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Does immigrant residential crowding reflect hidden homelessness?

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Abstract

Compared to the Canadian-born, immigrants are under-represented among Canada's homeless population, when their decline in economic wellbeing is considered alongside their relative absence in homeless shelters. One way to explain this oddity, proposed in both academic and popular literature, is that immigrant communities employ unique avoidance strategies, such as within-group co-residence, to help keep co-ethnics off the streets and out of homeless shelters. In this paper I use the 2001 census of Canada to investigate the extent to which heightened levels of residential crowding might reflect "hidden homelessness." I find mixed evidence to support this link, and, if anything, find some evidence to suggest that the link between residential crowding and hidden homelessness, if one exists, is strongest for the Canadian-born.
Keywords: *immigration, hidden homelessness, residential crowding.*

Résumé

Quand on les compare aux personnes nées au Canada, les immigrants sont sous-représentés parmi les sans-abris, quand le déclin de leur situation financière et leur absence relative dans les foyers pour sans-abris sont considérés. Une explication pour cette curiosité qui est présentée dans la littérature académique et populaire, serait que les communautés immigrantes se servent de stratégies uniques d'évitement, telle que la cohabitation au sein d'un même groupe ethnique, pour aider leurs compatriotes à ne pas finir à la rue, et donc hors des foyers pour sans-abris. Dans cet article, je me sers du Recensement du Canada de 2001 pour étudier à quel point le phénomène de la hausse du surpeuplement résidentiel pourrait refléter cette « itinérance cachée ». Mes résultats quant à ce lien sont partagés, ils indiquent même que le lien entre le surpeuplement résidentiel et l'itinérance cachée, s'il existe, est plus prononcé au sein des personnes nées au Canada.
Mots-clés : *immigration, itinérance cachée, surpeuplement résidentiel.*

Introduction

Canada's homeless population was recently estimated to be somewhere between 200,000 and 300,000 people. In addition to this, roughly another 1.7 million people grapple with housing affordability issues (Laird 2007), many of them are probably also on the brink of homelessness. Although homelessness has long been an issue in Canada, these numbers are dramatically increased from what they were 10–15 years ago, and have led some to describe homelessness in Canada as a condition that is now "chronic" (CBC 2007).

Though the risk of homelessness is present for all Canadians, immigrants have on average been relatively successful in avoiding it (Fiedler et al. 2006). This absence is particularly noteworthy when considered alongside the staggering declines in their economic wellbeing (Heisz et al. 2002; Frenette and Morissette 2003; Picot and Sweetman 2005; Hall and Khan 2008), and suggests that immigrants are employing unique strategies to keep each other off the streets and out of homeless shelters (Chan et al. 2005; Fiedler et al. 2006). These strategies, if they exist, no doubt vary widely, but given that social capital levels within groups are often high (D'Addario et al. 2007), one possibility is that the foreign-born provide temporary or longer-term accommodations to downtrodden same-group members. This provides would-be homeless group members with one additional place to turn before ending up on the streets.

As the name implies, however, "hidden homelessness" is difficult to measure. At its core, it refers to people who are homeless but have not yet resorted to the shelter system (the "abjectly homeless"), though they are at high risk of ending up there—or, even worse, on the streets. To avoid this worst-case scenario, individuals or families rely on the generosity of their social support networks. Without the help of friends and family, chances are that we could count many of these people among the abjectly homeless.

Given the difficulties associated with identifying hidden homelessness alongside its importance as a policy issue, the primary purpose of this paper is to study the extent to which residential crowding, defined as more than one person per room, is a potential indicator. The motivation for looking at crowding is that several studies have found that when the hidden homeless move in with another family, they not only increase the density of people, they also lead current inhabitants to consider their dwellings to be "overcrowded" with the addition of these new members (Vacha and Marin 1993; Mattu 2002; Netto et al. 2004; Chan et al. 2005).

Since no data sets directly collect the necessary information on hidden homelessness (there are no variables in any data set that ask why each individual lives in the dwelling they do), it is difficult to understand the reasons behind a household's residential arrangements. Part of my intention in this paper is to underscore how ill-equipped current data sets are for measuring hidden homelessness. I will also argue that quantitative data would is essential for answering certain questions—like, for example, how many hidden homeless people there actually are in Canada.

