Family instability and the diffusion of cohabitation

David Pelletier
Département de démographie, Université de Montréal

Abstract

While research shows that cohabiting couples are less stable than married ones, there are important transnational differences regarding the size of the marriage/cohabitation stability gap. We make use of Canada's enormous union behaviour heterogeneity to explore a hypothesis stating that the more cohabitation spread within a group, the more stable cohabiting unions become. We analyze discrete-time hazards of parental separation for children born to cohabiting or married parents in 1983-2008 using a cross-classified multilevel model with two kinds of contextual units: geographical and cultural. We use individual-level data from the National Longitudinal Survey of Children and Youth and contextual-level data from national censuses. Our results suggest that cohabiting families are indeed more stable when cohabitation is more common but the stability gap might not narrow linearly with cohabitation's diffusion. Finally, as the diffusion of cohabitation accounts for about half of the contextual-level variance, other explanatory processes must also be investigated.

The conclusions of recent studies on family instability are clear: Children born to cohabiting parents have higher odds of family disruption than those born to married parents (e.g. Manning et al., 2004; Marcil-Gratton et al., 2000). There is however evidence suggesting international or subnational variations of this instability gap between marriage and cohabitation (Liefbroer and Dourleijn, 2006; Le Bourdais and Lapierre-Adamcyk, 2004). As cohabiting unions in which children are born become the focus of increasing scholarly attention, we must investigate and try to explain these variations.

One important factor that has been pointed out as a possible explanation of inter-regional variations of the marriage/cohabitation stability gap is the level of diffusion of cohabitation within a society. Several authors have reported that cohabiting unions, with or without children, seem more stable in countries or regions where cohabitation is more common, i.e. where cohabiting unions have become more *normal* in the family landscape. This is what might be called the diffusion-brings-stability or the normativity hypothesis for cohabiting unions.

Cohabitation can indeed hold various social meaning and functions in different national or subnational settings. Villeneuve-Gokalp (1991), Kiernan (2001), and Heuveline and Timberlake (2004) define various profiles, types, or stages of cohabitation. In those stages, cohabitation progress from an alternative to singlehood or a prelude to marriage

to being indistinguishable from marriage in a given society. At each step, cohabitation leaves some of its marginality behind to become increasingly normative and less selective; cohabiting couples and their children resemble gradually more to their married counterparts, including on matters related to union stability.

Even if the normativity hypothesis makes theoretical sense in relation to research on the diffusion of cohabitation, it has not yet been empirically tested in formal way. This hypothesis emerged from works that usually compare only two geographic units; classic cases of which include Quebec vs. the rest of Canada (e.g. Le Bourdais et al., 2000) and the former East Germany vs. the former West Germany (e.g. Schnor, 2014). Precisely because of these extremely limited sample sizes, the studies that generated the insight cannot actually be considered proper tests of the diffusion-brings-stability hypothesis. Indeed, the popularity of cohabitation in the studied regions might only be one of an array of factors explaining the observed differences. And most of these factors have probably less to do with geographical frontiers than with *culture* or *history*, defined in some broad fashion (Laplante, 2006). Still, comparisons are made at a regional level without any sort of model assessment at the cultural level.

Moreover, the comparison of only two regions necessarily leads to the conclusion that the relationship between the diffusion level of cohabitation and the stability of cohabiting unions is linear. But as Liefbroer and Dourleijn (2006) illustrated it, the link between both phenomena might be much more complex. Taking a more integrated and direct approach to the question, these authors used data from 16 European countries at different stages in the diffusion of cohabitation and looked at the gap between rates of separation among cohabiting and married couples. They found that the relationship could be appropriately described with a U-shaped curve, where the stability gap between union forms is minimal when 50% of couples cohabit but maximal when either 0% or 100% of couples do.

In the present study, we intend to provide a comprehensive test of the association between the diffusion of cohabitation and union stability by applying multilevel models to multiple *contexts* within Canada. More precisely, we take the point of view of children born to married or cohabiting parents during the 1980's, 1990's and 2000's and explore the way hazards of parental separation are linked to the proportion of children born to cohabiting parents across contextual units defined by a combination of space, time, and cultural affiliation. We expect that rising normativity will be associated with declining hazards of cohabiting families dissolution but not with that of married families. We also expect that the diffusion of cohabitation will account for the major part of the cross-contexts variation in hazards of separation.

