Transition to first marriage in Turkey

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Abstract

Using data from the 1998 Turkish Demographic and Health Survey, this paper investigates various factors on the timing of first marriage among Turkish women. Event history analysis, using the piecewise exponential model, is applied to analyze the data. The results show a delayed effect, as younger cohorts are marrying at older ages than older cohorts. The highest level of completed education has a statistically significant effect, as women with a higher education are more likely to delay marriage. An interaction between cohort and education show that education level had stronger effect on the risk of marriage for the older cohorts than for the younger cohorts. Results from cumulative proportions married by specific ages show different patterns of marriage arrangement. Women whose marriages were arranged by the families were married at younger ages than those who arranged the marriage themselves. While having both a civil and religious marriage ceremony is common, having the bride price paid and being related to her husband is more common among early marriages.

(167 words)

Introduction

While marriage remains a universal institution in many developing societies, the timing of marriage has changed as the age at first marriage in the developing world have increased. Research on marriage timing is important in demography, as there is a close relationship between marriage and childbearing. In most developing countries, almost all births occur within marriage. Changes in the distributions of marital status has contributed significantly to Turkey's fertility decline, as Shorter and Macura (1982) estimated that from the 1950s to mid-1970s, 19% of the decline could be attributed to changes in marriage patterns.

In this paper, I first examine various factors that affect the timing of marriage among Turkish women using event history analysis. Cohort, education, childhood place of residence and region, and ethnicity are among the variables that are included in the analysis. While individual factors are important in the risk of marriage, I also look at the cumulative proportion of women married by specific ages by various marriage patterns. These include whether the woman is related to her husband, how the marriage was arranged, the type of marriage ceremonies she has, and whether the bride price was paid. This will be used to assess the transition to first marriage among Turkish women.

Background

Factors influencing the rise in age at marriage in developing countries

Previous studies of marriage timing have identified several factors that affect the age at which a woman enters into a union for the first time. It is argued that higher educational attainment is the main force underlying the delay in first marriage among females (United Nations Commission on Population and Development 2002; Heaton 1996). Jenson and Thornton (2003) found a strong correlation between a

woman's age at marriage and the amount of education she receives in several developing countries. In Kenya, education also had a significant effect on the timing of marriage, and this is also seen by cohort, although the effect is substantially greater for the younger cohorts (Ikamari 2005). There are several reasons to expect a positive relationship between schooling and timing of marriage. School attendance is incompatible with marriage and childbearing (Lindstrom & Brambila Paz 2001), so the more education a female completes, the longer the delay that will occur to starting a family. Increased schooling may also expose females to ideas and values that are different with traditional customs that lead to early marriage. For example, higher education can provide young women with a more Western outlook on life, which can include having a greater influence over the timing of marriage and choice of marriage partners (Jejeebhoy 1995; Lloyd & Mensch 1999).

However, despite the research that provide evidence of a significant relationship between education and the timing of marriage, there is also evidence that education may not be the strongest factor. First, many of the same factors that determine when a young woman is to marry are also likely to affect whether she goes to school and how long she stays. Also, educational attainment is likely to be endogenous to marriage timing. While the women who want to marry early usually leave school earlier for this reason, one cannot tell if those who marry later, do so to stay in school longer or if she has just not found an acceptable partner yet. In Guatemala, Behrman, et al. (2006) found that many positive associations between educational attainment and marriage timing does not mean that increased schooling would cause increases in ages of first marriage. There were unobserved factors that directly reduced the probability of marriage and were positively correlated with educational attainment. In addition, Mensch, et al. (2006) conclude that education

and marriage timing are not always closely connected. In their comparison of several developing countries, they find that South and Southeast Asia, the region with the largest increase in educational attainment, was not the region with the largest decline in early marriage. There has also been almost no change in the age at marriage in Latin America, despite the years of increased schooling which have occurred in the last few decades.

The growth in urbanization is an important factor in marriage timing in developing countries, as Singh and Samara (1996) theorized that women living in urban areas are exposed to modern values that encourage later marriage and are less likely to be under the influence of kin who control the timing of marriage and choice of spouse. In Kenya, women in more developed provinces are less likely to marry early than women in less developed provinces (Ikamari 2005).