I use the confidential census master files to identify whether more than one person per room—a fairly popular definition of residential crowding (Choi 1993; Myers et al. 1996)[1]—might be used as an indicator of hidden homelessness. I use logistic regression techniques to determine whether there is any evidence to support the notion that residential crowding helps to locate the estimated 4/5 of all homeless people in Canada who are not abjectly homeless.[2] Since immigrant groups are an interesting case study, particularly in a period of pronounced economic deterioration, they form the primary focus here, although the Canadian-born population is included as a comparison group. For each visible minority group (Black, Chinese, Filipino, South Asian, or White immigrants and

1. This definition is also often referred to as the American Crowding Index, since it is the definition used by the US Census Bureau. The actual American Crowding Index is slightly different, however, in that it imposes an upper limit on its definition of crowding, and considers dwellings to be "overcrowded" if they contain more than 1.5 persons per room.
2. This estimate of the number of hidden homeless people in Canada comes from the non-profit organization Raising the Roof. Their website (www.raisingtheroof.org) contains much useful information on homelessness and hidden homelessness.

the Canadian-born), I test a series of factors as determinants of residential crowding, and make comparisons between immigrant groups and the Canadian-born population, hypothesizing that if immigrant groups are posting high levels of hidden homelessness, they should be more likely than the Canadian-born to exhibit residential crowding after the introduction of controls.

The primary conclusion of this paper is that residential crowding (at least, as measured here) is not a consistent indicator of hidden homelessness. Most of the hypothesized factors behind hidden homelessness, such as the number of census families and the number of related non-census family residents, are in most cases weaker predictors of residential crowding for immigrant groups than they are for the Canadian-born (under conditions of hidden homeless as an immigrant strategy, we would expect to see the opposite). I find evidence that the number of unrelated census family members predicts crowding for some immigrant populations, but even this is not true for all groups. This does not necessarily suggest that residential crowding does not reflect hidden homelessness, but that there are many explanations besides hidden homelessness for residential crowding. Foremost among these is that the term is subjective and culturally specific, and that it is difficult to impose a universal definition on heterogeneous populations.

Since there is little research linking residential crowding to hidden homelessness, I proceed below by first reviewing the relevant literature on the determinants of residential crowding, moving then to assert that there is good reason to believe that crowding might reflect hidden homelessness. Next, I discuss the study methodology, and present descriptive and logistic regression results. I conclude by discussing the relevance of residential crowding for identifying hidden homelessness, and stressing the need for better data on the household living arrangements of immigrants and the Canadian-born.

Residential crowding and hidden homelessness: A literature review

Most research models a household's dwelling characteristics as a function of its needs and constraints, implying that there is an optimal relationship (subject to budget constraints) between a household's residents and its characteristics (size, value, tenure, crowding characteristics, etc.). If we accept this to be true, then we can conceive of a "housing career" that individuals will follow across their life course (Foote et al. 1960; Mulder and Wagner 1998). This housing career reflects the social, economic, and demographic characteristics of its residents, and it should therefore be possible to link a household's characteristics, including its propensity to be crowded, to those of its residents.

As this relates to hidden homelessness, we might expect that households will choose accommodations across their careers that provide enough space for every *planned* resident (children, parents, grandparents, etc.). The voluntarily single will opt for a dwelling that houses one resident comfortably; adults in a relationship will consider the number of children they have or plan to have when they choose their residence; downsizing seniors will choose a dwelling that houses only them, without consideration for future additions. Although there are numerous different potential housing careers, the framework provides a set of characteristics for understanding the relationship between household structure and dwelling type, by connecting residents to their accommodations in a theoretical framework.

Hidden homelessness likely represents an aberration of the housing career—that is, a family would normally choose a dwelling without consideration of having to accept those

who would otherwise be homeless. If this is true, then a dwelling that contains the hidden homeless should be more likely to be crowded than one that is not. This line of reasoning is consistent with the findings of several studies (Stojanovic et al. 1999; Mattu 2002; Chan et al 2005; CMHC 2006; Fiedler et al. 2006; Klodawsky et al. 2007; SMS 2007).

Situating individuals in their housing careers

Many of the strongest factors for predicting where a household is in its career are socio-demographic, and not economic, in nature (Angel and Tienda 1982; Gyourko and Linneman 1993; Myers et al. 1996; Gyourko et al. 1999; Evans et al. 2000; Skaburskis 2004; Van Hook and Glick 2007). That is not to say that economic factors do not matter, but they are often secondary in determining where a household is in its career. Consequently, even if treated extraneously, these characteristics are included whenever investigating housing characteristics. In the paragraphs below, I first discuss these extraneous factors, because once their effects are parceled out, we can begin to look at possible linkages between crowding and hidden homelessness.

Age

Several US studies have found that young households are more likely to be crowded than older ones (Myers et al. 1996; Van Hook and Glick 2007). Part of the reason for this is that, in addition to being cash-strapped, younger households are earlier along in their housing careers, so they are more likely to have small children, who do not require as much space as adults or older children. Parents might put more than one child in a bedroom, thereby increasing the propensity for their dwelling to be identified as crowded.

Table 1. Age of Person 1 and per cent crowded, 2001 Canada.

Age	Crowded
Under 25	7.0%
25-39	8.6%
40-54	5.2%
55-69	2.6%
70 and over	1.5%

Source: 2001 Census of Canada.

