

Age at First Marriage in Palestine

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Introduction

In the Palestinian context, and the Arab countries at large, marriage is universally expected and major emphasis is placed on marriage as well as on childbearing (DeJong, Jawad, Mortagy and Shepard 2005). The crude marriage rate in the Occupied Palestinian Territory is among the highest in the Arab countries (Palestinian Central Bureau of Statistics 2003). The crude marriage rate of 8.4 marriages per 1,000 persons in 1998 is similar to those for Jordan and Egypt, but higher than those for Lebanon, Kuwait, Bahrain and Qatar for the same year (Palestinian Central Bureau of Statistics 2003). This pattern prevails, when marriage is the key to family formation, having large families is highly valued, and especially in societies that forbid childbearing outside marriage, such as Arab and Islamic societies.

Knowledge about age at first marriage is interesting and important because of the strong association between marriage, onset of childbearing and fertility. Furthermore, additional studies of marriage are needed to better understand family dynamics, and enhanced understanding of marriage changes may further the understanding of social changes (Malhotra 1997).

The timing of marriage is changing simultaneously with globalization, urbanization, and rising educational attainment. Studies suggest that decisions about when to marry are rooted as much in societal norms as in economic realities. Hajnal describes the “European” pattern: late age at marriage and high proportions of people remaining unmarried (Hajnal 1965). He explains this pattern by the rise in educational attainment among women. Trends in the timing of first marriage in developed countries are explained further by changing laws and norms, rises in the cost of marriage, decline in arranged marriage and urbanization (Mensch, Singh and Casterline 2005). In other words, educational attainment, women’s participation in the labor force and women’s economic independence are factors associated with older ages at marriage (Blossfeld 1992).

Today, young people marry at older ages compared to the age at marriage of older generations. For example, about 27 % of women aged 15-19 years were married in 1970-1988 compared to 21 % in 1990-2000 in developing countries (Rashad, Osman and Roudi-Fahini 2005). This practice of delayed age at marriage in developing countries began in South Asia and North Africa. In Latin America the delayed age at marriage was noted only in the Dominican Republic and Peru (Singh and Samara 1996; Brien and Lillard 1994).

Changes in the propensity to marry prevail also in the Middle East. Universal early onset of marriage is no longer the standard practice, and the average ages at first marriage for men and women are increasing in almost all Arab countries. Thus, higher proportions of women marry at older ages or do not marry at all (Rashad, Osman and Roudi-Fahimi 2005).

In this article, we hypothesized that there are two types of marriage in the Occupied Palestinian Territory - the West Bank, including Palestinian East Jerusalem, and the Gaza Strip. One type includes women, who have lower education, lower income and marries their relatives. The second type has higher education, higher income, and marries men with some education. The former type marries at younger and the latter at older ages. In other words, Palestine has a marriage pattern that is similar to that in developing countries and one that is similar to that in developed countries.

Background

The Palestinian population has endured ongoing conflict since 1948, with the first Arab Israeli war and the creation of the State of Israel (Khalidi 1997). The West Bank and the Gaza Strip have been occupied by the Israeli military since 1967. The interactions between different political, economic, social and cultural factors have shaped and modified the characteristics of the Palestinian population.

Palestinians living in the Occupied Palestinian Territory constitute a young population with a total fertility of 4.6 births per woman in 2004 (Palestinian Central Bureau of Statistics 2004). The population pyramid is characterized by a wide base of young people where 45.6 % are less than 15 years and 3.6 % are older than 65 years (Palestinian Central Bureau of Statistics 2007). The average household size is 5.7 people. The nuclear family is the most common type of household (83 %), although the extended family (13 %) is sizeable.

Even though total fertility has been declining and has decreased from 6.1 in 1995 to 4.6 in 2004, it is still considered high (Palestinian Central Bureau of Statistics 1995, 2004). Few studies have investigated the patterns and reasons for high fertility among the Palestinians (Fargues 2000; Khawaya 2003). Marriage is one of the main determinants of fertility (Boongarts 1978).

During the period 1980 to 2003, the mean age at first marriage was 21.7 years; 25 % had married by age 19.1 and 75 % by age 27.5 among all women, while the mean age at first marriage was 19.0 years, 25 % had married by age 18.1 and 75 % by age 22.4 among the 4,027 women who entered into first marriage in the period 1980-2003 based on data from the Demographic and Health Survey, 2004 (Palestinian Central Bureau of Statistics, 2004). The discrepancy between all women and ever married women reflects that some women were not yet married at the time of survey or censoring.

About a quarter of all women, in 2001, had married by age 19 suggesting that a sizeable number of women married as teenagers. On the other hand, more than 25 percent had not married by age 27 suggesting that another sizeable group of women postponed marriage until their late 20s, older or never. Marriage clustered around age 20, as seen by the fact that more than 50 percent of all marriages were entered after age 18 and before age 23.

Although the Occupied Palestinian Territory is classified as a low-income country, several indicators have improved, such as women's education and women's engagement in the labor force (Palestinian Central Bureau of Statistics 1995, 2004). These factors are

associated with later ages at first marriage, but it is not clear how these factors relate to marriage timing in the Occupied Palestinian Territory. Further, the ways these factors interact with the current economic and political situation is not known.

Data and methods

The analysis was based on the 2004 Demographic and Health Survey (DHS) (Palestinian Central Bureau of Statistics 2004). This survey covered the Palestinian population living in the Occupied Palestinian Territory. A stratified two stage random sample design was used. In stage one, 260 enumeration areas (EAs) were selected from a total of 481 EAs and in stage two a systematic random sample of 25 households was selected from each EA (the average size of an EA is 150 households). The selected sample included 6,574 households and 5,799 households were interviewed. The individual interviews covered 4,972 ever-married women aged 15-54 years and the response rate was 97.6 percent. Three attempts were made to interview each individual, after which a case was classified as missing. The survey gathered data about fertility, family planning, maternal and child health as well as socio-economic and cultural characteristics. The analysis was conducted in SAS version 9.1

As a first step, annual 25th, 50th and 75th percentiles of age at first marriage for women married in the period 1980-2003 (including from the beginning of 1980 to the end of 2003) were estimated and graphed. The period 1980-2003 was divided into the sub-periods 1980-1987, 1988-1992, 1993-1998 and 1999-2003. The slope for the 25th, 50th and 75th percentiles and the periods 1988-1992, 1993-1998 and 1999-2003 were calculated.

