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The Dynamic Economics of Family Formation in Historical Context: Generation Turnover and the Effects of Women's Earning Power on Marriage

Introduction

In the U.S., the percent of never married women by age 35 has doubled from just one-in-ten among women born in the early 1940s to one-in-five of women born in the late 1960s (Kreider and Ellis 2011). During these years, there was a major shift in labor roles by gender due to the mass entry of women into the labor market. Given the traditional norm that men serve as the wage earner in marriage, men's economic status has long been positively associated with marriage formation. However, there is a lack of consensus about how women's changing earning power has affected marriage formation patterns. This study includes an analysis of the effect of generational turnover as a potential determinant of the traditionally gendered nature of the economics of family formation. Over the period of 1945 to 2004, I conduct a micro-level gender analysis of the relationship between earning power and first marriage by comparing three U.S. generations—the Lucky Few generation (born 1930 to 1944), the Baby Boomer generation (born 1945 to 1964), and Generation X (born 1965 to 1969).

Among theories on the relationship between women's earning power and marriage entry, the two most influential theories are the household specialization model (Becker 1973, 1981) and the career entry model (Oppenheimer 1988, 1997). Though both theories employ a rational choice perspective, the positions contrast in predicting the effects of women's improved educational

attainment and economic status on marriage formation. The household specialization model predicts the effect to be negative and the career entry model predicts the effect to be positive. The distinction in these theories lies in their different premise about how specialized versus shared roles in household production might drive the gains-to-marriage.

The two theories agree that increased educational attainment and wage levels in the labor market would reduce a women's propensity to serve as a homemaker and her fertility levels. However, while this reduces the gains-to-marriage under the specialization model, it increases the gains-to-marriage in the two-earner household structure underlying the career entry model. In this study, I focus on testing the career entry model and the prediction that education level, as an indicator of long-term earning power, will have an increasingly pronounced positive effect on a women's probability of marriage. Further, I test whether the pattern of the effects between men and women converge across the three generations analyzed.

Building on the gains-to-marriage debate, this paper provides a unique contribution to the extant scholarship by analyzing the complete event observation from age 15 to age 35 (or first marriage) over an extended historical period for women and men separately. By using longitudinal data and incorporating a temporal perspective, this study can control for ageing and test our research question of whether the effects of a women's economic status on marriage changes across generations. As Hogan and Astone (1986) put it, it is important to "locate fully the cohort studied in its unique historical context" (p. 121). A generation is an aggregate of cohort panels where each cohort grows up under particular conditions, sharing the same significant historical events. The analysis of the cohort panels takes generational distinctiveness and the process of generation

replacement explicitly into account (Mannheim 1952 and Ruspini 1999). Here, I consider that generation turnover may be an important determinant of change in the traditionally gendered basis of the economics of the marital decision.

Analyzing the effects of age and generation using longitudinal data allows us to consider the research question from a dynamic, process-oriented perspective. The analytic sample includes native born white, black, and Latino individuals to allow the study of first marriage in various historical contexts controlling for racial categories.[1]My separate analysis for men and women shows that in Generation X there was a qualitative shift in the economic basis of the marital decision by gender. Among the individuals born after 1964, the positive effect of earning power in the probability of first marriage for college-educated women becomes more pronounced and the pattern of the marriage advantage by education level trends toward gender-convergence.

Background

Trends in Marriage Formation and Women's Economic Status

According to the available data since 1890 from the U.S. Census Bureau, the lowest median age at first marriage among men was 22.5 years old in 1959 and among women 20.1 years old in 1956 (U.S. Census Bureau 2011). These statistics from the 1950s are often used as a reference point to compare the trend of the postponed timing of marriage in the post-WW II era as the median age-at-first-marriage has continuously increased since the mid-20th century. The shifts are considerable. In 2011, the median age that men married was 28.7 and for women it was 26.5 (Ibid. 2011).

[1] Since I do not measure any cultural characteristics such as language, I do not refer to Latino as an ethnic category. Instead it is considered a racial category, mutually exclusive to the non-Latino white and non-Latino black categories.