Trends for Canada in Table 1 appear to follow those found in US studies, and they also follow the expectations derived from the housing career framework discussed above. Very young households may not yet have children, so it is not until Person 1 is aged 25–39 that they experience the highest risk of crowding. For all successive age groups, there is a steady decrease in crowding propensities. The differences are quite striking, with households where Person 1 is 25–39 being over 5 times more likely to be crowded than those where Person 1 is 70 or older.[3]

3. Person 1 is defined by Statistics Canada as the primary household maintainer. They are the person who contributes the greatest amount towards the payment for shelter expenses. In cases where these amounts are shared equally, it is the first person listed on the census questionnaire.

Duration

As shown above, age is central for establishing where a family is in its housing career. For immigrants, however, it is necessary to adjust for the amount of time in the host country. Some of the highest rates of crowding, at least in the United States, are found among recent immigrants (Myers and Lee 1996). Of households that arrived in the United States in the 1980s, Myers et al. report that over one-third were crowded. Similarly high rates could be found for those who arrived in the 1970s, and the incidence of crowding was markedly lower only for those who arrived before 1970 (Myers et al. 1996). Although this points to the importance of duration, the sharp differences between pre- and post-1970s arrivals suggest that, at least for the United States, there are additional factors, such as economic and cultural characteristics, that complicate a straightforward relationship between household density and crowding.

Table 2. Duration and per cent crowded, 2001 Canada.

Years since migration	Crowding
Less than 5 yrs	31.6%
5–9 yrs	26.1%
10–14 yrs	20.0%
15+ years	5.2%
Canadian-Born	3.7%

Source: 2001 Census of Canada.

In Canada, there is some evidence of this, as well (Table 2). Although there are declines across all duration categories, immigrants that have been in Canada for 15+ years have crowding rates that are one-quarter of the rate for the next-closest group (10–14 years), and are in fact very close to the rate for the Canadian-born. This points to a non-linear relationship between duration and crowding, and suggests that an adequate control for duration should include a quadratic term.

Crowding and poverty

Several studies have shown that lower-income households exhibit higher densities than do those with higher incomes (Gillis et al. 1986; Baldassare 1995; Myers and Lee 1996). Poor households have more difficulties affording appropriate housing, so they may not be able to actualize their housing careers fully. Since smaller dwellings tend to be more affordable, it follows that households living in poverty will have higher crowding propensities.

In Canada, one of the best indicators of poverty is the low-income cutoff (LICO) (Statistics Canada 1999). Designed by Statistics Canada, LICO reflects the income level at which a family may face hardship because it must spend a greater portion of its income on the basics (food, clothing, and shelter) than it "should." The LICO threshold varies by family size and size of community, and is generally considered to be an accurate indicator of poverty.

Table 3. Poverty and per cent crowded, 2001 Canada.

Lico	Crowded
No	4.4%
Yes	11.4%

Source: 2001 Census of Canada.

As shown in Table 3, households that are below the low-income cut-off are nearly three times as likely to be crowded, illustrating how finances affect the actualization of housing careers.

Crowding and Dwelling Characteristics

Related to the LICO, other characteristics of a dwelling also reflect crowding (Rodgers 1982). Presumably, it is not the dwelling itself that imposes crowding on its inhabitants, but instead it is the economic characteristics of the residents that reflects dwelling constraints. Economic factors, of which tenure, need for repair, and value reflect, are therefore expected to bear positively on the propensity for crowding, because they signify a lack of resources to move freely through the housing career. Table 4 below presents these data.

Table 4. Dwelling characteristics and per cent crowded, 2001 Canada.

Tenure of Dwelling	Crowded
Rented	12.4%
Owned	2.8%
Dwelling requires major repairs	
No	4.8%
Yes	10.4%
Value of Dwelling (owned only)	
Below Median in CMA	8.4%
At or Above Median in CMA	2.4%

Source: 2001 Census of Canada.

Table 4 illustrates that each of these characteristics bears the expected relationship to crowding. First, owned dwellings are about 1/5 as likely to be crowded as rented quarters. Second, houses which require major repairs (i.e., they have defective plumbing or electrical wiring, require structural repairs to walls, floors or ceilings, etc.) are also more than twice as likely to be crowded. Finally, houses that are below the median value in the census metropolitan area (CMA) are nearly four times as likely to be crowded.

Crowding and employment characteristics

Other factors outside of the housing career that might be relevant predictors of crowding are the employment characteristics of a household's residents. Table 5 below lists four such factors.

Table 5. Relationship between crowding and the number of people that are unemployed, self-employed, employed fulltime, and in school, 2001 Canada.

