

# Religious and socio-economic determinants of fertility limitation by birth spacing: Results of the Historical Sample of the Netherlands

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## *Introduction*

Frans van Poppel is a towering figure in Dutch and European historical demography. He has made major contributions to our understanding of population developments since the nineteenth century. He is one of the rare demographers that has studied all major types of demographic processes – mortality, fertility, union formation and dissolution, household composition, and migration. I am proud that I, as a fellow researcher at the Netherlands Interdisciplinary Demographic Institute, have had the privilege to collaborate with Frans on a number of articles. I have never encountered someone who had read so widely about any topic, and yet had the amazing ability to combine this vast knowledge with very meticulous quantitative –and sometimes qualitative– research.

In this short essay, I will present some new results on religious and socio-economic differentials in birth spacing among cohorts born between 1850 and 1920 in the Netherlands. I am a bit hesitant to tackle the topic, given Frans's extensive work on the issue (Schellekens and Van Poppel, 2006; Somers and Van Poppel, 2010 and Van Poppel and Roling, 2003) and the excellent study by Van Bavel and Kok (2010). Still, I have several reasons to discuss it nonetheless. First, fertility control is a topic that clearly has Frans's interest. Second, I will use data from the Historical Sample of the Netherlands (HSN). Frans has been involved in the construction and development of the HSN from its inception (and has been a Board Member of the HSN since the start) and has widely used it in his own research. A big advantage of the HSN is its large sample size, which makes it possible to test whether some of the findings from Schellekens and Van Poppel (2006) and Van Bavel and Kok (2010) also hold in a larger dataset. In addition, the data allow a first test whether social differentials in using birth spacing as a fertility limitation mechanism changed over time.

If individuals and couples wanted to limit their fertility in the Netherlands in the nineteenth century, there were basically two ways open to them. First, given the close links between sexual activity and marriage, they could postpone marriage, thus leading to a relatively late age at entry into parenthood. Second, they could try to avoid or postpone births once childbearing had started. Couples who did so, would have longer periods elapsing between subsequent births. An important question relating to the use of birth spacing as a method to limit fertility is whether the use of this method was more widespread among some social groups than among others. Earlier research (cited above) suggests that the use of this method was more widespread among liberal Protestants and Jews than among orthodox Protestants and Roman-Catholics. Results for socio-economic groups were less clear, with Schellekens and Van Poppel (2006) in The Hague finding longer birth intervals for the elite and the petty bourgeoisie than for blue collar workers, whereas Van Bavel and Kok (2010) in a study on the province of Utrecht, the village of Akersloot and the city of Amsterdam report shorter birth intervals for white collar workers than for blue collar ones.

## *Data*

To examine this issue, I use data from the HSN (see Van Poppel et al., 2012 for information on sample selection and measurement of the variables). I have information on all live births to couples. Because of my focus on birth spacing, I only select those birth intervals that end with a live birth. In all, I have information on 23,624 closed birth intervals from 6,051 married couples. I performed a multi-level binary logistic regression analysis, comparing birth intervals of more than two years and nine months to birth intervals of two years and nine months or less. This cut-off implies that I assume that birth intervals in which it takes couples more than two years to have a conception that leads up to a new birth are indicative of conscious efforts of birth limitation. In all, 29.6 per cent of all birth intervals were longer than two years and nine months. I also experimented with other cut-offs. Overall, results were pretty similar. In all models, I controlled for wife's age at previous birth, parity, and birth cohort. In addition, I estimated an individual-level variance term, allowing for a control for unobserved heterogeneity (full results are obtainable from the author on request).

## *Results*

In *figure 1*, I present relative odds ratios of having a birth interval of more than  $2\frac{3}{4}$  year by religious denomination of the couple. Liberal Protestants are taken as the reference category with a relative odds ratio of 1. It turns out that liberal Protestant couples were most likely to postpone a next birth for so long. Catholic couples had an odds ratio to postpone for more than  $2\frac{3}{4}$  year that was only one third of that of the liberal Protestants, and mixed couples and orthodox Protestants also had much lower odds ratios. The odds ratio for Jews was the only one that is not statistically significant different from that of the liberal Protestants. This suggests that birth limitation by extending birth spacing was much more common among liberal Protestant couples than among any other type (with the exception of Jewish couples). In additional analyses (results not shown), it turned out that, overall, the odds that couples had birth intervals of more than  $2\frac{3}{4}$  years increased by birth cohort. However, this increase was much smaller for Catholics, orthodox Protestants and couples with an 'other' religious background, suggesting that liberal Protestants and Jews were not only already more likely to consciously space their birth midway through the 19<sup>th</sup> century, but were also much more likely to increase the use of this method during the demographic transition period under scrutiny.

In *figure 2*, I present the same type of results, but now by socio-economic class. Unskilled workers are the reference category, and have a relative odds ratio of 1. Overall, three different groups can be distinguished. The elite and the middle class (white-collar workers and petty bourgeoisie) had the highest odds ratios and were thus most likely to use birth spacing as a birth limitation strategy. All types of blue-collar workers constituted a middle group, whereas farmers were clearly least likely to have long birth intervals. All socio-economic classes, with the exception of the farmers, became increasingly likely to use birth spacing as a birth control strategy throughout the demographic transition. The farmers were the only socio-economic class that did not change its behaviour in this regard at all across birth cohorts.

