**Marriage and Education among Women in Mexico: Patterns of Continuity or Change?**

Rhiannon Kroeger[1]
Reanne Frank[2]

1 Assistant Professor, Department of Sociology, Louisana State University
2 Presenter. Associate Professor. Department of Sociology. The Ohio State University

**Abstract**

In Mexico, substantial changes in the realms of education, fertility and labor force participation have co-existed alongside considerably smaller changes in age at first marriage for women. In this paper, we address these enigmatic patterns by presenting a more nuanced analysis of entry into first marriage. Using data from the Mexican Family Life Survey (MxFLS), we find increases in the age at marriage for young women in Mexico across cohorts, largely due to the expansion of education and its delaying effect. We also find evidence that the relationship between education and marital timing in Mexico is changing such that highly educated women in Mexico are no longer accelerating their transition to first marriage. For the most recent cohort of women, we find that it is precisely young women with higher levels of education and educational aspirations who expect to delay marriage the most. We speculate that these findings point to the increasing relevance of a female independence model for younger cohorts of women in Mexico.

**Introduction**

For women in Mexico, entry into marriage is nearly universal and occurs early in the adult life course (Echarri Cánovas and Pérez Amador 2007). While the average age at marriage has risen slightly, it remains remarkably young, particularly for women. Over a 40-year period (women born in 1940-49 compared to women born 1975-1979), the median age at first marriage for women increased one year from 20 to 21 (Solís and Puga 2008). Such trends have remained remarkably stable over time, even as Mexican women have achieved higher levels of education than at any other point in the history of the country including educational parity or near parity with men at all levels of education (Behrman, Gaviria and Szekely 2001; Giorguli Saucedo 2010; Terrazas, Papademetriou and Rosenblum 2011; Zenteno and Parrado 2005; Creighton and Hyunjoon 2010). Stability in marital timing in spite of educational gains among women in Mexico presents an anomaly in the context of other countries experiences where education gains are typically associated with marital delays (Mensch, Singh, and Casterline 2005).

Whether and why the early transition to marriage has remained so stable for young women in Mexico in the context of considerable changes in the educational sphere remains unclear. More recent analyses have suggested that alongside consistency in average trends in early marriage, recent cohorts have begun to exhibit increasing variation in age at first marriage (Solís and Puga 2008). For instance, while 75% of women born in the 1930s were married by age 23, for women born in the late 1960s the age increased to 25 (Coubes and Zenteno 2005). These findings are consistent with some scholars' arguments that average trends of early marriage in Mexico mask increasing levels of social differentiation in timing to marriage (Quilodran 2008). Such arguments contend that early exits from formal education and the assumption of adult roles, including early marriage, may continue to characterize a large segment

of the population while, at the same time, a smaller segment of the population may remain enrolled in tertiary education and delay transitions into adult roles such as marriage (Giorguli Saucedo 2010). In Mexico, however, the most recent study of marital timing in Mexico found a curvilinear pattern between education and marital timing, with an increased likelihood of earlier marriage for women at both the lowest *and* highest levels of education (Parrado and Zenteno 2002; Zenteno and Parrado 2005).

In this paper, we use data from the Mexican Family Life Survey (MxFLS) to examine changing patterns in age at first marriage across cohorts of women in Mexico, focusing explicitly on the role of education in altering patterns of marital timing over time. Understanding changes in marital timing across cohorts is of interest because in certain contexts early marriage has been linked to truncated educational opportunities for women and lower levels of human capital formation (Mensch et al. 2005). Conversely, increases in educational attainment have been linked to increased opportunities for the human capital formation of young women and hold promise for more egalitarian gender relations (Samuel and Sebille 2005). In short, both timing to marriage and educational attainment are key sites for the production and reproduction of gender hierarchies.

**Divergent Trends in Reproductive and Productive Spheres Across Cohorts**

A mixture of change and stability has characterized the transition to adulthood in Mexico over the last few decades (Giorguli Saucedo 2010; Zenteno and Parrado 2005). Transformations in the productive sphere, such as finishing school and entering the labor force, have been balanced by relative stability in timing to first marriage. Figure 1 demonstrates these patterns with data from the Mexican Family Life Survey (MxFLS). Among women who have ever married, over 65% were married by age 21, irrespective of birth cohort. Consistency in the

pattern of early marriage is counterbalanced by considerable changes in the reproductive and productive spheres. Starting with those born between 1950 and 1959, each successive cohort of Mexican women has exhibited dramatic decreases in fertility levels. Commensurate increases are evident in the proportion of women with work experience and with higher education.

Consistent trends in early marriage in Mexico in spite of other dramatic transformations in the lives of young adult Mexicans stands out as an anomaly in the context of other countries' experiences. Typically, educational gains and increases in women's labor force participation are associated with marital delays (Mensch et al. 2005). Although the causal ordering is not completely clear, the general argument (sometimes referred to as the female independence model) is that as women's educational opportunities increase, marriage will become deferred and, to some extent, forgone, as women become less dependent on men and their economic gains with marriage decrease (Becker 1981; Dominguez-Folgueras and Castro-Martin 2008; Raymo 2003). The strongest empirical support of female independence theory has come from countries with lower gender equality. According to Blossfeld (1995), in societies in which gender roles make it difficult to combine work and family, women with higher education are more likely to experience less and later marriage. Indeed, a negative relationship between education and marriage has been found in the cases of Japan (Raymo 2003), Italy (Billari et al. 2002), and Spain and Portugal (Dominguez-Folgueras and Castro-Martin 2008).

Mexico's exceptionalism with regards to the typical education/marital timing pattern has been explained in several distinct ways. The first is cultural, i.e. powerful familistic forces structure young women's early life course transitions even in spite of lower expectations for childbearing and higher educational attainment that have led to changes in women's status. Fussell and Palloni (2004) make this argument in explaining the early marriage of Latin

American women in general: "the explanation of this Latin American pattern of family formation must be found in a strong cultural emphasis on family ties" (1202). They interpret their strength to mean that even in the face of reduced childbearing and other structural changes leading to changes in women's status, women continue to enter into marital unions early.

The second explanation for early marriage in Mexico is that it has persisted, not *in spite of* other sociodemographic shifts, but rather *because* of them. Giorguli Saucedo (2010) argues that Mexico is currently marked by a paradox of considerable social change under conditions of restrained economic opportunities. Even as educational opportunities for Mexico's youth continue to expand, severe economic instability has forced families to continue to rely on young people for household reproduction. In a context of economic uncertainty, adolescents, and girls in particular, accelerate their transitions to adulthood, including exit from school and early entry into marriage. The end result is a pattern of general stability and less variation in age at marriage (Echarri Cánovas and Pérez Amador 2007; Giorguli Saucedo 2010).