Context

To explore the normativity hypothesis, we make use of the important internal heterogeneity of the Canadian population. On the ethnocultural side, Canada's is home to various indigenous populations, two large populations descending from the French and British settlers established from the 16^{th} century onwards, and to numerous European and non-European immigrant populations that arrived en masse mostly from the end of the 19^{th} century. Using mother tongue to illustrate this diversity, one finds that English is the language of the majority of Canadians (58%), with Francophones representing a large minority (22%). The remaining 20% speak various other languages and are often called "Allophones" in the Canadian context (Statistics Canada, 2009).

The members of the two main linguistic groups are not spread out uniformly: Francophones form a clear majority (80%) in the province of Quebec and a very small minority in other provinces (between 0.5% and 4%), except in New Brunswick (33%). The distinctiveness of the francophone province is apparent in many domains of society and family regime isn't the least among them. It is already well known that Quebecois couples are choosing cohabitation over marriage in disproportionate numbers compared to other Canadian (or North American) couples when forming a first union (e.g. Lapierre-Adamcyk et al., 1999). In addition, these cohabiting couples have more children than their counterparts in the rest of Canada (ROC). While Quebec and the ROC had the same low level of non-marital fertility in 1980 (13%), the following decades saw a very rapid increase in Quebec and by 1995, half of children were born outside of marriage in that province. The same year, only 24% of newborns were in the same situation in other provinces (ISQ, 2011; Statistics Canada, 2011). In 2010, 63% of children born in Quebec had unmarried parents, but unlike their American counterparts, a vast majority of them lived with biological cohabiting parents, not single mothers.

The difference between Quebec and the rest of Canada is not only a matter of proportion; it is also one of meaning. Married or not, Quebecois are for instance much more likely than Ontarians to think that marriage is not an important prerequisite for happiness (Lapierre-Adamcyk et al., 1999). Again in contrast to Ontarians (and Americans), health disparities between married and cohabiting couples are smaller or even non-existent in Quebec (Laplante and Flick, 2010). Because of these differences, Canadian family researchers usually consider Quebec and the rest of Canada to be at different stages in the diffusion of cohabitation (Dumas and Bélanger, 1996; Le Bourdais and Lapierre-Adamcyk, 2004). Despite these differences, children born to cohabiting parents in Quebec have, as elsewhere, higher odds of family disruption than those born within marriage. However, the gap between the two family forms is narrower in Quebec than in the ROC (Le Bourdais et al., 2000).

Even if the cohabitation dichotomy between Quebec and the rest of Canada has been extensively studied, few efforts have been made until recently (e.g. Pelletier, 2011;

Laplante, 2014) to go beyond province-level differences and look at infra-provincial distinctions and commonalities. As it is clearly inappropriate to talk about cohabitation in Canada as if it was a homogenous phenomenon, it might also be inappropriate to treat Quebec or the rest of Canada as two distinct but homogenous entities. For instance, Duchesne (2004) showed that Quebec's 59% out-of-wedlock births in 2003 were not uniformly distributed on its territory; the proportion actually ranged from 37% to 86% amongst its sixteen administrative regions. One can only wonder about the level of heterogeneity that would be found using even smaller geographic units... This is exactly what we aim to do by exploring further the enormous internal heterogeneity of Canada and by trying to uncover more subtle geographic, temporal, and cultural patterns of union (in)stability.

Method

Data

To conduct our analysis, we combine information from several nationally representative datasets produced by Statistics Canada. Our main source of data is the National Longitudinal Survey of Children and Youth (NLSCY), an accelerated-design panel survey started in 1994-1995 and ended in 2008-2009. On the first of its eight waves, the sample of the NLSCY comprised nearly 23,000 children aged 0 to 11. Every two years thereafter, the successive waves of the NLSCY continued to follow most children belonging to this original cohort but also added new cohorts of children in an effort to keep the sample representative of Canadian youths, both cross-sectionally and longitudinally. The total number of children included at least once in the survey exceeds 68,000 and together cover the cohorts of Canadian children born between 1983 and 2008.

All the information necessary to build an individual-level discrete-time survival analysis of union stability is taken from the NLSCY. We first identified parents' union type at the birth of each child as well as the child's age (in months) at which occurred, if it ever did, the first parental separation. Other characteristics relative to children (birth rank, sex, etc.) and their parents (age, education level, etc.) were also computed from the NLSCY. Because of data problems that occurred during the third and fourth waves surrounding specifically the family questionnaire, we had to restrict our sample to children that entered the longitudinal survey in the first, fifth, sixth, seventh and eighth waves, i.e. for cohorts born from 1983 to 1995 and from 2001 to 2008.

