

# Links Between Education and Age at Marriage among Palestinian Women in Israel: Changes Over Time

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*This study focuses on the link between education and marriage timing among Israeli-Palestinian women. Theoretical discussions on marriage timing center on the effect of the time women spend in educational institutions on their age at marriage, and on the change in the desirable traits of women in the marriage market. But most of these arguments overlook situations where significant changes in education take place alongside retention of traditional patriarchal values. Based on data from three population censuses – in 1983, 1995 and 2008—our results suggest that staying longer in schooling delays marriage, so women with less education are more likely to marry earlier than others. While young age is still considered an important characteristic in the Israeli-Palestinian marriage market, and women who delay marriage face a greater risk of remaining single, education becomes more important over the years so that postponing marriage becomes especially problematic for low-educated women. Our findings suggest that traditional norms and structural conditions together shape marriage timing.*

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Education is an important determinant of marriage patterns in developed societies, especially in light of the rise in the level of education. In most industrialized societies it has risen dramatically in recent decades, and in many countries more so for women than for men (Shavit and Blossfeld 1996; Diprete and Buckman 2013). Better education, especially for women, has become one of the most noteworthy triggers of change in women's marriage patterns. In particular, education is strongly associated with the postponement of marriage to an older age (Cherlin 1992; Oppenheimer 1997).

Numerous studies have examined social factors that can explain the link between education and marriage postponement. Most research has centered on women in Western societies, while traditional contexts have had little scholarly attention. Here we examine the marriage patterns of Palestinian women in Israel and their relation to higher educational attainment. Although the Palestinian population in Israel has undergone demographic, social, and economic changes in the past three decades—most notably in improved education—traditional patterns, especially regarding marital behavior and gender roles, are still preserved

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(Abu-Baker 2003). Because social change might affect marital behavior, while tradition upholds common practices, theories based on Western societies may not apply. Our study examines these theories in a context where educational attainment does not always guarantee greater autonomy for women or more egalitarian norms in marital behavior. It has been argued that while Arab women have become more independent through studying and working outside the home, this independence is mainly economic rather than social (Abu-Baker and Azaiza 2010).

## EDUCATION AND POSTPONEMENT OF MARRIAGE

Along with family structure, gender relations, and other aspects of the family, marriage timing has served as a marker of social change (Nobles and Bütünheim 2008; Raymo 2003; Yabiku 2004). In most societies the trend has been in the direction of later marriages (Lesthaeghe and Moors 2000). Several explanations have been proposed for the general trend of delays in marriage timing: ideational changes, spending more time in the educational system, and rising women's labor force participation (Blossfeld and Huinink 1991; Malhotra 1997; Oppenheimer 1988).

Although the reasons for marital delay vary, recent studies have probed the association between education and women's participation in the labor market as the main factor influencing age at marriage. One frequent explanation rests on socio-structural changes in society (DiPrete and Buchmann 2013). As young adults spend more time in the educational system, they delay marriage because they do not perceive themselves, or are not regarded by others, as ready for independent family life (Marini 1984; Blossfeld and Huinink 1991; Furstenberg et al. 2004). While in the past this delay mainly characterized men's marriage patterns, as men were expected to provide for the family, today it is also characteristic of women, who are also expected to participate in paid employment.

The consequences of the rise in women's education and their growing involvement in paid employment are the topic of scholarly debate. Economic theory (Becker 1981) maintains that the rise in women's economic power interferes with the specialized division of labor and the mutual dependence of the spouses. Consequently, the desirability of marriage declines—that is, higher education for women results in a decline in marriage. Against this view, Oppenheimer (1997) suggests that higher education fulfills a similar role for both sexes. In contemporary Western societies both partners are expected to contribute to household income, and since better-educated women have greater opportunities in the labor market, they become more attractive as potential mates. These women may postpone their marriage until they establish their market position, but they are more likely to marry than women with less education. Oppenheimer (1997) argues that postponement of marriage helps to assess men's as well as women's qualities as potential spouses, and while this helps both sexes to find an appropriate mate, it may also reflect changes in the relative supply and composition of eligible men as women age (Oppenheimer 1988). Moreover, a considerable delay in marriage may result in non-marriage, especially for women whose marriage-market position deteriorates with age (Goldman, Westoff, and Hammerslough 1984; Oppenheimer 1988).

Most contemporary studies on marriage timing and its relation to education are conducted in advanced societies, where education provides women with greater autonomy (Oppenheimer 1988) and expectations regarding women's roles have changed. It is not clear, however, whether this is the case in traditional societies that still consider women's youth an important virtue in the marriage market and in which patriarchal values regarding gender roles and marital behavior persist. In those contexts, the link between education and marriage is more complex: on the one hand, increased schooling could result in postponement of marriage, but on the other hand, it might raise the rates of singlehood (see Halehel 2008). Arguably, however, the importance of early marriage in a traditional society is its association with interrupting or ending education (Jarallah, 2008). Indeed, in patriarchal contexts, where families more than individuals decide on the timing of marriage (and on mate selection), women might be taken out of school to marry young. In many traditional societies parents are under pressure to marry off their daughters as early as possible in an effort to control their sexual behavior through marriage.