Figure 1. Relative odds ratios of having a next birth more than 2¾ years after a previous one, by religious denomination

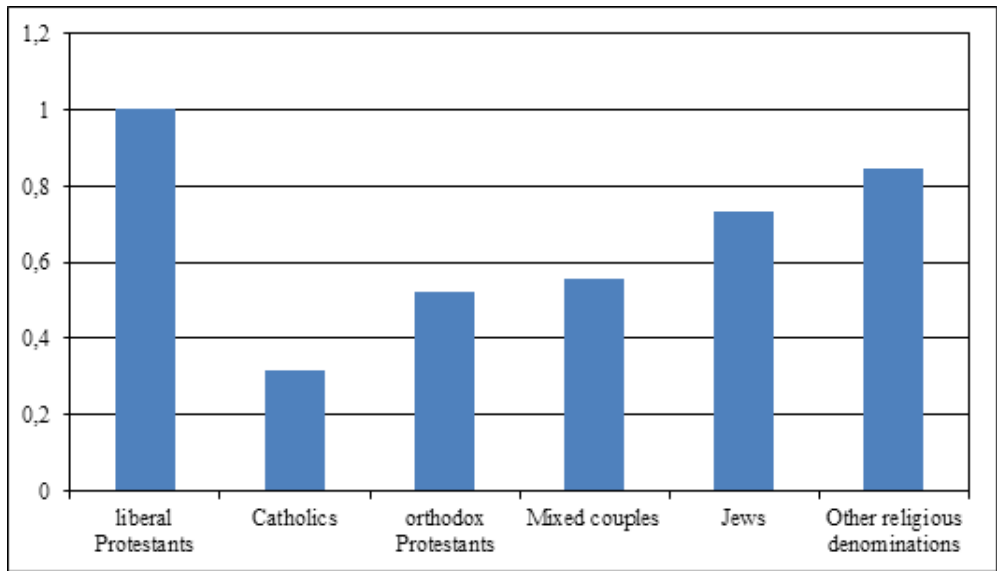
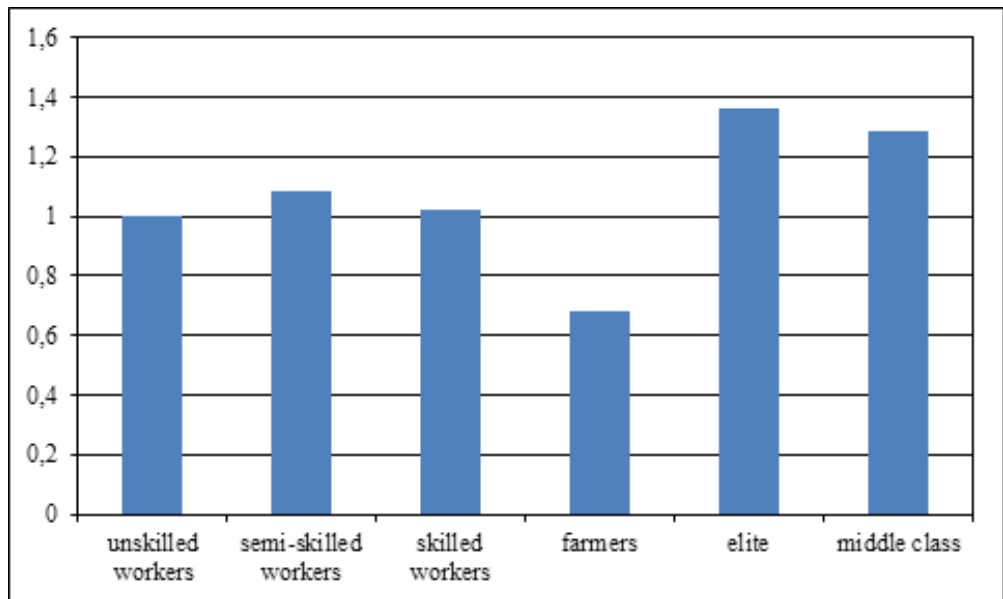


Figure 2. Relative odds ratios of having a next birth more than 2¾ years after a previous one, by socio-economic class



### *Conclusion*

These results confirm the finding of Schellekens and Van Poppel (2006) that 19<sup>th</sup> century Catholics were less likely to use birth spacing as a fertility limitation strategy than Protestants. However, the HSN also allows to distinguish between liberal and orthodox Protestants, and thus allows me to qualify that earlier finding. Liberal Protestants differed in this respect from Catholics and orthodox Protestants behaved very much like Catholics did. These latter two groups were much more reluctant to use birth spacing as a fertility limitation mechanism in the 19<sup>th</sup> century and the most resilient to change. My results also confirm many of the findings of Van Bavel and Kok (2010), again with one important exception. The higher classes were found to be more likely to have long birth intervals, thus suggesting that using birth spacing as a fertility limitation strategy was most common among these social classes. Farmers were clearly least likely to have long birth intervals, and they also were extremely resilient to change.

### *References*

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