As we want to inquire about differences between children born to married or cohabiting parents, we excluded children born to women not in a coresidential union and children that were adopted or who lived in a foster family at some point during their childhood. The few children (less than 5%) for whom variables couldn't be constructed or safely imputed where also excluded from the analytical sample. This sample comprises around 30,000 children, with almost a quarter born to cohabiting parents.

To enrich the NLSCY's data, we gathered contextual-level information from five national censuses – 1991, 1996, 2001, 2006, and 2011. Using a large sample (20% of households) from each census, we calculated, for various subgroups or "contexts", the proportion of children aged 0 who were living with cohabiting parents as a proxy for the proportion of children born to cohabiting parents. By interpolating these proportions between the quinquennial censuses but within the subgroups, we were able to construct contextual-level variables that vary annually for the duration of the NLSCY, i.e. from 1994 to 2009. These are the main explanatory variables we use to explain the cross-contexts family dissolution rate differences between children born to married and cohabiting parents.

Contextual-level units

We define two kinds of contextual-level units with the aim of achieving a finer representation of the environment within which children and their families live. The first set of contextual units is of a geographical nature. Federal electoral districts are used as proxy to delineate the space in which most of children's and parents' daily activities take place. Electoral districts are an almost ideal geographic unit for multilevel analyses: They cover the whole country, have similar population sizes, are quite stable through time, are numerous enough (presently 308) to compute contextual-level variance in the model, and yet have population large enough to calculated stable proportion of children living with cohabiting parents through out the analytical period. Moreover, electoral results can be associated with them to serve as contextual-level variables.

The second set of contextual units is not spatial but cultural. We define various cultural groups by crossing children's mother tongue and religion [1]. These groups serve as proxies for the cultural environment families live in. Categories contrast groups with different normative union-related behaviours acquired in part through a common history and set of values, but chiefly through shared contact and communication, including mainstream or ethnic media. Cultural groups so defined are not constrained by electoral districts' or provincial borders and span the whole country. Our main contextual-level explanatory variable, the proportion of children living with cohabiting parents, is computed separately for both kinds of contextual units.

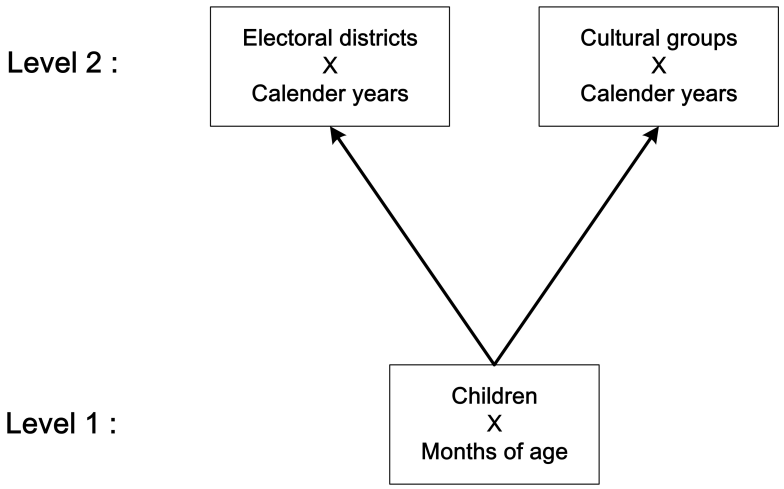
Cross-classified multilevel discrete-time survival analysis

We build a survival model to account for the temporal nature of our dependent variable,

1. Mother tongue categories include, but are not limited to, English, French, Italian, Spanish, Greek, Arabic, Tagalog and Chinese. Some religion categories are: Catholics, United Church, Anglicans, Lutherans, Muslims, Sikhs, etc. Note that visible minority groups, a pseudo-official ethnic classification commonly used in Canadian social statistics, could also have been used to delineated cultural groups, but their definition changed significantly from the 1991 to the 1996 census which makes time series comparisons difficult. Moreover, this information was only collected in the NLSCY starting from the second wave of the survey.

child's age at parental separation, and for the censoring that stems from various sources – survey design, child or parent's death, survey attrition, entry into adulthood or simply event non-occurrence. Because age at separation is observed only in months, we chose a discrete-time logistic model rather than the more popular continuous-time Cox model to analyze the data. The dataset has thus been modified from a child to a child-month structure; each month a child was at risk of parental separation is represented by a different child-month observation in the data. The choice of a discrete-time logistic model is reinforce by the fact that we needed to take into account the contextual nature of our main explanatory variables. Indeed, logistic regression models can easily be adapted to a multilevel framework, which is not the case for Cox models.