While increasing education and urbanization are two of the highly stated factors in the rise of age at married, the declines in arranged marriages have also contributed to these observed delays in marriage in developing countries. In Indonesia, the increase in women's age at marriage has been attributed to the changes in the marriage process, as there is movement away from arranged marriages (Hull 2002). The decision making concerning marriage has moved from the parents to the children, which Hull attributes to the expansion in educational attainment among young women. While marriages are still being arranged in South India, many parents will consult with their children before making a final decision (Caldwell, Reddy, & Caldwell, 1983).

Age at first marriage in Turkey

Almost all women in Turkey are married at least once in their lifetime. However, the timing of marriage is changing in the country. Each successive cohort

of young women are marrying later and more of them are remaining single up to their thirties. The 2003 Turkish Demographic and Health Survey showed that the median age at marriage for women 25 to 29 was 21 years. For women who were 45 to 40 at the time of the survey, the median age was 19.2 years. This indicates a delay in marriage of almost two years within the 20 year period.

While observing the median or average age at first marriage can point towards the trends of the population, it is important to observe any trends that are occurring across different cohorts. Table 1 provides the percentage of Turkish women married by specific ages for 5-year age groups. It is apparent that there is an increase in the age at first marriage across cohorts, as the percentage married by each age is consistently lower for the younger cohorts than for the older cohorts. For example, 3.6 percent of women age 25-29 were married by the age of 15 compared to 8.3 percent of women age 45-49. Early marriage for Turkish women is becoming less frequent. Likewise, among women 25-29, only 73.3 percent of are married by the age of 25, while 88.5 percent of the oldest cohort are married by this age. However, it is important to note that there is not a decrease in the proportion ever-married. Therefore, while marriage is being delayed, it is still universal in Turkey. Almost all women have been married at least once by their early thirties.

Table 1: Cumulative percentage of women first married by age 15, 18, 20, 22 and 25 by current age, Turkey 2003

	Percentage first married by exact age				
Current Age	15	18	20	22	25
15-19	1.4	na	na	na	na
20-24	2.2	18.4	33.1	na	na
25-29	3.6	23.1	40.4	58.5	73.3
30-34	4.4	27.3	46.4	64.1	80.8
35-39	5.7	28.7	50.6	66.3	82.0
40-44	8.3	37.4	58.3	73.3	86.2
45-49	8.3	34.7	58.0	76.4	88.5

Source: TDHS 2003, HIPS; na=not applicable

Methods

Data and Sample

The data for this study come from the 1998 Turkish Demographic and Health Survey (TDHS). The TDHS is a comprehensive, nationally representative survey that is conducted to collect data on fertility, family planning, and maternal and infant health. The 1998 survey was part of a collection of cross-sectional surveys conducted every five years since 1963 from the Hacetteppe Institute of Population Studies (HIPS). The survey used a weighted, multistage, stratified cluster sampling approach, in which interviews were conducted in 8,059 households, with 8,576 women. The women were between the ages of 15 and 49 at the time of the interview. Of the total number, 6,152 women (72 percent) have been married and 2,424 women (28 percent) have never been married. The median age at marriage for the sample is 19.9 years.

Statistical methods

Event history analysis techniques, specifically the piecewise exponential model, are used in this analysis of the transition to first marriage. This parametric model is defined as:

$$h(t \mid x_j) = h_0(t)\exp(x_j \beta_x) \qquad \text{(Equation 1)}$$

whre $h(t \mid x_j)$ is the hazard, given the values of the covariates for the respective cases (x_j). The term $h_0(t)$ is the baseline hazard, which is the hazard for the individual when the values of all the covariates are equal to zero.

In the piecewise exponential model, the time dimension(?) of age at marriage is partitioned into segments. It is assumed that the hazard is constant within these different segments, but the hazard rate can vary between them. The time factor for this paper is divided into four segments based on age at marriage: under 18, 18 to 24 years, 25 to 31 years, and 32 years and above.

In this study, the dependent variable is the survival time to first marriage measured in person-months. All the ever-married women were asked the year and month she was first married, which was then computed into monthly data. Women who have never been married were right censored at the time of interview.

