Spatial Relationships between Neighbourhood Characteristics and Rates of Children from Ethnocultural Communities Reported to Child Protective Services

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ABSTRACT

OBJECTIVES: The objectives of this study were to 1) map the spatial distribution of rates of children reported to Montreal child protective services by ethnocultural group (Black, other visible minorities, not from visible minorities) and (2) estimate the relative contribution of different neighbourhood characteristics to the rates for those groups.

METHOD: The study covered the 505 Montreal-area census tracts for which complete data were available. The rates of children reported by group (dependent variables) and various territorial characteristics such as poverty (independent variables) were mapped and subjected to multiple linear regression and geographically weighted regression. The results of the geographically weighted regression were then mapped.

RESULTS: The geographic distribution and rates of children reported varied greatly by group, with the Black children having the highest rates. Although neighbourhood characteristics explained 51% of variance for the children who were not members of visible minorities, they were clearly less effective in predicting rates in the case of Black children (18%) and other minorities (18%).

CONCLUSION: Already well-known neighbourhood risk factors are at work in Montreal, but their influence is not equally strong in all census tracts nor, especially, in all ethnocultural groups. Therefore, when only the distribution and prediction of reports for all children as a whole are examined, important differences are underestimated. Access to and appropriateness of services offered to vulnerable families, including those of visible minorities, could, however, be improved with a better understanding of local dynamics.

KEYWORDS: child abuse; domestic violence; geographic mapping, risk factors, epidemiology

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This study examines the relationships between various characteristics of Montreal neighbourhoods and the spatial distribution of rates of children (visible minorities and others) reported to child protective services (CPS). In Canada, the expression “visible minorities” refers to members of national minorities, other than Aboriginal peoples, who are more likely than others to face systemic discrimination on the basis of their physical appearance or certain easily recognizable cultural attributes.^{1,2} These minorities constituted 30% of the Montreal population in 2011.³ The largest of these groups in the city are, in descending order, Blacks, Arabs and Latin Americans. While fulfilling their childrearing role, visible minority parents must at the same time overcome many systemic obstacles, such as limited access to housing or jobs,⁴ or the risk of systemic discrimination.⁵ They are therefore minorities not just in terms of numbers, but in also terms of being less powerful.

Maltreatment refers to acts of a physical, sexual or psychological nature, whether of commission or omission, that threaten a child's physical or psychological integrity. It takes four forms: physical abuse,

psychological abuse, sexual abuse and neglect. In both its scope⁶ and its serious consequences to individuals, families and communities, child maltreatment is a major social and public health issue. In Quebec, it is covered by a special statute, the Youth Protection Act, which allows a protective authority to intervene in families struggling with these issues. For the study period, 2009–2010, there were 8,263 reports to the Centre Jeunesse de Montréal- Institut Universitaire,⁷ the Montreal CPS agency that serves, along with French-speaking families, those who speak neither nor English nor French as their first language. Investigation rates were in decline then,

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going from 51% of reports in 2006–2007 to 45% in 2008–2009, then 46% in 2009–2010.⁷ The Batshaw Youth and Family Centres, which serve the city's English-speaking population, received 3,283 reports.⁸ Their investigation rates were also declining then, going from 58% in 2006–2007 to 50% in 2008–2009, then 49% in 2009–2010. Regional statistics camouflage some major disparities. For example, between 1998 and 2000, the per-mille rates of children reported for physical abuse or neglect varied between 2.3 and 53.4 in Quebec's different CLSC [local health and social service agency] catchment areas.⁹

The CPS reporting step is crucial for two reasons. First, it is the entry point to protective services. There is a heated controversy over whether or not the number of reports is cause for concern.¹⁰ Some specialists point to the high proportions of reports not investigated, or deemed unsubstantiated after investigation, to argue that many situations reported to CPS would be more appropriately addressed by other types of services, such as community organizations, especially in the case of visible minority children.¹¹ In their view, too many reports swamp CPS and dilute the attention that can be paid to truly serious cases. Others, however, believe that the reports reflect a legitimate concern for children at risk and that, although it is expensive, all such situations should be reported to CPS.¹²