Actuarial life tables were estimated for the periods of marriage of 1988-1992, 1993-1998 and 1999-2003. The sample was stratified by level of education at survey and region at birth, respectively. Subsequently, graphs were drawn of the probability of entering into first marriage by age, level of education at survey and period of marriage and by age,

region of birth and period of marriage. The proportions married by age 20 and age 25 were recorded for each category of education and region, respectively.

In order to maintain adequate sample sizes in each cell, it was not feasible to divide the sample into additional sub-groups. Hence, a multivariate discrete time logistic regression model of entry into first marriage was estimated. The variables associated with age at first marriage were analyzed using a discrete time logistic regression model to estimate the odds ratios (OR) and 95 percent confidence intervals (CI). An event history file of person-year records was created (Allison 1984). In this file, each age that the woman was observed before age at first marriage was a separate observation. Each unit of observation included the woman's age, period at marriage, level of education at survey, region at birth, relationship to husband and refugee status. Women were followed from age 10 until age at first marriage.

The effects of each covariate on age a first marriage were estimated in separate models and all covariates were included in a multivariate model. To determine whether there were time period differences in the effects of level of education at survey on entry into first marriage, we included in the model a series of dichotomous variables to capture the interaction between time period at marriage and level of education at survey. The interaction terms measure, that covariates interact and that the first order interactions modify the linear relationship measured by main effects. In alternative models, the interactions between time period at marriage and region at birth, region at birth and refugee status, and education and relationship to husband were examined, respectively. The interaction effects for time period and level of education were calculated to ease interpretation.

The main effects model was replicated for all women to assess whether the covariates of age of first marriage were different between all women and ever-married women. The latter model did not include the variable about time period at first marriage.

Results

The sample analyzed included 4,027 women, who had married at age 12-45 in the period 1980-2003 and 2,756 never married women. A total of 142 women did not report the year of marriage and these women were excluded from the analysis. One woman did not report the relationship to her husband, and 386 women omitted the region of their birth. These cases were not included in the analysis of age at first marriage by region at birth and time period, univariate and multivariate logistic regression models.

Figure 1 shows the 25th, 50th and 75th percentiles of age at first marriage by year for the period 1980-2003 for ever-married women. It appears that age at first marriage increased slightly during the period 1980-1987. The data were collected in 2004 from women age 15-54, and as many as 1.5 % (74 women) had married over age 30 suggesting that left censoring biases the data. Hence, the analysis was restricted to the period 1988-2003. We deemed that bias from left censoring was minor after 1988 (in 2004, 0.4 % or 18 women were over 37 years of age at marriage). There was a slight, but significant decline in age at first marriage from 1988 to 1992, while age at first marriage increased significantly during the years 1993-1998 and 1999-2003. The average ages at marriage were 18.6, 18.9 and 19.4 in the periods 1988-1992, 1993-1998 and 1999-2003 for ever-married women.

Figure 1 about here

Age at first marriage varied significantly by level of education ($p < 0.001$) in each of the periods 1988-1992, 1993-1998 and 1999-2003 (Figure 2, Table 1). The proportions married by age 20 declined for women with elementary or less than elementary from 1988-1992 to 1999-2003 and from 1993-1998 to 1999-2003 for women with secondary or above secondary education. The same pattern prevailed at age 25, but the declines were more pronounced at age 20. Finally, women with less than elementary or above secondary, that is women with the lowest or highest attained level of education, had the same proportions married or 0.79 and 0.76 in 1993-1998 and in 1999-2003,

Figure 2 about here

Table 1 about here

Figure 3 shows the age at entry into first marriage by region at birth and time period. The regional differences were significant in each period ($p < 0.001$). Women in the Gaza Strip (North, Central and South) married at younger ages than women in the West Bank (North, Central and South) in each time period. (This finding did not hold for the South Gaza Strip, where 0.68 had married by age 20 compared to 0.71 in the South West Bank in 1993-1998). For example, at age 20 less than 60 percent had married in the North West Bank compared to more than 80 percent in the North Gaza Strip. The proportions married by age 20 and 25 declined in each region of the West Bank from 1988-1992 to 1999-2003. Similarly, the proportions married by age 20 declined in each region of the Gaza Strip, while the proportions married by age 25 generally increased in the Gaza Strip.

Figure 3 about here

Figures 2 and 3 illustrate that age at first marriage varied by period at marriage, level of education at survey and region at birth, respectively. In order to maintain adequate sample sizes in each cell, it was not feasible to divide the sample into additional sub-groups. Hence, a multivariate discrete time logistic regression model of entry into first marriage was estimated.

The multivariate analysis examined the covariates of age at entry into first marriage by age at first marriage, education, region at birth, relationship to husband, and refugee status for the periods 1988-1992, 1993-1998 and 1999-2003 (Table 2). About one third of the sample entered marriage in each of the periods 1988-1992, 1993-1998 and 1999-2003. Each of the variables age at first marriage, education and relationship to husband was significantly different at the .10 level across the three time periods. For example, the percentages entering into first marriage were 46.4, 39.3 and 14.3 at age 10-14 and 20.2, 40.5 and 39.3 at age 30⁺ in the periods 1988-1992, 1993-1998 and 1999-2003. Education increased across the three time periods and the percentages with less than elementary

education declined from 48.1 to 36.1 to 15.9, while the percentages with secondary education increased from 25.6 to 34.1 to 40.3 in the periods 1988-1992, 1993-1998 and 1999-2003.

Table 2 about here

The univariate analysis showed that the odds of first marriage were significantly higher for women age 20-24 compared to both younger and older age groups (Table 3). Similarly, women with less than elementary, secondary or higher than secondary education had lower odds of marriage relative to women with preparatory education. The odds of marriage were significantly lower in the North West Bank and Central West Bank compared to the North Gaza Strip, and women who married kin had higher odds of marriage than women who married non-kin. These findings were replicated in the multivariate analysis. In addition, the multivariate model showed that the odds of marriage were lower in the South West Bank, Central Gaza Strip and South Gaza Strip compared to the North Gaza Strip. That is, women in the North Gaza Strip had significantly higher odds of first marriage compared to women in each of the other regions. Furthermore, the odds of marrying a kin increased from 1.15 in the univariate to 1.36 in the multivariate model, and registered refugees had lower marriage odds than non-refugees, while there was no difference between non-registered refugees and non-refugees.