	# unemployed	# self-employed	# employed f/t	# in school
0	4.7%	5.4%	4.4%	4.3%
1	8.6%	4.4%	5.9%	6.5%
2	15.5%	5.1%	4.5%	8.4%
3	25.0%	--	7.5%	15.7%
4	50.0%	--	14.8%	24.4%
5	--	--	23.1%	--
6	--	--	50.0%	--

Source: 2001 Census of Canada.
Note: Due to confidentiality concerns, Statistics Canada's RDC regulations require suppression of cells with small counts. Two dashes denote these cells in the table above.

For three of the four characteristics (# unemployed, # employed full-time, # in school), crowding propensities increase markedly, but there is no discernible pattern in the number of self-employed individuals in the dwelling and residential crowding.

Crowding and visible minority status

When it comes to immigrants, one of the most questionable assumptions of the housing career framework discussed above is that there is general agreement about what constitutes an appropriate amount of space per person at each point in the career, even though substantial research suggests that this is not the case. Among various origin groups in the United States, for example, Hispanic and Asian households have the highest incidences of crowding (Kamo 2000). As might be expected, recent immigrants among these groups have the highest crowding rates of all (Choi 1993; Myers et al. 1996), but even native-born members of these groups have higher than average density levels (Myers and Lee 1996). Similarly, in Canada crowding rates differ dramatically across groups, even after controlling for demographic, economic, and socio-cultural information (Haan n.d.).

Table 6. Visible minority and immigrant status and per cent crowded, 2001 Canada.

Immigrant Group	Crowding
Chinese	16.3%
South Asian	26.1%
Black	17.5%
Filipino	28.1%
White	4.0%
Other Visible Minority	24.3%
Canadian-Born	3.5%

Source: 2001 Census of Canada.

Table 6 above illustrates these differences. Using a combination of visible minority status (an admittedly crude indicator of ethnicity)[4] and immigrant status to delineate groups, all non-white immigrant groups have much higher crowding levels than either the Canadian-born or white immigrants.

Although there has been widespread speculation about whether these patterns are cultural or economic in origin (for a recent entry in this debate, see Van Hook and Glick 2007), there is little consensus on the topic. Researchers are unable to determine why households are crowded, but can only conclude that there appear to be significant deviations from the housing career framework presented earlier. But what exactly does this mean? Do members of different groups have different definitions of personal space? Do immigrants crowd to gain access to otherwise unobtainable benefits? Alternatively, do they crowd as a response to adversity experienced by same-group members? What exactly does residential crowding (defined here as more than one person per room) represent? I discuss several possibilities below.

Crowding to access otherwise unobtainable benefits

Although a useful analytical framework, the notion of a housing career is an "ideal-type," and arguably one that is Eurocentric. It is possible, for example, that immigrants have more voracious "housing appetites" relative to the Canadian-born, and that they make sacrifices, such as crowding their dwelling, so that they can afford to buy a home (Skaburskis 1996). Similarly, households could crowd to save money for other investments, such as education, business opportunities, or repatriating funds to family members in other countries. In each instance, crowding represents anticipated benefits in the present and/or future, and ones that deviate from the expectations of the housing career. Higher household densities may be beneficial because they provide household members with opportunities that would otherwise be unavailable.

Crowding as a strategy to avoid homelessness

Another possible explanation for residential crowding, briefly mentioned above, implies that the crowding has little to do with housing careers or opportunities for advancement. It may instead stem from hardships experienced by an individual or individuals that the family cares enough about to lend assistance.

If, for example, an individual loses his or her accommodations (perhaps due to economic, marital dissolution, or mental health issues), it is quite possible that other family members would help this individual by taking them in to their own home, either for the short or longer term, because they want to keep them off the streets and out of homeless shelters. The incentives for a family to help a downtrodden member are likely to vary, but could include compassion, embarrassment, reciprocity, or obligation. Whatever the motivation, residential crowding connects to hidden homelessness in that the downtrodden individual may end up on the streets were it not for the assistance they have received.

4. Using *visible minority* instead of *ethnicity* to denote likeness is always a thorny issue. My decision here stems from my impression of residential crowding as a condition that is to some extent imposed upon groups. Consequently, it is the perception of homogeneity by the general population that is of interest here, and this might be best measured with visible minority. This is not meant to deny the diversity that exists within at least some of these groups, but instead to capture the perceptions of homogeneity.

This would probably not have been anticipated when these family members chose their dwelling (according to where they were in their housing career), so it follows that the household's crowding propensity increases when its new resident or residents arrive.

Although they are most likely to operate within families, there could be similar processes at work in some of Canada's more tightly knit immigrant groups. If this is true, then several new characteristics will predict crowding. These factors would not be part of a nuclear family's housing career, but would instead relate to the broader household structure. That is to say, the primary census family structure was likely known when the dwelling was chosen but subsequent additions may not have been, resulting in higher rates of residential crowding.