Yet, previous research has shown that the role of women's economic prospects in marriage formation may vary over time and by society. Kalmijn (2013) argues that education tends to harm marriage prospects in countries with more traditional gender role attitudes but fosters it in more gender-egalitarian countries. Studies in Japan show that while in the past education was negatively associated with marriage formation among women (e.g., Raymo 2003), a reversal of the education gradient was recently found for younger women (Fukuda 2013). Evidence from South Asia indicates that the linear relationship between education and age at marriage also exists in developing societies. In recent years, age at marriage for women has become older by several years, and a growing segment of the population never marries (Jones 2004). These changes have been attributed to rapid economic development, rapidly advancing educational levels for women, and related changes in employment patterns.

Changes in the pattern of women's marriage behavior are also observed in Arab countries, where universal early marriage is no longer the standard (Rashad, Osman, and Roudi-Fahimi 2005). This change is associated with broader social and economic changes as Arab economies have increasingly moved away from an agrarian system, which supported both early marriage and an extended family structure. However, the timing of marriage varies within the region: early marriages are still prevalent in Oman, Yemen, and (to some extent) Egypt, as well as among Palestinians living in Gaza (*ibid.*).

As noted earlier, the increase in schooling and the association between education and women's labor force participation might have affected the value of education in the marriage market. Two related questions are whether highly educated women are attractive as mates and whether the delay in entering marriage harms their marriage prospects. The greater attractiveness of better-educated women in the marriage market might hold for societies with high rates of female labor force participation (Mare 1991; Stier and Shavit 1994), where gender distinctions are blurred. Studies in the United States, for example, have shown that women's economic prospects are positively related to marriage (Goldscheider and Waite 1986; Lichter, McLaughlin, and Ribar 2002; Oppenheimer and Lew 1995; Thornton, Axinn, and Xie 2007; Waite and Spitze 1981), and the importance of women's economic prospects for marriage has increased over time (Lichter, McLaughlin, and Ribar 2002; Goldstein and Kenney 2001; Sweeney 2002). Shafer and Qian (2010) find that educational attainment affects both age at

marriage and the likelihood of marriage. The likelihood of marriage for the less educated steadily declines with age, while for the highly educated it increases with age. According to their findings, although college-educated women enter the marriage market at later ages, this delay does not hamper their marriage prospects.

In more traditional settings, Yu and Xie (2015), studying marriage patterns in China, report that employed women in the most recent cohorts are most likely to marry after age 21. However, educational attainment has an increasingly negative association with the likelihood of marriage. Research on Islamic societies that examined the role of women's education as an asset in the marriage market noted an apparent tension between education, which symbolizes empowerment and modern egalitarian values, and commitment to traditional Islamic values, which hold a more conservative view of marriage and family (El Guindi 2009; Sa'ar 2000). Palestinian women in Israel, for example, report feeling empowered by their education, but also reveal a tendency to conceal their power to prevent its perception as a threat to their families (Gilat and Hertz-Lazarowitz 2009).

The current study adds to this latter body of work by examining the association between education and marriage timing in contemporary Israeli-Palestinian society, which is also undergoing changes in women's education and in their involvement in the labor market. It is not clear whether women's improving education in this traditional society is related to their marriage timing and marriage prospects. Prior studies on Palestinian women in Israel provide only limited information on how demographic changes interact with social norms (e.g., Halehel 2009; Lewin 2012; Al-Haj 1988).

## THE PALESTINIAN POPULATION IN ISRAEL

Israeli Palestinians constitute one fifth of the population of Israel, approximately 1.5 million people (Israel Central Bureau of Statistics 2012). The population is heterogeneous religiously, consisting of a majority of Muslims (about 82 percent) and a minority of Christians and Druze. While these groups differ in social, economic, and political characteristics, the social and cultural aspects of family life are similar and more traditional than in Jewish society.

Influenced by ties to the Jewish majority through legal, economic, and state policies, the Israeli-Palestinian population has undergone demographic, social, and economic changes over the past three decades. These include a decline in fertility, weakening of the extended family, and a rise in the standard of living (Al-Haj 1995). Particularly important in this context is the expansion of education, especially among women. The proportion of females in the educational system (elementary and high school) was 18 percent in 1948, 38 percent in 1970, and 48 percent in 1991. In 2001, 5.2 percent of women had academic education (BA and above), rising to 10.6 percent in 2008 (Israel Central Bureau of Statistics, various years). Moreover, women's educational attainment has recently surpassed that of men (Okun and Friedlander 2005). In 2009 the proportion of Israeli-Palestinian women with a Bachelor's degree was 11.1 percent, compared with 10.1 percent of men (Ga'ra 2012).

In Israel, as elsewhere, the rise in educational levels accompanied by economic needs has drawn more Israeli-Palestinian women into the work force, albeit at a lower participation rate than that of Israeli-Palestinian men and Israeli-Jewish women (Arar and Mustafa 2009).