The second reason for focusing on reports is that they are a stage in the CPS process where the disproportionate number of visible minority children is notable, not just in Montreal,¹³ but in Canada as a whole,¹⁴ as well as in the United States.¹⁵ Disproportionality occurs when ethnocultural communities involved with the CPS system are overrepresented or underrepresented in relation to their demographic weight in the population at large.¹⁶ Thus, in Montreal, Black children are almost twice as likely to be reported than any other children, while those of other visible minorities are less likely to be reported.¹³ The disproportionate number of reports on visible minority children is a concern, because it places a burden on a protection system already under pressure. For instance, a massive influx of reports on Black children in no more need of protection than anyone else¹³ raises questions about why people decide to call CPS rather than other services. Underrepresentation is just as much a concern if it means that children in need of protection are not reported, due to mistrust or misappreciation of protective services. On the other hand, this underrepresentation may be attributable to the influence of protective factors against maltreatment, such as mutual support in the community, which should be better understood so they can be encouraged.

The factors associated with neighbourhood variations in the disproportionality of reports of visible minority children are still poorly understood. Nevertheless, it is now fairly well established that many structural characteristics of neighbourhoods where families live

increase the probability of children being reported or actually maltreated.¹⁷ Thus, neighbourhoods with high rates of poverty are also those where maltreatment is most often reported and most prevalent,^{9,18,19} but these relationships vary largely with the concentrations of cultural communities there.²⁰ For example, Korbin and al. have shown that poverty has less of an impact in neighbourhoods with high concentrations of Black families than in predominantly white areas.²¹ Their ethnographic analysis suggests that, poverty levels being equal, neighbourhoods with a high risk of maltreatment are characterized by social disorganization and weak social cohesion, while low-risk neighbourhoods have a sturdy social fabric. People living in neighbourhoods with little social disorder are more likely to report worrisome situations than those in highly disorganized neighbourhoods.^{22,23} The argument that visible minority children are poorer and therefore at greater risk of maltreatment is not borne out, since in very poor communities, Black children are no more maltreated than White.^{24,25}

Another structural characteristic of neighbourhoods that increases the probability of reported and actual maltreatment is a higher ratio of children to adults.^{19,21,26,27} Residential instability, a feature of neighbourhoods where families move often and there are many vacant rental units, is also associated with maltreatment,^{27,28} especially in predominantly White neighbourhoods, rather than predominantly Black ones.²¹ Population density (per dwelling and in the neighbourhood) and the proportion of lone-parent families²⁹ and unemployed adults³⁰ in a neighbourhood are also positively correlated with maltreatment. Social problems, as revealed, for instance, by high rates of crime and violence, characterize neighbourhoods with high maltreatment report rates.²¹

Freisthler and al.³¹ have contributed to a better understanding of the effects of neighbourhood characteristics on the overrepresentation of minority groups by studying rates of substantiated maltreatment of three ethnocultural groups separately, broken down by census tract in California. The researchers found that Black children are three times more likely to be maltreated than Hispanic children, and five times more likely than Whites. Spatial regressions using the generalized least squares (GLS) method indicated that only poverty was significant in all the models. The other neighbourhood predictors varied for each group. Although reducing neighbourhood poverty could lower rates of substantiated maltreatment for all children, more specific prevention efforts suited to the demographic characteristics of the neighbourhoods should also be contemplated. This study is inspired by their work, but their methodology has been adapted to the Quebec context. We seek to answer the following questions: (1) What is the geographic distribution of rates of reporting to Montreal child protective services by ethnocultural group (Black, other visible

minorities, not visible minorities)? and (2) What is the relative contribution of different neighbourhood characteristics to the rates for those groups?

