ACE*
Winnipeg, Regina, Saskatoon	0.425	0.142	0.925	1.048	0.927
Ottawa, Edmonton, Calgary	0.385	0.053	0.789	1.005	0.785
Vancouver, Montreal	0.431	0.029	0.752	0.970	0.545
Toronto	0.421	0.013	0.887	1.001	0.585

[25] AI – Aboriginal identity; SOA – Aboriginal single origin ancestry.

[26] Average group values age given for each index.

Table 5.5. Patterns of concentration, Aboriginal identity, dissemination area and census tract, 2001

Dimension of concentration	**Evenness (*D*)**		**Exposure ($_xP^*_x$)**		**Concentration (δ)**		**Clustering (*SP*)**		**Centralization (*ACE*)**		**Average Rank**	
	DA	*CT*	*DA*	*CT*	*DA*	*CT*	*DA*	*CT*	*DA*	*CT*	*DA*	*CT*
Montréal	0.849	0.459	0.034	0.010	0.893	0.724	1.001	1.000	0.557	0.577	6.4	6.6
Ottawa-Hull	0.580	0.284	0.051	0.023	0.834	0.754	1.002	1.002	-0.175	0.736	7.6	6.8
Toronto	0.786	0.401	0.060	0.017	0.892	0.763	1.002	1.001	0.610	0.598	6.0	5.8
Winnipeg	0.478	0.387	0.251	0.204	0.883	0.853	0.991	1.057	0.888	0.890	5.6	2.2
Regina	0.488	0.387	0.223	0.176	0.959	0.941	1.039	1.030	0.955	0.913	2.8	2.2
Saskatoon	0.460	0.370	0.241	0.173	0.918	0.909	1.059	1.057	0.881	0.926	3.6	2.4
Prince Albert	0.342	n.a.	0.395	n.a	0.901	n.a	1.026	n.a	0.911	n.a	3.8	n.a
Edmonton	0.459	0.345	0.180	0.093	0.874	0.784	1.022	1.012	0.807	0.815	6.4	4.6
Calgary	0.504	0.321	0.097	0.056	0.897	0.823	1.011	1.010	0.838	0.854	5.4	5.2
Vancouver	0.567	0.329	0.141	0.058	0.700	0.704	1.013	1.012	0.283	0.366	6.8	6.6

Table 6.1. Regression Analysis of Proportion of Aboriginal Identity Population with Aboriginal Mother Tongue

	Model A		Model B		Model C	
	β	*t*	*β*	*t*	*β*	*t*
Level of concentration	214**	3.205	0.059	0.723	0.013	0.182
Characteristics of Urban Areas						
% change in manufacturing and quaternary employment, 1981 – 2001			-0.297**	-4.552	-0.369**	-6.508
Community capacity			0.107	1.611	0.153**	2.725
Characteristics of Individuals and Families						
% Aboriginal female lone parents					-0.017	-0.255
% Aboriginal 15+ with high school certificate					-0.100	-1.618
% Aboriginal population employed					-0.419**	-5.754
% Aboriginal population below LICO					0.155*	2.157
% Aboriginal population age 15 to 24					0.000	.000
% Migrants in Aboriginal population[27]					-0.061	-1.089
Constant	0.971	0.678	5.413**	15.452	13.104**	10.885
R	0.214		0.297		0.605	
R^2	0.046		0.088		0.366	
Condition index	7.863		1.011		16.070[28]	

** Significant at $p < 0.01$
* Significant at $p < 0.05$

[27] Five-year mobility status
[28] Variables *% Aboriginal population employed* and *% Aboriginal population below LICO* are highly correlated with each other (r = -0.648) which decreases parsimony of this model (condition index > 15.000).

