

Son preference across cohorts: a tale of four countries

Background and the goal of the study

Son preference has been shown to affect fertility behavior in many countries of Middle East and North Africa (MENA), Central and South Asia. It is manifested either by sex selective abortions or by higher probability of transition to the next child for women who have no sons or an insufficient number of sons. Son preference regulating parity transitions has important consequences for fertility and for family settings. When dissatisfaction with current number of sons makes transition to the next parity more likely, this has been shown to have a certain increasing effect upon total fertility (Arnold 1997). Besides, girls under these conditions are followed by the next birth shortly, what means that girls are more likely to be engaged with providing care for younger siblings and be disadvantaged through this during their childhood (Basu, de Jong 2010).

In countries of MENA, Central and South Asia new factors have emerged in the recent decades which are expected to influence son preference in mutually opposite directions. On the one hand, in most of these countries fertility was declining during the recent 40-60 years, and family planning was becoming more wide spread. According to Bongaarts 2013, with growth of fertility limitation and control son preference starts to be observed at lower parities, because parents plan smaller total number of children, but still consider certain number of sons as necessary (see also Das Gupta, Bhat 2007). On the other hand, recent social changes in many of these countries, such as urbanization, growth of educational attainment of women and their labor market involvement, lead us to expect gradual weakening of gender asymmetries that support higher value of sons. That such changes can indeed be followed by a serious decline of son preference in fertility has been shown e.g. by Guilmoto 2009.

In this way, with son preference we get a relatively rare example of a behavioral pattern which is expected to be supported by one emerging factor and to be suppressed by another one. Understanding actual dynamics of son preference in this context, apart from being of practical significance because of the social implications of son preference outlined above, becomes a puzzle of theoretical interest. Numerous studies report that son preference persisted in many countries of MENA and Central Asia in the 1990s-2010s (e.g. Altindag 2006 for Turkey, Asadullah et al. 2021 for Bangladesh, Channon et al. 2017 for Pakistan, Kazenin 2021 for Kyrgyzstan, among many others), but most of these studies did not contain a systematic comparison of son preference in its manifestation in actual fertility across periods or cohorts. In the present study we offer a cross-cohort comparison of impact of son preference upon parity transitions in countries of MENA and Central Asia for which available surveys allow to follow up birth histories of decennial cohorts of women born from the 1920s till the 1980s. In most of countries of these regions, fertility was decreasing during the time of reproductive activity of these cohorts, and at the same time social changes related to higher level of gender equity were reported.

Following many preceding studies, we assume that under son preference, couples continue child bearing until they reach the desired number of sons (Yamaguchi 1989, Jensen 2002, Basu & de Jong 2010). This results in dependency of fertility stopping upon the sex of the youngest child (Bongaarts 2013): if it is a girl, transition to the next parity is more probable and/or faster. We consider the role of sex of the youngest child in parity transitions of the cohorts. Against the background outlined above, it is expected that younger cohorts will demonstrate son preference at lower parities compared to elder cohorts. At the same time, it is expected that, irrespectively of parity, risks of parity transition with the girl and the boy as the youngest child will become closer

to each other in younger cohorts, i.e. son preference effects will overall become weaker for younger cohorts. Both of these hypotheses are tested in the present study. It is assumed that at each point of the risk period, sex of the most recent living child is relevant for parity progression. Measuring the effect of sex of the last leaving child is possible because surveys used in the study contain data on child mortality (quite frequent among the elder cohorts included).

In this way, the study contributes to current research on gender preferences in parity progressions in three ways. First, it measures son preference across a long row of cohorts. Second, it compares cohorts on parities transitions to which are shaped by son preference. Third, it takes mortality of previously born children into systematic account.

Data

Countries of MENA, Central and South Asia are selected for the study on three criteria: (1) son preference in actual fertility reported by earlier studies; (2) data available to compare cohorts of the 1920s-1980s; (3) low frequency of sex selective abortions in the time of reproductive activity of all these cohorts.

The last criterion is important because an assumption of all the models described below is that women are randomly distributed by sex of the youngest child. This assumption is incorrect in countries where sex selective abortions were common in the time of reproductive activity of some of these cohorts. For this reason, two countries which satisfy the first two criteria, India and Nepal, were not included in the study (see Jha & Kesler 2011 on sex selective abortions in India and Frost & Puri 2013 on that phenomenon in Nepal).

Table 1 lists the countries included and the study and the surveys which are used:

Country	Survey
Bangladesh	WFS 1975-76, DHS 1994-94, 1996-97, 1999-2000, 2004, 2007, 2011
Jordan	WFS 1976, DHS 1990, 1997, 2002, 2007, 2012
Pakistan	WFS 1975, DHS 1990-91, 2006-07, 2012-13
Turkey	WFS 1978, DHS 1993, 1998, 2003, 2008, 2013

Method

Cox regressions are estimated for transitions to parity 2, 3, 4 and 5 separately for each country. Conception of a child (which resulted in a live birth) is the modelled event. Observations are right-censored 5 years after the previous birth. Women born in the 1920s – 1980s are included on the analysis. The parameter of sex of the youngest child is interacted with the cohort parameter, so that cohort effects upon son preference can be directly compared for each parity.

Sex of the youngest child may be time-varying if the child dies during the risk period. Also, a time-varying dummy indicating whether at least one child of a woman is dead is included. Several socio-demographic parameters of women are included as controls.

Expected results

Discussing the results, we compare the countries and cohorts on parities for transition to which sex of the youngest child was significant. If the countries are similar in cross-cohort dynamics, this will suggest existence of a common pattern of changes of role of son preference under fertility

decrease and modernization in the sphere of gender relations. If contrasts between the countries are attested, their possible reasons, related to social contexts of the countries, will be discussed.

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