




Commentary

The LoCo (Lockdown Cohort)-effect: why the LoCo may have better life prospects than previous and subsequent birth cohorts

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The LoCo (Lockdown Cohort)-effect describes how a sudden compositional change in the sociodemographic characteristics of parents (which are major determinants of health across the life course¹) due to the coronavirus disease 2019 (COVID-19) pandemic^{2–6} may produce important changes in future population health. More specifically, the LoCo-effect outlines the counterintuitive possibility that, despite the potential detrimental impacts of the COVID-19 pandemic,⁷ babies conceived at the start of the pandemic and the following months may have, on average, better life prospects than earlier and even later birth cohorts.

From March 2020 onwards, women had the chance to consider the COVID-19 pandemic in their fertility intentions. It is therefore likely that parental characteristics have suddenly become systematically different to those of previous birth cohorts. Characteristics that may have influenced whether plans for having a baby have been unchanged, postponed, brought forward or abandoned during the COVID-19 pandemic include socioeconomic status, a powerful determinant of health across the life course.¹ For example, while more advantaged groups might have taken the opportunities afforded by working from home and reduced travel to realize or bring forward plans for having a baby, less advantaged groups might have decided to postpone or abandon plans due to more precarious current and anticipated future circumstances. We are not the first to consider the possible heterogeneous effects of this pandemic on fertility intentions.^{2–6} However, we believe the potential consequences of this sudden change in parental characteristics for offspring health and life prospects have not received the attention they deserve.

We have carried out preliminary analyses to explore these proposed compositional changes in Scotland using openly available data from the Scottish Morbidity Record 02 (SMR02) database.⁸ This dataset captures monthly births (until November 2021 at time of writing) by Scottish Index of Multiple Deprivation (SIMD) quintile. [Figure 1](#) shows the proportion of all monthly births by SIMD quintile between January 2018 and November 2021. We can indeed observe a sudden change in the proportion of births in the most and least deprived areas of Scotland after November/December 2020. Specifically, more births took place in the least, and fewer in the most, deprived areas. This occurred in the context of a slight increase in the number of births in Scotland (3897 in August 2020, 3952 in August 2021). Births occurring between March and

November/December 2020 (between the amber lines in [figure 1](#)) were conceived before the start of the COVID-19 pandemic. Therefore, we would not yet expect to see any compositional changes, except through changes in miscarriage, pregnancy terminations, stillbirths and maternal emigration behaviour during pregnancy.

Evidence from other data sources supports these findings. Luppi et al.⁴ collected data from a representative international sample aged 18–34 (Italy, Germany, France, Spain and UK) between late March and early April 2020. Compared to respondents in the 25–34 age group with tertiary education, not having tertiary education was associated with a higher probability of postponing attempts to get pregnant in Germany, France and the UK although there was variation in strength of this association between countries. Respondents aged 25–34 who anticipated a loss in personal income due to the pandemic were also more likely to postpone pregnancy in Spain and abandon plans for having a baby in Italy and the UK.⁴ Thus, the COVID-19 pandemic may have already had a decisive impact on fertility intentions by late March/early April 2020 when the pandemic was in its early stages. Wilde et al.⁵ used data from Google Trends to predict the effect on fertility for states in the USA. Using the frequency of search terms indicative of fertility intentions or pregnancy, they predicted a 13% decline in fertility for women with college or high school diplomas but only a 3.1% decline in women who completed tertiary education.⁵

The LoCo may start life, on average, more socially advantaged than previous birth cohorts (apart from their exposure to the pandemic and lockdowns). However, there is potential for notable shifts in demands on health and educational systems, if there are higher proportions of pregnancies occurring to families from less advantaged backgrounds once the effect of this pandemic on fertility intentions reverses again. Given the arrival of new variants (most recently Omicron), we consider the LoCo-effect to be recurring with varying strength rather than limited to a single specific time period. The scope of its implications will depend on the extent to which the pandemic changes the composition of parents with regards to health determinants balanced against any detrimental effects of being born during a pandemic. For now, the LoCo-effect is still an open question that can only be answered as the children age. Health services, and those seeking to evaluate the longer-term impacts of the pandemic on parents' and children's

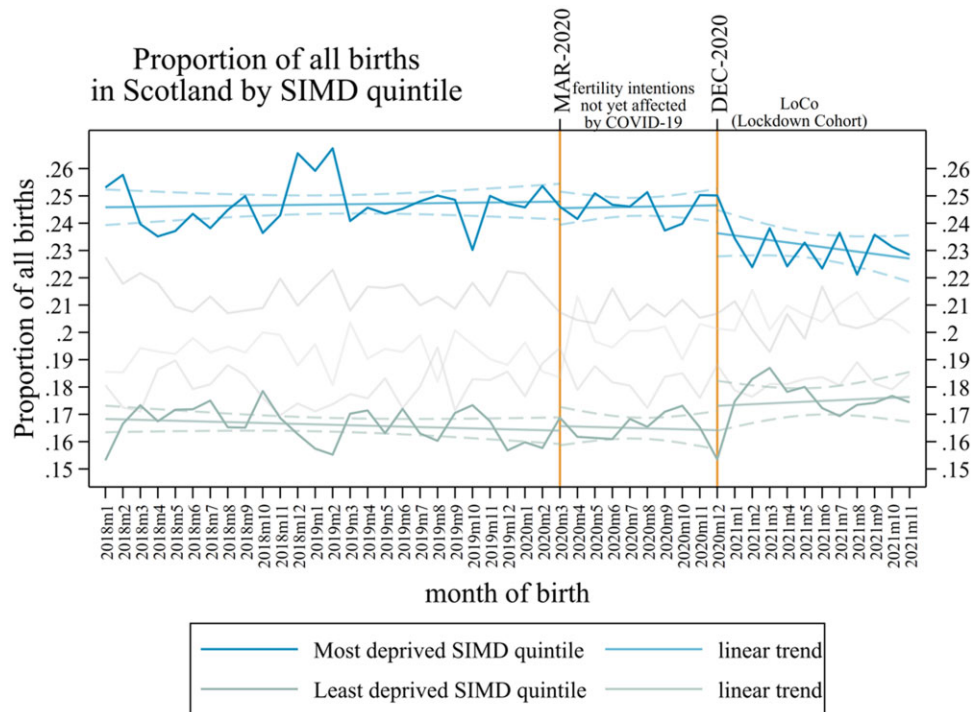


Figure 1 Proportion of monthly births by quintile of SIMD between January 2018 and November 2021. The most and least deprived quintiles are highlighted while quintiles in between are greyed out. Observed values and values estimated by linear regression are presented in solid lines, 95% confidence interval of estimated values is shown by dashed lines. Vertical amber lines separate the three different time periods for which separate time trends were estimated

outcomes, should bear the potential consequences of the LoCo-effect in mind.

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