Empirical evidence from Mexico supporting the idea that timing to marriage is related to the uncertainties surrounding the transition to adult economic roles finds a curvilinear pattern between education and the transition to marriage, with an increased likelihood of earlier marriage for women at the lowest and highest levels of education in Mexico (Parrado and Zenteno 2002; Zenteno and Parrado 2005). Examining cohorts of men and women born prior to 1970, the authors argue that women with both low and high levels of education are more likely to enter into marriage than women with intermediate levels of education who face more uncertainty with respect to their future earnings potential. This interpretation rests on the logic that marriage serves both as a buffer against the vicissitudes of the economy for those who are disadvantaged and as a resource for preserving and accumulating wealth for those with more resources. Other

work, also restricted to birth cohorts born prior to 1970, found that increases in education did not produce an increase in the mean age at marriage largely because the growth in female education occurred age ages that were still substantially below the mean age at marriage (Lindstrom and Paz 2001).

To our knowledge, no existing empirical work has analyzed marital timing for Mexican women born after 1970 and determined the extent to which the more recent expansion of education explains the aforementioned increasing variability in age at first marriage across cohorts of Mexican women. Nor it is known whether the curvilinear relationship between education and timing to marriage has changed across cohorts. The most recent analysis examining the relationship between education and timing to marriage in Mexico (Zenteno and Parrado 2005) was restricted to data collected over 15 years ago and therefore leaves out the experience of more recent cohorts, for whom education may play a different role in influencing marital timing. In the current analysis, we examine the relationship between education and timing to marriage in Mexico and build upon existing research in four ways. First, we assess cohort differences in age at first marriage using recently collected data that is representative of more contemporary cohorts. Second, in light of significant increases in the expansion of education in Mexico for women in recent years, we assess the extent to which the expansion of education among younger women in Mexico explains the increasing variation in age at first marriage across cohorts of women in Mexico. Third, we consider whether the influence of education on timing to marriage has changed across cohorts. Finally, we extend beyond a focus on timing to marriage to examine whether marital expectations are associated with educational attainment among the most recent cohort of unmarried women in Mexico. These women comprise Mexico's youth (15-24 years old), accounting for one-fifth of the country's total

population (CONAPO 2010). In absolute terms the youth population reached a record high in 2011 with a population count of 20.2 million. The ways in which they navigate their transition to adulthood will indelibly shape the country's future character and set the stage for determining the structure of opportunities for generations to come (Zenteno and Parrado 2005). Whether and how the relationship between education and marital timing continues to change for future generations of Mexican women is not yet clear. In the context of the possible changes in the relationship between educational attainment and marital timing, marital expectations are instructive to examine because: 1) they arguably reflect broader scale norms, 2) there appears to be a strong general link between expectations to marry and marriage, and 3) they allow us to analyze the next cohort of women who will be experiencing the transition to marriage (Manning, Smock, Dorius, Cooksey, Hernandez, and Stamps Mitchell 2012; Waller and McLanahan 2005).

**Data and Sample**

Our data come from the Mexican Family Life Survey (MxFLS), a nationally-representative longitudinal dataset of 8,440 households in 150 communities. The first wave was collected in 2002 and a second wave, collected in 2005, followed the baseline households with a 90 percent retention rate (Parker, Rubalcava and Teruel 2008). For the analyses of marital timing, our analytic sample consists of 8,590 women born between 1930 and 1979 with information on marital history at either interview. That is, some women, who were either too young in 2002 to answer the marital history questions or who were new to the sample in 2005, were asked their marital history in 2005 rather than in 2002. Other women report their marital history in 2002 but are not re-interviewed in 2005. We pool all women who report a marital history into one data set, regardless of whether they report their history in 2002 or 2005. For the analysis of marital expectations for women in our youngest cohort, our analytic sample consists

of 1,202 unmarried women born between 1980 and 1990 who provided an expected age at marriage.

<u>Key Variables</u>

*Date of First Marriage*. Our outcome of interest in the analyses of marital timing is the timing to a first marriage or consensual union (i.e. cohabitation). Respondents are not asked to differentiate whether their first union began as a marriage versus cohabitation, and therefore we are not able to account for this in our analysis. Traditionally, consensual unions have been a stable form of partnership common in Mexico, particularly in poorer rural areas, and have generally been viewed similarly to marriage (Martin 2002). Other work estimating the relationship between education and union formation in Mexico found no evidence that the effects of education on entry into a union varied between consensual and formal unions (Lindstrom and Paz 2001). For simplicity of language, from this point on we will refer to the dependent variable as first marriage, though we note that the first union could also be an informal consensual union. Date of marriage is measured in century months. Within our analytic sample 35 percent were missing month of first marriage and therefore were given a randomly chosen value for month. To ensure that substituting random month values for missing values did not introduce bias into the analysis, we ran the analysis numerous times (during each run the missing month values were recreated at random) and each time the results were unchanged.

*Expected Age at First Marriage*. Our outcome of interest for the analysis of marital expectations is the age at which respondents expect to marry. This question is asked only to unmarried women and only at the 2005 interview. The mean age for expected age of marriage among our marital expectations sample is 25 years.

*Birth Cohort.* Birth cohort is measured in century months. Approximately 2% of our sample is missing values for birth month and thus were given a randomly chosen value for month. Our analyses of timing to marriage include women in five birth cohorts: 1930-1939 (mean age 70 years at time of interview), 1940-1949 (mean age 60 years), 1950-1959 (mean age 50 years), 1960-1969 (mean age 60 years), and 1970-1979 (mean age 30 years). Though we model the descriptive analyses separately for each birth cohort, for all regression analyses we differentiate only between women born prior to 1970 and women born between 1970-1979. We make this cohort distinction because women in the most recent cohort (1970-1979) display the most divergent trends with respect to ever marrying (as shown in Figure 1) *and* with respect to age at marriage (as shown in Table 2 and Figure 2) compared to women in all other cohorts. We exclude women in the youngest cohort (born between 1980 and 1990) for all analyses of timing to marriage, because only 32% of women in this cohort have ever married. However, for our analysis of marital expectations among never married women, we are able to include the youngest cohort of women born between 1980-1990 (ages 15 to 24, mean age 18 years).

*Education*. We measure education with indicators for *highest level of education* and for *school enrollment*. We measure the highest level of education completed with categories for less than primary education (completed less than six years), completed primary education (completed 6 to 8 years), completed secondary/high school education (completed 9 to 12 years), and attended at least some college (completed more than 12 years). For each respondent who attended primary school, information is collected on the age at which they started elementary school and the age at which they stopped attending school. This information, in conjunction with the highest level of education, allows us to estimate the ages at which each respondent was currently enrolled in school. For all regression analyses related to our analysis of timing to

marriage, both highest level of education and school enrollment are time-varying measures. In addition, for our analysis of marital expectations, we also include an indicator for whether respondents expect to complete college, which is asked to all respondents who are currently enrolled in school at the time of the 2005 interview.