Table 3 about here

The effects of educational attainment on entry into first marriage differed significantly by period of marriage ($p < 0.001$). For example, for the interaction between time period and education the odds of marriage were 0.51 (95 percent CI=0.37-0.70) for women with elementary and 0.73 (95 percent CI=0.55-0.96) for women with secondary education in 1999-2003 compared to 1.00 in 1993-1999. To facilitate interpretation of the interaction terms, Table 4 shows the interaction effects for education at survey and period of marriage on women's entry into first marriage.

Table 4 about here

In each period, women with secondary or above secondary education had significantly lower odds of first marriage than women with preparatory education (Table 4). Further, the odds of first marriage declined from period to period for women with less than preparatory education. The decline was especially steep in the period from 1993-1998 to 1999-2003 for women with elementary. Finally, in each time period the risk of entry into first marriage was more than 50 % lower for women with above secondary, and in 1999-2003 for women with less than elementary compared to women with preparatory education in 1992-1998. Thus, women with the lowest and the highest level of education converged over time and they experienced substantially lower risks of marriage compared to women with preparatory education. The interactions between time period at marriage and region at birth, and region at birth and refugee status were not significant.

In order to examine changes in entry into first marriage by time period at marriage the above analysis was limited to the sample of ever married women. As a final step, the multivariate analysis was replicated for all women (the variable about period at marriage was not included). The pattern of the covariates for all women was similar to the pattern found for ever married women (Table 5). For example, women age 20-24 had significantly higher odds of marriage compared to either younger or older women. However, women age 25-29 and 30⁺ had in particular low odds of marriage compared to women age 20-24 in the analysis of all women reflecting that unmarried women clustered in this age range (the odds were 0.46 and 0.20 for all women and 0.75 and 0.72 for ever married women relative to the respective groups of women age 20-24). Further, the multivariate models of all women and of ever married women showed very similar effects estimates (note, estimates for the education variable are not comparable because the model of ever married women included an interaction term between education and time period). In conclusion, the findings of the multivariate analysis of age at first marriage of ever married women might be generalized to the population of all women.

Table 5 about here

Discussion and conclusions

Marriage is an event of great social and cultural importance to women and men in most societies. It is a ceremony that marks the transition to adulthood and often parenthood. Individuals are linked together via marriage and new families are formed. About two thirds of women in the Occupied Palestinian Territory are married, which is similar to the proportions married in developed countries. However, marriage in the Occupied Palestinian Territory has selected characteristics, which are similar to the marriage pattern of the developing world. For example, the group of women who married below age 15 counted almost 50 % in the period 1988-1992, but less than 15 % in the period 1999-2003. The divorce rate is very low in Palestine and it ranks among the lowest in the world.

The age at entry into marriage changed over time for Palestinian women. The time between 1980 and 2003 was divided into four periods based on the unstable political and economic situations that may have had important impacts on demographic behaviors.

The first period, 1980-1987, was excluded because of bias from left censoring in proportions married by age. Throughout the period 1988-1992, the median age at first marriage decreased from 19.1 to 18.5. The first Palestinian popular uprising against Israeli occupation (first Intifada) started at the beginning of this period and it contributed to the decline in age at onset of marriage. The Israeli military actions influenced the economic situation adversely. It is plausible, that these factors resulted in a substantial decline in the cost of marriage and made marriage more accessible to those who could not afford to marry otherwise. In addition, the frequent occurrences of curfews and school closures may have influenced men and women to marry at younger ages, compared to in previous years, based on the decreasing chances of advancing their education (Manasra 1993, Khawaja 2000).

During the period 1993-1998, the age at first marriage increased. This increase was accompanied by changes in the situation of the Occupied Palestinian Territory. The Palestinian National Authority took over selected spheres from the Israeli military government, including the health and educational sectors. This change was a result of the signing of the Declaration of Principles on Interim Self-Government Arrangements by Israel and the Palestine Liberation Organization (Oslo Interim Agreement II 1995). This agreement is referred to as the 'Oslo Accords' (Question of Palestine. History).

It should be noted, it was during this period that the Palestinian Ministry of Education and Higher Education set compulsory education to ten years. This increase in the level of mandatory education may explain part of the declining trend in the proportion of women with elementary or less than elementary education from 1988-1992 to 1993-1998 to 1999-2003. Further, the increased level of education attained may explain some of the increasing trend in age at marriage. Finally, although periodically unstable, this was a relatively calm period compared to the previous years. During this period, substantial international aid was donated to the Occupied Palestinian Territory, and new schools and universities were opened and expanded. These factors contributed to increased education, leading to further delays of the age at first marriage.

The last period, 1999-2003, started with a dip in age at first marriage in the year 1999. In the subsequent years the ages at first marriage increased and the median age at first marriage was 19.6 in the year 2003, which is the highest median marriage age of the three periods. The low age at marriage in 1999 reflects the worsening in the situation before the second Palestinian popular uprising (second Intifada).

The conditions during the second Intifada (al-Aqsa Intifada) seem to be different from those during the first Intifada and the age at marriage increased steadily. During the second Intifada female education improved and women's engagement in the labor force increased (United Nations 2005). The percentage of women participating in the labor force was 10.2 % in 1995, 12.3 % in 1999 and 12.8 % in 2003 (Palestinian Central Bureau of Statistics 2005). The increased labor force participation of women may have

been caused partly by the mass unemployment among men. Many men lost their jobs because of closures, and some women may have entered the labor force in order to provide economic support for their families.