METHOD

Study Area

The study, which was approved by a research ethics committee recognized by the Ministère de la Santé et des Services sociaux [Quebec department of health and social services], concerns the Montreal census agglomeration, the most highly populated in Quebec, with 1.84 million residents, and the one with the largest proportion of visible minorities (30% of the population).³ Census tracts (CTs) usually have a population of 2,500 to 8,000 persons.³² Out of a total of 520 Montreal CTs, the 505 with complete data are included in the study. The 15 CTs excluded are those with missing data (for example, on green spaces) or partial data (no children reported or no data on the population).

Variables and Data Sources

Dependent variables.

The dependent variables are the annual per-mille rates of Montreal children whose reports were investigated. The rates are based on three years' worth of data from the client data system (PIJ) of two Montreal CPS agencies, that is, for children aged 17 and under whose reports were investigated between 2007 and 2010. The six-digit postal code of each reported child was geolocated using the ArcGIS 10.2 geographic information system (ESRI, Environmental Systems Research Institute Inc.). The population data from the 2006 census of Canada served as denominators. Three groups were formed: children who were not members of visible minorities (NVM), Black children of West Indian and African descent (Black) and children of other visible minorities (OVM), such as Southeast Asian and Arab children. Belonging to a visible minority is based on the definition and categories of the Canadian census and determined from language spoken at home, country of birth and ethnocultural group declared by the child or parents or observed by the caseworker.

Independent variables.

The structural characteristics of the neighbourhoods associated with reports to child protection are the independent variables: poverty, low education level, residential instability, large family, lone parent, population density and population ratio. The data come from the 2006 in Table 1 and the descriptive statistics are given in Table 2.

Table 1. Operationalization of variables

Dependent variables	Definition
Rates of NVM children reported	Per-mille rates of non-visible minority children reported
Rates of Black children reported	Per-mille rates of Black children reported
Rates of OVM children reported	Per-mille rates of other visible minority children reported
Independent variables	Definition
Poverty	Percentage of low after-tax income for all economic families
Low education level	Percentage of population aged 25 years or over without high school diploma or equivalent
Residential instability	Percentage of population aged 1 year or over having moved in past year
Large family	Percentage of two-parent/lone-parent families that have 3 or more children at home
Population density	Number of residents per square kilometre
Lone-parent families	Percentage of lone-parent families with children at home (headed by man or woman)
Population ratio	Population of NVM children/child population Population of Black children/child population Population of OVM children/child population

Analysis

Analysis was a four-step process. First, the rates of reported children by census tract were mapped to provide a representation of the geographic distribution of the phenomenon being studied. Second, a multiple linear regression was performed to gain a better understanding of the influence of neighbourhood characteristics and identify factors associated with the reports on all the children, then each of the groups being studied (global model). Third, in order to control for spatial error autocorrelation and spatial instability in the multiple linear regression model, the variables were also subjected to a geographically weighted regression (GWR) for all the children,³³ then for each group separately. GWR is a standard method used in the exploratory analysis of spatial data. It estimates a local model and breaks down the overall model, taking into account neighbourhood variations in the phenomenon being examined. This analysis is an extension of conventional multiple linear regression, adapted to geospatial data. It considers, for instance, the spatial instability of the relationships between the dependent variable and the independent variables, where a regression model is very effective in one geographic area, but ineffective in another.³⁴ The GWR model was calculated using ArcGIS 10.2. A Gaussian function was used to define the weighting in the GWR model with a bandwidth relative to the number of neighbours (adaptive). AIC (Akaike information criterion) measurements were used to optimize the value of the coefficient (β).³⁵ Last, to identify and qualify the neighbourhood variations in factors associated with reported children, local Student's *t* values for each of the factors were mapped for Black and OVM children.