*Sociodemographic Background*. We measure sociodemographic background with four indicators. These include two indicators of social disadvantage during childhood, i.e. whether the respondent lived in a household with *poor infrastructure at age 12* (operationalized as having no running water for drinking and/or no plumbing) and whether the respondent lived in a *rural area at age 12* (with rural including rancherias, pueblos, ejidos, haciendas, villas, and 'other' rural areas). Further, we control for whether the respondent identifies as *indigenous*. Finally, because past work indicates earlier marriage for women with more siblings (Pérez Amador 2012), we control for the respondent's total *number of siblings*.

Table 1 displays mean values for all time in-variant variables for women in the timing to marriage analysis and the marital expectations analysis. For women in the timing to marriage analysis, 68 percent were born prior to 1970 and 32 percent were born between 1970-1979. While nearly all women born prior to 1970 are married (93 percent), less than 80 percent of women born between 1970 and 1979 have ever married. The descriptive statistics illustrate impressive shifts in education attainment across cohorts. Nearly 70 percent of women born prior to 1970 have a primary education or less, compared to only 38 percent of women in the 1970-79 cohort. In terms of having at least some college education, 7 percent of women born prior to 1970 have attained this level whereas 12 percent of women in the youngest cohort do. Finally, compared to their counterparts born prior to 1970, fewer women in the most recent cohort

experienced poor household infrastructure (31 vs 55 percent) or lived in rural areas (25 vs 36 percent) at age 12.

For unmarried women in the marital expectations analysis, 16 percent of women experienced poor household infrastructure and 20 percent lived in rural areas at age 12. Further, 11 percent identify as indigenous. The average woman in this subsample has less than 4 siblings. Regarding highest level of education, 15 percent have at least some college, and less than 20 percent have primary education or less.

(TABLE 1 ABOUT HERE)

**Analytic Approach**

The current study addresses the following questions: 1) Is there increasing variation in age at first marriage across cohorts of women in Mexico? 2) If yes, to what extent does the expansion of education among younger women in Mexico explain the increasing variation in age at first marriage across cohorts of women in Mexico? 3) Has the influence of education on timing to marriage changed across cohorts? 4) Among the most recent cohort of unmarried women, how are marital expectations associated with educational attainment?

To assess our first research question, we present survival estimates of timing to first marriage. When examining age at first marriage, survival estimates are a superior to the means provided in Figure 1 because they account for the never-married women still at risk for marriage in addition to those who have married to capture change in the likelihood of entering marriage at a certain age over time. We model timing to marriage in person months, but report survival estimates in years for ease of interpretation. In our analysis, women are considered "at risk" for marriage at age 12, the earliest age at which women in our sample report having married, and are

"censored" from the analysis once they marry or, if they have not yet married, at the time of interview.

To assess our second and third research questions, we estimate a series of discrete-time regression models. In these analyses, the unit of analysis is person years. The dependent variable in these models is whether a woman has married. In order to facilitate comparisons between women born prior to 1970 and women born between 1970-79, we follow women from ages 12 through 25 (women in the 1970-79 cohort are at least 25 years old at the time of interview). If a woman has married by age 25, in each year prior to the recorded age at marriage, she is given a value of 0 on the ever-married variable. Once a woman marries she receives a 1 on the ever-married variable and is censored from the analysis. Women who are never-married through age 25 are censored from the analysis at age 26. Because our discrete time analysis is modeling timing to an event, we account for the duration dependence; otherwise the model treats the duration dependence as constant (i.e. it does not account for different women having different exposure times regarding the risk of marriage) (Box-Steffensmeir and Jones 2007). We operationalize the duration dependence with the inclusion of splines in each model for 12-15 years of age, 15-20 years of age, and 20-25 years of age. Some women in our sample live in the same household as other respondents at the time of the interview. For the 8,590 women included in the discrete-time analysis, there are 7,625 distinct households. In all discrete-time regression models, the standard errors are adjusted to account for the clustering of women within households.

Because discrete-time models are estimated with logistic regression, the outcome variable

is interpreted as the log odds of having married for woman *i* at year *t*, conditional on remaining never-married through year *t*-1, where $p_{it}$ is the probability of having married for woman i at year t:

$$\ln[p_{it}/(1- p_{it})]$$

To assess whether the expansion of education among younger women in Mexico explains the increasing variation in age at first marriage across cohorts of women in Mexico, we estimate a series of nested models, first controlling only for birth cohort and duration of exposure (Model 1), then adding controls for social background factors (Model 2), and finally adding the time-varying controls for highest level of education and current school enrollment (Models 3 and 4). This nested structure allows us to assess whether and to what extent any significant effect of birth cohort on the log odds of marriage is mediated by cohort differences in educational attainment. To assess whether the influence of education on timing to marriage changes across cohorts, we interact education with birth cohort (Model 5).

Finally, to assess our fourth research question, i.e. whether educational attainment is associated with marital expectations, we estimate a series of ordinary least squares regression models predicting expected at age marriage. From these regression models we present predictive margins for expected age at marriage across differing levels of educational attainment and school enrollment. All analyses were performed using STATA 12 (StataCorp 2011).

**Results**

***Is there increasing variation in age at first marriage across cohorts of women in Mexico?***

To investigate the possibility that there is increasing variation in age at first marriage across cohorts of Mexican women, we calculate survival estimates for the age at which 25, 50, and 75 percent of women within different cohorts enter their first union. These estimates are shown in

Table 2. Comparing across cohorts, early age at marriage remains a dominant pattern. However, the time span over which specific proportions of women marry has increased considerably. For example, 25 percent of women born between 1930 and 1939 married at age 16.9, while 75 percent of them married by 23.3, resulting in a 6.5 year range between the first and third quartiles. The inter-quartile range increases modestly for women in the 1940-1949 cohort, and then remains fairly constant for women born prior to 1970. Then, for women born between 1970 and 1979, the inter-quartile range increases to 9 years, indicating significantly more variation in age at first marriage for women in this most recent cohort compared to women born prior to 1970. The most dramatic changes across cohorts in age at first marriage are observed in the third quartile. For instance, while 75% of women in the 1930-39 cohort have married by age 23, the age at which 75% of women born 1970-79 marry is almost 27 years old.

<center>(TABLE 2 ABOUT HERE)</center>

To paint a clearer picture of cohort differences in timing to marriage, Figure 2 presents cohort differences in survival curves for timing to marriage from ages 12 to 25. The data demonstrate that for women born prior to 1970, there were few differences between cohorts in timing to marriage. Clear delays in entry to marriage are present for women born 1970-79 compared to their counterparts born prior to 1970. More specifically, at every point in the life course from ages 12 to 25, more women in the 1970-79 cohort remain unmarried compared to those born in any of the previous cohorts. Accordingly, all subsequent analyses will distinguish the 1970-1979 cohort from prior cohorts.