Table 7. Household structure and per cent crowded, 2001 Canada.

Household Structure	Crowding
1 Hus-wife kids/no kids only	6.8%
Hwkids + relative	11.8%
Hwkids + non-relative	15.8%
Hwkids + lone parent	27.0%
Other Household Types	4.3%

Source: 2001 Census of Canada.

Table 7 supports this assertion quite strongly. In dwellings where there is only 1 husband-wife combination (including common-law couples, and those with or without children), only 6.8 per cent of all dwellings have more than one person per room. Compare this to other living arrangements, where there is more than one census family per dwelling, and the differences become clear. Where an additional relative also lives with the primary family, crowding rates nearly double; where a non-relative is present, the rates are even higher. Most striking is the rate for an additional lone parent, where the probability of being crowded is four times higher than it is for a basic nuclear family.

These trends are consistent with what we would expect to see under conditions where residential crowding reflects hidden homelessness. It appears as though the addition of non-census persons is not as well-anticipated, resulting in higher rates of crowding. Further to this, if crowding is used primarily by immigrants to protect same-group members, as suggested by several researchers (Mattu 2002; Fiedler et al. 2006; D'Addario et al. 2007), then there will be a more direct connection to crowding among immigrant groups than the Canadian-born. Drawing on this line of reasoning, I hypothesize that (1) The presence and number of non-primary census family members in a dwelling will predict higher levels of crowding; and (2) The relationship will be stronger for immigrant groups than it is for the Canadian-born.

Although the primary focus of this paper is immigrants, including the Canadian-born in the second hypothesis above is critical. It is difficult in the absence of a comparison group to breathe meaning into any relationship between residential crowding and its predictors. The primary purpose of this paper is to identify whether a relationship appears to exist between hidden homelessness and residential crowding, and if this is more evident for immigrants than the Canadian-born, so for this reason immigrants must necessarily be compared to the Canadian-born.

In the section below, I discuss the data, sample, and analytical technique for testing these hypotheses.

Data

This paper uses the 2001 Census of Canada confidential master file (recently made available across Canada in the Statistics Canada Research Data Centres), that contains a 20 per cent sample of the Canadian population (everyone completing the long-form questionnaire). In addition to being a larger sample than is available in the public-access files, the master file contains much more information than what is available in the public-use version, allowing for a fuller analysis of social and economic issues.

For this paper, the analytical sample includes both immigrants and the Canadian-born,[5] one individual per household (Person 1 on the census record), currently living in a Census Metropolitan Area and between the ages of 25 and 65. To be included in the sample the individual listed as Person 1 needed to be a member of a census family (i.e., not an unattached individual), and in all cases there must be more than one person in a dwelling.[6] Only one person per dwelling was chosen to prevent the occurrence of correlated errors between same-household members. Other sample configurations (the highest earner, the oldest individual, etc.) were experimented with, but yielded largely similar results.

The sample is further divided into visible minority and immigrant status groups, yielding Black, Chinese, Filipino, South Asian, White, and Other Immigrants, and the Canadian-born. The first six groups contain immigrants only, whereas the final group has only non-aboriginal Canadian-born respondents.

Variables

The discussion above details several of the characteristics that determine crowding. In addition to these are a series of other characteristics commonly used in housing studies, including life-cycle characteristics, socioeconomic variables, and immigration characteristics, shown in Tables 1–7 above. Not mentioned are knowledge of English or French and indicators for CMA of residence, and geographic location. Language fluency is often used in housing research to proxy a household's ability to navigate the Canadian real estate market, and given that built environments differ greatly across Census Metropolitan Areas, there might also be differences in crowding propensities across regions (Kutty 1998).

The dependent variable in all models is whether a dwelling is crowded or not. A dwelling is crowded when there is more than one person per room.[7] Table 8 presents the coding information for all of the variables.

5. Including the Canadian-born provides a benchmark to compare immigrants to, and allows for a determination of the extent to which variations are an "immigrant effect" versus other factors.
6. This was a difficult choice to make since, as one reviewer pointed out, it over-estimates the situation of crowding. Since my focus was on the connection between crowding and hidden homelessness (rather than the incidence of crowding), I felt that one-person dwellings were an irrelevant portion of the sample, hence my exclusion.
7. Where a room is defined by Statistics Canada. Partially divided L-shaped rooms are considered to be separate rooms if they are considered as such by the respondent (e.g., L-shaped dining-room and living-room arrangements). Not counted as rooms are bathrooms, halls, vestibules, and rooms used solely for business purposes.

Table 8. Variable coding information.