Table 2. Descriptive statistics of variables studied

Variables	Mean (standard deviation)						Minimum						Maximum			
	All (n = 505)	NVM (n = 503)	Black (n = 453)	OVM (n = 502)	All	NVM	All	NVM	Black	OVM	All	NMV	Black	OVM		
Rates of reported children (‰)	35.30 (27.49)	29.29 (31.62)	107.82 (139.44)	49.52 (75.65)	0.00	0.00	0.00	0.00	0.00	0.00	236.00	307.70	1,000.00	888.90		
Poverty (%)	17.34 (10.26)	17.37 (10.25)	17.79 (10.37)	17.36 (10.26)	0.00	1.70	0.00	1.70	1.70	0.00	82.10	82.10	82.10	82.10		
Low education (%)	19.61 (10.18)	19.60 (10.18)	20.35 (10.10)	19.60 (10.18)	0.80	0.80	0.80	0.80	0.80	0.80	48.70	48.70	48.70	48.70		
Residential instability (%)	15.54 (6.18)	15.53 (6.19)	15.24 (5.98)	15.52 (6.18)	2.50	2.50	2.50	2.50	3.10	2.50	45.70	45.70	45.70	45.70		
Large family (%)	13.70 (6.92)	13.76 (6.88)	14.28 (6.64)	13.72 (6.92)	0.00	0.00	0.00	0.00	0.00	0.00	48.10	48.10	48.10	48.10		
Density (residents/km ²)	8,194.07 (5,344.80)	8,211.19 (5,344.02)	8,163.30 (5,166.69)	8,183.45 (5,358.35)	128.40	128.40	128.40	128.40	230.90	128.40	44,078.60	44,078.60	44,078.60	44,078.60		
Lone-parent families (%)	35.32 (12.18)	35.26 (11.75)	35.29 (11.31)	35.28 (12.18)	0.00	0.00	0.00	0.00	5.30	0.00	100.00	77.30	77.30	100.00		
Population ratio	-	0.64 (0.21)	0.11 (0.09)	0.26 (0.18)	-	0.03	-	0.03	0.00	0.01	-	0.99	0.52	1.00		

RESULTS

Figure 1 illustrates the geographic distribution of annual rates of child maltreatment reports in Montreal for each of the ethnocultural groups studied. Two points are clear. First, the geographic distribution is quite different for each group. While the reports are concentrated along the island's south shore for NVM children (b), they are mainly in the central western part of the island for Black children (c) and spread out through three areas for OVM children (d): eastern end, south and southwest. As the scales on the maps and the descriptive statistics (Table 2) show, the rates are also highly variable from group to group, with Black children having the widest range (rates varying from 0‰ to 1,000‰, in different census tracts) and the highest mean rate (107.82‰, as compared with 29.29‰ for NVMs and 49.52‰ for OVMs).

Our other findings have to do with the regression models and analysis of explanatory factors (neighbourhood characteristics) of report rates. Table 3 sums up first the results of the overall regression model for all children, then for each group. Although neighbourhood characteristics explain 35% of variance for NVM children, they were much less effective in predicting rates for children from ethnocultural communities (explaining 15% of variance for Black children and 12% for other visible minorities). The population ratio is the most significant predictor of reports of minority Black and OVM children (visible minority children are more likely to be reported in CTs with low concentrations of children of the same minority), while this variable is nonsignificant for NVM children. The variables of lone parent and low education level, in the case of Black children, and the variables of low education level and residential instability, in the case of children of other visible minorities, have a positive influence on the dependent variable for each of these groups. Overall multicollinearity was investigated using the variance inflation factor (VIF, see Table 3); a value of less than 4 is considered moderate. Last, Table 3 sums up the geographically weighted regression models, which provide improved statistical quality over global models, resulting in a lower corrected AIC (AICc). Unlike the overall models, the GWR models can determine whether the model varies spatially or not and describe local variations in the relationship between the dependent variable and the independent variables. Here once again, the analysis is much more effective in explaining the variance in rates of reported NVM children (51%) than those of visible minorities (18% for Black and OVM children). To test the instability of the model due to a local multicollinearity problem, we assessed the multicollinearity condition numbers obtained with the GWR model. They were less than 30, which is considered moderate.³⁶