The patterns presented so far indicate that there is indeed increased variation in age at first marriage across cohorts, suggesting that different pathways to union formation are

potentially coexisting alongside more traditional models among women in the most recent cohort.

(FIGURE 2 ABOUT HERE)

***To what extent does the expansion of education among younger women in Mexico explain the increasing variation in age at first marriage across cohorts of women in Mexico?***

To assess the impact of education and its expansion on cohort differences in timing to marriage, we conduct a series of discrete time regression models. The results in Model 1 of Table 3 corroborate the trend illustrated in Figure 2, with women in the 1970-79 cohort displaying 25 percent lower odds of marriage than those born prior to 1970, net of their exposure duration (Model 1, 1-exp(-0.28)). Model 2 demonstrates the influence of social background on timing to marriage. Both living in a rural area at age 12 and living in a household with poor infrastructure at age 12 significantly increase the odds of marriage. Women identifying as indigenous also have increased odds of marriage compared to their non-indigenous counterparts. Finally, having siblings significantly increases the odds of marriage.

Model 3 adds the time-varying measure for highest level of education to determine how education and its expansion has affected age at first marriage over time in Mexico. Compared to having a primary education or less, having a secondary/high school education reduces the odds of marriage by 28% (Model 3, 1-exp(-.32)) and having at least some college education reduces the odds of marriage by 42% (Model 3, 1- exp(-.55)). Model 4 adds a time-varying measure of school enrollment to determine whether level of education matters for timing to marriage above and beyond being enrolled in school. School enrollment reduces the odds of marriage by 66 percent (Model 4, 1-exp(-1.07)). Further, education level affects the odds of marriage largely through the impact of being enrolled in school. That is, after controlling for enrollment, the effect

of having a secondary education on the odds of marriage is reduced by 37% (1-(-.12/-.32)). Nonetheless, net of enrollment having a secondary/high school education still significantly reduces the odds of marriage by 12% (Model 4, 1-exp(-.12)). In contrast, after controlling for school enrollment, having at least some college *increases* the odds of marriage by 19% (Model 4, 1-exp(.17)). Supplementary analyses varying the education reference group in Model 4 confirm that, after accounting for enrollment, having a secondary/high school education reduces the odds of marriage compared to having a primary or college education. These results are consistent with research finding a curvilinear pattern between education and the transition to marriage in Mexico, with an increased likelihood of earlier marriage for women at the lowest and highest levels of education in Mexico (Parrado & Zenteno, 2002; Zenteno & Parrado, 2005).

After accounting for both level of education and enrollment in Model 4, the effect of birth cohort on the odds of marriage is significantly reduced. After controlling for social background and education, the effect of birth cohort on the risk of marriage in Model 1 (without controls) is reduced by 61% (1- (-.11/-.28)). Concerning the effects of education specifically, after the controlling for both level of education and current enrollment in Model 4, the effect of birth cohort on risk of marriage in Model 2 (with controls for social background factors) is reduced by 48% (1- (-.11/-.21)). This suggests that the expansion of education among younger women in Mexico partially mediates the relationship between birth cohort and timing to marriage. It is notable, however, that even after accounting for all controls, women in the 1970-79 cohort have 10 percent lower odds of marriage than those born prior to 1970 from ages 12 to 25 (Model 1, 1-exp(-0.11)).

***Has the influence of education on timing to marriage changed across cohorts?***

In our analysis thus far, we have illustrated that that women in the 1970-79 cohort have significantly lower odds of marriage than women born prior to 1970, and that this relationship is partially mediated both by various social background factors and by the expansion of education among younger women in Mexico. We now examine whether the effects of education on timing to marriage have changed across cohorts, net of controls for enrollment and social background factors.

The results suggest that having a college education affects timing to marriage differently for women in the 1970-79 cohort than for women born prior to 1970. For women born prior to 1970, having a college education increases the odds of marriage by 36% (Model 5, 1-exp(.31)). This effect, however, is significantly different for women in the most recent cohort (-.32, p<.01), such that for women born between 1970 and 1979, having a college education does not increase the odds of marriage (.31+-.32= -.01). Supplemental analysis of Model 4 restricted to women in the 1970-79 cohort verifies that having a college education does not significantly affect the odds of marriage among women in the most recent cohort. The finding that college education influences timing to marriage differently across cohorts, net of enrollment and controls for social background, points to a significant change in the curvilinear pattern between education and the transition to marriage documented in previous cohorts (Parrado & Zenteno, 2002; Zenteno & Parrado, 2005). Instead of an increased likelihood of earlier marriage for women at the lowest and highest levels of education in Mexico, our results suggest that, for women born in the more recent cohort, college education no longer significantly accelerates timing to marriage in the same way it had in the past. We find that for the select group of younger college educated women (i.e. those born between 1970-1979), marriage is being postponed more so than it was by their college-educated peers in earlier cohorts.

***Among the most recent cohort of unmarried women, how are marital expectations associated with educational attainment?***

Whether and how the relationship between education and marital timing continues to change for future generations of Mexican women is not yet clear. Unfortunately, our analysis so far has excluded the most recent cohort of young women born between 1980-1990 because they are not yet old enough to be included in an analysis of marital timing. Fortunately, the MxFLS also includes an extensive set of questions regarding marital expectations for women who have not yet married, which we examine here for women in our youngest cohort.

Figure 3 displays the average expected age at marriage for unmarried women ages 15 to 24. While older ages will naturally be associated with older expected marital ages, what is notable here is that for all women the average expected age at marriage is over age 23. More specifically, for women 15 years of age, the average expected at marriage is 23.7, rising to over 24 years for women 16 and older. If we compare these expected ages at marriage to the survival estimates reported in Table 2, it is evident that for unmarried women born between 1980-1990, the average age at which even the youngest women expect to marry is older than the age at which 75% of women in the 1930-39 cohort were married, and is nearly three years older than the age at which 50% of women in the 1970-79 cohort were married. This suggests that, insofar as marital expectations influence actual age at marriage, that the trends in delayed marriage observed for women in the 1970-79 cohort may continue for women born between 1980 and 1989.

In terms of the relationship between marital expectations and educational attainment, the results from Figures 4 and 5 suggest a positive relationship. First, Figure 4 illustrates the predictive margins of expected age at marriage across differing levels of educational attainment

combined with current enrollment, net of controls for current age and social background factors.

The results demonstrate the importance of both highest level of education and current school

enrollment for marital expectations. Generally, women with higher levels of education and/or

who are currently enrolled in school expect to marry at older ages. For instance, women with

primary or less education and who are not enrolled in school report the youngest expected age at

marriage (23.5 years old) and women with at least some college who are enrolled in school

report the oldest expected age at marriage (27 years old).