Labor force participation rates are higher among Israeli-Palestinian women who are college graduates, 62 percent of whom are in paid employment, as against only 19 percent of women with high school education. Most highly educated women work in female-dominated occupations such as teaching, nursing, and social welfare (Israel Central Bureau of Statistics 2005; Khattab 2002). Moreover, unlike Jewish women, married Arab women are substantially less likely to be employed than their unmarried counterparts (Khattab 2002). Scholars have typically explained the limited involvement of Israeli-Palestinian women in paid work in terms of cultural and/or structural barriers (Offer and Sabah 2011). The cultural explanations contend that patriarchal norms are highly prevalent and restrict women's occupational opportunities by relegating them to jobs that allow prioritizing of domestic work and childrearing (Abu-Baker 2003). Structural explanations highlight the fact that most Israeli Palestinians (men and more so women) have limited opportunities in the labor market because of their socioeconomic disadvantages and discrimination (Semyonov and Lewin-Epstein 1994).

Despite social and cultural changes over the last three generations, traditional patterns of marriage and gender roles have been largely preserved (Haj Yahia-Abu Ahmad 2006). Some researchers have proposed that studying and working outside the home have made Arab women more independent and have led them to develop expectations typical of Western culture, such as self-fulfillment and gender equality (Abu-Baker and Azaiza 2010). Others claim, however, that women may have gained economic power but not social independence (Abu-Rabiea-Queder 2008). Abu-Baker and Azaiza (2010) argue that education is expected to be highly valued in the marriage market. However, age is also an important asset in the marriage market of Palestinian women, so education is viewed positively as long as women marry at a young age, say between 17 and 23 years.

Notwithstanding the stigma and penalty of non-marriage, recent studies show that generally women's non-marriage rates are rising in Arab countries (Rashad, Osman, and Roudi-Fahimi 2005), including those of Palestinian women in Israel (Jarallah 2008; Lewin 2012). This rise is attributed partly to the longer time women spend in educational institutions (Fargues 2001; Halehel 2008). Rates of non-marriage are also affected by the prevalence of arranged marriage, a common practice in traditional societies aimed at increasing wedlock (Matras 1973), and by the availability of mates (Lewin 2012). While marriage patterns among Israeli Palestinians have changed considerably, marriage is still the only path to family life and parenthood, so marriage rates remain high (Halehel 2008; Lewin 2012). Single women are childless and often reside in their parental home, where they have little independence (Sa'ar 2000).

Age at marriage has remained stable among the Muslim majority. Median age at marriage for women was 21.2 in 1990 and 21.9 in 2012. Among Christian and Druze women, age at marriage rose more substantially: for the former from 22.5 in the early 1990s to 24.7 in 2012; for the latter from 19.1 to 22.5 (Israel Central Bureau of Statistics 2014). Okun (2013) also found that the proportion of never-married Israeli-Palestinian women aged 20–29 has remained generally lower than the proportion among Jewish women.

Given the special characteristics of Israeli-Palestinian society, which has undergone significant changes while upholding patriarchal norms related to gender roles and family orientation, we propose several hypotheses regarding the association between marriage patterns (timing and likelihood of marriage) and education, positing that marriage patterns

vary by level of educational attainment. Some of these hypotheses are in line with studies conducted elsewhere (as we discussed above); others are unique to the population under study.

First, we expect that young women still in school will be less likely to marry than those who have completed their schooling. Second, we expect that education will be positively associated with age at marriage, so that women with more education will marry at a later age than women with less. As is the case in more developed countries, Israeli-Palestinian women's additional schooling might be seen as an asset, although it delays women's entry into the marriage market. Therefore, more educated women will presumably have better prospects in the marriage market than their less educated counterparts. However, because Palestinians still adhere to traditional norms regarding marriage and gender roles, it is not certain that higher education is seen as an asset for women who spend several years in the marriage market after completing their education. Given the patriarchal nature of society and the role families continue to play in choosing spouses, we posit that age norms will play an important part in determining the association between education and marriage. As other studies have found, less educated women are deemed more likely to marry at a younger age than more educated women (Lewin 2012), and their prospects for marriage will decline with age. But we leave open the question whether at older ages (e.g., 25 and above) higher education is still considered an asset in the marriage market.

As for changes over time, we expect that the likelihood of marriage has increased for the highly educated (and declined for the less educated) as Israeli-Palestinian society has become less traditional and levels of education have risen for the society as a whole. While these changes are expected to result in postponement of marriage for all women, we expect that it will be much more pronounced among the highly educated.

## DATA AND METHODS

This study is based on data obtained from the 20 percent sample of Israeli households drawn from the population census conducted by the Central Bureau of Statistics in 1983, 1995, and 2008. While the census data allow us to analyze trends over time in age at marriage and its relation to education, there are some limitations to these cross-sectional data files. For example, women's education level, or their being in any learning framework, was based on the day of the census and not close to the marriage date. To overcome this limitation and to reach the closest estimate of education level at marriage, we used data on the woman's age, education level, and age at marriage, and assigned education level according to her stage of life (e.g., women with academic degrees were coded as having high school education at ages 17–18 and academic education at ages 21+). The analysis was restricted to Israeli-Palestinian women aged 17–30 at the time of each census. We chose to follow women from age 17, since this was the legal age for marriage in the periods of the censuses. The proportion of women who reported marrying younger than age 17 was small (about 3–5 percent across all periods) and partly denotes coding and reporting errors. Our sample was 15,515 women for 1983, 25,599 for 1995, and 25,356 for 2008.

