



# Geographical variations in the likelihood and timing of having children in Britain

Geographical variations in fertility rates have been noted within several European countries, including Britain. Lower rates of those having children are seen in the centres of large cities, while there are pockets of relatively high fertility in the surrounding peri-urban fringes. Some, but not all, of this variation can be explained by the composition of the population living in particular areas. So what other factors are at play? The research summarised here argues that local variations in fertility rates will influence an individual's fertility behaviour through social learning, resulting in local 'cultures' of fertility. Findings suggest that individual reproductive life paths respond to a variety of social influences: networks of family and friends, local socio-cultural influences and more widely-shared ideas about the spacing between births. These influences vary depending on the number of children a woman already has but tend to reinforce local geographical variations in fertility rates.

## Key Points

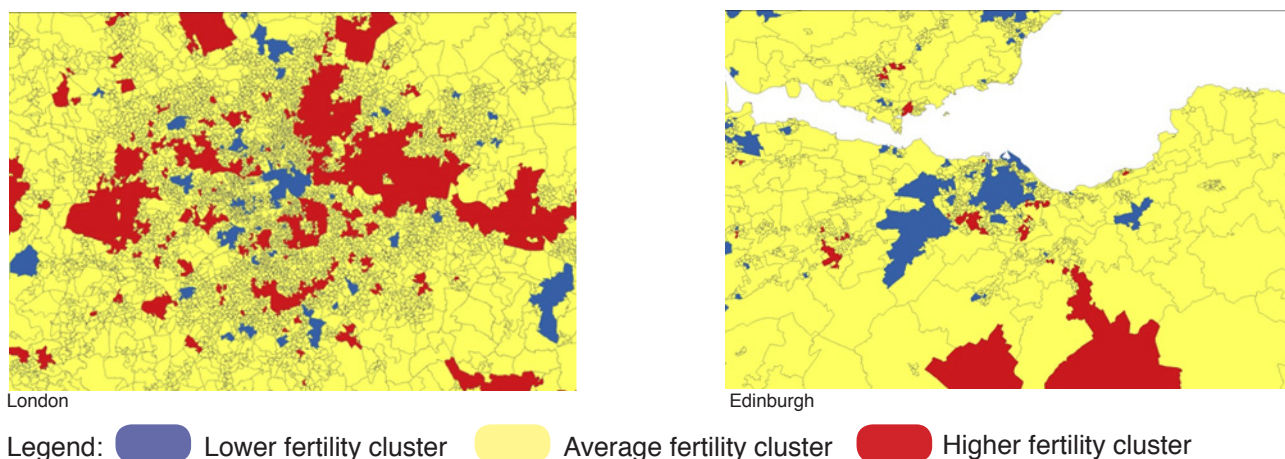
- Local fertility rates are associated with the fertility behaviour of individuals mainly through their influence on a woman's age at the birth of her first child.
- Women living in areas of lower fertility in large cities are more likely to start a family at a later age, whatever their individual socio-economic and housing circumstances.
- The timing of the birth of a second child is not affected by where a woman lives and appears to respond to more widely-shared ideas about birth spacing.
- For the likelihood of having a third child, marked differences are seen across fertility settings, with the highest likelihood in rural areas and the lowest in lower fertility clusters within large urban centres.
- Understanding the role of local 'cultures' in reinforcing geographical variations in fertility adds to the evidence base for local service provision.

## Introduction

The study contributes to the explanation of geographical variations in fertility by examining transitions to first, second and third births for a representative sample of women in Britain. Previous research identified a pattern of sub-

national fertility variation in Britain that is common across several European Countries, while other work demonstrated greater heterogeneity in the timing of births among different population subgroups in Britain compared with some of

Figure 1 – Geographical variations in local fertility contexts: the examples of London and Edinburgh



its European neighbours. Combining these two observations, the current study is explicitly directed towards a closer understanding of the processes underlying spatial variations of fertility. The study hypothesises that the area in which an individual lives (i.e. local fertility context) will influence their perception of normal or desirable fertility behaviour through processes of social learning, resulting in local ‘cultures’ of fertility. To investigate this, a measure of the local fertility context in which a woman lives is developed and then examined to see whether or not this context has a significant influence on the likelihood and timing of having a(nother) child.