In this study, I analyze entry into first marriage starting with individuals who were never married at age 15 and the persons are observed up to the age of 35 years old because first marriage beyond this age range may take on distinct symbolic and substantive meaning. Women of later adulthood are typically already passed the prime reproductive ages and have already experienced most of the significant events of adult transition and maturation (Rindfuss, Morgan, and Offutt 1996 and Oppenheimer 1988). The timing of marriage past this age may render the traditional functions of marriage for women—such as establishing an independent household, initiating sexual activity, and providing the context for procreation—less relevant. However, it is important to note that regarding procreation this may be less so as birth rates for women after 30 and even after the age of 40 have been slowly rising since the 1970's (Martin 2000 and Billari et. al 2007).

The extended postponement in marriage formation coincided with women's mass entry into the labor market, gains in wages, and career advances. By the year 2010, women made up half of the workers in the U.S. labor force (U.S. Bureau of Labor Statistics 2010). The ratio of women's median income to men's median income was greater than 80 percent in that same year (Ibid. 2011). Further, gender convergence in educational attainment was reached by the year 2010 with 30 percent of both men and women having a bachelor's degree or higher and 88 and 87 percent having a high school degree or higher, respectively (U.S. Census Bureau 2011b). These empirical trends underlie the interest in evaluating the two dominant theories about women's economic status and the gains to marriage, and this study contributes an innovative approach to the literature by considering generation effects.

The Household Specialization Theory of Marriage

Pioneered by Gary S. Becker (1973, 1981), the traditional household specialization theory provides an economic explanation for the incentives of marriage formation. For Becker, central is the gendered division of household labor: more specifically, the single-earner household structure of the male breadwinner and female homemaker. Becker argues that the increasing returns to investing time and accumulating human capital in the domains of domestic versus market production makes specialization most efficient, optimizing utility for each spouse.

Thus, Becker holds that the gain to a man and woman from marrying compared to remaining single depends positively on levels of specialization (Becker 1973). While Becker recognizes that multiple factors pay a role in the marriage decision, his theory implies that women would experience a declining positive effect of education on marriage as a woman's educational attainment is more so linked to gains in her earning power and a decline in the gains to specialization.

> "A growth in the earning power of women raises the labor force participation of married women by raising the foregone value of time spent at nonmarket activities. It also raises the relative costs of children and thereby reduces the demand for children. . . . The gain from marriage is reduced by a rise in the earnings and labor force participation of women and by a fall in fertility because a sexual division of labor becomes less advantageous." (Becker 1981, pp. 245–247, 248).

Becker integrates economic analysis into the contour of social analysis because it links a change in the traditional gender arrangement based on women's disparate earning power to a decline in the socially revered institution of marriage. The theory implicitly supports the traditionalist narrative that gender inequality and the complementarities in male and female labor roles

provide important positive effects on the social order. This proposition was also advanced by functionalist sociologists, such as Parsons (1949).

Despite this criticism in having a conservative orientation, the household specialization theory can help explain the empirical decline in the overall prevalence and decreasing incidence of marriage in U.S. society since the 1950s. The association at the macro-level between women's advancements toward economic parity and the overall trend in marriage prevalence is congruent with the logic of household specialization theory. However, since the theory is based on individual level behavior we should be able to test it at the micro-level, and this study does so over an extended historical period covering gender inequality shifts in the labor market as experienced by multiple generations.

The Career Entry Model of Marriage

As an alternative theory of marriage, the career entry model holds that women's improving earning power and her transition from specializing in homemaking to contributing as a breadwinner makes the marital union more appealing for both women and men. Within this model, both spouses engaging in wage-based market work garners the most benefits to marriage. Here, the central advantage to marriage is achieved via the economies of scale from joining households and the increased consumption made possible for each spouse via resource pooling. Further, the advantages could go beyond these. For example, a coupled household would be in a better position to respond to the skill upgrading needs of the labor market as compared to two single persons. One spouse could economically support the other in the human capital investment of acquiring more valuable market credentials and then both could share in the subsequently

increased household production. Thus, this theory holds that it is the dual earner household structure that maximizes the gains to marriage and, further, women's advancing economic status should be increasingly positively associated with marriage formation.

The strength of this theory is bolstered by the growth and now predominance of the two-earner family structure. According to the Pew Research Center, 59 percent of married adults without a college degree and 67 percent of married adults with a college degree were in a two-earner household in 2009 (Fry and D'Vera 2011). Oppenheimer had theorized that the effect of resource pooling would not only make the two-earner family structure more beneficial than remaining single, but that it could also disadvantage the one-earner model of specialization:

> "When the income contribution of each spouse is equal, given economies of scale, neither partner could live as well on his/her own or save and invest as much. …the mutual dependence of the two-earner family may not only contribute to their own gain to marriage but may also reduce the relative gain to being single and to marriages characterized by a specialized division of labor" (Oppenheimer 1997, pp. 445 and 446).