Figure 5 displays the predictive margins of expected at marriage across categories of

current school enrollment and whether the respondent expects to complete college, net of

controls for current educational attainment, age, and social background factors. The results

suggest that the effect of current school enrollment on marital expectations depends on whether a

college education is expected. That is, women who are not currently in school expect to marry at

age 24, women who are attending school but do not expect to complete college expect to marry

at age 25, and women who are both attending school and expect to obtain a college education

expect to marry at age 26. In sum, the results from the marital expectation models demonstrate

that when members of the youngest cohort of Mexican women are asked when they expect to

marry, education (and educational expectations) figure prominently. The trend is clear that young

women with higher levels of education and educational aspirations expect to marry later.

**Discussion**

This study provides a more nuanced analysis of two countervailing trends characterizing the

transition to adulthood for young women in Mexico-an apparently stable nuptial regime on the

one hand and dramatic sociodemographic changes, including unprecedented expansions in

female education, on the other. Overall, three findings characterize our results.

First, while measures of central tendency suggest continued stability in age at first marriage, our results are consistent with others who have found that in more recent years there is increasing variation in age at first marriage (Solis and Puga 2008; Coubes and Zenteno 2005). The highest levels of variability are observed among women born between 1970 and 1979, i.e. in Mexico's youngest cohort to have largely completed its transition to first marriage. The most dramatic changes are observed in the age by which 75 percent of women marry. In the 1930-39 cohort, 75 percent of women married by age 23; in the 1970-79 cohort, this age increased to almost 27 years old. These results suggest the emergence of increasingly heterogeneous pathways with respect to the transition to first marriage among women in Mexico (Quilodran 2008). The result of increased heterogeneity across cohorts in age at first marriage is evident in the survival estimates that illustrate that at every point in the life course a greater proportion of women born in 1970 or after remain unmarried compared to their older counterparts. The regression results confirm this pattern, with women in the 1970-1990 cohort displaying a 25 percent lower risk of marriage compared to those born prior to 1970, net of their exposure duration.

Second, we find that the unprecedented expansion of education in Mexico in recent years is largely driving this trend of increasing variation in age at first marriage across cohorts. During the 1970s, 91 percent of the adult population had not completed nine years of basic education. By 2000, this number had been cut nearly in half, with gender differences completely eliminated (Creighton and Hyunjoon 2010; Santibanez, Vernez and Razquin 2005). Our analyses support the possibility that for young Mexican women enrollment in school delays entry into the marriage market largely because of the incompatibility between student and spousal roles

(Lindstrom and Paz 2001). In our regression results, educational attainment and school enrollment largely mediate the lower risk of marriage observed among women born after 1970.

Third, we also find evidence that the relationship between education and marital timing in Mexico is changing. Past analyses (e.g. Zenteno and Parrado 2002; 2005), have found that in contrast to the patterns observed in other countries (e.g. Japan), highly educated women in Mexico are no different than the least educated in their marriage timing. The authors argue that highly educated women represent "a selected elite in Mexico and their potential contribution to the household economy makes them attractive partners" (Zenteno and Parrado 2002: 768). Our analysis supports this finding for women born prior to 1970. However, for women born between 1970 and 1979, we find that the pattern between education and first marriage is no longer curvilinear. In contrast to their peers born in earlier cohorts, highly educated women in Mexico are no longer accelerating their transition to first marriage. Essentially, having a college education decreases the risk of marriage more so now than it ever did in the past (when it was often associated with an increased likelihood of early marriage).

We speculate that these findings point to the increasing relevance of a female independence model for younger cohorts of women in Mexico. It may be that as women's educational opportunities continue to increase, marriage will be increasingly deferred, as young women in Mexico become less dependent on men and their economic gains with marriage decrease. The results from the marital expectations models also raise the possibility of the increasing relevance of the female independence model for younger cohorts of women in Mexico. We find that regardless of education level, young women are aspiring to marry at later ages than their peers in earlier cohorts married. For unmarried women born between 1980-1990, the average age at which even the youngest women expect to marry is older than the age at

which 75 percent of women in the 1930-39 cohort were married, and is nearly three years older than the age at which 50 percent of women in the 1970-79 cohort were married. Education and educational expectations figure prominently in these marital aspirations. Our findings show that it is precisely young women with higher levels of education and educational aspirations who expect to delay marriage the most.

We conclude that as the educational system in Mexico continues to expand, cultural pressures on women in Mexico to marry and have children early will likely become less salient for young women, instead giving way to the ideals associated with the female independence model. Whether the aspirations of today's young women will result in marriage increasingly being put off to later ages or whether insufficiencies in the expansion of education will defer this process is left to be determined by future cohorts of young women as they transition into adulthood in Mexico.

**References**

Becker, G. 1981. *A treatise on the family*. Cambridge: Harvard University Press.

Behrman, J.R., A. Gaviria, and M. Szekely. 2001. "Intergenerational mobility in Latin America." *Economía* 2(1):1529-7470.

Billari, F., M. Castiglioni, T. Castro-Martin, F. Michielin, and F. Ongaro. 2002. "Household and union formation in a mediterranean fashion: Italy and Spain." Pp. 17-41 in *Dynamics of fertility and partnership in Europe: insights and lessons from comparative research*, edited by E. Klijzing and M. Corijn. New York: United Nations.

Blossfeld, H.-P. 1995. "Changes in the process of family formation and women's growing economic independence." Pp. 3-32 in *The new role of women: family formation in modern socieites*, edited by H.-P. Blossfeld. Boulder: Westview Press.

Box-Steffensmeir, J.M. and B.S. Jones. 2007. *Event history modeling: a guide for social scientists*. Cambridge: Cambridge University Press.

CONAPO. 2010. *Situación actual de los jóvenes en México*. Mexico, D.F.: Electronic Article. Accessed at http://www.conapo.gob.mx/publicaciones/sdm/sdm2010/04.pdf on July 1, 2011. Consejo Nactional de la Poblacion.

Creighton, M.and P. Hyunjoon. 2010. "Closing the gender gap: six decades of reform in Mexican education." *Comparative Education Review* 54(4):513-537.

Dominguez-Folgueras, M.and T. Castro-Martin. 2008. "Women's changing socioeconomic position and union formation in Spain and Portugal." *Demographic Research* 19:1513-1549.

Echarri Cánovas, C.J.and J. Pérez Amador. 2007. "En tránsito hacia la adultez: eventos en el curso de vida de los jóvenes en México." *Estudios Demográficos y Urbanos* 22(1):43-77.

Fussell, E.and A. Palloni. 2004. "Persistent marriage regimes in changing times." *Journal of Marriage and the Family* 66(5):1201-1213.

