

Whose Education Is More Influential On Fertility Behavior? Mother's or Father's?

Introduction

From the 1950s onward fertility behavior in Turkey underwent substantial changes. Total period fertility declined from the level of almost 7 children per woman to the replacement level fertility by 2003. Besides the profound socioeconomic transformations the country has lived, increase in the overall educational level of the society is one of the most important factors that influence this fertility decline. The proportion of literate women increased from 10 percent to 81 percent between the years 1935 and 2000. (TURKSTAT 2001). According to the results of 2003 Turkey Demographic and Health Survey (TDHS-2003) the gap in the total fertility rate (TFR) between the most and least educated women is 2.3 children (HUIPS 2004). In conformity with the extensive demographic literature on the role of female education and fertility decline, TDHS-2003 results confirmed the inverse relationship between women's education and fertility (Becker 1976; Hirschman 1994; Cochrane 1979, 1983; Ergöçmen 1997). Although some studies has found a positive effect of women's education on higher order births (Hoem and Hoem 1989; Kreyenfeld 2002; Köppen 2004) it seems that there is an inverse relationship between female education and fertility in the case of Turkey.

This study focuses on further questions to explore the details in the complex relationship between education and fertility in Turkey. In the first place the main interest of the study is to find out whose education is more influential on fertility behavior; is it the mothers' or fathers' education? The second question concentrates on the previous cohorts' education i.e. woman's parents (hereafter referred as grandparents). It is important because parental education gives idea about the family environment in which the woman is brought up. Finally, whether the impact of education differs by birth order is also considered since the influence of mother's and father's education may differentiate by birth order.

Data Source and Methodology

TDHS-2003 data provides the opportunity to examine the above mentioned questions. TDHS-2003 is a nationally representative survey of 10,836 households and 8,075 ever-married women between ages 15-49. The sample design of TDHS-2003 was based on a weighted, multiple stage, and stratified cluster sampling approach. The sample design enables to make analyses for various domains comprising urban and rural areas, and regions.

TDHS-2003 includes a wide range and high quality information on demographic processes like retrospective birth histories and socioeconomic characteristics of women, such as education, childhood place of residence and region, familial characteristics, household characteristics etc.

Information on fertility used in the study is based on retrospective reproductive histories of women age 15-49 interviewed in the TDHS-2003. Each woman was asked for a history of all her births, including the month and year of each.

The above mentioned questions is analyzed through piecewise constant proportional hazard regression model (Allison 1984; Blossfeld and Rohwer 2002). The piecewise constant function model is especially useful when the form of the time dependence of the social process under study is not clear.

In our analysis, the baseline hazard (basic time factor) is the duration since the birth of the previous child (In the case of first birth analysis the baseline is the duration since the date of first marriage). The duration is measured in months and the cut points are 4, 9, 12, 24, 36 and 48 for the analysis of first birth and cut points of second, third and fourth birth analyses are 12, 24, 36, 48, 60 and 72. Since the baseline hazard is modeled as a piecewise constant function the hazard rates are constant for pre-defined time segments, but they can vary across them.

The dependent variables of the study are transition to first, second, third and fourth births. Independent variables are birth cohort of the women, women's age at first marriage, women's childhood place of residence and region, women's education, husband's education, women's parents' education. Birth cohorts of the women, and age at first marriage are included in the analyzes to control time dimension; childhood place of region and residence takes into account structural factors and variables related with education controls the impact of mothers, fathers and grandparents education. A series of multiplicative stepwise multivariate models were constructed to measure the impact of mother's, father's, and grandparent's education and other covariates on the timing of first, second, third and fourth births separately.

Findings

Descriptive results of the survey show that fertility levels are substantially lower among the better educated women. The TFR decreases rapidly with increasing educational level, from 3.7 births among women with no education to 1.4 births among women with at least high school education. Seven out of every 10 less educated women has at least 4 children whereas this percentage is only 7 for women with high school or more education (Figure 1).

The multivariate findings show that father's education is more influential on transition to first birth, on the other hand mother's education is more influential on the timing of second, third and fourth births. The intensity of the second and subsequent births differentiated according to the

education of the women's parent's education. Women whose parents are uneducated have higher risk of birth at all parities.

Further results and causal relations will be presented in the paper.

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