Oppenheimer's theory assumes that the positive effect of women's earning power on the incentive to marry is driven by an economic mechanism. Thus, an inevitable and full transition to the two-earner model would be expected after the de-genderization of wage work and women's mass entry into the labor market.[2] Yet this deterministic type of effect has not materialized. Thus, the theory has been critiqued that it does not fully account for marriage patterns or for the observed decline in marriage rates at the macro-level (Moffitt 2000). Furthermore, the more general literature on educational attainment as a marriage advantage is quite varied, and it does not support that there is such a constant economic-based relation through time.

[2] Here, I refer to the de-genderization of wage work only as the shift to where both men and women explicitly work for pay in the labor market. However, given some of the persistence of gender disparities within the market, such as occupational segregation, this statement is not intended to imply a de-genderization of *how* women and men work for pay.

Education as a Determinant of Marriage

Based on the specialization model and the career entry model, it would be expected that the effect of education on marriage should even historically be positive as education can result in both non-market and market benefits in household production. Furthermore, studies find that marriage is based on a high degree of homogamy, where men and women generally marry individuals that share their same level of education, and increasingly so (Qjan and Preston 1993). This may be explained by higher educated individuals seeking to share the benefits of education in the household and to their offspring. Yet other studies have found mixed results regarding educational attainment and the likelihood of marriage through time. Recent studies have turned the focus to understanding how the relation may be dependent on contingent factors, such as a changing gender context and shifting gender roles.

By gender and race, data from the American Community Survey (ACS) and the U.S. Decennial Census show that white women may have experienced a college advantage in the propensity to marry compared to their lesser-educated counterparts for the first time in the early 21st century (Fry 2010). For men, those with a college education have been just as likely or more likely to get married compared to those without a college degree since the 1960s (Ibid. 2010). However, these patterns are the result of descriptive analyses from cross-sectional data. They are inadequate in conducting statistical analysis of how micro-level determinants might be conditional on aggregate factors, as I am interested in doing in this study.

Empirical and theoretical studies based on longitudinal data and/or of greater statistical rigor have resulted in varied findings regarding the relation between education level and marriage. For men, such studies have consistently found a positive effect of earnings on marriage as well as of employment on marriage yet somewhat inconsistent findings for the significance and direction of the association between educational attainment and marriage (Qian and Preston 1993, Oppenehimer 1997, Fitch and Ruggles 2000, Sassler and Goldscheider 2004). Congruent with the descriptive findings from data in the U.S. Census and ACS, some studies show that the direction of the effect is cohort-specific with only later cohorts showing a positive effect (Goldscheider and Waite 1993 and Brüderl and Diekmann 1994). One way to understand these findings is based on the data that show that the economic return to education has changed over time with an overall pattern that educational attainment has shown increasing salience as a predictor of long-term earnings (Acs and Danzinger 1993 and Katz and Murphy 1992).

For women, there are also mixed findings in the extant literature. Theoretically, several arguments have guided the understanding of the link between education and marriage among women. Historically, the relation was often argued to be a negative one. One perspective stressed how education has a direct effect on reducing a woman's propensity to marry. For example, education would lead to women placing less value on being married and more value on independence. Another set of literature focused on the role of selection. For example, early eugenicists claimed that college attracted women with abnormal sexual instincts. Others argued that differences in selection occurred due to mostly unattractive and/or less family-oriented women graduating from college (Cookingham 1984).

Empirically, some researchers have found no relationship or a negative relationship between educational attainment and marriage (Bennett, Bloom, and Craig 1989, Bloom and Bennett 1990, Cookingham 1984, and Blossfeld and Huinink 1991). Other more recent literature finds a positive effect or an education cross-over: whereas in the past women with more education were less likely to marry, these studies find that more educated women now marry at higher levels (Goldscheider and Waite 1986, 1993; Thornton, Axinn, and Teachman 1995; Goldstein and Kenney 2001; Sweeney 2002; and Torr 2011). Based on these latter studies, there is some support for a dynamic theory of changing education effects on marriage and a motivation to understand what the determinants of such shifts might be.

