Kin Availability and Fertility in a Historical Nuclear Family Society: Sweden 1880-1910

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Research in anthropology and evolutionary demography have for a long time stressed the importance of kin for fertility. Also in historical demography the kin-fertility link has been studied but mainly in contexts with more complex family systems, such as China or Japan, while the issue has received much less attention in the West. One reason is the lack of good data to study proximity of kin in societies where coresidence with kin was relatively unimportant. The aim of this paper is to study the impact of kin on fertility in a nuclear family society at the beginning of the fertility transition. We use linked Swedish full-count census data 1880-1910 in which mothers and fathers are linked to their parental household, and where families in both are followed in subsequent censuses. This enables us to identify where grandmother and grandfathers lived at the time of childbearing of their children. We study net fertility of women aged 25-35 in 1900 and 1910 using child woman ratios, and analyze the association between net fertility and the proximity kin. We also compare fertility behavior of siblings living in close proximity to their parents to the behavior of siblings living farther away from their parents.

Extended abstract

In anthropological and evolutionary demographic research the potential importance of kin, and especially grandmothers, for reproduction has been stressed (see, e.g., Sear and Coal 2011). The main idea in this literature is that grandmothers, and to a lesser extent also grandfathers, can help maximize the number of surviving grandchildren both through increased fertility of their daughters and improved survival of their grandchildren (e.g. Beise and Voland 2002; Sear et al. 2000, 2003; Tymicki 2004). In this way grandmothers can play an important role for reproductive fitness also beyond their own childbearing age, and this has been seen as an important reason for the long post-reproductive life span among humans (Voland et al. 2005; Hawkes et al. 1998). In historical demography, especially dealing with complex-family societies, the importance of kin for fertility outcomes has also been highlighted (e.g. Wang, Campbell and Lee 2010; Tsuya and Kurosu 2010), while there has been much less focus on these aspects of fertility in Western societies with nuclear family systems. Instead most of the research on Western historical fertility and fertility transitions have focused on socioeconomic and cultural variables, and decision making in the context of the nuclear family (e.g. Alter, Neven and Oris 2010; Breschi et al. 2010; Bengtsson and Dribe 2006; 2010a, 2010b; Guinnane 2011; Van Bavel 2004, Szreter 1996). At least partly, this neglect of kin as a determinant of fertility in nuclear-family contexts can be explained by the simple fact that there was not as much coresidence with kin in these societies as there was in societies with different kinds of extended family household. Coresidence is, however, not necessary for kin influence on fertility behavior. Having grandmothers or other kin alive and living nearby may be just as important as having them in the household, especially if the
mechanism is helping with child rearing, but also in terms of socialization and transmission of attitudes and behavior. It has also been shown there are strong patterns of intergenerational transmission of fertility behavior in Western contexts, but especially during or after the fertility transition (e.g. Bras et al. 2013; Murphy 1999, Jennings et al. 2012; Booth and Kee 2009; Reher et al. 2008; Kolk 2014).

The aim of this paper is to study the importance of kin for net fertility in a nuclear family society (Sweden) in the early phases of the fertility transition. We focus on the role of grandmothers and grandfathers for net fertility (surviving children), and explicitly study the geographic proximity of the grandparents. In the analysis we also exploit sibling comparisons as a way to control for shared family environments which is crucial when trying to assess the mechanisms. In the literature, transmission of attitudes and values regarding childbearing has often been put forward as leading explanations behind intergenerational transmission of fertility, while ideas about cooperative breeding is more related to actual assistance in rearing children to adulthood. Comparing siblings growing up in the same family and who presumably were socialized in a similar way, but who differed terms of in proximity to grandparents makes it possible control for the shared value background when studying the impact of the grandmother and grandfather on fertility. In addition, we will also distinguish the impact of own grandmothers and grandfathers from that of grandmothers and grandfathers in-law.

Most historical studies of kin availability and fertility use data from regional or local samples, sometimes plagued by small numbers and strong selection following migration. In this paper we will use full-count census data for Sweden, covering the entire population 1880, 1890, 1900, and 1910. The censuses have been linked to each other, which makes it possible to identify grandparents and siblings residing not only in the same household (which is possible in most census data), but also in the same parish, other parishes in the same county, or in other parts of the country.

We study a sample of women aged 5-14 in 1880 and 1890 and link them to their marital household in 1900 and 1910, respectively, when they are 25-34 years of age. We also link their siblings and their parents between the same censuses. As a result we get a sample of women for whom we can study net fertility and where we also have information on their parents and their siblings regardless of where in Sweden they reside.

The Swedish historical full count censuses are a unique source for studying women and fertility. Unlike other contemporary censuses women appear with their maiden names even when married in the Swedish censuses. This makes it possible to follow women from when first observed as children and then again after having married and formed their own family. Individuals appearing in the censuses have been linked using a probabilistic linking method which results in both high linkage rates, a representative sample, and few false positive links (see Eriksson 2015). In total we are able to link close to 75 percent of all women between each census. The resulting linked sample is a rich data source which allows for precise identification of kinships and variation in proximity to kin over time.

We measure net fertility by the child-woman ratios in ages 0-4. This measure of net fertility has been used extensively in past research and forms the basis of the own-children method to estimate standard aggregate fertility rates (Cho et al 1986; Breschi et al 2003). For the Swedish censuses used here it has also been demonstrated that the unadjusted child woman ratios reflect socioeconomic differentials in total marital fertility quite closely (Dribe and Scalone 2014; Scalone and Dribe 2012). In addition we have information for all men (husbands, brothers, brothers-in-law, fathers and fathers-in-law) on social class (occupation), as well as other household and family related conditions for all individuals, such as place of residence (at the parish level) and migration history.
In the final paper we analyze the impact of grandmothers and grandfathers on net fertility using Poisson regression. The dependent variable is the number of own children 0-4, and the main explanatory variable is a categorical variable measuring the proximity of grandmothers/fathers and grandmothers/fathers in-law. It is divided into the following categories: same household, same parish, different parish but same county, rest of Sweden. In separate regressions we assess the role of unobserved geographic heterogeneity using parish-level fixed effects and the sibling comparison using sibling fixed effects. We control for socioeconomic status of the husband, age of woman, age difference between spouses, presence of children over 4 (as an indirect control for marital duration), woman’s employment status. Socioeconomic status is measured by HISCLASS, an internationally comparable historical class scheme (Van Leeuven and Maas 2011) which in turn is based on the coding scheme HISC.0 (Van Leeuven et al. 2002).

References