The picture of marriage in the Occupied Palestinian Territory is more complete when men are portrayed too. In general, men married at relatively young ages. In the years 1997 to 2001, the civil registration shows the highest marriage rates for men age 20-24 followed by men age 25-29. The median age at first marriage was 24.2 years for men and 19.0 years for women in 2001 (Palestinian Central Bureau of Statistics 2005). This finding reflects that men typically were a few years older than the women they married. It appears, that women experienced an increasing shortage of available men to marry, a marriage squeeze, as they got older. For example, among men as many as 12.4 % and 2.4 % were single at age 30-34 and 35-39, compared to 13.0 % and 10.5 % among women in 2007 (Palestinian Central Bureau of Statistics 2007). In other words, women above age 30 years had relatively low chances of finding a spouse their age or older (Palestinian Central Bureau of Statistics 2005).

Changes in age at first marriage have a close relationship to changes in fertility (Khawaja 2000). The total fertility in the Occupied Palestinian Territory declines from 6.1 in 1994 to 4.6 in 2004 and the increase in age at marriage accounts for some of this change (Palestinian Central Bureau of Statistics 2005). Increases in age at marriage are followed by older ages at first pregnancy and first birth and this pattern is especially pronounced in Palestine where pre-marriage sexual activity is not accepted (Palestinian Central Bureau of Statistics 2007). Thus, the rise in age at marriage is an effective means of fertility control (Courbage 2000).

According to Khawaja (2000), the levels and changes in fertility are different in the West Bank (including East Jerusalem) and the Gaza Strip. Fertility is higher in the Gaza Strip and the trend declines more slowly, while in the West Bank the fertility decline begins earlier and the decline is faster. This study showed that there were also differences between the West Bank and the Gaza Strip in the timing of marriage. The proportion of

women married by age 20 declined in both the West Bank and in the Gaza Strip, while the proportion married by age 25 declined in the West Bank, but increased in the Gaza Strip. This pattern suggests that different social and cultural factors were effective in the West Bank and the Gaza strip.

The association between education and the timing of marriage in the Occupied Palestinian Territory is interesting. Women with preparatory education (which is nine years of schooling) had significantly higher odds of marriage compared to women with less than elementary or women with secondary or above secondary education. The public education system in the Occupied Palestinian Territory is divided into two periods. The mandatory period includes grades one to ten, and the secondary period includes the 11th and 12th grade.

Women with preparatory, elementary or less than elementary education did not have significantly different odds of marriage in 1988-1992, while women with less than elementary had lower odds in 1993-1998 and both women with elementary and less than elementary had lower odds of marriage compared to women with preparatory in 1999-2003. To sum up, women with less than the mandatory level of education, e.g. preparatory education, had increasingly reduced odds of marriage from 1988-1992 to 1999-2003 relative to women with preparatory education. However, why did some women not receive the mandatory level of education? We predict that these women with less than preparatory education were living in remote villages, under extremely poor conditions, or that they had some kind of disabilities.

The main change among women, who ever married, was among women with less than elementary or elementary education. For example, .21 of women with less than elementary education were not yet married at age 30 in 1999-2003 compared to .14 in 1988-1992 and .05 in 1988-1992. There was no noticeable change over time for women with preparatory or secondary education and the proportions not yet married were below .02 from 1988 to 2003 for women with preparatory or secondary education.

Women with above secondary education married at older ages. Among ever married women, as many as .06 were not yet married by age 30 in 1988-1992, 1993-1998 and 1999-2003. This pattern is supported by Oppenheimer's theory of marriage timing (1988), which associates increases in women's education and economic engagement with delayed marriage and assortative mating. Thus, highly educated women may experience difficulties in finding similarly educated spouses, which causes delays in marriage (Oppenheimer 1988). Delayed onset of marriage among highly educated women does not necessarily reflect a decline in their incentive to marry, instead it may indicate a longer search period for these women. Indeed, increasing marriage rates may be the result of improvements in the educational attainment of men and women (Bennett, Bloom, and Craig 1989).

Relating these sentiments about older ages at marriage to the Palestinian context, we found evidence of increasing female enrollment in schools, and decreasing rates of illiteracy. In addition, the proportion of women in the labor force rose, and women began to achieve semi-economic autonomy (Blossfeld 1992). In contrast to these sentiments, it has been suggested that rising ages at marriage are a consequence of declining economic opportunities for men and increasing costs of marriage (Singerman and Ibrahim 2002).

A new observation, which is not yet well investigated, might mask the true association between the timing of marriage and education, and that is the brain drain migration. This type of migration started after the beginning of the second intifada. People migrated to Jordan or through a Jordanian airport to Western countries (Chatelard 2004). This migration was mainly among professionals in the upper middle and middle classes who were forced to emigrate because of the political and economic crises. According to Lewin's (2004) findings, educated women are more attractive and have higher probability of marrying professionals, and men of higher level classes.

The Palestinian society is known for its stable customs, but major changes have affected age at marriage. There are two patterns of marriage customs described in detail by Manasra (1993). The first describes the traditional marriage pattern, where the parents of

the groom, usually the mother, select the bride. The second pattern suggests that young people choose their spouses themselves. However, the latter pattern is not yet the norm in Palestine (Manasra 1993). This study showed that women, who married a kin, had higher chances of marriage compared to women who had no kinship to their husband. Marriage between two relatives is not unique to the Palestinians and a similar pattern is reported in other Arab countries. There is no study investigating the reasons underlying these two types of marriage (Johnson 2006).

It would be important to research age at marriage in relation to the practice of cousin marriage. Available evidence indicates that there has been little change in cousin marriage rates during the past several decades among Palestinians living in the Occupied Palestinian Territory. In the 2004 DHS (Palestinian Central Bureau of Statistics 2004) 27.5 % of ever married women aged 14-49 were married to their first cousins. These rates are similar to the rates measured from the 2000 DHS and 1995 DHS. We found that kin had higher odds of marriage than non kin, and further knowledge about marriage of cousins would be helpful to enhance the understanding of marriage in the Occupied Palestinian Territory.

The findings presented in this paper were based on the 2004 DHS (Palestinian Central Bureau of Statistics 2004). Some variables, hypothesized to be associated with age at marriage, were not included in the 2004 DHS, and others were collected at the time of survey and not at the time of first marriage. For example, it would have been informative to know whether marriages were arranged or initiated by the couples themselves. Variables about women's income and location of residence were collected at the time of survey and not at the time of first marriage.

It is puzzling, that the age at first marriage declined during the period of the first Intifada, and rose during the second Intifada. The conflicting effects of economic strife, impoverishment, and political crises need to be elucidated further in order to better understand variations in age at marriage. In particular, the finding suggesting that a

sizeable proportion of women married at older ages or remained single requires further analysis.