Figure 1. Geographic distribution of annual rates of reported children in Montreal, by census tract (a) All; (b) NVM; (c) Black; (d) OVM

Last, local Student's T values for each of the significant GWR variables for Black and OVM children were mapped (figures 2 and 3). A T value greater than 1.96 or less than -1.96 indicates that the relationship between explanatory factors and the report rates is significant (positively or negatively) at the 5% level; a T value greater than 2.58 or less than -2.58 indicates a significant relationship at the 1% level; a T value greater than 3.29 or less than -3.29 indicates a significant relationship at the 0.1% level. In figures 2 and 3, the darker the colour (based on T values at each level) in a neighbourhood, the stronger the influence of the variable on the report rates in that neighbourhood. For instance, population ratio is an especially significant factor (0.1% level) in explaining the variation in the rates of Black children reported in southern and eastern Montreal (Figure 2a). Since the T values are negatively significant, these are neighbourhoods with a

small Black population where Black children are more likely to be reported. Particularly significant areas, with T values less than -6, are located to the south, in Verdun and Lasalle, and to the east, in Mercier-Est and Mercier-Ouest. The percentage of lone-parent families is the second most important factor (0.1% level) in explaining the rates of Black children reported, especially in Verdun (positive T values greater than 5).

In the case of children of other visible minorities, population ratio is also an especially significant factor (0.1% level) in explaining the rates of OVM children reported in southern and eastern Montreal (Figure 3a). Two especially significant neighbourhoods, with *t* values lower than -6, are in eastern Montreal, in Rivière-des-Prairies and Pointe-aux-Trembles.

Table 3. Regression models, by group

Overall regression model	All			NVM			Black			OVM		
	β	t	VIF [†]	β	t	VIF [†]	β	t	VIF [†]	β	t	VIF [†]
<i>Neighbourhood characteristics</i>												
Constant	-16.79	-3.26***	–	-28.51	-3.24***	–	28.57	0.86	–	24.18	1.37	–
Poverty	0.42	2.89**	2.39	0.77	3.96***	3.09	1.1	1.18	2.56	0.09	0.18	2.87
Low education level	0.87	7.22***	1.65	0.70	4.78***	1.73	2.08	2.58**	1.82	1.28	3.21***	1.64
Residential instability	0.93	3.94***	2.31	0.20	0.72	2.36	0.96	0.61	2.41	2.47	3.17**	2.32
Large family	0.18	1.03	1.57	0.66	3.17**	1.60	-0.63	-0.55	1.59	-0.09	-0.16	1.57
Lone-parent families	0.60	5.48***	1.94	0.82	5.86***	2.08	2.98	3.90***	2.05	0.10	0.28	2.06
Population density	-0.001	-6.06***	1.39	-0.001	-4.75***	1.39	-0.003	-2.33*	1.52	-0.001	-1.17	1.40
Population ratio	N/A	N/A	N/A	-1.002	-0.13	1.88	-588.9	-7.27***	1.60	-133.80	-6.35***	1.41
R ²		0.39			0.36			0.17			0.14	
R ² adjusted		0.38			0.35			0.15			0.12	
AICc‡		4,544.72			4,694.76			5,694.86			5,712.00	
Moran's index		0.15***			0.07***			0.04**			0.03*	
GWR model§												
R ²		0.58			0.60			0.22			0.22	
R ² adjusted		0.52			0.51			0.18			0.18	
AICc		4,452.99			4,603.96			5,684.80			5,682.33	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

†Variance inflation factor

‡Akaike information criterion corrected.

§Geographically weighted regression.

DISCUSSION

This study confirms, first, the high rates of Black children reported to child protective services in Montreal, compared with other children. These findings, consistent with those of earlier studies,^{13-15,31} are of some concern, because they either reflect “systemic discrimination in [Black families] relations with public institutions and people in positions of authority who make decisions that affect them,”⁵ or else indicate that Black children really do have greater needs and risk factors than other children.