FIGURE 1 – Hierarchy diagram of the cross-classified multilevel discrete-time survival model



Finally, because we defined two kinds of contextual-level units that cannot be nested within each other, we opted for a variant of multilevel models in which higher order units are not hierarchically nested but coexist at the same conceptual level, the so-called cross-classified multilevel model. Our complete model can thus be described as a cross-classified multilevel discrete-time survival model, a simplified version of which is represented at Figure 1. This cross-classification allows us to meaningfully decompose the variation of family dissolution rates. Note that to account for the time-varying nature of the information associated with the above-defined contexts, both of our sets of contextual units are more accurately described as context-year units. Simply put, the combination of electoral districts and years (from 1994 to 2009) constitutes a first set of contextual units – electoral-districts-years –, while the combination of cultural groups and years constitutes the second set – cultural-groups-years. Each month a specific child contributes to the risk set of the discrete-time survival model is thus simultaneously nested within one electoral-district-year and one cultural-group-year, both kinds of units

being second-level units. From month to month a same child can belong to different electoral-districts-years and cultural-groups-years following migrations or changes in self-declared cultural identity.

The analysis will take place in two steps. The first one, a (unilevel) descriptive survival analysis, will present survival functions of parental unions according to union type at birth, birth cohort, and group membership. In a second step, full multilevel models will be built separately for children born to married or cohabiting parents. The focus of these models will be on the relationship between family dissolution rates and contextual-level proportions of children living with cohabiting parents. Particular attention will be paid to the partition of the dissolution rates variance into its child and contextual-level portions and to the proportion of this variance that can be explained by the variables included in the model.

Preliminary Findings

Even if our model building is still incomplete at this time, our preliminary results are very encouraging. Figures 2 to 4 present model-predicted survivor functions for parental unions according to union type and proportion of children born to cohabiting parents in a geographically defined set of contextual units [2]. The survivor functions from Figure 2 confirm that, as it is the case almost everywhere in the western world, cohabiting unions in Canada are of shorter duration than marriages.

When we control for the proportion of children 0 year-old living in cohabitation (Figure 3), the predicted survivor functions become more interesting. For children born to married parents, the probability of parental separation does not seem to be greatly affected by variations in the normative context of cohabitation. And the little impact there is is not linear; marriages seem more stable when 30% of children are born to cohabiting parents than when 0% or 60% are [3]. On the contrary, for children born to cohabiting parents the association is large and linear: the more frequent cohabitation is in a specific context, the more stable cohabiting unions are. The counterbalancing effect of this relationship is such that the overall separation rate – marriage and cohabitation combined – is not much influenced by the diffusion of cohabitation (Figure 4). We expect these relationships to stand after individual controls are added to multilevel models.

Beyond the significant impact of the proportion of children living in cohabitation on separation rates, the final multilevel model will also tell how much of the total between-contexts variance is explained by this variable. This information is important in its

2. Our analysis being still in progress, contextual units in these preliminary figures are defined as provinces-years rather than as electoral-districts-years as they will be in the final models.

3. The 0% and 60% thresholds where chosen because they are close to the observed minimum and maximum of the variable's empirical distribution. 30% is of course the middle ground between these two extremes.

FIGURE 2 – Model-predicted survivor functions of parental unions according to union type at child's birth