We constructed a life-history file that followed never-married women from age 17 until they married or exited the data by being unmarried at age 30 at the year of the census.

Preliminary analysis showed that marriage after age 30 was rare in this population. Each woman contributed observations from age 17 until her age at marriage or until the census date. This resulted in 62,956 observations in 1983, 108,672 in 1995, and 105,199 in 2008. Our dependent variable measured the odds of getting married in each observation year. We examined the likelihood of marriage by age for the entire population in each time period. We further examined the likelihood of marriage in one of five age groups: 17–18, 19–20, 21–22, 23–24, and 25–30. This formulation allows us to examine the likelihood of entering marriage at specific ages and its association with education as well as changes over time.

The main independent variable was woman's education. We indicated whether she was still at school (=1) at the time of the census according to her age and reported education level (e.g., women with high school education were coded as being at school only at ages 17–18). As stated above, on the basis of her age and education certificate on the day of the census, we determined whether she was in school every year from age 17 until her age of marriage, or until the time of the census if she was single. This approach is accurate for primary, junior, and high school education, but might introduce some bias regarding higher education. We measured education by the highest education certificate the woman obtained. This yielded four categories: primary and junior high school; secondary (with or without matriculation), post-secondary certificate including those who attended non-academic higher education; and academic degree. This variable was introduced as a set of dummy variables with "high school certificate" as the reference category. We also indicated the woman's religion as a set of dummy variables: Muslim (reference group), Christian, Druze.

The multivariate analysis is based on discrete-time event history models to predict the likelihood of marriage at a certain age level by education. We use discrete-time logistic regression because it allows us to distinguish marrying at an early age from marrying at later ages (Allison 1984). These models also enable us to detect changes over time in the role of education in the marriage market. We present three regression models for each time period, which estimate the effects of educational attainment and religion on the likelihood of marrying within specific age periods.

## RESULTS

We start by presenting the distribution of all variables included in the multivariate models. Table 1 shows these statistics separately by year, depicting the significant rise in the level of women's education over time, hence the increasing rate of young women still at school (from 10.2 percent in 1983 to 24 percent in 2008). In 1983 about 67 percent of Palestinian women had less than high school education. By 2008 this population had fallen to 27 percent. The proportion of young women who attended high school more than doubled during this period (from 26 percent to 53 percent), and a significant rise was also evident in more advanced education, although the proportion with post-high school education was still relatively low.

Table 1 shows also that women's average age at marriage became slightly older over time, but without any significant change between 1995 and 2008 (from 19.9 in the early 1980s to 20.4 in 1995 and 20.5 in 2008). The distribution of religious affiliation was generally similar in

**TABLE 1** Characteristics of Israeli-Palestinian women aged 17–30, by year of survey

|                                  | 1983   | 1995   | 2008   |
|----------------------------------|--------|--------|--------|
| <b>Education level (percent)</b> |        |        |        |
| Less than high school            | 66.7   | 48.0   | 27.1   |
| High school                      | 25.9   | 40.4   | 52.9   |
| Post-high school (non-academic)  | 5.7    | 7.1    | 7.8    |
| Academic                         | 1.7    | 4.5    | 12.2   |
| At school                        | 10.2   | 12.6   | 24.2   |
| <b>Marriage characteristics</b>  |        |        |        |
| Percent married                  | 55.6   | 52.4   | 49.2   |
| Average age at marriage          | 19.9   | 20.4   | 20.5   |
| <b>Religion (percent)</b>        |        |        |        |
| Muslim                           | 75.7   | 78.8   | 83.2   |
| Christian                        | 14.8   | 11.7   | 8.6    |
| Druze                            | 9.5    | 9.5    | 8.2    |
| N                                | 15,515 | 25,599 | 25,356 |