Second, although our results are not very surprising with respect to non-visible minority children, the same cannot be said of children from ethnocultural minorities. For NVM children, the statistical models explain a good part of the variance and the predictors are consistent with the scientific knowledge presented in the introduction: in Montreal, the more prevalent a neighbourhood's high poverty rates, low levels of education, large families, lone-parent families and low population density, the greater the probability that a child who is not from a visible minority will be reported. While Freisthler et al.³¹ obtained a value of $R^2 = 0.56$ using the generalized least squares (GLS) model to predict the rates of maltreated NVM children in California based on neighbourhood characteristics, we calculate a value of $R^2 = 0.60$ for the same group in Montreal using a GWR model. In both cases, neighbourhood poverty appears to be especially significant in predicting rates of reported or substantiated maltreatment. In short, our results confirm that already well-known neighbourhood risk factors are at work in Montreal.

Yet their influence is not equally strong in all census tracts nor, especially, among all ethnocultural groups. Although some neighbourhood risk factors turned out to be significant, the selected

predictors are nonetheless clearly less effective in predicting rates of visible minority children reported to CPS, except for population ratio, which explains a large part of the variance in these groups. Albeit still sparse, consistent findings suggest that the ethnocultural diversity of a neighbourhood is related to the probability of maltreatment. For example, Klein and Merritt's recent study determined by GLS analysis that, even when social disorganization indicators (such as poverty and residential instability) are controlled for, strong ethnocultural heterogeneity within a census tract is a risk factor for being CPS involvement for children in the three groups studied (Black, Hispanic and White).³⁷ The low report rates for Black children in predominantly Black neighbourhoods may suggest either a mistrust of the CPS system or less discrimination attributable to greater familiarity with various childrearing styles.³⁸ In our study, Black children in Montreal are more likely to be reported when they live in neighbourhoods with high rates of low education and lone-parent families, with a low population density, and where their population group is not well represented; for children of other visible minorities, low education, residential instability and, once again, a low population ratio predict their report rates. Their vulnerability to reporting seems quite different from that of NVM children, as it appears to be associated more with social, rather than material poverty, combined with belonging to an ethnocultural group that is a very small minority in the neighbourhood. Of all the independent variables, only low education level is significant for all ethnocultural groups. Earlier studies had already established the smaller or nonsignificant effect of poverty on reporting rates in neighbourhoods with a high Black population ratio, in contrast with those in predominantly White neighbourhoods.^{17,21} Other variables describing the neighbourhood,

Significance levels of t values:

5 % when $t < -1.96$ or $t > 1.96$; 1 % when $t < -2.58$ or $t > 2.58$; 0.1 % when $t < -3.29$ or $t > 3.29$

Source: Statistics Canada, 2006 Census of Population

Figure 2. Geographic distribution of local Student's t values of GWR model for rates of Black children reported in Montreal: (a) Population ratio (negative relationship); (b) Lone-parent families (positive relationship); (c) Low education (positive relationship); (d) Population density (negative relationship).

not included in the models, therefore remain to be identified for visible minority children.

According to Coulton et al.,¹⁷ aside from their structural characteristics, considered here, other characteristics of the neighbourhoods where the families live, such as the quality of the support available, the risk assessment by the reporter or a selection effect (vulnerable families more commonly settle in certain neighbourhoods), increase the probability that a child will be

maltreated or reported for maltreatment. Neighbourhoods at high risk for maltreatment are characterized by poor informal social support networks (f. ex.: unsupportive neighbours, grandparents or religious leaders), while the residents of low-risk neighbourhoods describe their neighbours in positive terms and report many more interactions.^{18,21,22} Access to, the quality of and the use of formal resources (social services and community organizations) also explain variations in neighbourhood report rates.³⁹ Among the factors related

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Source: Statistics Canada, 2006 Census of Population