**The study**

At a national scale, fertility in Britain remains below generational replacement level despite recent increases. There are, however, marked sub-national variations in fertility levels across England, Wales and Scotland. When these are mapped for small areas, the result is a complex patchwork. To develop a more meaningful local geography of fertility, methods of spatial cluster analysis were applied to locate significant spatial variation in General Fertility Rates observed in 2001 for around 40 thousand small areas. This enabled the identification of clusters of similar values, from which a tripartite classification of local areas was produced: a) lower fertility cluster; b) average fertility cluster; c) higher fertility cluster. Figure 1 shows the spatial distribution of these areas for London and Edinburgh. Although the patterns remain complex, it is possible to see significant clusters of lower fertility in the central cities and pockets of relatively high fertility in the surrounding peri-urban fringes. Not only did these areas have different levels of fertility in 2001 but an analysis of age-specific fertility rates demonstrates that women living in these

areas had different patterns of childbearing across their reproductive lifetimes (Figure 2). While fertility peaked at ages 20-24 for women in higher fertility clusters, the peak was much lower and a decade later for women living in lower fertility clusters. Thus the classification also captures differences in fertility behaviour.



Figure 2: Age-specific fertility rates, by local fertility context

In the second part of the study, the classification of local contexts is linked to individual fertility histories from the British Household Panel Study (1999-2008) to produce longitudinal datasets. The focus is on women aged between 16 and 45 and methods of event-history analysis are used to model the likelihood of conceiving a(nother) child in the period between 1999 and 2008. Transitions to first, second and third births are modelled separately. The models take women’s age into account, and include individual and household characteristics, residential mobility, and social exchanges with family and friends, along with local fertility context.

## Main findings

### *Individual and housing characteristics*

The likelihood of having a first, second, and third child are all significantly associated with the socio-demographic characteristics of women and their partners. A woman's age, marital status and partner's occupation, as well as her position in the labour force, are important predictors. Somewhat unexpectedly, for this study sample, educational attainment is not significantly associated with the likelihood of having a(nother) child.

Geographical variations in the housing stock play a role in explaining variations in fertility. Housing characteristics (tenure, type and size) are significant predictors of the likelihood of a first birth but have only limited influence on subsequent births. Thus housing choices and preferences are more likely to be defined, and eventually fulfilled, around the time of first childbirth.

### *Residential mobility and social exchanges*

Selective residential mobility may also be important, as women with different fertility intentions may move to areas that are more accommodating to their lifestyle choices. Indeed, the study finds that transitions to first, second or third child are all significantly associated with a residential move in the preceding years. However, only first and second births are related to the *expectation* of moving house in the following year, suggesting that many couples who go on to have a third child – if they do move - adjust their location at an earlier stage of family formation.

Family and friends may also influence fertility behaviour through, for example, encouragement to have a(nother) child and offers of help with child care. Alternatively, women may be discouraged from having a child where personal networks of family and friends are mostly child-free. The frequency of women's social exchanges has a significant positive effect on the likelihood of having a first child, but does not impact on the likelihood of having either a second or third child. Thus women who have more frequent face-to-face contact with family and friends are more likely to start a family at an earlier age.

### *Local 'cultures' of fertility*

After accounting for individual and housing characteristics, residential mobility and active social exchanges, are women also influenced by the more passive observation of the childbearing behaviour of

others in the area (i.e. fertility context) in which they live? For example, do women living in relatively high fertility areas before the conception of their first child enter motherhood at an earlier age than those living in relatively low fertility areas? If so, social learning could be reinforcing local 'cultures' of fertility. The findings suggest that the effects of local context are complex and vary according to the number of children a woman already has.

Women living in lower fertility contexts within large cities stand out as having their first child at a later age. Further, the significant influence of local fertility context on the timing of having a first child continues to impact on higher order births through widely-shared birth spacing practices. The birth of a second child, for example, is most likely to take place within three years of the first child's birth, whatever the fertility context in which women live. Nevertheless, local contexts may also be influencing the likelihood of having a third child, as there is a notable gradient across geographical categories, with women in rural areas having the highest likelihood and those in lower fertility clusters within large cities having the lowest likelihood of having a third child.

## Policy implications

The timing and number of births a couple has is associated with a range of individual and housing characteristics, many of which have been examined in previous studies. What this study adds to the evidence base is a demonstration that local fertility contexts can have an additional effect on the likelihood and timing of having a first child and (possibly) a third child. Importantly, local 'cultures' of fertility appear to be reinforcing geographical variations in fertility by perpetuating different fertility behaviours, especially differences in the age at which women enter motherhood.

A better understanding of geographical variations in fertility can help to refine small area population projections and inform planning for the local provision of maternity and education services. To the extent that fertility behaviour tends to be perpetuated within local 'cultures', we can have greater confidence in population estimates based on past fertility levels. However, the findings also suggest that changes in fertility in a local area could spread rapidly as they are reinforced through processes of social learning.

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