Giorguli Saucedo, S. 2010. "Divergent paths to adulthood in Mexico." Presented at the 2010 Annual Meetings of the Population Association of America.

Lindstrom, D.P.and C.B. Paz. 2001. "Alternative theories of the relationship of schooling and work to family formation: evidence from Mexico." *Social Biology* 48(3-4):278-297.

Manning, W.D., P.J. Smock, C. Dorius, E. Cooksey, D. Hernandez, and K. Stamps Mitchell. 2012. "Cohabitation and marital expectations in young adulthood." Presented at IUSSP meeting of the International Seminar on First Union Patterns Around the World, Madrin, Spain.

Martin, T.C. 2002. "Consensual unions in Latin America: persistence of a dual nuptiality system." *Journal of Comparative Family Studies* 33(1):35-55.

Mensch, B., S. Singh, and J. Casterline. 2005. "Trends in the timing of first marriage among men and women in the developing world." Pp. 118-171 in *The Changing Transitions to Adulthood in Developing Countries: Selected Studies*, edited by C.B. Lloyd, J.R. Behrman, N.P. Stromquist, and C. Cohen. Washington D.C.: National Academies Press.

Oppenheimer, V.K. 1988. "A theory of marriage timing." *American Journal of Sociology* 94:563-591.

Parker, S., L. Rubalcava, and G. Teruel. 2008. "Working conditions and mental health in Mexico: Evidence from the MxFLS." *Inter-American Development Bank (IDB) Report*.

Parrado, E.A.and R.M. Zenteno. 2002. "Gender differences in union formation in Mexico: evidence from marital search models." *Journal of Marriage and Family* 64:756-773.

Pérez Amador, J. 2012. "Similitudes intergeneracionales en la transición al matrimonio en

México." *Revista Latinoamericana de Población* 6(11):109-133.

Quilodran, J. 2008. "Los cambios en la familia vistos desde la demografia: una breve

reflexion." *Estudios Demográficos y Urbanos* 23(1):7-20.

Raymo, J.M. 2003. "Educational attainment and the transition to first marriage among Japanese

women." *Demography* 40(1):83-103.

Samuel, O.and P. Sebille. 2005. "La nupcialidad en movimiento." in *Cambio demografico y*

*social en el Mexico del siglo XX: una perspective de historias de vida*, edited by M.-L.

Coubés, M. Eugenia Zavala de Cosío, and R. Zenteno. Tijuana: el Colegio de la Frontera

Norte.

Santibanez, L., G. Vernez, and P. Razquin. 2005. "Education in Mexico: challenges and

opportunities." in *RAND Education*. Santa Monica: RAND Education.

Solís, P.and I. Puga. 2008. "New paths in marital trajectories: marriage formation and

dissolution in Mexico." Presented at Paper presented at the annual meetings of the

Population Association of America, April 17-19, April 17-19, 2008. New Orleans, LA.

StataCorp. 2011. in *Stata statistical software: release 12*. College Station, TX: StataCorp LP.

Terrazas, A., D.G. Papademetriou, and M.R. Rosenblum. 2011. "Evolving demographic and

human-capital trends in Mexico and Central America and their implications for

regional migration." Washington, DC: Migration Policy Institute.

Waller, M. R., & McLanahan, S. S. (2005). "His" and "her" marriage expectations: determinants

and consequences. *Journal of Marriage & Family,* 67(1), 53-67.

Zenteno, R.M.and E.A. Parrado. 2005. "Entrada en unión de hombres y mujeres en México:

perspectiva de los mercados matrimoniales." in *Cambio demografico y social en el Mexico del siglo XX: una perspective de historias de vida*, edited by M.-L. Coubés, M. Eugenia Zavala de Cosío, and R. Zenteno. Tijuana: el Colegio de la Frontera Norte.

**Table 1. Sample Characteristics**

| | Variable Description | Timing to Marriage Analysis | | Marital Expectations Analysis |
|---|---|---|---|---|
| | | **Birth Cohort** | | |
| | | **Prior 1970** | **1970-1979**[1] | **1980-1990** |
| **Ever Married** | Respondent has entered into a legal marriage or consensual union at some point in their life | 0.93 | 0.78 | --- |
| **Poor Infrastructure at Age 12** | Respondent lived in household with no running water and/or no indoor plumbing at age 12 | 0.55 | 0.31 | 0.16 |
| **Lived in Rural Area at Age 12** | Respondent lived in an area of <2500 Inhabitants at age 12 | 0.36 | 0.25 | 0.20 |
| **Indigenous** | Respondent identifies as indigenous | 0.12 | 0.10 | 0.11 |
| **Number of Siblings** | Total number of siblings; range is 0 to 20 | 6.13 | 5.53 | 3.82 |
| **Highest Level of Education** | | | | |
| Primary or Less | Respondent has completed 8 years or less of school | 0.69 | 0.38 | 0.19 |
| Secondary/High School | Respondent has completed 9 to 12 years of school | 0.24 | 0.50 | 0.66 |
| Some College | Respondent has completed more than 12 years of school | 0.07 | 0.12 | 0.15 |
| **N** | | 5834 | 2756 | 1202 |

*Note*: [1]all differences between the Prior to 1970 and 1970-79 cohorts are significant at p<.05

**Table 2. Survival Estimates[a] for Age at which 25, 50, and 75 Percent of Sample Enters First Marriage (N=8590)**

| Birth Cohort | Age that 25% has Married | Age that 50% has Married | Age that 75% has Married | Years Between 25% and 75% | n |
|---|---|---|---|---|---|
| **1930-1939** | 16.8 | 19.6 | 23.3 | 6.5 | 685 |
| **1940-1949** | 16.5 | 19.3 | 23.5 | 7.0 | 1054 |
| **1950-1959** | 17.1 | 19.9 | 24.3 | 7.2 | 1701 |
| **1960-1969** | 17.3 | 19.9 | 24.4 | 7.2 | 2394 |
| **1970-1979** | 17.8 | 21.0 | 26.8 | 9.0 | 2756 |

*Source*: Authors' own calculations using MxFLS 2002 and 2005; [a]estimated with stci command in STATA 12