There is no consensus of the how, why, and when the effects of educational attainment on marriage have changed over time. Even with an expectation of some volatility in the use of educational attainment as a proxy for long-term earnings, it is of interest to test whether the pattern of the effects of educational attainment on marriage among women comes to follow and eventually converge to that of the pattern among men. Showing that the effect of education on marriage is increasingly positive and, more specifically, that there has been a shift to gender convergence would bolster support for the career entry model. Furthermore, it would more fully explain the when and how of a historic transformation in the de-genderization of the economic basis of the marriage decision. I seek to further this gender comparative analysis with a focus on generation-level change as a contingent factor to the effect of education level on marriage.

Generation Turnover and the Social Context

Despite the shift to women entering wage work en masse between 1940 and 1960, it was not until the 1970s that there was a substantive change in reported gender attitudes to reflect an aggregate-level adjustment to this transformation. This, especially in regards to social attitudes and expectations for married women to work in the labor market. During this decade, the percentage of single white women who reported that they expected to be housewives—that is, wives who would not work in the labor market—reached less than 50 percent and this percent declined sharply throughout the 1970s (Cherlin 1980). According to Mason, Czajka, and Arber (1976) and Cherlin (1981), approval for women to work as an earner in the household did not converge between men and women until the late 1970s when both then began highly supporting the concept.

Analyzing survey data over the historical period from 1938 to 1978, Spitze and Huber (1980) found evidence that the gender attitude shift may have related more to period effects than to micro-level changes in specific individual attributes. Further, these authors found effects by generation, which indicates that change in gender beliefs in the U.S. occurred within sub-groups of cohorts who were exposed to particular aggregate level experiences. Brewster and Padavic (2000) further found that cohort replacement effects contributed to change in gender beliefs between 1977 and 1996.

Given the findings that later cohorts and generations presented a social context of qualitatively different gender attitudes and values, I seek to explore how this change and generation turnover may interact with the effect of women's earning power on marriage. My argument is that the major normative change entailed in the de-genderization of the economic basis of the marital

decision would not be a spontaneous response to a change in the labor market. Instead, I argue that it depended upon a new generation that experienced a shift in the basis of primary socialization—that is, within the restructured family that departed from the traditional breadwinner, homemaker arrangement. This led to the internalization of new norms about gender roles—it is this process that would be required to so fully reformulate the basis of the marital decision.

More specifically, I argue that it was the generation turnover to Generation X that was transformative. This generation represented the children of working mothers who experienced an increase in the level of day care arrangements as well as parental divorce (Strauss and Howe 1991). As the generation born after 1964, they grew up in the post-civil rights era amid great social change and a popular culture that was more tolerant of non-conformity than those before them (Cutler and Kaufman 1973; James 2004; and Danigelis, Hardy, and Cutler 2007). These new social experiences and their openness to a departure from traditional norms created the ripe social context where the gender arrangement in household production was brought into line with the de-gendered roles of wage work.

Theoretical Framework

For this study, my theoretical framework is that the explanatory power of the career entry model depends on generation turnover and the generations' experiences in their corresponding social context. I hold that a new generation is important because each successive generation provides the "blank slate" necessary for fresh attitudes and expectations. More specifically, I hold that generation replacement was a necessary condition for the major transformation in gender

relations as outlined by the career entry model. Further, my approach incorporates a focus on the historical context of gender by generation because there were major transformations in the gender context of each U.S. generation—each encountering a different socialization process regarding the norms and beliefs about gender roles.

An underlying argument of the career entry model is that relations in household production inevitably become congruent to de-genderized arrangements in the labor market. For Oppenheimer, this is an imperative given the economic gains of the two-earner household structure. Thus, this theory would frame the process as parallel to the labor force transformation. In contrast, I argue that changes in gender relationship in the household would require a new generation for whom their socialization and expectations about the household division of labor are also de-genderized. Only then, I argue, would the economic incentive effects of the two-earner model actually drive the micro-level patterns of the marital decision. That is, it is after a generation lag and with the generation composed of those that experienced and internalized the change in the gender arrangement of labor roles that we should see a stronger positive effect of a woman's education on the probability of her entry into first marriage.

In the U.S., the experiences of the Lucky Few generation of the 1930s and early 1940s were based on an economic structure of predominantly male wage workers with a male-breadwinner and female homemaker norm (Hernandez 1993). For most of the Baby Boomer generation, this norm persisted despite a major de-genderization in the labor force. My framework takes into account that during the Baby Boomer generation there was a period where the de-genderized roles in the labor market contradicted still gendered labor roles in the household. This is

evidenced by an increase in the traditional male breadwinner, female homemaker family structure being unexpectedly simultaneous to the increase in labor force participation rates of women during the 1960s. In fact, baby boomers in America experienced an upward trend and the peak in the prevalence of the traditional breadwinner model (Ibid. 1993). In Generation X, however, we see the expected positive relation between the increase in labor force participation rate of women and an increase in the modern dual earner family structure (Ibid. 1993).