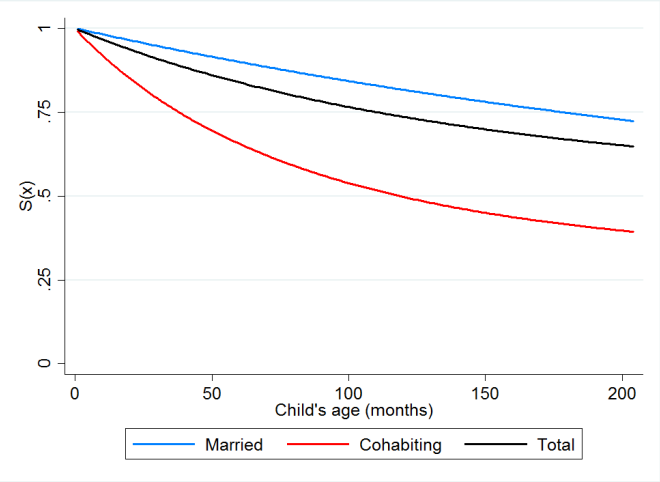
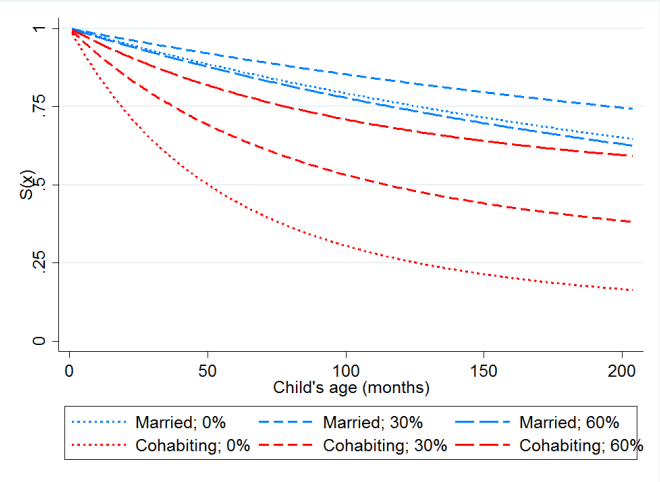
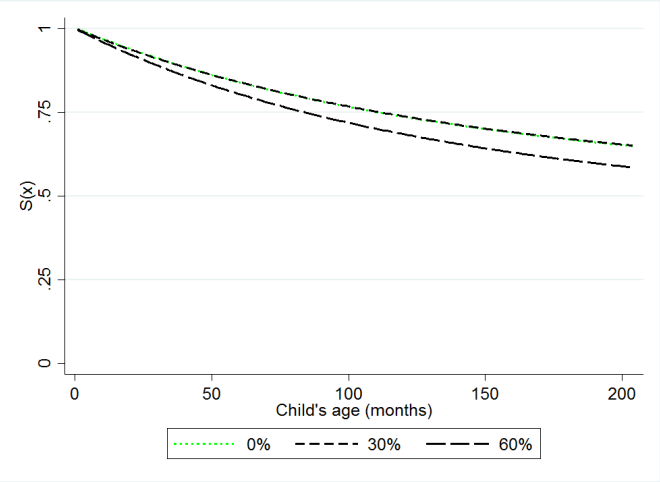


FIGURE 3 – Model-predicted survivor functions of parental unions according to union type at child's birth and proportion of children born to cohabiting parents in the province-year unit of residence



own right because even a significant relationship might explain only a small fraction of this variance and be of little explanatory importance. Preliminary results from multilevel models [not shown] suggest that the diffusion of cohabitation in a society accounts for about half of the between-context variation. Cohabitation's diffusion is thus a very powerful explanatory factor, but it is not the only one. There is still need for complementary contextual-level factors in the models, as well as in the theory. Our exploration

FIGURE 4 – Model-predicted survivor functions of parental unions according to the proportion of children born to cohabiting parents in the province-year unit of residence



of these other factors will start with, but will not be limited to, the modelling of electoral results – as a proxy for prevailing values in the various electoral districts – and employment statistics.

Because Quebec is such an outlier in the Canadian family landscape, it could have been feared that the model would not fit this province as well as the others. Once again our preliminary model suggests that this is not the case. Contextual-level residuals for level-2 units corresponding to Quebec are as small or even smaller than those of other provinces once the proportion of children living with cohabiting parents is added to the model. This is another important conclusion regarding the generalizability of our results to the population of the whole country.

Discussion

Our preliminary findings confirm the validity of the normativity hypothesis, with cohabiting unions being a lot more stable in contexts where cohabitation has diffused extensively. Meanwhile, results regarding the stability of marriage indicate that the evolution of the marriage/cohabitation stability gap might not be so linear. The functional from of the relationship seems however very far from the almost-too-perfect U-shaped curve identified by Liefbroer and Dourleijn (2006).

Another interesting finding is the counterbalancing impact that more cohabitation and less cohabitation instability have on the overall rates of union instability. This comes as a powerful argument against some scholars' fear that the diffusion of cohabi-

tation in a society might endanger the institution of family as a whole. To be certain, these preliminary findings warrant the more detailed analysis and the finer explanatory perspective that our complete multilevel model will allow.