Several independent variables are used in this study. The main independent variable of this study is the cohort of women to measure the effect of delayed marriage over time in Turkey. All women were placed into one of seven different 5-year cohorts based on their year of birth. The oldest cohort consist of women born between the years 1948 and 1953, while the youngest cohort consist of women born between the years 1979 and 1983.

In addition, other covariates include the mother tongue, childhood place of residence, childhood region of residence, and highest completed educational level. Ethnicity, which is indicated by the mother tongue, is an important variable in Turkey,

especially since Turkish and Kurdish women have different fertility patterns. Mother tongue is measured as whether the respondent's first language is Turkish, Kurdish, or another language. While the residence at the time of the survey is reported, the respondent may have migrated since the time of marriage. The childhood residence is a good indicator of the atmosphere growing up, which can reflect the age at which she first marries. The childhood place of residence is measured as urban or rural. The region is measured by the five different regions as defined by the TDHS. They include West, South, Central, North and East, and reflect differences in socioeconomic development levels and demographic conditions among the country (HIPS, 1999). In general, the West is the most densely settled, industrialized, and socio-economically advanced. Industrial centers have been rapidly growing in the South in recent decades. Other than a few minor industries in Ankara, the industrial production in the South is relatively low. The North is relatively isolated from the rest of country due to the geography, but specializes in small-scale agriculture. The East is the least developed area of Turkey and is poor in terms of industrial production.

The highest education level of the woman is reported at the time of the survey, rather than the time when she was married for the first time. There is no measure for her education level at when first married. However, since only xx percent of the married respondents between the ages of 15 to 24 are in school, we can assume that the level of education at the time of marriage was the same at the time of the survey. Education is measured as the highest completed level: no education, primary, and secondary education.

In addition to the event history analysis, a more descriptive analysis of the cumulative proportion of women married by specific ages were used to observe the

differences in age at marriage and other marriage variables. This first variable is whether the married respondent is related to her husband or not. Although it is illegal in Turkey for a woman to marry a close relative, there are still marriages among cousins. The second variable looks at how the marriage was arranged. This is divided into 4 categories: arranged by the couple without family consent and with consent, and arranged by family without the couple's consent and with consent. In addition to arrangement of marriage, whether the bride price was paid and the type of marriage ceremonies were also taken into account. Although not as popular in recent decades, there is a customary practice in Turkey, whereby the bridegroom pays a bride price to the bride's father in recognition of the cost of raising the bride and in compensation for depriving the family of her services following her marriage. There are two types of marriage ceremonies in Turkey: religious and civil. Only civil marriage ceremonies are considered legal according to Turkish law and the Civil Code states that religious marriage ceremonies cannot be held before the civil ones. However, religious ceremonies are widely accepted, so censuses and surveys usually do not have any difficulty collecting information on legal or religious marriages (Hancioglu and Ergocmen, 1992).

Results

Event history results

The median age at marriage for Turkish women is 19.9 years. The coefficients for risk of first marriage from the event history analysis are presented in Table 3. There are several significant factors associated with the risk of first marriage. Compared to women between the ages of 18 and 24, those under the age of 18 have a 91 percent lower risk of marriage. While early marriage (marriage before the age of 18) does occur in Turkey, women are more likely to get married after the age of 18.

However, women older than age 24 have a lower risk of marriage. The cohort a woman is born into also has a significant effect on the risk of first marriage. The hazards (not presented here) indicate a delay in marriage, as those in the older cohorts have a higher risk than women in the youngest cohort (born 1979 to 1983).

When all other variables are controlled for, the highest completed educational level plays an important part in the risk of first marriage. Those who have never completed the primary level of school nor have no education at all have a 25 percent higher risk of marriage as compared to those who have completed the primary level. Women who have completed the secondary level of schooling in Turkey have a 56 percent lower risk of marriage.