Figure 3. Geographic distribution of local Student's t values of GWR model for rates of OVM children reported in Montreal: (a) Population ratio (negative relationship); (b) Low education (positive relationship); (c) Residential instability (positive relationship)

to the decision to report a situation to the authorities, those concerning Black children sometimes reflect cultural bias, as reporters judge the families in light of their own parenting criteria.¹⁸ Coulton et al.¹⁷ note possible surveillance bias related to some very poor neighbourhoods, where the high prevalence of social problems may prompt reporters to report only the most serious situations, while, in better neighbourhoods, even ambiguous situations may be reported as cause for concern.⁴⁰

One of our study's strengths is the innovative spatial analysis of the rates of reported children and their predictors by ethnocultural group, which contributes to an understanding of the reporting dynamics particular to each neighbourhood and group of children. On the other hand, such analyses face major challenges with regard to data. For instance, for the independent variables, the limitations of rounding and small denominators are at work and must be considered in any interpretation. That is because, except for total population, census

numbers are randomly rounded up or down to the next multiple of 5. For instance, if there are 10 families with children in a CT and 6 of them have a lone parent, the rate for the CT will be either 50% or 100% for that variable. As children reported to CPS are uncommon in an area as small as a census tract, it was only possible to form three ethnocultural groups, and that could potentially obscure many finer variations, for example, within the “other visible minorities” group. A potentially even finer geographic breakdown, such as by dissemination area, would be interesting, but would force us to combine groups of children (such as all visible minority children) in order to achieve a certain quantity of reported children. Also, the geographically anchored data are limited to variables in the Canadian census, making it impossible to include predictors like social support or criteria prompting people to report children in our analyses.

The implications of this study are important. It is crucial to do further studies in order to identify the sources of variance in the rates of reported children for various cultural groups in Montreal and elsewhere. The study establishes that, when only the distribution and prediction of rates of reported children are examined, without regard to ethnocultural group or place of residence, important differences are diluted. Yet access to and the appropriateness of the full spectrum of services offered to vulnerable families (promotion, prevention and protection services) may be improved by a better understanding of the dynamics at work in different neighbourhoods. Where are needs the most pressing? Considering our limited resources, where should we direct our first efforts, to which population and what focus point for action? Clearly, services must be adapted to the realities specific to each neighbourhood and each ethnocultural group, which first requires a detailed local understanding. Studies like this one facilitate better planning of public health actions. The findings also suggest that more needs to be learned about reporters in neighbourhoods with low concentrations of visible minorities. We have found that living in a neighbourhood with a high concentration of people of the same ethnocultural minority protects children of that minority from being reported. Is this evidence of services better adapted to families in those neighbourhoods, of less discrimination or cultural misunderstanding, or of greater mistrust of child protective services? As we said earlier, the report stage is crucial because it is the entry point to the CPS system. Ensuring that vigilant lay people and professionals report to the authorities only truly worrisome situations, but also all such situations, is essential to protect the health and development of a vulnerable population: children.

In terms of modelling, the objective of this study was to explore the relative contribution of neighbourhood characteristics to child maltreatment report rates by ethnocultural group. To this end, geographically weighted regression is better than the overall model

and is an effective way to highlight local variations in rates of reported children. Yet due to the model’s sensitivity to multicollinearity and to the correlation between the local regression coefficients, Wheeler and Tiefelsdorf suggest using it solely for exploratory, rather than predictive, purposes.⁴¹ It would be interesting to explore other models that consider spatial effects, such as simultaneous autoregressive models, in order to compare their results with those of the GWR model.

CONCLUSION

It has long been established that child maltreatment and reports to authorities have multiple determiners and that the characteristics of the neighbourhood where a child lives are some of the risk factors. However, the neighbourhood variations in reported children and their determinants have been much less studied, especially with regard to children reported by ethnocultural group. Yet considering their demographic weight and their disproportionate involvement in the child protective services system, it is imperative to gain a better understanding of the reality of these children in order to not only take the most effective approach to reduce potential social and systemic inequities, but also improve access to, and the appropriateness of, services intended for them.

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