Variable	Variable Name	Coding Details
Age	age	continuous
No High School		Reference Group
High School	highsch	dichotomous, 1=yes
Post-Secondary Other	postsec	dichotomous, 1=yes
University Degree	udegree	dichotomous, 1=yes
Years Since Migration	ysm	dichotomous, 1=yes
YSM-Squared	ysm2	dichotomous, 1=yes
Speaks English/French	engfre	continuous
Calgary	calgary	dichotomous, 1=yes
Edmonton	edmonton	dichotomous, 1=yes
Montreal	montreal	dichotomous, 1=yes
Ottawa/Hull	ottawahull	dichotomous, 1=yes
Toronto		Reference Group
Vancouver	vancouver	dichotomous, 1=yes
Winnipeg	winnipeg	dichotomous, 1=yes
Other CMA	othcma	dichotomous, 1=yes
Household is in Poverty	lico	dichotomous, 1=yes
Household Income (logged)	loghinc	continuous
Value of Dwelling (logged)	logvalue	continuous
Dwelling Requires Major Repairs	majrepair	continuous
Dwelling is Owned	owner	continuous
# Husband-wife with/without kids	nhwkids	continuous
# Tenants related to census family	nrelcfam	continuous
# Tenants not related to census family	nnotrcfam	continuous
# Lone parents	nlonepar	continuous
# Unemployed	nunemp	continuous
# Self-Employed	nsemp	continuous
# Fulltime workers	nfulltime	continuous
# in School	ninschool	continuous

Analytical technique

Since the outcome of interest is a variable that codes a dwelling as either crowded (1) or not crowded (0), logistic regression is used to estimate the probability of the occurrence of an event. Explanatory variables help increase the ability of these models to predict the binary outcome, and allow for a test of the two hypotheses:

1. The presence and number of non-primary census family members in a dwelling will predict higher levels of crowding;

2. The *relationship* will be stronger for immigrant groups than it is for the Canadian-born.

For each of the seven groups I estimate a separate but identical regression model. The concordance between the coefficients of these models and the expectations outlined in the hypotheses allow us to determine the extent to which residential crowding points to hidden homelessness. There are advantages and disadvantages with doing this instead

of estimating one overarching model. On the plus side, coefficients are not constrained to be equal across groups. The downside is that it is difficult to compare the significance of the difference between coefficients of different models. Of particular interest in the results that follow are the coefficients for the number of non-census family members, and their ability to predict crowding. I will focus on comparing the coefficients between immigrant visible minority groups and the Canadian-born. Although doing this will not point directly to hidden homelessness, it will allow me to assess whether these variables are stronger predictors for immigrant groups than they are for the Canadian-born, thereby reflecting the notion that immigrants are more likely to use crowding to avoid abject homelessness.

Since one of the major factors behind statistical significance is sample size, I standardize the size of each immigrant/visible minority group to 10,000 households. By doing this, the possibility of identifying differences across groups that stem purely from sample size is reduced.[8] This has been done in other instances by researchers like Richard Alba and John Logan, particularly in instances where groups of different size are compared to one another (Alba and Logan 1991, 1992).

Results

Table 9 shows multivariate results to help determine whether the patterns above persist with the introduction of controls, making it possible to assess the two hypotheses with these models.

Turning first to the age of Person 1, there are only significant effects for four of the seven groups, with slight reductions in the propensity to be crowded with each increasing year. Education produces mixed results, with only university education conferring a significant reduction in crowding propensities for most groups. This is particularly true for the Canadian-born, where university degree holders are roughly half as likely to be crowded than those without high school diplomas.

As expected, duration in Canada negatively predicts crowding propensities. Each of the groups experience attenuation over time, and the quadratic term is not significant for any groups but South Asians and Whites. Language fluency is not statistically significant for any group.

Turning now to Census Metropolitan Area of residence, there are several wide gaps for immigrants in the propensity to crowd. Relative to the Toronto reference group, most groups are less likely to be crowded in other cities. Perhaps the most interesting result is the groups for which there are only small differences across cities. For the Whites and the Chinese, only Montreal and other CMAs are significantly different from the reference group; for the Canadian-born, there are no significant differences between CMAs whatsoever, even though others have found that city differences matter in other contexts (Bunting et al. 2004; Skaburskis 2004).

Although income negatively relates to crowding for all groups but Blacks and Other Immigrants, living in poverty does not elicit a standalone effect. Presumably, this is because the income sufficiently captures the effect of economic resources. In every instance, more expensive homes are less likely to be crowded, as are those in need of major repair for every group but the Whites and the Canadian-born.

8. Though not eliminated completely. It is not only overall sample size that matters for significance, but also cell size that is important.

Table 9. Logistic regression results for predicting the residential crowding.