**TABLE 2** Characteristics (%) of Israeli-Palestinian women, by age at marriage, education level, and year of survey

|                                | Age at marriage |       |       |       |       | Total  | Single |
|--------------------------------|-----------------|-------|-------|-------|-------|--------|--------|
|                                | 17–18           | 19–20 | 21–22 | 23–24 | 25–30 |        |        |
| <b>1983</b>                    |                 |       |       |       |       |        |        |
| <b>Married</b>                 | 35.2            | 30.9  | 19.0  | 8.9   | 6.0   | 100.0  |        |
| <b>Educational level:</b>      |                 |       |       |       |       |        |        |
| Less than high school          | 90.3            | 85.0  | 76.6  | 66.8  | 67.6  | 82.7   | 62.5   |
| High school                    | 9.7             | 11.3  | 12.5  | 12.2  | 9.8   | 11.0   | 31.3   |
| Post-high school(non-academic) | 0.0             | 3.3   | 8.6   | 14.0  | 12.8  | 4.6    | 4.4    |
| Academic                       | 0.0             | 0.4   | 2.3   | 7.0   | 9.8   | 1.7    | 1.7    |
| <b>At school</b>               | 10.2            | 3.0   | 1.8   | 0.6   | 0.0   | 4.9    | 21.7   |
| N                              | 2,734           | 2,386 | 1,440 | 687   | 460   | 7,707  | 6,362  |
| <b>1995</b>                    |                 |       |       |       |       |        |        |
| <b>Married</b>                 | 27.2            | 31.6  | 21.7  | 11.7  | 7.8   | 100.0  |        |
| <b>Educational level:</b>      |                 |       |       |       |       |        |        |
| Less than high school          | 65.2            | 46.5  | 40.5  | 39.7  | 39.3  | 48.9   | 46.2   |
| High school                    | 34.8            | 46.8  | 39.4  | 31.8  | 29.2  | 38.8   | 42.3   |
| Post-high school(non-academic) | 0.0             | 5.5   | 14.9  | 18.0  | 15.3  | 8.2    | 6.9    |
| Academic                       | 0.0             | 1.2   | 5.2   | 10.5  | 16.2  | 4.1    | 4.6    |
| <b>At school</b>               | 32.1            | 8.5   | 7.4   | 1.3   | 0.4   | 13.0   | 24.7   |
| N                              | 3,216           | 3,750 | 2,566 | 1,393 | 920   | 11,845 | 11,520 |
| <b>2008</b>                    |                 |       |       |       |       |        |        |
| <b>Married</b>                 | 25.0            | 33.6  | 22.1  | 12.2  | 7.1   | 100.0  |        |
| <b>Educational level:</b>      |                 |       |       |       |       |        |        |
| Less than high school          | 51.0            | 37.9  | 26.4  | 20.9  | 21.4  | 35.4   | 25.3   |
| High school                    | 49.0            | 51.6  | 31.0  | 26.2  | 21.7  | 41.2   | 58.6   |
| Post-high school(non-academic) | —               | 8.7   | 39.6  | 49.1  | 49.8  | 21.2   | 6.0    |
| Academic                       | —               | 1.8   | 3.0   | 3.8   | 7.1   | 2.2    | 10.1   |
| <b>At school</b>               | 42.9            | 22.6  | 26.4  | 6.9   | 1.6   | 24.2   | 41.1   |
| N                              | 2,712           | 3,649 | 2,399 | 1,332 | 770   | 10,862 | 12,988 |

all three periods: the proportion of Muslims rose from about 76 percent in 1983 to 83 percent in 2008; the proportion of Christians decreased from 15 percent in 1983 to 9 percent in 2008. The proportion of Druze across the three periods was about 9 percent.

Table 2 shows the distribution of education by marital status and age at marriage. Women who married very young (age 17–18) tended to have less than high school education: 90 percent in 1983, 65 percent in 1995, and 51 percent in 2008. Women with lower education were the first to enter the marriage market, while others were still at school or planned to continue