With this study, we aim to expose the instability of family instability, i.e. we want to explore the way family dissolution rates changes over time, place, and cultural context. Canada is an especially well suited setting for this endeavour as it encompasses two main linguistic groups, several minority groups and huge regional disparities that can be compared using a single national dataset. Making use of information characterizing two analytical levels, our contribution links the literature on cohabitation diffusion within a society to that on individual family instability in order to better understand the role of context on individual behaviour.

References

Duchesne, L. (2004). "La diffusion des naissances hors mariage, 1950-2003" in *La situation démographique au Québec. Bilan 2004*. Québec: Institut de la statistique du Québec.

Dumas, J., & Bélanger, A. (1997). *Les unions libres au Canada à la fin du XX^{e} siècle*. Catalogue number: 91-209-XIF. Ottawa: Statistics Canada.

Heuveline, P., & Timberlake, J. M. (2004). The role of cohabitation in family formation: The United States in comparative perspective. *Journal of Marriage and Family*, *66*(5), 1214-1230.

Institut de la statistique du Québec. 2011. *Naissances selon l'état matrimonial des parents, Québec, 1951-2010*. On line: www.stat.gouv.qc.ca/donstat/societe/demographie/

Kiernan, K. (2001). Cohabitation in Western Europe: Trends, issues and implications. In A. Booth & A. C. Crouter (Eds.), *Just living together. Implications of cohabitation on families, children, and social policy*. Mahwah, NJ: Erlbaum. Pp. 3-31.

Lapierre-Adamcyk, É., Le Bourdais, C., & Marcil-Gratton, N. (1999). Vivre en couple pour la première fois : la signification du choix de l'union libre au Québec et en Ontario. *Cahiers québécois de démographie*, *28*(1-2), 199-227.

Laplante, B. (2006). The rise of cohabitation in Quebec: Power of religion and power over religion. *Canadian Journal of Sociology*, *31*(1), 1-24.

Laplante, B. (2014). Normative groups: The rise of the formation of the first union through cohabitation in Quebec, a comparative approach. *Population Research and Policy Review*, *33*(2), 257-285.

Laplante, B., & Flick, C. (2010). Le mariage, l'union de fait et la santé des conjoints au Québec et en Ontario. *Cahiers québécois de démographie*, *39*(1), 1-26.

Le Bourdais, C., & Lapierre-Adamcyk, É. (2004). Changes in conjugal life in Canada: Is cohabitation progressively replacing marriage? *Journal of Marriage and Family*, *66*(4), 929-942.

Le Bourdais, C., Neill, G., & Marcil-Gratton, N. (2000). L'effet du type d'union sur la stabilité des familles dites "intactes". *Recherches sociographiques*, *41*(1), 53-74.

Liefbroer, A. C., & Dourleijn, E. (2006). Unmarried cohabitation and union stability: Testing the role of diffusion using data from 16 European countries. *Demography*, *43*(2), 203-221.

Manning, W. D., Smock, P. J., & Majumdar, D. (2004). The relative stability of cohabiting and marital unions for children. *Population Research and Policy Review*, *23*(2), 135-159.

Marcil-Gratton, N., Le Bourdais, C., & Lapierre-Adamcyk, É. (2000). The implications of parents' conjugal histories for children. *ISUMA: Canadian Journal of Policy research*, *1*(2), 32-40.

Pelletier, D. (2012). Accéder au meilleur quartier possible : types de famille et ségrégation résidentielle croisée à Montréal. *Cahiers québécois de démographie*, *41*(2), 257-298.

Schnor, C. (2014). The effect of union status at first childbirth on union stability: Evidence from Eastern and Western Germany. *European journal of population*, *30*(2), 129-160.

Statistics Canada. 2009. "Population by mother tongue and age groups, 2006 counts, for Canada, provinces and territories - 20% sample data" in *Language highlight tables, 2006 census*. Catalogue number: 97-555-XWE2006002. Ottawa: Statistics Canada.

Statistics Canada. 2011. *Table 102-4506: Live births, by marital status of mother, Canada, provinces and territories, annual*. Canadian vital statistics, birth database. On line.

Villeneuve-Gokalp, C. (1991). From marriage to informal union: Recent changes in the behaviour of French couples. *Population: An English Selection*, *3*: 81-111.