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Captions

Figure 1 The 25th, 50th and 75th percentiles of age at first marriage by year for the period 1980-2003 for ever-married women

Figures 2 Age at first marriage by period of marriage and level of education at survey

Figures 3 Age at first marriage by period of marriage and region at birth

Table 1 Proportion married by level of education at survey at exact age 20 and exact age 25 and by region at birth at exact age 20 and exact age 25 among women married in 1988-1992, 1993-1998 and 1999-2003

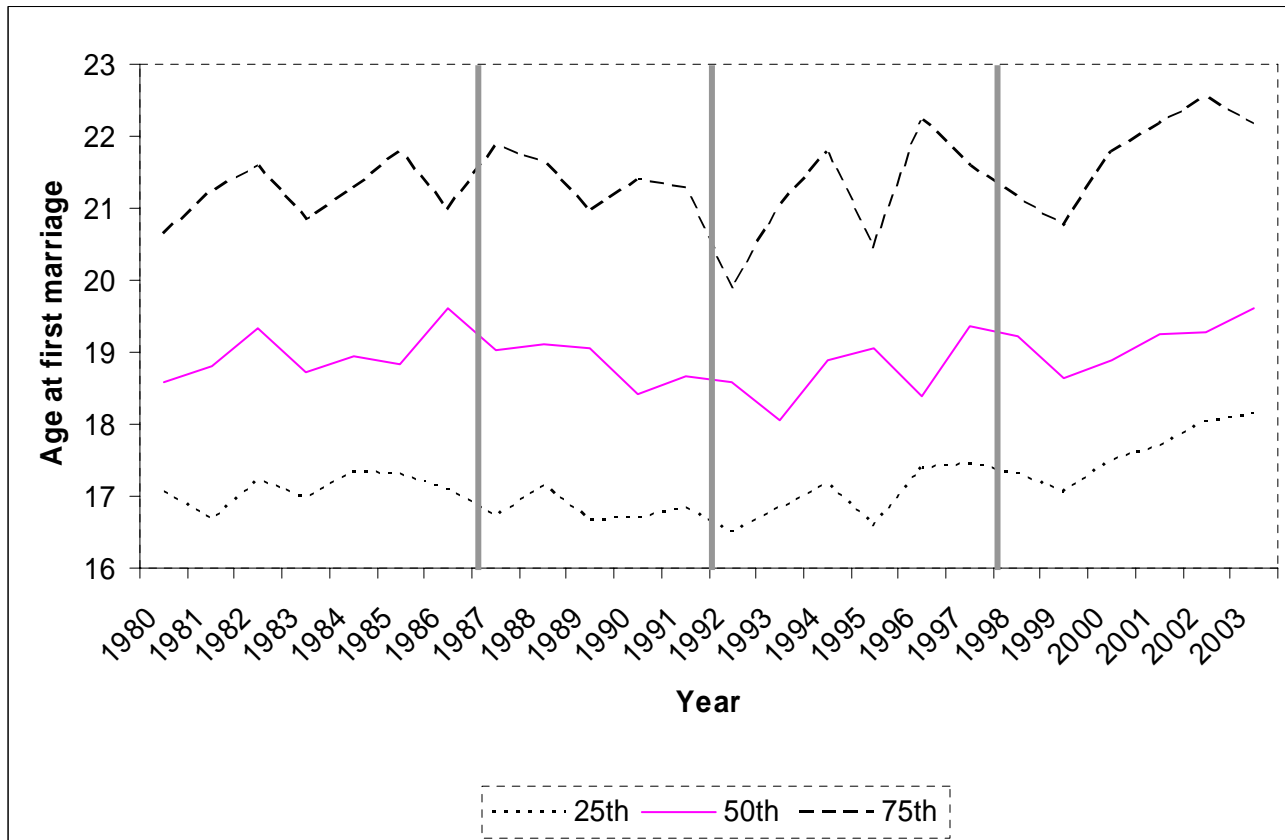
Table 2 Distribution of socio-economic and cultural characteristics by period of first marriage for women who married in Palestine, 1988-2003

