

# The Realisation of Fertility Intentions among Canadian Women Using Longitudinal Linked Data and a Life Course Approach

As in most high-income countries, fertility in Canada has remained below replacement level for several decades and declined further since 2008. In 2024, the total fertility rate (TFR) had fallen to 1.25. Such low fertility levels have heightened interest in fertility intentions and their realisation. Recent research indicates that Canadian women's child-number fertility intentions, which had hovered around two children since 1990, have declined markedly since 2011: the average stood at 1.92 in 2017 and dropped to 1.62 by 2021 (Laplante & Blouin, under review).

In this paper, we draw on a unique set of longitudinal data to examine the realisation of fertility intentions among Canadian women.

## Background

Recent scholarship addresses the realisation of fertility intentions within the context of persistently low fertility rate. Spéder and Bálint (2024) show that macro-level factors—economic stability, family policies, and cultural norms—significantly influence outcomes, with supportive institutions increasing the likelihood of achieving intended births. Badolato, Hayford, and Guzzo (2025) reveal that uncertainty in fertility intentions, including ambiguity and fluctuating intensity, often reflects lasting ambivalence among younger adults. Badolato (2025) also highlights a persistent gap between fertility desires and intentions, particularly among highly educated women and racial minorities. Carlsson (2023) finds that immigrants in Norway and Sweden face structural barriers limiting intention realisation. Finally, Brzozowska and Beaujouan (2021) critique the Generations and Gender Survey for methodological inconsistencies, advocating for improved longitudinal tools.

Notably, longitudinal studies reveal that a significant share of births occur at unexpected times, and some are explicitly unwanted. Around half of those who intend to have children do not do so within six years, while some who express no desire for children end up having them (Régnier-Loilier & Sebille, 2017). Social context also plays a crucial role. Rossier and Bernardi (2009) show that social networks and normative pressures can lead to unintended pregnancies, especially when support for contraception is lacking. Comparative research confirms that revisions and reversals of intentions are common across countries. Even among those who initially did not plan to have children, births still occur, highlighting the complexity of reproductive decision-making (Kapitány, Spéder & Festy, 2012).

## Method

The General Social Survey (GSS) on the family, conducted periodically by Statistics Canada since 1990, is the main source of information on fertility intentions in Canada. This survey is cross-sectional and uses a different sample each time. By itself, it does not allow study of fertility intentions' realisation. However, the Statistics Canada group responsible for the GSS commissioned a linkage between data from the 2011 survey and administrative data—the T1 Family File—for 2012 to 2017 and then up to 2020. These linked data make it possible to identify the year a new child was added to the family, while also providing annual information on income and the woman's conjugal status and occupation. We use this linked data to study the realisation of fertility intentions measured by the 2011 GSS.

In addition to descriptive tables, we use piecewise Poisson regression with occurrence of birth each year as the dependent variable to estimate the yearly variation of the hazard of a birth and the variation of this hazard over age, modelled as a quadratic function, with a focus of the variation of the effect of age across education levels.

## Results

Table 1 reports the distribution of women according to the number of children they reported in 2011 and, within each parity group, the proportion of women who intended to have at least one more child over their life course and the proportion of women who did not. The eight cells in the two leftmost columns of the table represent the eight groups in which we study birth occurrence in the years subsequent to the survey (see note 1 of Table 1).

Table 2 reports the cumulative proportion of women who had had a child in 2014 and 2017, according to the number of children reported and their declared intention in 2011 as proportions of women with the specified parity and childbearing intention in 2011. Births to women who intended to have a child mostly occurred within the three years following the measurement of their intention. The proportion is highest among women who had one child and lowest among those who were childless. The proportion is higher among mothers of at least three children than among those with two. Proportions are lower among women who did not intend to have at least one more child, yet they are not negligible. These proportions decrease as the number of children reported in 2011 increases—in 2017, from 14% among childless women to 6% among mothers of at least three children.