Table 6.2. Regression Analysis of the Participation Rate of the Aboriginal Identity Males Age 15 and Over

	Model A		Model B		Model C	
	β	t	β	t	β	t
Level of concentration	0.115	1.697	0.055	0.655	0.137*	2.248
Characteristics of Urban Areas						
% change in manufacturing and quaternary employment, 1981 – 2001			-0.134*	-1.980	-0.081	-1.098
Community capacity			0.058	0.833	0.004	0.068
Characteristics of Individuals and Families						
% Aboriginal female lone parents					-0.034	-0.465
% Aboriginal 15+ with high school certificate					0.150*	2.310
% Aboriginal population below LICO					-0.424**	-6.595
% Aboriginal population age 15 to 24					0.102	1.694
% Migrants in Aboriginal population[29]					-0.019	-0.291
Constant	64.023**	16.781	70.292**	73.782	67.965**	15.218
R	0.115		0.134		0.510	
R^2	0.013		0.018		0.260	
Condition index	7.863		1.000		12.149	

** Significant at $p < 0.01$
* Significant at $p < 0.05$

[29] Five-year mobility status

Table 6.3. Regression Analysis of the Proportion of the Self-Employed in the Census Tract's Aboriginal Identity Labour Force

	Model A		Model B		Model C	
	β	*t*	*β*	*t*	*β*	*t*
Level of concentration	-0.240**	-3.616	-0.240**	-3.616	-0.254**	-3.992
Characteristics of Urban Areas						
% change in manufacturing and quaternary employment, 1981 – 2001			-0.020	-0.246	-0.024	-0.315
Community capacity			0.056	0.838	0.067	1.069
Characteristics of Individuals and Families						
% Aboriginal female lone parents					-0.263**	-4.163
% Aboriginal 15+ with high school certificate					0.188**	2.936
% Aboriginal population below LICO					-0.085	-1.016
% Aboriginal population age 15 to 24					-0.088	-1.387
% Migrants in Aboriginal population[30]					0.033	0.493
Constant	10.700**	7.015	10.700**	7.015	10.753**	5.816
R	0.240		0.240		0.420	
R^2	0.058		0.058		0.176	
Condition index	7.863		1.000		11.824	

** Significant at $p < 0.01$
* Significant at $p < 0.05$

[30] Five-year mobility status

Table 6.4. Regression Analysis of the Proportion of the Proportion of Those Who Worked and Resided in the Same CT among Employed Aboriginal Identity Population

	Model A		**Model B**		**Model C**	
	β	*t*	*β*	*t*	*β*	*t*
Level of concentration	-0.291**	-4.432	-0.291**	-4.432	-0.228**	-3.566
Characteristics of Urban Areas						
% change in manufacturing and quaternary employment, 1981 – 2001			0.053	0.652	0.065	0.852
Community capacity			0.047	0.705	0.028	0.454
Characteristics of Individuals and Families						
% Aboriginal female lone parents					-0.145	-1.882
% Aboriginal 15+ with high school certificate					-0.142*	2.088
% Aboriginal population below LICO					-0.357**	-5.309
% Aboriginal population age 15 to 24					-0.019	-0.295
% Migrants in Aboriginal population[31]					0.053	0.767
Constant	34.098**	7.683	34.098**	7.683	49.000**	8.697
R	0.291		0.291		0.439	
R^2	0.084		0.084		0.192	
Condition index	7.863		7.863		12.149	

** Significant at $p < 0.01$
* Significant at $p < 0.05$

[31] Five-year mobility status

Table 6.5 Regression Analysis of the Number of Aboriginal Organizations and Programs per Census Tract, Per Capita Counts

	Model A		Model B		Model C	
	β	*t*	*β*	*t*	*β*	*t*
Level of concentration	-0.143*	-2.111	-0.143*	-2.111	-0.143*	-2.111
Characteristics of Urban Areas						
% change in manufacturing and quaternary employment, 1981 – 2001			0.079	0.936	0.079	0.936
Community capacity			0.092	1.348	0.092	1.348
Characteristics of Individuals and Families						
% Aboriginal female lone parents					0.037	0.551
% Aboriginal 15+ with high school certificate					0.056	0.814
% Aboriginal population employed					-0.114	-1.680
% Aboriginal population below LICO					0.099	1.453
% Aboriginal population age 15 to 24					0.093	1.366
% Migrants in Aboriginal population[32]					0.032	0.458
Constant	0.004**	3.573	0.004**	3.573	0.004**	3.573
R	0.143		0.143		0.143	
R^2	0.020		0.020		0.020	
Condition index	7.863		7.863		7.863	