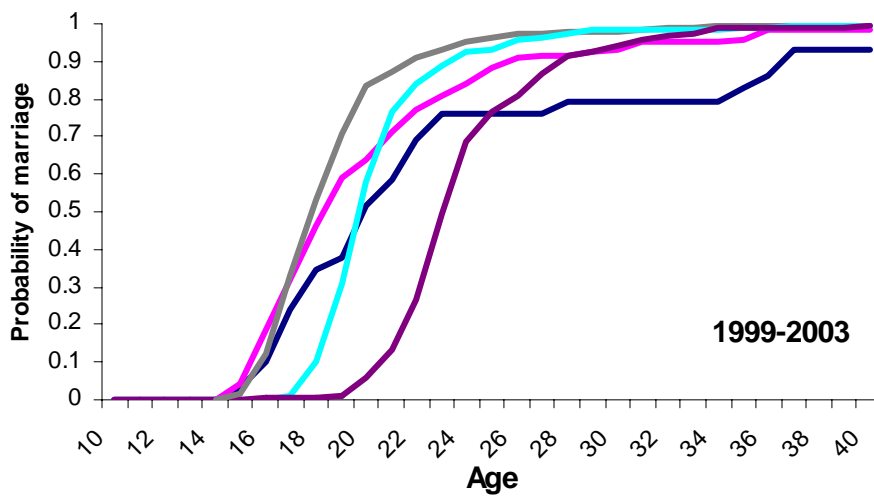
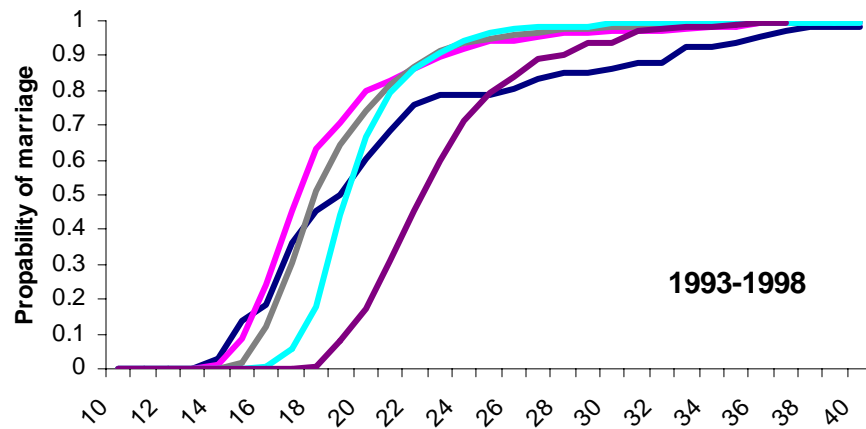
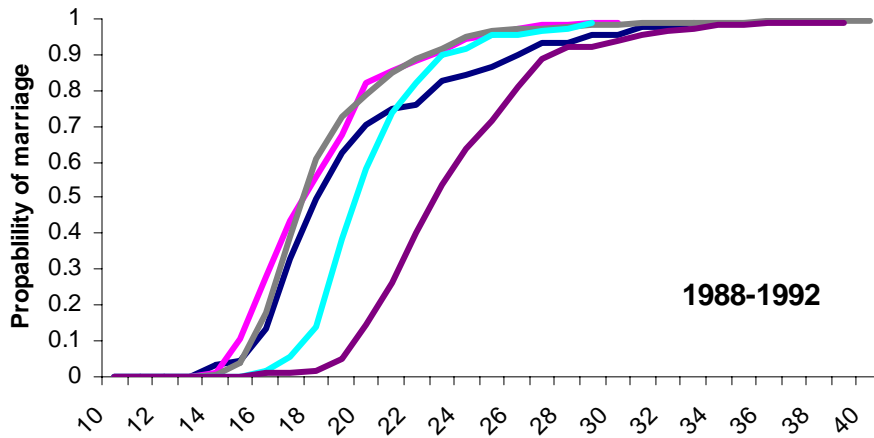
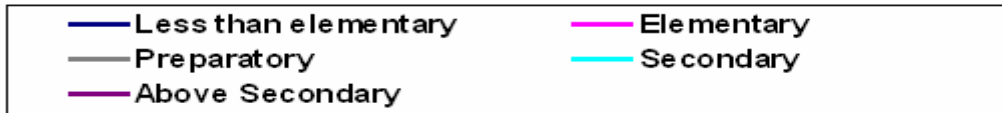
Table 3 A multivariate discrete time logistic regression model, odds ratios (OR), and 95 % confidence intervals (CI) of first marriage for women who married in Palestine, 1988-2003

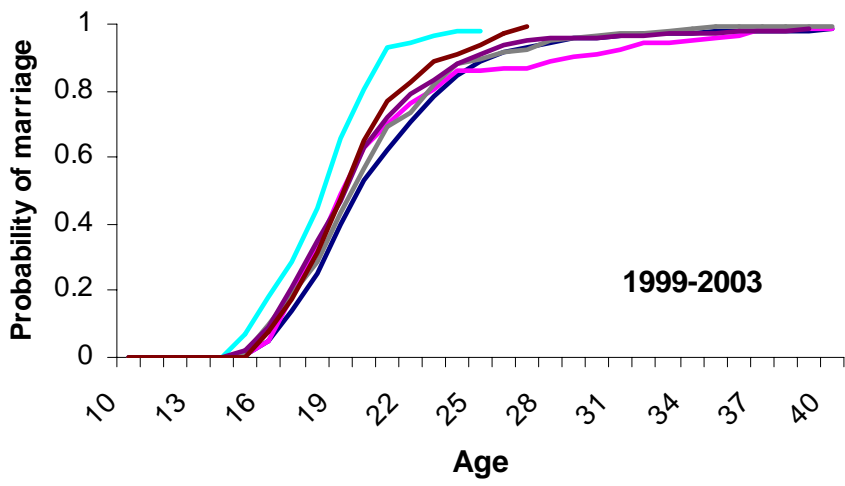
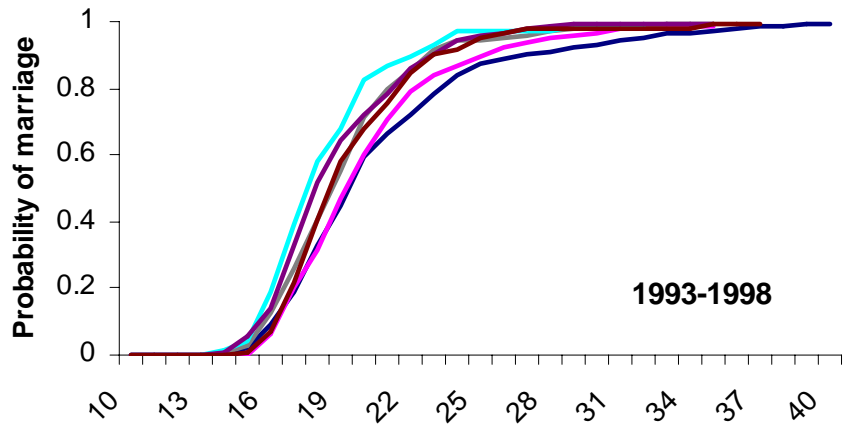
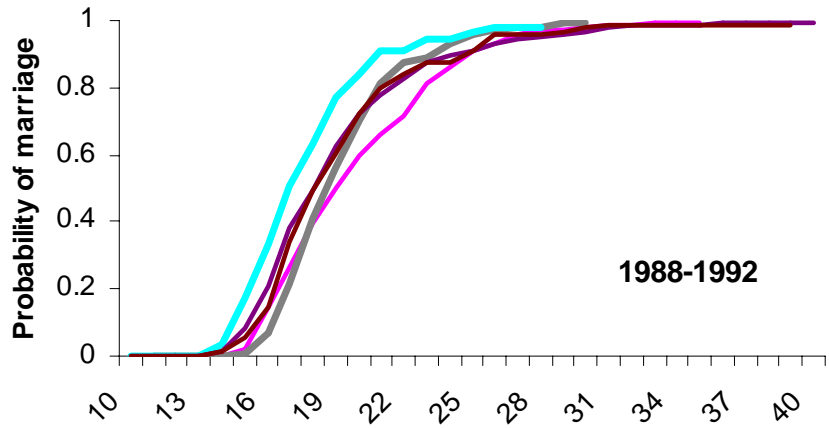
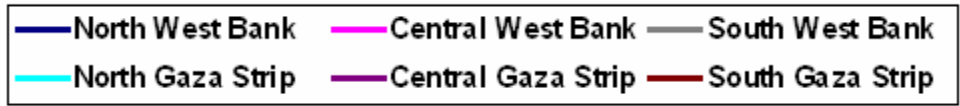
Table 4 Interaction effects, odds ratios (OR), and 95 % confidence intervals (CI) for the interaction of level of education and time period of first marriage for women who married in Palestine, 1988-2003