Table 3 and 4 enable examining the importance of 'unintended' births relative to 'intended' ones. By 2017, they accounted for 12% of births to childless women, 15% of births to mothers of one child, and—strikingly—60% of births to mothers of two children. The last figure may appear puzzling, given the low proportion of mothers of two who did not intend to have another child yet did so. However, it reflects primarily the very small proportion of mothers of two who had expressed an intention to have another child.

Figure 1 provides a detailed account of the timing of the realisation of intentions following their measurement. Among mothers of one and mothers of two children who intended to have another child, the hazard of birth de-

clines over time and remains higher for mothers of one until approximately seven years after the survey. Among mothers of two, the hazard is lower and shows little variation over time. Among childless women and mothers of one who did not intend to have another child, the hazard remains consistently low, though it increases over time. Among mothers of two, it is consistently low and shows little variation. The small number of mothers with at least children does not permit the analysis of the realisation of their fertility intentions using a statistical model.

Figure 2 presents smoothed age-specific fertility rates by number of children reported in 2011 among women who intended to have another child. Among childless women, the peak of the curve occurs at approximately the same age across educational levels—just before age 35—except for those with the lowest education, for whom it appears around age 30. However, the height of the peak increases with educational attainment. Among mothers of one child, the peak is similar across groups, except for those with secondary education. Its timing shifts later as education increases. The curves for mothers of two children are not bell-shaped; fertility rates decline with age from a maximum located at approximately the same age as the peak for mothers of one. This suggests mothers of two tend to have their third child relatively soon after the second. The small number of births to women who did not intend to have another child does not allow examination of differences across educational levels.

We estimated how selected variables affect birth hazard among women who intended to have a child. Unemployment increases the risk regardless of parity. To have a partner raises the risk for childless women and mothers of two. Poor health lowers the risk for mothers of one or two, but not for childless women. Income effects vary with parity: for childless women, risk peaks in the middle and drops at high income; for mothers of one, it is lowest in the bottom quintiles and highest at the top; for mothers of two, risk is low at low income and nil at very high income.

## Conclusion

This study highlights the complex relationship between stated fertility intentions and subsequent birth behaviour among Canadian women. While intentions are generally predictive of short-term fertility outcomes, their realisation varies significantly by parity, age and conjugal status. Births tend to occur relatively soon after intentions are expressed, particularly among mothers of one child, whereas childless women and mothers of two show more diverse patterns. Unintended births, though less frequent overall, represent a substantial share of births among mothers of two children, underscoring the limitations of relying solely on stated intentions to anticipate fertility trajectories. The timing and intensity of fertility also vary with educational attainment, suggesting that structural factors shape intentions and their realisation. Finally, the influence of other key variables such as employment status and income confirms that fertility decisions are embedded within broader life circumstances. These findings support the need for nuanced approaches to fertility research that account for both individual intentions and contextual constraints.

## References

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**Table 1 Distribution of women according to the number of children they had in 2011 (Parity). Declared intention within each parity in 2011<sup>1</sup>. Women aged 15 to 49 years**

Number of children	Parity	Were intending	Were not intending
None	0.456	0.698	0.302
One child	0.154	0.403	0.597
Two children	0.254	0.082	0.918
At least three children	0.136		

**Table 2 Cumulative proportion of women who had had a child in 2014 and 2017, according to the number of children reported and their declared intention in 2011. Proportion of women with the specified parity and childbearing intention in 2011**

Number of children	Were intending		Were not intending	
	2014	2017	2014	2017
None	0.381	0.423	0.092	0.136
One child	0.740	0.745	0.072	0.091
Two children	0.488	0.502	0.044	0.066
At least three children	0.535	0.535	0.047	0.058

**Table 3 Cumulative proportion of women who had had a child in 2014 and 2017, according to the number of children reported and their intention in 2011. Proportion of all women with the specified parity**