** Significant at $p < 0.01$
* Significant at $p < 0.05$

[32] Five-year mobility status

Table 6.6. Regression Analysis of the Proportion of the Aboriginal Identity Population Age 15 – 24 Not in School

	Model A		Model B		Model C	
	β	*t*	*β*	*t*	*β*	*t*
Level of concentration	-0.211**	-3.156	-0.102	-1.235	-0.178*	-2.072
Characteristics of Urban Areas						
% change in manufacturing and quaternary employment, 1981 – 2001			0.245**	3.695	0.147	1.784
Community capacity			-0.011	-0.167	-0.007	-0.101
Characteristics of Individuals and Families						
% Aboriginal female lone parents					0.047	0.708
% Aboriginal population employed					-0.033	-0.496
% Aboriginal population below LICO					0.114	1.738
% Aboriginal population age 0 to 14					-0.023	-0.347
% Migrants in Aboriginal population[33]					-0.188**	-2.709
Constant	64.881**	13.890	50.610**	43.642	68.704**	9.866
R	0.211		0.245		0.314	
R^2	0.045		0.060		0.098	
Condition index	7.863		1.000		13.411	

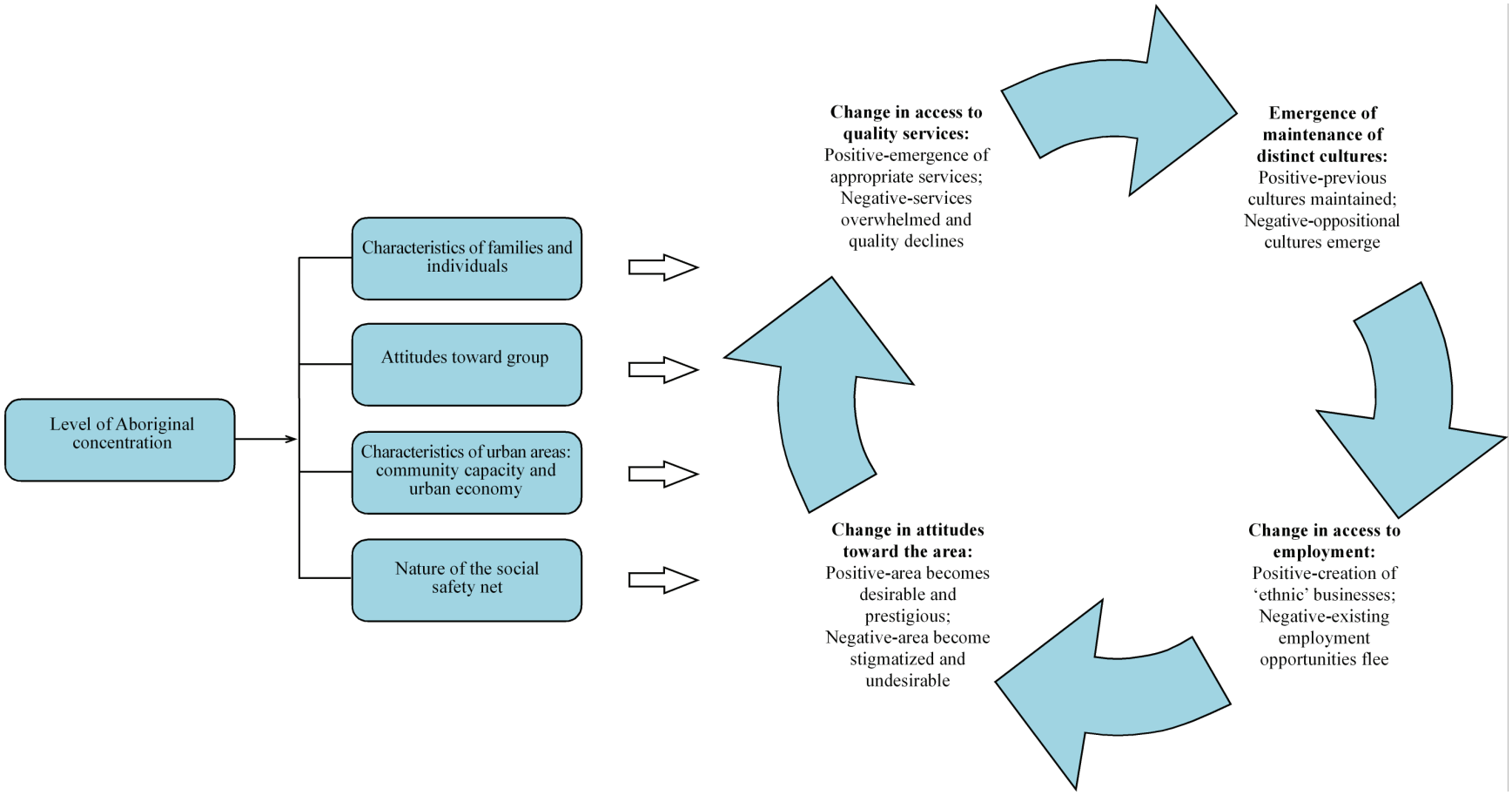
** Significant at $p < 0.01$
* Significant at $p < 0.05$