The region in which the individual lived in during her childhood is important, but for some regions more so than others. As compared to women in the West, those in the South have a lower risk of marriage and those in the Central region have a higher risk. With all other variables controlled for, the expected differences between the East and the West are not evident. Childhood place of residence (urban/rural) is significant in models not presented here. However, only when the highest completed education level is held constant does this measure lose its significance. Despite previous evidence of the differentials in fertility behavior by urban/rural residence (CITE), the childhood place of residence is not a significant factor in the risk of first marriage once all variables are controlled for. Kurdish women have an 11 percent higher risk of marriage than Turkish women.

TABLE 3 - Coefficients for First Marriage among Turkish women, Event History Analysis; TDHS 1998

	Coeff.		Standard Error
AGE			
Under 18	-2.44	***	0.03
18 - 24			
25 - 31	-0.17	***	0.05
32 +	-1.10	***	0.15
COHORT			
1948 - 1953	1.07	***	0.08
1954 - 1958	1.09	***	0.07
1959 - 1963	0.98	***	0.07
1964 - 1968	0.84	***	0.07
1969 - 1973	0.79	***	0.07
1974 - 1978	0.67	***	0.07
1979 - 1983			
CHILDHOOD RESIDENCE			
Urban	0.00		0.03
Rural			
CHILDHOOD REGION			
West			
South	-0.13	**	0.04
Central	0.17	***	0.04
North	0.06		0.04
East	0.06		0.05
EDUCATION			
No education	0.22	***	0.03
Primary			
Seconday	-0.81	***	0.04
MOTHER TONGUE			
Turkish			
Kurdish	0.10	*	0.05
Other	-0.05		0.07
CONSTANT	-4.91	***	0.07
MODEL FIT			
Initial log likelihood	-8,301.83		
Final log likelihood	-3,814.33		

***p<0.001, **p<0.01, *p<0.05

In addition to the full model presented above, a second model was run that includes an interaction between cohort and education. This was done on the basis that the significance and the effect of education would vary by cohort. The hazard ratios from the interaction of cohort and education are presented in Table 4. The reference category are women born between the years 1979 and 1983 and whose highest completed educational level is primary school. There is a higher risk of marriage for those who have no completed education. However, this risk decreases which each successive cohort. Women in the oldest cohorts have a 4 times higher risk, while women in the same cohort as the reference group, but a lower education, have a 79 percent higher risk. There is a similar pattern in comparing those with completed primary schooling among the cohorts, although the effects are not as strong. Women born between 1954 and 1963 and have completed secondary education have a higher risk of first marriage, whereas women born 1974 and 1983 with a secondary education have a lower risk, as compared to the reference group.

TABLE 4: Hazard ratios for the interaction between cohort and education, event history analysis, TDHS 1998

EDUCATION	No education			Primary			Secondary		
COHORT	Hazard Ratio		Std. Err.	Hazard Ratio		Std. Err.	Hazard Ratio		Std. Err.
1948 - 1953	4.08	***	0.37	2.71	***	0.26	1.07		0.17
1954 - 1958	4.15	***	0.38	2.75	***	0.25	1.45	**	0.19
1959 - 1963	2.94	***	0.28	2.83	***	0.25	1.35	**	0.15
1964 - 1968	2.92	***	0.29	2.31	***	0.20	1.08		0.12
1969 - 1973	2.53	***	0.26	2.25	***	0.19	1.05		0.11
1974 - 1978	2.20	***	0.25	2.08	***	0.18	0.78	*	0.09
1979 - 1983	1.79	***	0.28	ref			0.19	***	0.06

Age married by and Type of marriage

In addition to the event history analysis of the transition to first union, various aspects of the marriage (i.e. related to husband, arrangement of marriage, marriage ceremony, and bride price paid) are examined by observing the cumulative proportions of women married by specific ages. These percentages are presented in Table 5. Of the women married by the age of 15, about 33 percent are related to their husband (usually a cousin), as compared to 20 percent of those married by 22. When looking at the proportions for whether the bride price was paid or not, a similar decreasing pattern is observed.