**TABLE 3** Multiple-decrement life table estimates of entering marriage by specific ages, 1983–2008

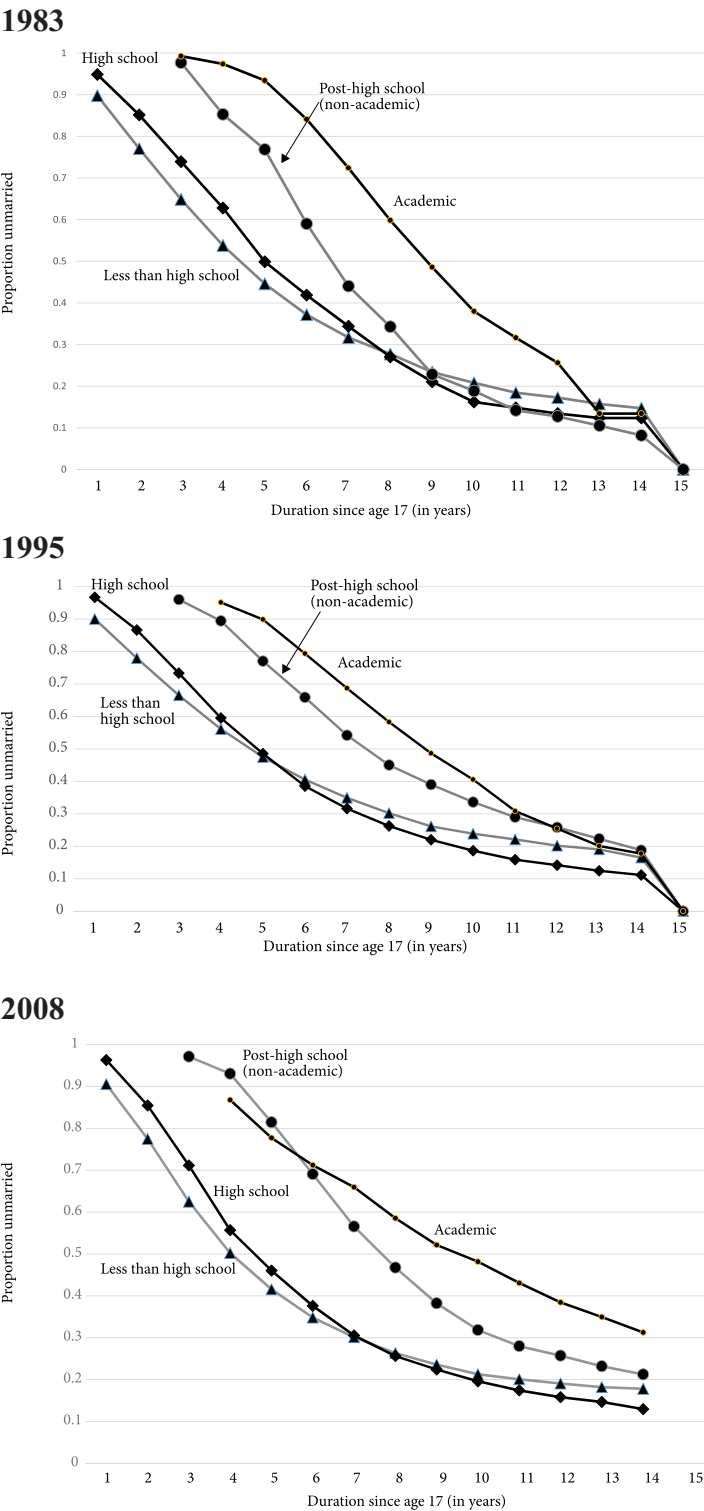
| Married by age | 1983 | 1995 | 2008 |
|----------------|------|------|------|
| 18             | 0.22 | 0.16 | 0.15 |
| 20             | 0.44 | 0.38 | 0.36 |
| 22             | 0.61 | 0.55 | 0.55 |
| 24             | 0.72 | 0.67 | 0.69 |
| 27             | 0.82 | 0.78 | 0.79 |
| 30             | 0.86 | 0.82 | 0.83 |

their studies. Because the overall education level rose over time, the share of women with low education among those who married at age 17–18 declined over time as well. Consequently, the dominant group in 2008 was women with high school education (about 41 percent). More women with higher education, both academic and non-academic, married at ages 23–24 and 25–30 than at younger ages; the proportion of women with less than high school education at age 25–30 was substantial in 1983 and in 1995, but by 2008 it was only 21 percent. These findings indicate that women's education was critical for the timing of marriage. Accordingly, it affected the propensity to marry. The share of women with low education among those who remained single until age 30 decreased over time, while the share of women with higher education (non-academic and academic) increased substantially, from 4.4 percent and 1.7 percent in 1983 to 6 percent and 10 percent in 2008 respectively.

Table 3 provides the multiple-decrement life table estimates of entering marriage by age. The results are presented separately by census year. These estimates show the likelihood of marriage from age 17 to age 30 (or the census date). A substantial proportion of women married before age 21 in all time periods, indicating a pattern of early marriage for this population. More than three quarters of women were married by age 27, and more than 80 percent had married by age 30. Few marriages occurred between age 27 and 30 (4 percent more). This again indicates the persistent importance of women's young age in the Israeli-Palestinian marriage market.

Figure 1 (based on life table estimates) shows the pattern of entry into marriage by education. About half of the women with low education married before age 21: 48 percent in 1983, 45 percent in 1995, and 48 percent in 2008. The low proportion of early marriages among women with high education indicates that they tended to delay marriage, probably until they completed their studies. The rates of women with post-secondary and academic education who married before age 21 in 2008 were 7 percent and 16 percent respectively. Women with higher education who delayed their marriage had the highest likelihood of remaining single until age 30, with the proportion rising from 13 percent in 1983 to 22 percent in 2008. These findings lead to the conclusion that delaying marriage while women are still in school may have created a "marriage squeeze," especially as the proportion of women in higher education began to surpass that of men. The high proportion of women with high school education who married before age 30 in all three years shows that early entry into the marriage market with a "good" education was still important. These findings do not accord with previous studies from developed countries that report a greater likelihood of marriage for highly educated than for less educated women (see Oppenheimer 1988, 1997).

**FIGURE 1** Proportion of women marrying in each year between ages 17 and 30, by level of education in 1983, 1995, and 2008



## MULTIVARIATE ANALYSES

We now present discrete-time logistic regression models that predict the likelihood of marrying at specific ages. The independent variables are woman's education level (in four categories) and whether she is still in school. The models also include a control for religious affiliation. The results are presented in Table 4 for each year separately. For 1983 the first panel shows that women with the lowest education level were more likely than women with high school education (the reference category) to marry at age 19–20 (but not earlier). But those who had not married by age 20 had lower chances of marrying later (–0.41 at age 23–24; –0.46 at age 25–30) than high school graduates. That is, women with lower education seem to be less attractive as mates as they grow older. Although the models control for being