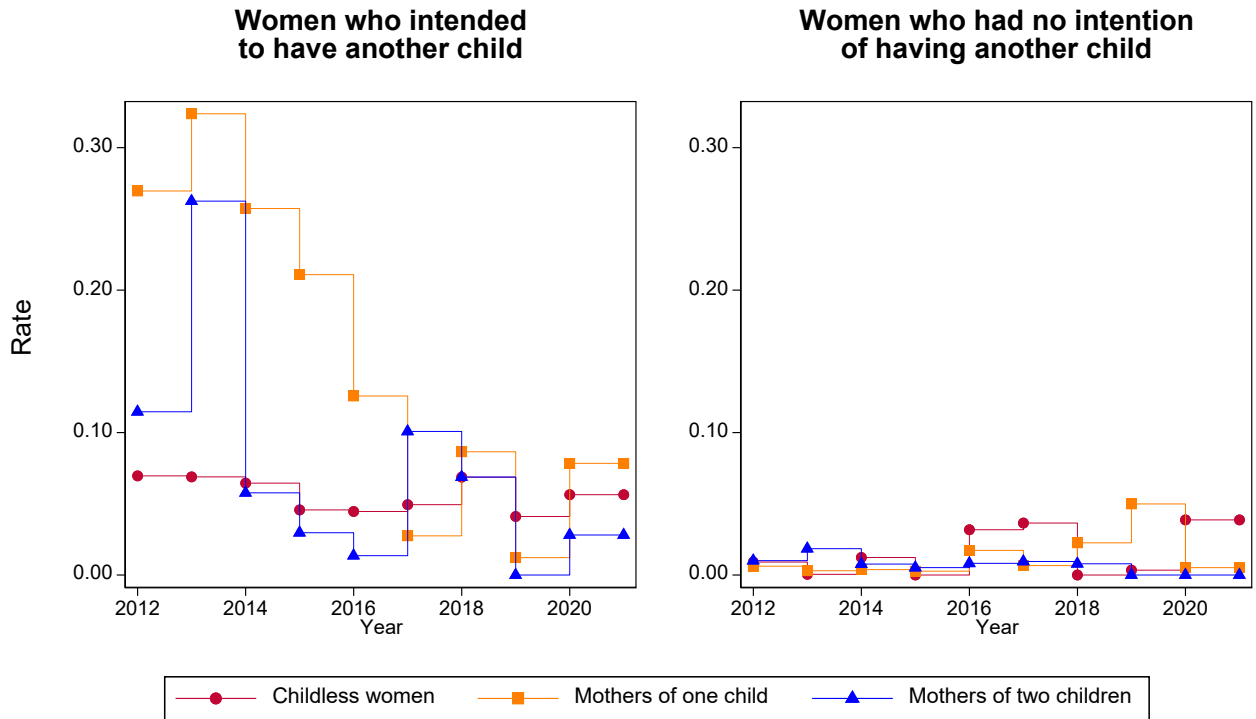
Number of children	Were intending		Were not intending	
	2014	2017	2014	2017
None	0.121	0.135	0.013	0.019
One child	0.046	0.046	0.007	0.008
Two children	0.010	0.010	0.010	0.015
At least three children				

**Table 4 Proportion of cumulative births in 2014 and 2017 that occurred to women who, in 2011, declared no intention to have a child, according to the number of children reported in 2011**

Number of children	2014	2017
None	0.095	0.122
One child	0.126	0.153
Two children	0.502	0.595
At least three children		

<sup>1</sup> We use confidential data that are accessible exclusively within the premises of a secure data laboratory. Statistics Canada enforces stringent confidentiality protocols, which effectively prohibit the dissemination of raw counts and of some proportions. Consequently, our descriptive tables report only proportions. Some proportions are missing for women who had at least three children in 2011; the issue should be resolved before the conference.

**Figure 1 Yearly birth rate according to the intention declared in 2011**



**Figure 2 Smoothed age-specific fertility rate according to the number of children in 2011 among women who intended to have another child in 2011**