Table 5 A multivariate discrete time logistic regression model, odds ratios (OR), and 95 % confidence intervals (CI) of first marriage in Palestine, 1988-2003

Figure 1: The 25th, 50th and 75th percentiles of age at first marriage for women who had married in Palestine in the period 1980-2003







Age

Table 1. Proportion married by level of education at survey at exact age 20 and exact age 25 and by region at birth at exact age 20 and exact age 25 among women married in 1988-1992, 1993-1998 and 1999-2003

	Period of marriage ¹					
	1988-1992		1993-1998		1999-2003	
	Proportion married	Sample size	Proportion married	Sample size	Proportion married	Sample size
Education						
Age 20						
Less than elementary	0.70	88	0.61	66	0.52	29
Elementary	0.82	206	0.80	206	0.64	119
Preparatory	0.79	343	0.74	407	0.83	361
Secondary	0.58	184	0.67	245	0.58	290
Above secondary	0.15	115	0.17	173	0.06	157
Age 25						
Less than elementary	0.86		0.79		0.76	
Elementary	0.96		0.94		0.88	
Preparatory	0.97		0.95		0.96	
Secondary	0.96		0.96		0.93	
Above secondary	0.71		0.79		0.76	
Region at birth						
Age 20						
North West Bank	0.59	264	0.59	263	0.53	224
Central West Bank	0.66	117	0.60	157	0.63	122
South West Bank	0.70	148	0.71	154	0.57	148
North Gaza	0.84	57	0.83	69	0.80	56
Central Gaza	0.72	182	0.72	160	0.63	170
South Gaza	0.72	89	0.68	109	0.65	114
Age 25						
North West Bank	0.91		0.87		0.89	
Central West Bank	0.91		0.90		0.86	
South West Bank	0.96		0.94		0.90	
North Gaza	0.96		0.97		0.98	
Central Gaza	0.91		0.96		0.91	
South Gaza	0.91		0.95		0.94	

¹ p<0.001. Differences between categories in a variable, for each variable, for each age and for each period.

Table 2. Distribution of socio-economic and cultural characteristics by period of first marriage for women who married in Palestine, 1988-2003

	Period of marriage ¹			p-value	Sample size
	1988-1992	1993-1998	1999-2003		
Total in percent	31.3	36.7	32.0		100.0
Age at first marriage				0.001	
10-14	46.4	39.3	14.3		84
15-19	32.5	36.8	30.8		1809
20-24	28.1	36.6	35.3		839
25-29	33.3	33.3	33.3		168
30+	20.2	40.5	39.3		88
Education				<.001	
Less than elementary	48.1	36.1	15.9		183
Elementary	38.8	38.8	22.4		531
Preparatory	30.9	36.6	32.5		1111
Secondary	25.6	34.1	40.3		719
Above secondary	25.8	38.9	35.3		445
Region at birth				0.16	
North West Bank	35.2	35.0	29.8		751
Central West Bank	29.6	39.7	30.8		396
South West Bank	32.9	34.2	32.9		450
North Gaza	31.3	37.9	30.8		182
Central Gaza	35.6	31.3	33.2		512
South Gaza	28.5	34.9	36.5		312
Relationship to husband				0.10	
Kin	32.8	37.3	29.9		1235
No kinship	30.2	36.3	33.5		1753
Refugee status				0.91	
Registered refugee	31.1	37.1	31.8		1159
Not registered refugee	29.6	40.8	29.6		98
Not refugee	31.6	36.2	32.2		1732
Sample size	936	1097	956		2989

¹ Do not add up to the total because of missing

Analyze ever married women age 15-54 at survey in 2004 and married 1988-2003= 2989 (age 12-45 at marriage)

You are exposed to marriage from birth Missing

Relationship to husband 1

Period at marriage 142

Birth region 386

(not a problem, if I use REGION, but region is at survey)

Table 3. A multivariate discrete time logistic regression model, odds ratios (OR), and 95 % confidence intervals (CI) of first marriage for women who married in Palestine, 1988-2003

	Univariate		Multivariate	
	OR	95% CI	OR	95% CI
Age				
10-14	0.02	0.01-0.02	0.01	0.01-0.02
15-19	0.62	0.56-0.69	0.47	0.42-0.52
20-24	1.00		1.00	
25-29	0.75	0.61-0.91	0.79	0.64-0.97
30+	0.72	0.54-0.96	0.79	0.58-1.07
Period of marriage				
1988-1992	1.04	0.94-1.15	1.16	0.97-1.39
1993-1998	1.00		1.00	
1999-2003	0.94	0.85-1.04	1.12	0.94-1.33
Education				
Less than elementary	0.82	0.69-0.97	0.56	0.41-0.76
Elementary	0.99	0.88-1.11	1.15	0.94-1.42
Preparatory	1.00		1.00	
Secondary	0.84	0.76-0.94	0.78	0.64-0.95
Above secondary	0.62	0.55-0.70	0.40	0.32-0.50
Region at birth				
North West Bank	0.76	0.64-0.90	0.49	0.41-0.60
Central West Bank	0.78	0.65-0.94	0.55	0.45-0.68
South West Bank	0.84	0.70-1.00	0.62	0.50-0.76
North Gaza	1.00		1.00	
Central Gaza	0.86	0.72-1.03	0.69	0.57-0.84
South Gaza	0.85	0.70-1.04	0.71	0.58-0.88
Relationship to husband				
Kin	1.15	1.06-1.25	1.36	1.24-1.49
No kinship	1.00		1.00	
Refugee status				
Registered refugee	0.99	0.91-1.08	0.88	0.80-0.98
Non-registered refugee	0.88	0.70-1.11	0.88	0.69-1.13
Non-refugee	1.00		1.00	