**TABLE 4** Logistic regression coefficients predicting marriage likelihood by age<sup>a</sup> and year of survey

|                              | Age     |         |         |        |        |
|------------------------------|---------|---------|---------|--------|--------|
|                              | 17–18   | 19–20   | 21–22   | 23–24  | 25–30  |
| <b>1983</b>                  |         |         |         |        |        |
| <b>Education<sup>b</sup></b> |         |         |         |        |        |
| Less than high school        | 0.14    | 0.18*   | –0.10   | –0.41* | –0.46* |
| Post-high school             | —       | –0.26   | 0.11    | 0.32*  | 0.45*  |
| Academic                     | —       | —       | –0.59*  | –0.11  | 0.28   |
| At school                    | –1.24*  | –1.25*  | –0.64*  | –0.89  | —      |
| <b>Religion<sup>c</sup></b>  |         |         |         |        |        |
| Christian                    | –0.33*  | –0.24*  | –0.11   | –0.26* | –0.15  |
| Druze                        | 0.10    | 0.20*   | 0.15    | 0.09   | 0.32   |
| Constant                     | –2.02*  | –1.81*  | –1.51*  | –1.45* | –1.62* |
| $\chi^2$                     | 490.56* | 191.50* | 36.22*  | 44.12* | 37.40* |
| N (observations)             | 25,187  | 15,328  | 8,413   | 4,468  | 3,500  |
| <b>1995</b>                  |         |         |         |        |        |
| <b>Education<sup>b</sup></b> |         |         |         |        |        |
| Less than high school        | 0.17    | –0.09*  | –0.31*  | –0.28* | –0.42* |
| Post-high school             | —       | –0.19*  | –0.22*  | 0.03   | 0.06   |
| Academic                     | —       | —       | –0.48*  | –0.17  | 0.25*  |
| At school                    | –0.76*  | –0.90*  | –0.46*  | –0.84* | –0.80  |
| <b>Religion<sup>c</sup></b>  |         |         |         |        |        |
| Christian                    | –0.55*  | –0.22*  | –0.10   | –0.00  | 0.10   |
| Druze                        | 0.02    | 0.30*   | 0.34*   | 0.28*  | 0.18   |
| Constant                     | –2.22*  | –1.69*  | –1.50*  | –1.64* | 1.93*  |
| $\chi^2$                     | 703.19* | 301.11* | 133.94* | 40.03* | 53.62* |
| N (observations)             | 41,249  | 28,079  | 15,784  | 8,860  | 7,737  |
| <b>2008</b>                  |         |         |         |        |        |
| <b>Education<sup>b</sup></b> |         |         |         |        |        |
| Less than high school        | 0.66*   | 0.02    | –0.17*  | –0.34* | –0.39* |
| Post-high school             | —       | –0.22*  | 0.03    | 0.10   | 0.41*  |
| Academic                     | —       | —       | –0.39*  | –0.27  | 0.28   |
| At school                    | –1.01*  | –0.92*  | –0.61*  | –0.36* | 0.24   |
| <b>Religion<sup>c</sup></b>  |         |         |         |        |        |
| Christian                    | –1.58*  | –0.79*  | –0.47*  | –0.19* | –0.11  |
| Druze                        | –0.47*  | –0.19*  | 0.00    | 0.01   | 0.14   |
| Constant                     | –2.17*  | –1.50*  | –1.44*  | –1.61* | –2.19* |
| $\chi^2$                     | 1320.08 | 743.51  | 156.35  | 39.74  | 58.22  |
| N (observations)             | 35,014  | 27,816  | 13,296  | 7,476  | 6,264  |

\*Significant at  $p < 0.05$ .

<sup>a</sup>Compared to remaining single

<sup>b</sup>Reference category is secondary school.

<sup>c</sup>Reference category is Muslim.

at school, this means that women who aimed for more education refrained from marrying too young. Further, the propensity to marry was highest for high school graduates at age 21–22, compared to women still enrolled in academic education. But this pattern changed at later ages, indicating that completing schooling with non-academic post-high school education increased the chances of marrying by 38 percent ( $e^{0.32}$ ) over completing schooling with high school education. This pattern was different for women with academic education. While they were less likely than high school graduates to marry at age 21–22, they did not differ from them at later ages (–0.11 at age 23–24; 0.28 at age 25–30), even though the latter had completed their schooling by then. The higher marriage likelihood for women with post-high school non-academic education could have been due to their mostly being teachers and nurses. They entered the labor market earlier, but they also represented a more traditional career choice that allowed a combination of work and family. Academic women were fairly rare in 1983, and this fact probably also affected their standing in the marriage market.