[33] Five-year mobility status

Table 6.7. Uncovered Relationships between Outcomes of Concentration, Metropolitan Levels of Concentration, Metropolitan Socio-Economic Characteristics and Degree of Deprivation at the Census Tract Level for Canadian Urban Aboriginal Identity Population

			Factors		
			Concentration, CMA level	Characteristics of Urban Areas	Characteristics of Individuals and Families
Concentration Outcomes	Distinct Cultures	**% with Mother Tongue**	**Yes (positive)**	**Yes (negative)**	***Employment*** **(negative)** ***Poverty*** **(positive)**
		Male Labour Force Participation Rate	**Yes (positive)**	**No**	***Poverty*** **(negative)**
	Access to Employment	**% of Self-Employed**	**Yes (negative)**	**No**	***Household Type*** **(negative)** ***High School Attainment*** **(positive)**
		% of Those Who Reside and Work in the Same CT	**Yes (negative)**	**No**	***High School Attainment*** **(negative)** ***Poverty*** **(negative)**
	Quality of Services	**Presence of Aboriginal Organizations/Businesses**	**Yes (negative)**	**No**	**No**
		Drop-Out Rates	**Yes (negative)**	**No**	***Mobility*** **(negative)**

Figure 2.1: Model of Neighbourhood Outcomes



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Appendix A: Focus Group/Interview Questions, Saskatoon and Winnipeg, 2005

Introduction

There is a long history in sociology, geography and other disciplines, of exploring the effects on individuals of living in particular neighbourhoods. These effects are often called "neighbourhood effects".

A definition of neighbourhood effects is the effect that living in a certain neighbourhood has on an individual's life chances (employment, education, satisfaction, maintenance of culture etc), independent of that individual's personal characteristics. When we study neighbourhood effects, we want to know the change in life chances associated with living in one neighbourhood rather than another, if the characteristics of the individual stay the same.

Sometimes neighbourhood effects are seen as positive – for example some ethnic groups have been able to provides mutual support and retain elements of culture because they lived in ethnic neighbourhoods. Sometimes these effects are seen as negative – for example when areas become stereotyped, or when the concentration of poverty means that local people are isolated from mainstream society and opportunities.

No studies have focussed on the effects on individuals of living in Aboriginal neighbourhoods. Today, we want your view on whether an Aboriginal person has worse or better chances living in an Aboriginal neighbourhood rather than in a non-Aboriginal neighbourhood. If you think that person's life chances would be different depending on where they live, we would like to know why that is, and what the differences are.
I would like the discussion to have three parts.