Interaction between period of marriage and education		
Period of marriage 1988-1992 * less than elementary	1.27	0.85-1.91
Period of marriage 1988-1992 * elementary	0.92	0.69-1.24
Period of marriage 1988-1992 * preparatory	1.00	
Period of marriage 1988-1992 * secondary	0.76	0.57-1.02
Period of marriage 1988-1992 * higher than secondary	0.76	0.55-1.06
Period of marriage 1993-1998 * less than elementary	1.00	
Period of marriage 1993-1998 * elementary	1.00	
Period of marriage 1993-1998 * preparatory	1.00	
Period of marriage 1993-1998 * secondary	1.00	
Period of marriage 1993-1998 * higher than secondary	1.00	
Period of marriage 1999-2003 * less than elementary	0.61	0.36-1.04
Period of marriage 1999-2003 * elementary	0.51	0.37-0.70
Period of marriage 1999-2003 * preparatory	1.00	
Period of marriage 1999-2003 * secondary	0.73	0.55-0.96
Period of marriage 1999-2003 * higher than secondary	0.77	0.56-1.05

Main Model 18 df 13425.18
Period * region 28 df 13413.716, NS
Period * ilrel 20 df 13424.08, NS
Period * refugee 22 df 13415,86, NS

Period * educ 26 df 13394.569,26

```
proc logistic;  
where period in (2,3,4);  
model ms= iage1 iage2 iage4 iage5 per2 per4 iedu01 iedu03 iedu05  
iedu06 ref1 ref2 ibreg1 ibreg2 ibreg3 ibreg5 ibreg6 ilrel  
pr2ed1 pr2ed3 pr2ed5 pr2ed6 pr4ed1 pr4ed3 pr4ed5 pr4ed6;  
run;
```

Table 4 Interaction effects, odds ratios (OR), and 95 % confidence intervals (CI) for the interaction of level of education and time period of first marriage for women who married in Palestine, 1988-2003

	Period of marriage ¹					
	1988-1992		1993-1998		1999-2003	
	OR	95% CI	OR	95% CI	OR	95% CI
Less than elementary	0.82	0.63-1.08	0.56	0.41-0.76	0.38	0.24-0.59
Elementary	1.23	1.00-1.51	1.15	0.94-1.42	0.65	0.51-0.83
Preparatory	1.16	0.97-1.38	1		1.11	0.94-1.33
Secondary	0.69	0.56-0.85	0.78	0.64-0.95	0.63	0.52-0.76
Above secondary	0.35	0.27-0.45	0.40	0.32-0.50	0.34	0.25-0.46

Table 5. A multivariate discrete time logistic regression model, odds ratios (OR), and 95 % confidence intervals (CI) of first marriage in Palestine, 1988-2003

	Univariate		Multivariate	
	OR	95% CI	OR	95% CI
Age				
10-14	0.03	0.02-0.04	0.01	0.01-0.02
15-19	0.90	0.82-0.99	0.48	0.44-0.54
20-24	1.00		1.00	
25-29	0.46	0.39-0.56	0.77	0.62-0.95
30+	0.20	0.15-0.26	0.71	0.53-0.96
Education				
Less than elementary	0.61	0.51-0.71	0.57	0.48-0.69
Elementary	1.08	0.96-1.20	0.93	0.83-1.06
Preparatory	1.00		1.00	
Secondary	0.85	0.77-0.95	0.64	0.57-0.71
Above secondary	0.66	0.58-0.74	0.34	0.30-0.39
Refugee status				
Registered refugee	0.99	0.91-1.08	0.88	0.80-0.98
Non-registered refugee	1.29	1.02-1.62	0.93	0.72-1.19
Not-refugee	1.00		1.00	
Region at birth				
North West Bank	0.64	0.54-0.75	0.50	0.41-0.60
Central West Bank	0.58	0.48-0.69	0.54	0.44-0.67
South West Bank	1.00		0.62	0.50-0.76
North Gaza	0.69	0.57-0.82	1.00	
Central Gaza	0.77	0.64-0.91	0.69	0.57-0.85
South Gaza	0.81	0.67-0.98	0.71	0.57-0.88
Relationship to husband				
Kin	1.15	1.06-1.25	1.36	1.24-1.49
No kinship	1.00		1.00	
Never married	0.00		0.00	

All women (includes never married)

Table 5. A multivariate discrete time logistic regression model, odds ratios (OR), and 95 % confidence intervals (CI) of first marriage in Palestine, 1988-2003

	Univariate		Multivariate	
	OR	95% CI	OR	95% CI
Age				
10-14	0.03	0.02-0.04	0.01	0.01-0.02
15-19	0.90	0.82-0.99	0.48	0.44-0.54
20-24	1.00		1.00	
25-29	0.46	0.39-0.56	0.77	0.62-0.95
30+	0.20	0.15-0.26	0.71	0.53-0.96
Education				
Less than elementary	0.61	0.51-0.71	0.57	0.48-0.69
Elementary	1.08	0.96-1.20	0.93	0.83-1.06
Preparatory	1.00		1.00	
Secondary	0.85	0.77-0.95	0.64	0.57-0.71
Above secondary	0.66	0.58-0.74	0.34	0.30-0.39
Refugee status				
Registered refugee	0.99	0.91-1.08	0.88	0.80-0.98
Non-registered refugee	1.29	1.02-1.62	0.93	0.72-1.19
Not-refugee	1.00		1.00	
Region at birth				
North West Bank	0.64	0.54-0.75	0.50	0.41-0.60
Central West Bank	0.58	0.48-0.69	0.54	0.44-0.67
South West Bank	1.00		0.62	0.50-0.76
North Gaza	0.69	0.57-0.82	1.00	
Central Gaza	0.77	0.64-0.91	0.69	0.57-0.85
South Gaza	0.81	0.67-0.98	0.71	0.57-0.88
Relationship to husband				
Kin	1.15	1.06-1.25	1.36	1.24-1.49
No kinship	1.00		1.00	
Never married	0.00		0.00	