**Table 3. Estimates from Discrete-Time Regression Models Predicting First Marriage from Ages 12- 25**

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Birth Cohort** | | | | | | | | | | |
| Prior 1970 | --- | | --- | | --- | | --- | | --- | |
| 1970-1979 | -0.28*** | (.03) | -.21*** | (.03) | -.14*** | (.03) | -.11*** | (.03) | -.07*** | (.04) |
| | | | | | | | | | | |
| **Age Splines** | | | | | | | | | | |
| 12 to 15 | .59*** | (.03) | .59*** | (.03) | .64*** | (.03) | .54*** | (.03) | .54*** | (.03) |
| 15 to 20 | .15*** | (.01) | .15*** | (.01) | .16*** | (.01) | .11*** | (.01) | .11*** | (.01) |
| 20 to 25 | -.06*** | (.01) | -.06*** | (.01) | -.06*** | (.01) | -.07*** | (.01) | -.07*** | (.01) |
| | | | | | | | | | | |
| **Poor Infrastructure at Age 12** | | | .25*** | (.03) | .15*** | (.03) | .08* | (.03) | .08* | (.03) |
| | | | | | | | | | | |
| **Lived in Rural Area at Age 12** | | | .15*** | (.03) | .10** | (.03) | .08* | (.03) | .08* | (.03) |
| | | | | | | | | | | |
| **Indigenous** | | | .10* | (.05) | .07 | (.05) | .06 | (.04) | .06 | (.04) |
| | | | | | | | | | | |
| **Total Number Siblings** | | | .01** | (.00) | .01* | (.00) | 0.01 | (.00) | 0.01 | (.00) |
| | | | | | | | | | | |
| **Education (time-varying)** | | | | | | | | | | |
| Completed Primary or Less | | | | | --- | | --- | | --- | |
| Completed Secondary/High School | | | | | -.32*** | (.03) | -.12*** | (.03) | -.15*** | (.04) |
| At Least Some College | | | | | -.54*** | (.06) | .17* | (.07) | .31*** | (.09) |
| | | | | | | | | | | |
| **Enrolled in School (time-varying)** | | | | | | | -1.07*** | (.05) | -1.07*** | (.05) |
| | | | | | | | | | | |
| **Education * Cohort** | | | | | | | | | | |
| Secondary/High School * 1970-1979 | | | | | | | | | 0.07 | (.06) |
| At Least Some College * 1970-1979 | | | | | | | | | -.32*** | (.12) |
| | | | | | | | | | | |
| Constant | -11.21*** | (.36) | -11.53*** | (.36) | -12.10*** | (.38) | -10.33*** | (.38) | -10.32*** | (.38) |
| | | | | | | | | | | |
| Total person-years | 76474 | | 76474 | | 76474 | | 76474 | | 76474 | |
| Chi-Square | 1681.5*** | | 1830.34*** | | 1936.98*** | | 2086.57*** | | 2092.73*** | |
| *df* | 4 | | 8 | | 10 | | 11 | | 13 | |

*Notes* : *** p<.001, ** p<.01, * p<.05; robust standard errors adjusting for clustering of women within households are reported

**Figure 1. Mexican Women's Involvement in Reproductive and Productive Spheres**
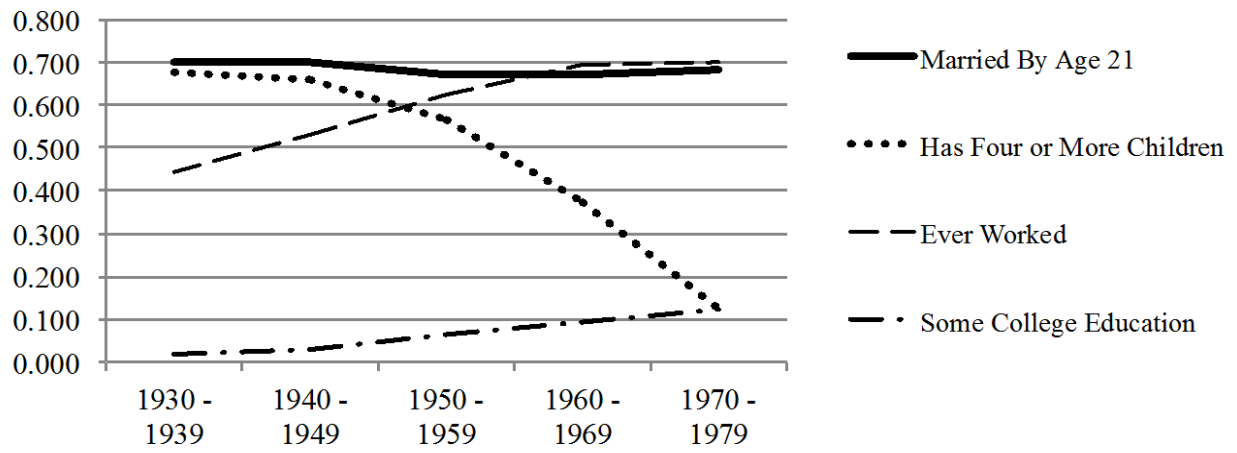


*Source*: Authors' calculations using MxFLS 2002 and 2005

**Figure 2. Kaplan-Meier Survival Estimates for Age at First Marriage in Mexico by Birth Cohort**
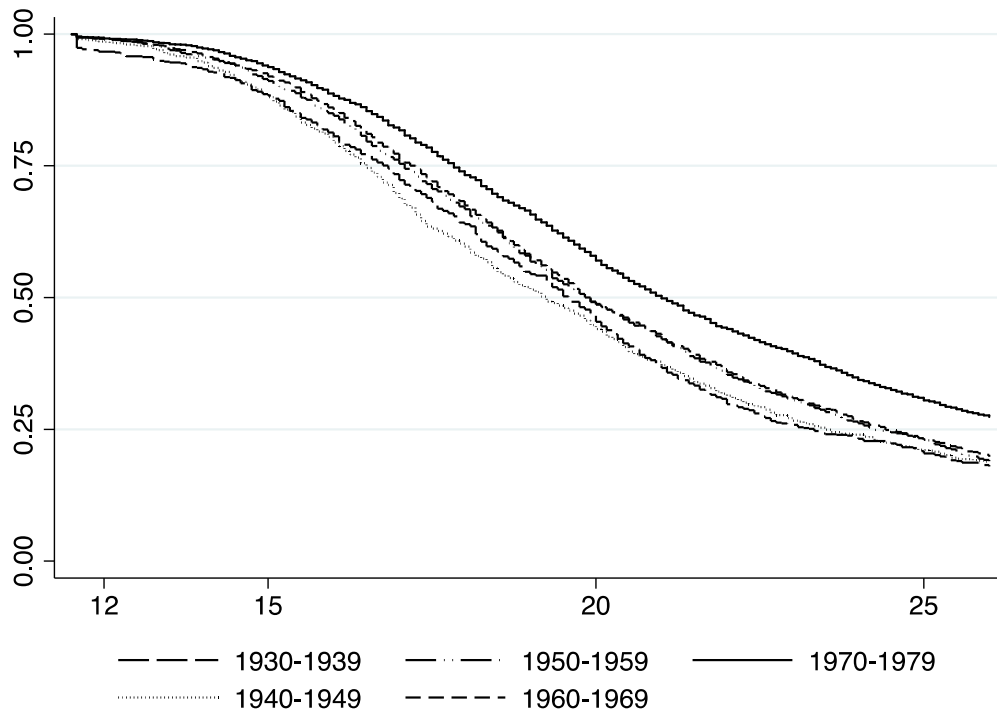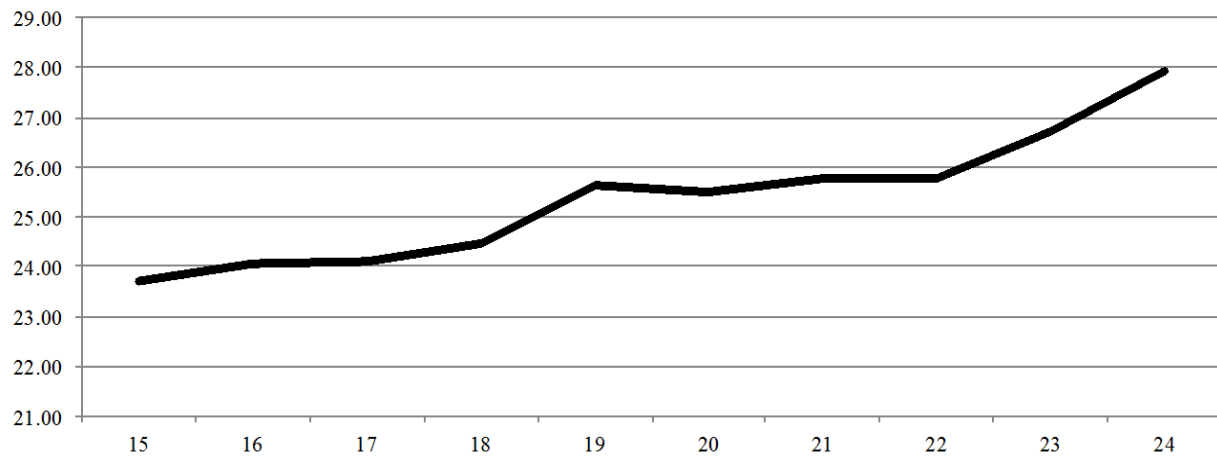