First, I would like to find out from you whether there are Aboriginal neighbourhoods in Saskatoon/Winnipeg?
Then I would like to have your feedback on what are the social and economic effects on Aboriginal people of living in Aboriginal neighbourhoods (if there are any)?
Finally, I would like your opinion on whether the research on neighbourhood effects for other groups relevant to urban Aboriginal people?

MAP and explanation

This is a map of Saskatoon/Winnipeg drawn from the 2001 census. It shows where Aboriginal people are concentrated in the city. (Describe)

Discussion

Would you say that any neighbourhoods in Saskatoon/Winnipeg are Aboriginal neighbourhoods?

1. If yes, what are they like? What makes them Aboriginal neighbourhoods? Where are they on the map?

2. If no, are there kinds of neighbourhoods that have particular outcomes for Aboriginal residents? Should we be looking, instead, at the effects of high poverty neighbourhoods on Aboriginal residents?

NEIGHBOURHOOD EFFECTS

What are the social and economic effects on Aboriginal people of living in Aboriginal neighbourhoods (if there are any)?
Possible probes:
Does it make a difference, culturally, to live in an Aboriginal neighbourhood?
Does it make a difference in terms of employment, to live in an Aboriginal neighbourhood?
Does it make a difference in terms how residents and non-residents view the area?
Does it make a difference in terms of the kind and quality of services, to live in an Aboriginal neighbourhood?
Does living in an Aboriginal neighbourhood isolate residents from the rest of the city?

DIAGRAM and explanation

This diagram is a summary neighbourhood effects described in studies of other groups. I would like your feedback on whether these effects are happening in Saskatoon/Winnipeg, and what the nature of these effects is. I will go through each of these and get your take on them.

1. Emergence or maintenance of distinct cultures:
The literature documents some positive effects of concentration – the growth of networks of mutual aid and the ability to protect cultural values and traditions. These models are primarily found in the 'ethnic' literature.
The literature also documents some negative effects – the growth of oppositional cultures where children growing up take on values a patterns of behaviour that prevent them from being successful in mainstream society when they grow up. These models are primarily found in the literature on Black inner city ghettos in the US.
Is this relevant for [Aboriginal] neighbourhoods in Saskatoon/Winnipeg?

