Deliberate fertility control in late imperial China: Spacing and stopping in the Qing Imperial Lineage

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Abstract

We reexamine the role of fertility control in late imperial China through a re-analysis of population registration data for the Qing (1644-1911) imperial lineage. Our previous results and conclusions have sparked a vigorous and continuing debate over whether and how Chinese couples in the past controlled their fertility. For this analysis, we test a wider variety of hypotheses about patterns that deliberate spacing or stopping would produce and application of more appropriate techniques for event-history analysis. We apply discrete-time event history techniques to examine effects on birth intervals of sex composition and survivorship of previous births, the overall level of infant and child mortality, the socioeconomic characteristics of couples, and other factors. To examine effects of sex composition and survivorship of previous births, we make use of fixed effect models that account for unobserved characteristics of the mother. We will also examine the characteristics of early stoppers.

Background and Significance

In previous analyses of data from late imperial China we found evidence of deliberate fertility control through late starting, spacing, and early stopping in an elite population, the Qing imperial lineage (Wang, Lee and Campbell 1995; Lee and Wang 1999), as well as in a rural population, farmers living in Liaoning province in northeast China (Lee and Campbell 1997; Wang, Lee and Campbell 2004). Fertility patterns reported from most if not all other analyses of late imperial Chinese demographic behavior are consistent with these claims (Lee and Wang 1999). These results and conclusions were among the first published claims of deliberate fertility behavior in a pre-industrial population sustained by quantitative analyses of multiple large datasets.

Since we published these results there have been two developments that suggest the need to return to this issue and reanalyze the data from the Qing imperial lineage. The first is that our claims for China have sparked a vigorous debate in print with advocates of the view that historical China was characterized by uncontrolled fertility. Exchanges have appeared in Population and Development Review (Campbell, Wang, and Lee 2002) and the Journal of Asian Studies (Lee, Campbell, and Wang 2002) as well as in Chinese-language academic journals. The second is that after our results triggered a debate about whether and how Chinese before the twentieth century, results for historical European populations published by van Bavel, Kok, Bengtsson, Dribe revived the discussion of whether there was fertility limitation in pre-industrial European populations that may not have been parity-specific.
Accordingly, now seems to be an appropriate time to return to the issue of fertility limitation in late imperial China by making use of the Qing imperial lineage data. We intend to test additional hypotheses about fertility patterns expected under different fertility regimes, distinguishing between parity-specific control, deliberate spacing independent of parity, and natural fertility. These will include hypotheses about effects on birth intervals and cessation of births of number, sex, and survivorship of previous children, socioeconomic characteristics of parents, the overall levels of infant and child mortality, and other factors. Specific behaviors that we will test for include replacement of a lost child, insurance against loss of a child, goals for number and sex of surviving children, response to short- and long-term changes in economic conditions, and adjustment of preferences according to the situation of kin other than the couple. We will also account for adoption, which in some periods was relatively common, as well as polygyny. We will also replicate calculations carried out in historical European populations by Kok, van Bavel, Bengtsson and Dribe and others to help differentiate fertility control behaviors in the lineage from those practiced in Europe.

We expect this paper accordingly to contribute not only to the vigorous debate over the existence and nature of fertility control in historical China, but also to the broader discussion of whether and how pre-industrial populations limited their fertility through approaches that were not parity specific.

Data

We will make use of the genealogy of the Qing imperial lineage and linked sources. The genealogy of the Qing imperial lineage is remarkably in that it is the only source for a pre-twentieth century Chinese population that records births and deaths completely and in great detail. It records the socioeconomic status of fathers, and provides details on adoptions. It has already been analyzed before, its quality verified, and its shortcomings identified and adjusted for (Lee, Campbell, and Wang 1993; Lee, Wang, and Campbell 1994; Wang, Lee, and Campbell 1995). It provides exact dates of birth for almost all lineage members, and exact dates of deaths for the overwhelming majority of lineage members who died before the last edition was compiled. The only exceptions are some children who died in the first month of life and are annotated as such, without an exact date provided. The special status of the population also means that malnutrition can be ruled out from the beginning as an explanation for observed fertility patterns.

Methods

As is now typical in analyses of fertility behavior, we will apply discrete-time event-history techniques to our data. Thus this analysis of the Qing imperial lineage will differ from and improve on our previous analyses that applied linear regression to the lengths of closed birth intervals or the total number of children born. This approach will allow us to better account for the possibility that open birth intervals simply reflect spacing gone awry, and include them properly in the analysis.
As needed, we will apply specific techniques to account for unobserved characteristics of the couple or their larger kin network. For the analysis of the effects of sex, composition, and survivorship of previous births, for example, we will make use of a fixed effect of couple, to ensure that observed patterns reflect ‘within couple’ variation and rule out the possibility that observed patterns reflect effects of unobserved characteristics of the couple such as the health status of the mother, family hygienic environment, and so forth. Analyses of the effects of socioeconomic characteristics will include fixed effects of sibling or cousin sets to account for effects of shared genes or environment that are correlated with attainment.

References