Hypotheses

In my analysis, I test the prediction that a generational lag may be a factor in the career entry model by statistically testing the differential effect of educational level on marriage by generation. I hold that it is among Generation X that we should see an increasingly pronounced positive relation between educational attainment and the probability of first marriage. Thereafter, I expect the pattern of the education effects for men and women to converge. More specifically, I expect that the effect of educational attainment on the probability of first marriage will not become pronouncedly more positive among women in the Baby Boomer generation despite the pioneering mass entry of women of this generation into the labor market. Based on my theoretical consideration of the importance of a generational lag, the additional value education should gain for women as a market characteristic in the marriage decision will not manifest until Generation X.

Thus, my first hypothesis is that the positive effect of earning power becomes more pronounced in Generation X as the marriage market would function based on markedly different social attitudes and expectations about the de-gendered nature of labor roles in both the market and the

household. Men and women then couple according to new internalized social norms. These are attitudes and expectations they formed based on their lived experiences. In a departure from the two predecessor generations, Generation Xers were raised in a distinct historical context of de-genderized labor roles in both the market and domestic spheres. My analytic framework tests that the effect of this change is at the aggregate level of generation, not just based on micro-level characteristics. It is in Generation X that women will gain the increased marital advantage based on earning power as predicted by the career entry model.

My second hypothesis is that starting with the X generation, the effect of earning power on first marriage should become gender-neutral. There should be some gain in the education effect even for men given that the increased importance of education as a predictor of earnings in the labor market makes these men more so marriageable. However, my second hypothesis pivots on the convergence in the pattern of the education effect by gender in Generation X. Testing these hypotheses requires careful comparisons between men and women and across three generations using appropriate data. The following section turns to that task.

Data

The dataset for the analysis is based on merged data from the Census Bureau's Survey of Income and Program Participation (SIPP) survey and the Internal Revenue Service's (IRS) individual lifetime earnings data. The merge was based on the individual's social security number, which is then converted to an anonymous person-level identification number. The survey data included are from the 1990, 1991, 1992, 1993, 1996, 2001, and 2004 SIPP panels. The data for marital,

education, and earnings history extend the person's life duration.[3] The life history data are mostly retrospective except for the years in which the respondent was in the SIPP panel and surveyed for updates on these domains. The end year of the event observation period, 2004, is based on the available marital history in the latest SIPP panel.

For this analysis, I use one randomly selected version of the 16 multiple versions of the data created by the U.S. Census Bureau. The underlying confidential sample data were completed and synthesized via multiple imputation to make it available to the public.[4] The values in the data are generated based on random imputation, which produces an added error component. This process renders the values to be estimates, not true response values. A major issue with the use of synthetic data is that it leads to underestimated standard errors, which is usually solved by creating and analyzing multiple sets of imputed data (Rubin 1987). However, since I do not use the multiple implicates in this study, the standard errors used in the statistical analysis may be artificially deflated (Allison 2000).[5]

Descriptive Statistics

The first sample includes 124,490 women and 114,681 men who were never married at the start of the analytic period (Table 1).[6] By race, 82.0 percent were white, 11.8 percent were black, and

[3] Due to the constraints of the data, I am not able to address cohabitation which has become an increasingly prevalent household structure, but the general premise of each theory under consideration does not rest of the inclusion of cohabitation.

[4] The U.S. Census Bureau used a three-step process to prepare the data. First, a "Gold Standard" dataset was created by merging variables from the SIPP panels with SSA-provided administrative data from the Summary Earnings Records (SER), Detailed Earnings Records (DER), and the Master Beneficiary Record (MBR) by Social Security Number (SSN). Second, missing data were multiply-imputed four times to create four implicates of the "Completed Gold Standard" (CGS) dataset following Rubin rules (1987). Thirdly, the Census Bureau created 4 replicates of synthetic data for each CGS files to result in 16 SIPP Synthetic Beta (SSB) data files. The statistical model for this third step was based on a Bayesian bootstrap, logistic regression, or linear regression by which each variable was imputed in the missing data phase or synthesized in the synthetic data phase conditional on all values of all other variables for that individual.