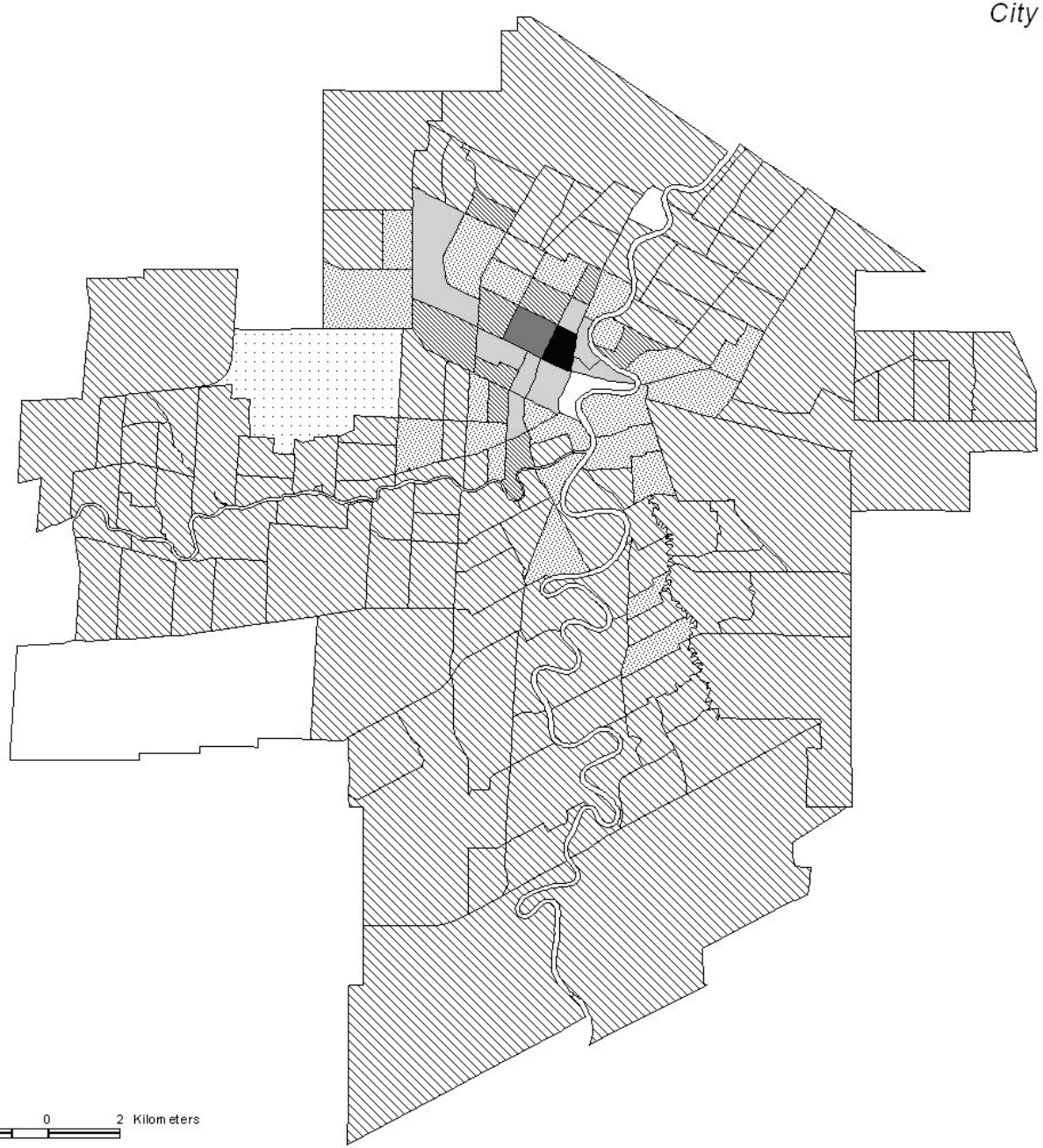
2. Change in access to employment:
The literature documents some positive effects of concentration in this category – the growth of 'ethnic' businesses that provide desirable employment, give residents training and income, and help them gain experiences that make them economically successful. Again, this model has applied mainly to 'ethnic' groups in cities.
The literature also documents some negative effects – when residents have low skills and incomes, an area become stigmatized, or oppositional cultures develop, businesses can flee leaving almost no local employment opportunities. This effect has been suggested to explain the situation of US Black inner city ghettos.
Is this relevant for [Aboriginal] neighbourhoods in Saskatoon/Winnipeg?

3. Change in attitudes toward an area:
Again, there are positive and negative effects that are documented. The concentration of rich households often makes an area desirable. The concentration of poor people works the opposite way. The concentration of some groups is seen as positive (although this has changed through time), contributing to urban cultural diversity – for example Chinatown, of Little Italy. The concentration of other groups is often viewed as undesirable, for example the concentration of Black households in US cities.
Is this relevant for [Aboriginal] neighbourhoods in Saskatoon/Winnipeg?

4. Change in access to quality services:
This effect has some similarities to the access to employment effect. A positive effect of concentration can result when a group begins to provide services for its own members. This can result in more appropriate services, as well as providing employment and work experience. On the other hand, the concentration of individuals with particular needs can also overwhelm existing services, and the stigmatization of an area can mean that service providers move out.
Is this relevant for [Aboriginal] neighbourhoods in Saskatoon/Winnipeg?