Variable	Blacks	Chinese	Filipino	South Asian	Whites	Other Imm.	Can. Born
age	0.993 *	0.987 ***	1.002	0.995	0.994	0.988 ***	0.970 ***
highsch	0.884	0.903	1.362 *	0.969	0.710	0.918	0.685
postsec	0.781 **	0.893	1.053	0.893	0.762	0.887	0.702 *
udegree	0.701 **	0.762 **	0.943	0.780 **	0.652 *	0.759 **	0.493 **
ysm	0.961 **	0.963 ***	0.956 ***	0.897 ***	0.930 ***	0.964 **	
ysm2	1.000	1.000	1.000	1.001 ***	1.001 *	1.000	
engfre	1.311	0.898	1.002	0.971	1.294	1.175	
calgary	0.482 **	0.578 ***	0.514 ***	0.609 **	0.611	0.508 ***	0.435
edmonton	0.447 **	0.986	0.649 **	0.493 ***	0.480	0.466 ***	0.916
montreal	0.520 ***	0.639 **	0.780 *	0.701 **	0.497 ***	0.589 ***	0.670
ottawahull	0.594 ***	1.092	0.602 *	0.555 **	0.519	0.532 ***	0.835
vancouver	0.904	0.883	0.858 *	0.608 ***	1.027	0.815 *	0.660
winnipeg	0.722	0.642	0.841	0.632	0.737	0.629 *	1.137
othcma	0.439 ***	0.654 ***	0.446 ***	0.480 ***	0.498 ***	0.455 ***	0.819
lico	1.196	0.961	0.927	1.159	1.208	1.149	0.900
loghinc	0.909	0.861 ***	0.837 **	0.839 **	0.766 **	0.922	0.809 *
logvalue	0.835 **	0.753 ***	0.791 ***	0.853 ***	0.920 *	0.791 ***	0.933 *
majrepair	1.276 *	1.608 ***	1.353 ***	1.261 *	1.038	1.299 **	1.353
owner	1.345	4.465 ***	2.543 *	0.777	0.304 **	3.195 *	0.453 *
nhwkids	2.742 ***	2.048 ***	2.313 ***	2.305 ***	2.492 ***	2.332 ***	2.713 ***
nrelcfam	2.619 ***	1.781 ***	1.886 ***	2.005 ***	2.080 ***	2.151 ***	2.232 ***
nnotrcfam	2.219 ***	1.767 ***	2.346 ***	2.434 ***	3.439 ***	2.518 ***	2.249 ***
nlonepar	2.324 ***	1.922 ***	2.163 ***	2.095 ***	2.206 ***	2.115 ***	2.615 ***
nunemp	1.002	1.027	0.948	1.056	1.381 *	1.026	1.322 *
nsemp	0.809	0.978	0.921	0.927	0.646 **	0.953	0.771
nfulltime	0.904 *	1.051	0.932 *	0.948	1.035	0.942	1.068
ninschool	1.002	0.869 ***	0.866 ***	0.905 **	1.006	0.905 **	0.888
Pseudo R2	0.334	0.218	0.265	0.352	0.360	0.263	0.328

Source: 2001 Census of Canada.

* p<0.05 ** p<0.01 *** p<0.001

Note: Each set of results were generated from a within-group random sample of 10,000 observations. Standardizing sample size across groups reduces the prevalence of differences in significant results across groups that stem from sample size alone.

Looking at the effect of housing tenure, here lie some of the most fascinating and striking differences between the groups. For Blacks and South Asians, there is no difference between tenure types, whereas for the Whites and the Canadian-born, owned dwellings are less likely to be crowded. For Chinese, Filipino, and Other Immigrants, however, owned dwellings are *more* likely to be crowded than are rented dwellings. The most dramatic example of this is for the Chinese, where an owned dwelling is over 4 times more likely to be crowded, suggesting that some immigrants may use crowding to pool resources to afford to own the dwelling they live in.

Moving to economic characteristics, the number of *unemployed* individuals only seems to matter for the Whites and the Canadian-born, the *self-employed* category significantly predicts crowding for Whites, and *fulltime earners* is only a negative factor for Blacks and Filipinos. The number of people in school has a negative effect on crowding for Chinese, Filipinos, South Asians, and Other Immigrants, suggesting that these people may be boarders that help fund the purchase of larger homes.

Perhaps the strongest and most consistent predictors of crowding are the census family characteristic variables. In every instance, an increase in the number of census families, regardless of type, yields higher crowding propensities, as predicted by hypothesis 1. There are wide differences across groups, however, with some (Chinese, Other Immigrants, and the Canadian-born) experiencing more-or-less equal increases across family types, while others show that the type of family matters tremendously. An example of this is White Immigrants, where an increased number of individuals not in the census family greatly increases the likelihood that the household will be crowded.

As mentioned above, if immigrants were crowding their houses to prevent same-group homelessness, the coefficients for all of the immigrant groups would be higher than they are for the Canadian-born (Hypothesis 2). We could expect, for example, that the relationship between crowding and the number of lone-parent census families (or any other family type) to be stronger for Chinese households than for the Canadian-born. In most cases, however, the opposite is true; the relationship is almost always strongest for the Canadian-born.