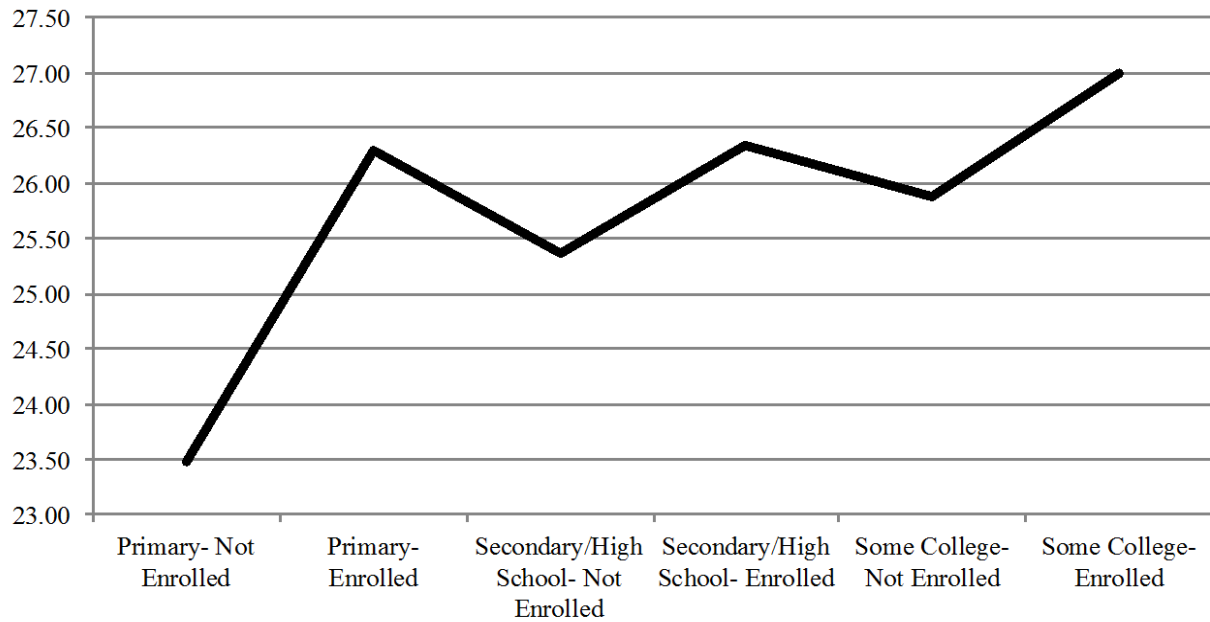*Source*:
Authors'
calculations using MxFLS 2002 and 2005

**Figure 3. Expected Age at Marriage among Never Married Mexican Women Born Between 1980 and 1990, by Current Age**
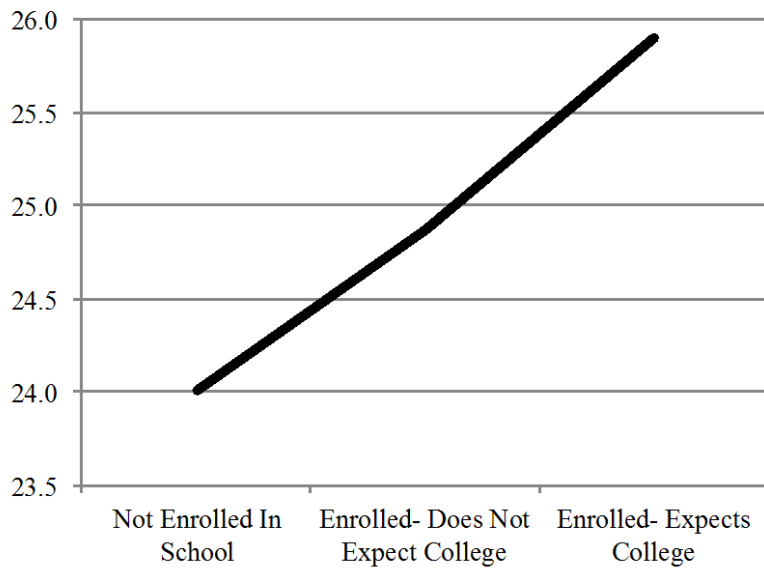


*Source*: Authors' calculations using MxFLS 2005

**Figure 4. Expected Age at Marriage by Highest Level of Education and Current Enrollment, Net of Controls for Current Age, Poor Infrastructure, Rural Residence, Indigenous, and Number of Siblings**



*Source*: Authors' calculations using MxFLS 2005

**Figure 5. Expected Age at Marriage by Current Enrollment and Whether Respondent Expects to Complete College, Net of Controls for Educational Attainment, Current Age, Poor Infrastructure, Rural Residence, Indigenous, and Number of Siblings**



*Source*: Authors' calculations using MxFLS 2005