Proportion of the Population in Each Census Tract that is Aboriginal

City of Winnipeg, 2001



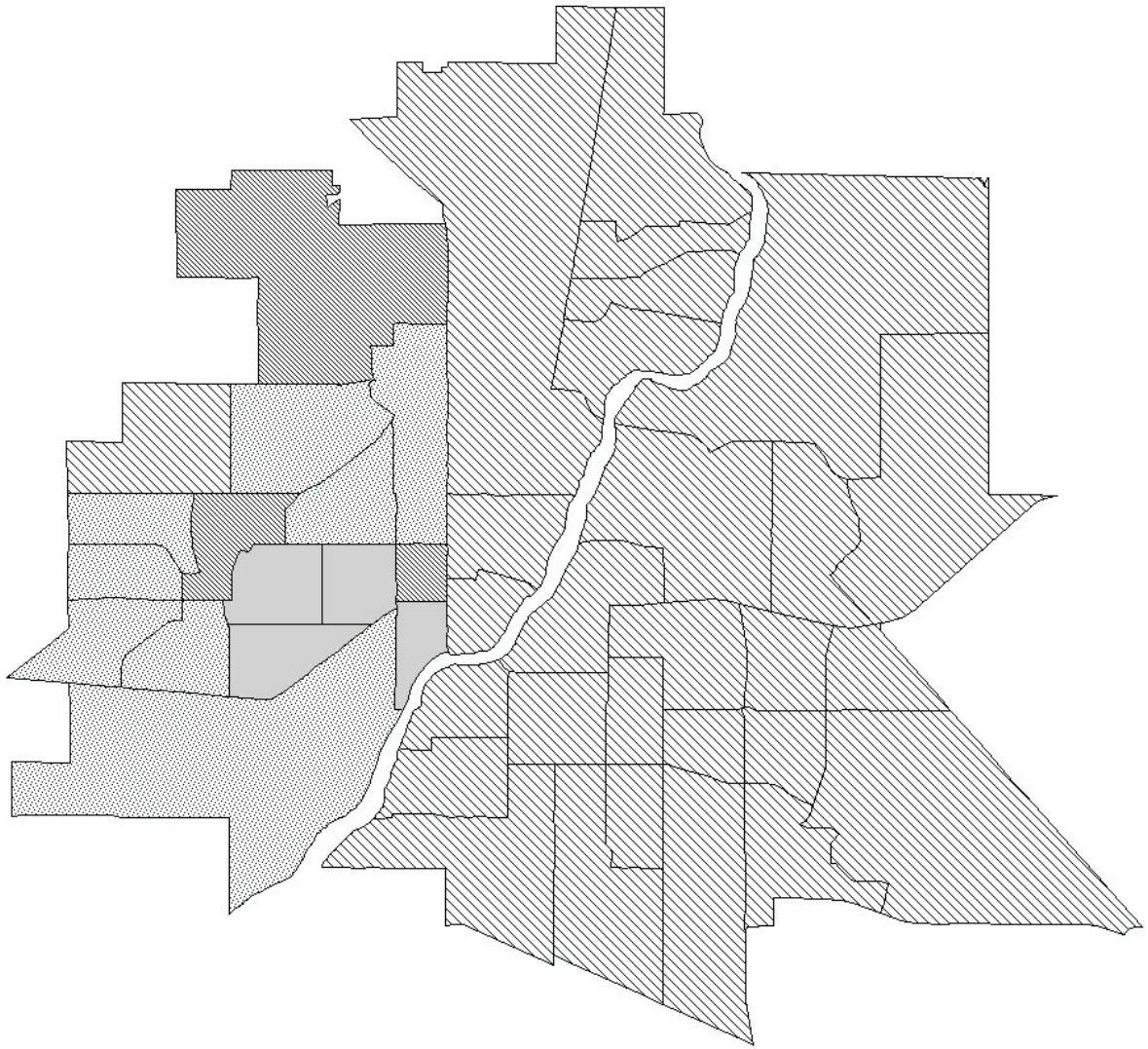
Aboriginal Identity, %

- *0*
- *0.1 - 9.9*
- *10.0 - 19.9*
- *20.0 - 29.9*
- *30.0 - 39.9*
- *40.0 - 49.9*
- *50.0 and more*
- *No data*

2 0 2 Kilometers

Proportion of the Population in Each Census Tract that is Aboriginal

Saskatoon, 2001



Aboriginal Identity, %

- *0*
- *0.1 - 9.9*
- *10.0 - 19.9*
- *20.0 - 29.9*
- *30.0 - 39.9*
- *40.0 - 49.9*
- *50.0 and more*
- *No data*

1 0 1 Kilometers

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