This statement requires some qualification. First, the coefficients for both the number of husband-wife-with-kids and the number of individuals that are related to Person 1 are higher for Blacks than they are for the Canadian-born. Second, the relationship between the number of unrelated individuals and crowding is stronger for most immigrant groups (all but the Blacks) than it is for the Canadian-born. This finding does indeed support the notion that crowding reflects hidden homelessness among several groups, but that it occurs among people who are not related to the primary census family.

To measure model fit, Pseudo-R^2 values for each group are shown at the bottom of Table 9, revealing wide differences in the ability of the models to explain residential crowding. Of all groups, the fit is best for Blacks, Whites, and South Asians, and worst for Chinese, Filipinos, and Other Immigrants. The differences across the groups are quite striking, particularly considering that each model uses identical variables.

Discussion and conclusion: Does residential crowding reflect hidden homelessness?

As argued earlier, one of the difficulties with identifying hidden homelessness is a lack of appropriate data. There are no direct measures of hidden homelessness (i.e., there is no information on couch surfing, periodic homelessness, etc.), so researchers must be creative in their attempts to identify hidden homelessness. In this paper, I assessed the ability of residential crowding (defined as more than one person per room) to be a potential indicator of hidden homelessness. Since the census (or any other data set) contains no information on the reasons a person lives in the dwelling they are in, it is only possible to assess whether the coefficients in a statistical model are consistent with what we would expect in the presence of hidden homelessness.

There is mixed support, at best, for the two hypotheses, suggesting that the relationship between crowding and hidden homelessness, if it exists, is anything but clear. Most of the household composition characteristics that were hypothesized to reflect hidden homelessness were in fact strongest for the Canadian-born, suggesting that if anyone is crowding to avoid hidden homelessness, it is the Canadian-born.

One noteworthy exception exists: for most immigrant groups, there is a stronger relationship between crowding and the number of unrelated individuals in the house. If

we believe that it is these people that would be most likely to lean on their same-group members to avoid homelessness, then there is some evidence to suggest that crowding reflects certain types of hidden homelessness. For the Whites, this is particularly true; for each additional non-census family person in the household, the probability of crowding more than triples.

To fully know that crowding is a manifestation of hidden homelessness would of course require an assessment of the census family structure and the economic characteristics of those who are homeless within each group. It would also require us to identify whether there is a cultural component to household structure. In addition to the qualitative work already done in this regard (Chan et al. 2005; Fiedler et al. 2006; D'Addario et al. 2007), data that are geared to measuring the reasons a person lives where they do would be most helpful. Until these data exist, the connection between crowding and hidden homelessness is rather unconvincing, even though it appears in the literature from time to time.

There are several policy implications that flow from this research, though at this point it seems necessary to first focus on developing policies and practices centered on improving knowledge gathering and dissemination. There is little empirical research in Canada that focuses directly on hidden homelessness, particularly with identifying the causes. This probably reflects the difficulty associated with its inquiry more than it does the seriousness of the topic. Many individuals in Canada probably avoid abject homelessness because they have friends, family, or same-group members that are willing to help them in their time of need. The main hurdle with studying the prevalence of this phenomenon is therefore not acknowledging its existence, but rather obtaining suitable data to identify the factors. If we believe Raising the Roof's estimates, then four out of five homeless people do not live on the streets. If this is the case, then homeless censuses (which most major metropolitan areas conduct) miss much of the problem. Better data are necessary to help researchers and policymakers understand more about the problem of hidden homelessness.

Related to this, creating a common vocabulary is also of critical importance. There does not appear to be a concrete definition of hidden homelessness, and when considered alongside the lack of suitable data, makes research in this area even more difficult. When is a person part of the hidden homeless population? Is it only confined to short-term residence? Must they be unable to afford to pay rent? Must they live with non-relatives? Should there be age cut-offs when identifying hidden homelessness, or can anyone be part of this population, regardless of age?

Once these questions are answered, then a new, more directly policy-relevant set will emerge, such as: Is hidden homelessness different from other forms of homelessness? Can there be a greater reliance on social support networks to address an occurrence of hidden homelessness? What is the federal government's responsibility in rectifying situations of hidden homelessness? For immigrants, is this unavoidable—a part of settling in to Canadian society? Does this vary by country of origin or class of entry?

What is also centrally important in this research is to identify what exactly *residential crowding* actually means, whether it is defined as more than one person per room or any other way. Research that describes dwellings as either *crowded* or *overcrowded* should not necessarily conclude that hidden homelessness is responsible for this state. Just as residential crowding does not necessarily reflect hidden homelessness, hidden homelessness does not necessarily produce crowded dwellings. This makes identifying the hidden homeless even more difficult, and identifying positive more solutions even more challenging.

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