[5] Further research would be to conduct the analysis on the underlying confidential sample data pending the validation process and approval by the U.S. Census Bureau.

[6] The case and full series of person-records for any respondent who died during the 15 to 35 age range of analytic observation period were dropped prior to the analysis.

6.2 percent were Latino.[7] The distribution by highest educational level was that 13.0 percent had less that a high school degree, 63.8 percent had a high school degree (including those with some college), and 23.3 percent had a bachelor's degree or higher. Of this sample, 23.5 percent were in the Lucky Few generation, 60.7 percent were in the Baby Boomer generation, and 15.7 percent were in Generation X. Of all individuals, 18.0 percent had never married by age 35. By gender, 15.8 percent of women and 20.3 percent of men remained never married.

As expected, we see an increase in the prevalence of being never married at age 35 over each successive generation. In the Lucky Few generation, 9.0 percent of women and 13.7 percent of men had never married by 35. For Baby Boomers, 14.9 percent of women and 18.9 percent of men remained never married. Among Generation Xers, the percent never married was 30.2 percent for women and 34.9 percent for men. We also observe in the sample the increase in women's educational attainment by generation. In the Lucky Few generation, 14.7 percent of women had obtained a bachelor's degree or more. For Baby Boomers, the percent had increased to 23.3 for women and, for Generation Xers, the percent was 26.9 among women (statistics for women displayed in Table 2).

This study employs a second step in the analysis based on individuals born between 1960 and 1969, which is focused on marriage entry after school completion. In this analysis, I directly test educational attainment, which captures potential earnings, and lagged annual earnings, which captures the lagged actual earning capacity. Here, including both variables better captures earning power of individuals, both employed and unemployed. This second analysis is conducted over the period of 1978 to 2004 rather than from 1945 to 2004 due to the available earnings data.

[7] In the SIPP survey, respondents self-identity racial classification. The racial groups of Asians and "other" are not included due to small sample size.

In this second analytic sample, there were 31,826 never married women and 33,632 never married men at the start of the analysis (Table 3). Here, the highest level of education obtained was less than a high school degree for 12.1 percent, a high school degree (including some college) for 69.3 percent, and a bachelor's degree or higher for 18.6 percent. By race, 78.9 percent of this sample was white, 13.2 percent was black, and 7.9 percent was Latino. There were 53.6 percent in the Baby Boomer generation—born from 1960 to 1964—and 46.4 percent in Generation X—born from 1965 to 1969. Among the second sample, 32.9 percent had never married by age 35 overall. Among women, 31.7 percent had never married and among men 34.0 percent had never married.

In the second analysis, there also is an increase in the prevalence of being never married at age 35 by each successive generation. For Baby Boomers born 1960 to 1964, 25.6 percent of women and 27.6 percent of men remained never married. Among Generation Xers born 1965 to 1969, the percent never married by age 35 was much higher: 38.4 percent for women and 41.6 percent for men. We also observe in the second sample the expected increase in women's educational attainment by generation. In the Baby Boomer generation, 17.2 percent of women had obtained a bachelor's degree or more. For Generation Xers, the percent was 21.1 (statistics for women displayed in Table 4). Comparing the demographic characteristics in the two samples for women in each respective generation, the percent of white women and women with a bachelor's degree is substantively lower in the second sample (Table 2 and 4). This may be interpreted as indicating that women with a college degree and white women marry in-school at a disproportionately higher rate than their counterparts.

Methods

In order to estimate the effects of educational attainment on the entry into first marriage over personal and historical time, I analyze event history data using a discrete-time hazard model for non-repeatable events (here, first marriage). The event history data regarding first marriage follow individuals from the origin state of being never married to the state of interest, having entered first marriage. The model includes two time-constant covariates (race and generation) and two time-varying covariates (age and educational level). I use a binary indicator with 0 for being never married and 1 for becoming married for the first time.

I fitted logit models to the event history data. The standard errors are adjusted to accommodate clustering at the person-level and the model incorporates a random intercept to allow for the individual-specific effect.[8] In event history analysis, there is generally a concern about intra-class correlation owing to unobserved individual heterogeneity (Yamaguchi 1991, Allison 1995). In this study as well, the expectation of person-specific effects is warranted based on unobserved individual characteristics that are important for entry into first marriage but not available in the data, such as parental socio-economic status, military service, and religiosity. The control for individual random effects addresses the auto-correlation among person-year observations within persons. Otherwise, the estimates may be biased (Rodríguez 2008, Rabe-Hesketh and Skrondal 2012). The coefficient for a covariate represents the change in the log odds of entering first marriage with a unit change in the covariate.