As mentioned earlier, the arrangement of marriages in developing countries are changing from the parents to couples. In Turkey, the parents are still a large part of the arrangement process, as there is a very small percentage of women get married without their parents consent. Regardless of the age at marriage, about 50 percent of the marriages are arranged by the family with the consent of the daughter. However, as the age at marriage increases, the proportion of marriages that are arranged by the family without consent of the daughter decreases, and the proportion of marriage that are arranged by the couple with the consent of the family increases. For those married by the age of 15, almost 23 percent of the women had no say in who she would marry, while 17 percent had arranged their marriage themselves with the family's permission. These proportions drastically change when observing those married by 22, where only 4 percent of marriages were arranged without the consent of the daughter and almost 42 percent had been arranged by the couple, with the approval of the family.

Despite the fact that only civil marriage ceremonies are considered legal according to Turkish law, there are still some women who have had only religious

ceremonies. Almost 15 percent of those married by age 15 have only had a religious ceremony, but this figure decreases with age, as only 4 percent of women married by 22 had only this ceremony. At a later age, the women who have only had a religious ceremony may go ahead and have a civil ceremony to make their marriage legal. The majority of women have both the civil and religious ceremony and a small percentage have only a civil ceremony.

TABLE 5: Cumulative proportions married by specific ages by various marriage measures; 1998 TDHS

		Arrangement of Marriage				Marriage Ceremony			
Age Married	Related to husband	Themselves, no consent	Themselves, consent	Family, consent	Family, no consent	Both	Civil only	Religious only	Bride price paid
15	32.94	4.88	17.09	49.1	22.69	82.27	2.7	14.58	42.03
18	27.98	3.55	27.95	50.15	11.73	88.66	2.33	8.63	29.32
20	24.7	3.82	33.41	49.51	8.13	89.51	3.15	7.1	20.44
22	19.61	3.31	41.84	48.1	4.05	92.03	3.68	3.92	13.62
25	16.8	1.99	41.56	48.84	4.3	90.61	4.78	4.28	12.85

Discussion/ Conclusions

While the age at first marriage is still relatively young compared to developed countries, Turkey's median age is around 20 years. Delaying marriage is seen more often, as younger cohorts are marrying at older ages compared to women of older cohorts. Education level is also a very significant factor in the risk of marriage, as women with more education have a lower risk of marrying. It cannot be told how the relationship between education and marriage interact. Almost all schooling ceases at about the same time that marriages are formed, as only a small percentage of married

women were still in school. Whether the marriage caused the end of schooling or if marriage was delayed to continue education cannot be determined from the data. However, this is important for further research to see how increased education really does affect marriage timing.

In addition to cohort and education level, other significant factors towards the risk of marriage include ethnicity include childhood region and mother tongue. Kurdish women have a slightly higher risk of first marriage than Turkish women. The Central region had a higher risk and the South had a lower risk of marriage than the West. Despite the fact that there are significant differences in total fertility rates between these two distinct East and West regions in Turkey, childhood region of residence was not significant for the risk of marriage. These differences may have not held as education was also controlled for.

While individual factors affect the timing of marriage, the different marriage patterns may also be a feature in the differentials of age at marriage. How the marriage is arranged is a changing trend. While many families continue to arrange the marriages of children, many are doing so with the approval of the future bride and groom. As in other developing countries, arrangement of marriage is moving away from the being the sole responsibility of the family to a joint decision. Even if the woman had picked her own spouse, she is usually doing it with the consent of her family. The majority of women have both a religious and civil ceremony. However, only when one is married at a very young age is she more likely to only have a religious ceremony, even if it is not considered legal by law. After some time though, the couple may later have an official civil marriage. Being related to her husband and having the bride price paid are mostly seen among early marriages.

At the time when individuals were interviewed for the 1998 THDS, the legal age minimum to get married was 15 years for women (and 17 years for men). However, beginning in 2002, the new Civil Code in Turkey increased the age minimum to 18 years for both men and women. Only under certain circumstances and with the approval of a judge could a minor marry. Over the next few decades, researchers and policy makers should track the impact of this change on the median age at marriage of women in Turkey.

Future research also needs to examine the impact of age at first marriage on age at first birth and ultimately, the decline in the TFR in Turkey. There are several factors that result in a fertility decline, including age at marriage and contraceptive prevalence. Both have an effect on fertility, although one or the other may have a greater effect, especially in countries where family planning programs have been established, such as Turkey.

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