The results for 1995 are quite different. Similar to the earlier period, less educated women and high school graduates did not differ in their chances of marrying at age 17–18. Also, the latter were most likely to marry at ages 19–20 and 21–22, and the effect was significantly stronger than in 1983. Those who acquired (or planned to acquire) higher education postponed their marriage and were the most likely to marry later. The chances of a woman with high school education marrying at age 21–22, after having spent several years in the marriage market, were about 21 percent ( $e^{0.79}$ ) higher than the chances of those with post-high school education, and 39 percent ( $e^{0.61}$ ) higher than the chances of those with an academic education. These differences were significantly greater than in the earlier period. By age 23–24 there was no longer a significant difference between less educated and more educated women. After age 24, women with higher education were about 28 percent ( $e^{1.28}$ ) more likely to marry than women with high school education. These findings can be attributed to the change in the educational system in Israel during these years, with the expansion of higher education and the academization of most educational and health occupations. Women with low education became less attractive in the marriage market, especially after age 20. The postponement of marriage was "justified" for those who acquired higher education but not for other women. Women with high school education who remained in the marriage market until, say, age 25 or older had to compete against women with higher education who had better opportunities in the labor market and higher status in the community. These results accord with Oppenheimer's (1988) findings that academic education increases the likelihood that women will marry at later ages.

By 2008 the marriage pattern had changed again, but the role of education did not prove more pronounced in the most recent period. As the bottom panel of Table 4 shows, women in the youngest age group with lower education had a 95 percent ( $e^{1.95}$ ) greater likelihood of marrying than high school graduates. The effect of education in this age group was significantly stronger than in earlier years. However, women with low education were less likely to marry at older ages, as also observed in previous years. Women with high school education were the most likely to marry at ages 19–20 (with no significant difference from the less educated) and 21–22, while women with academic and non-academic post-high school education were still in school. These women were most likely to marry after age 24 (0.41). Contrary to our expectations, academic women and high school graduates did not differ in

this respect, as we also observed in the early 1980s but probably for different reasons. These findings again show that women who delayed their entry into the marriage market because they were still in school put their likelihood of marrying at risk.

As to religious affiliation, the chances of marrying declined with age for Muslims, Christians, and Druze alike.

Three main conclusions emerge from the analysis by age. First, over the entire period of study, women with less than high school education became less attractive in the marriage market as they grew older. Second, with the expansion of higher education, highly educated but non-academic women improved their position in the marriage market as their likelihood of marrying at later ages increased, while the likelihood of academic women marrying at later ages increased only in 1995. Third, women with high school education were most likely to marry at age 21–22. In other words, those less educated women who have spent several years in the marriage market become less attractive as mates when more educated women begin to enter the marriage market. Aside from the cultural preference for young women in the most recent period, women's youth is not long an asset by itself. Women who choose, or are obliged, to postpone their marriage may well reduce their chances of marrying unless they are acquiring advanced education. This conclusion is reinforced by the fact that educated women become attractive at later ages, but the fact that this trend had changed by 2008 leads to the assumption that women with the highest education may face a marriage squeeze in which they have greater difficulty in finding suitable mates in terms of age and perhaps education.

## DISCUSSION

This study examined marital behavior in Israeli-Palestinian society, which has undergone rapid social changes while at the same time maintaining traditional gender roles. Our findings suggest that with increasing education among Israeli-Palestinian women over time, the link between education and age at marriage has changed. As is evident in many other societies, women delay entering marriage while still studying. Therefore, less educated women are the first to marry, while the more educated entered the marriage market later in life. Women with a low level of education have good chances of marriage while they are young, but they become less attractive mates as they grow older. These women must also compete with more educated women, who by that stage have entered the marriage market. Throughout the entire period women with non-academic post-high school education had the best chances of marriage after they completed their studies (age 23 and above). We expected improved marriage market prospects for women with the highest level of education, but women with academic degrees did not fare better than women with high school education in 1983 and in 2008. The advantage in the marriage market of women with non-academic post-high school education probably stems from their employment in traditional female-dominated occupations that facilitate combining work and family in a way that does not alter the division of labor in society. They also enter the marriage market at a younger age than more educated women, and they may well have a larger pool of potential mates.

Still, education is not without high value in the marriage market. In 1995, highly educated women had the greatest likelihood of marrying after they completed their studies, indicating that education has high value in the marriage market. The similarity in the marriage pattern for better-educated women in the early and late periods of the study stems from different causes. In the earlier period only a small, highly select group entered university. Although they continued studying until a later age, this did not improve their chances of marrying at any age. These women might have posed a threat to the normative patterns of marriage at the time. However, with the gains in education for both men and women over time, and the rising number of women entering university in particular, women's likelihood of marrying after graduation improved considerably. These women can be seen as agents of change, and, as their numbers grow the overall pattern of marriage may change as well.

Young age is still considered an important characteristic in the Israeli-Palestinian marriage market, especially for women who are no longer in school. Consequently, young age will be an asset for women with lower education while their counterparts are still studying. At the same time, higher education is becoming more important over time, and in particular allows postponement of marriage—but not for those with low education. When less educated women postpone marriage, they may find it increasingly difficult to find mates. Women's education is an asset in Palestinian society, but it still competes with age since cultural forces continue to encourage earlier marriage. The result of these two somewhat conflicting forces (as acquiring higher education necessitates postponement of marriage) is, on the one hand, a decline in the effect of age on women's marriage prospects and, on the other hand, a higher risk of non-marriage for women who postpone marriage.

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