[8] I used Stata as the statistical software for the analysis, using the xtlogit command.

I conduct the event history analysis in two steps. Step 1 analyzes the event history over ages 15 to 35 with right censoring at event occurrences. This results in 1,225,704 person-year observations for women and 1,361,994 person-year observations for men. I test a linear, quadratic, and cubic time function for the transition to first marriage. The quadratic age function is employed to best capture the diminishing increase in the probability of first marriage over the ages 15 to 35. The random-effects logit model regresses the log odds of first marriage on age, age-squared, three-category educational levels (a high school degree or some college, a bachelor's degree or more, and less than a high school degree as the reference), three generations (the Baby Boomer generation, Generation X, and the Lucky Few generation as the reference), and race (black, Latino, and white as the reference). The model includes interaction terms between high-school/some-college and generation as well as college/advanced degree and generation. A lower Akaike Information Criterion (AIC) and BIC indicate better fit, a criterion I used in model building (Table 5).

The step 2 analysis starts at age 18 or the age of education completion if later than 18. As the second step analysis covers a different analytic sample, it requires a new reference group for generation. The reference is changed from the Lucky Few generation to the later cohorts of the Baby Boomer generation. For this analytic sample, there were 297,671 person-year observations for women and 346,775 person-year observations for men. This analysis tests if the previously estimated education effects are an artifact of prolonged schooling. That is, the effect may be a result of the underlying relation that individuals do not consider marriage until they complete their final year of schooling.

In the second step, I first replicated the model specification in the first-step analysis (other than the change from three to two generations), and then I also added the lagged annual earnings variable (logged). I use lagged annual earnings in order to control the temporal order between earnings and first marriage, which however may not completely rule out the concern for bias due to endogeneity between marriage and earnings. The data file contains earnings records from the Social Security Administration's Detailed Earnings Record in four categories: non-deferred FICA earnings, deferred FICA earnings, non-deferred non-FICA earnings, and non-deferred FICA earnings. All four categories of earnings are aggregated to create an annual total earnings measure (the dollar unit for the earnings variable is converted from nominal dollars to 2010 real dollars using the Consumer Price Index Research Series for Urban Consumers). I use the log of the variable for lagged annual earnings due to the positive skewness in the distribution of that variable. Zero lagged earnings indicate that the person did not receive wages during the last year, and they are recoded to 1 so that the value becomes zero after the log transformation.

Findings

We interpret the logit coefficient by its sign and statistical significance. For the 0/1 indicator covariates, the shift in value is from zero to one. For the time-constant covariates, the one-unit increment is a shift in the logit up or down relative to the reference. However, for time-varying covariates, a one-unit increment shifts the logit function relative to the reference starting from the time period when the covariate changes. For the effects of education, I examine the differential effects on the transition to first marriage by generation. The significance level is set at .05. The Z test is used for the test of a single variable and the Wald test is used to jointly test more than one variable.

Model 1: Discrete-Time Hazard Model for the Transition to First Marriage, 1945-2004

Table 6 presents the discrete-time hazard model for the transition to first marriage observed from age 15 to 35 across the years 1945 to 2004 (Model 1). Displayed are the coefficients and their significance levels based on the first analytic sample. This analysis includes all three generations conducted for women and men separately. By race, there is a negative effect on marriage among Latinos and blacks for both men and women. Overall, the negative effect among blacks is greater in magnitude than the negative effect among Latinos. However, the negative effect among both race categories is lower in magnitude for men than it is for women.

In regards to age, for women each additional year within the age range of 15 to 35 increases the log odds of marriage with a statistically significant declining rate after the age of 26.8 years old, the maximum of the quadratic function. For men, after an initial increase in the log odds of marriage with age there is a diminishing effect after the peak of the quadratic function at the age of 30.1 years. As expected, the age at which the curve starts to be downward sloping is later for men compared to women. Further, both the upward and downward part of the quadratic age effect is steeper for women than it is for men as indicated by the greater relative magnitude size of the positive coefficient for age and the greater relative magnitude size of the negative coefficient for age-squared for women.

The reference group for each education category included in the model is having less than a high school diploma. Thus, the single variable for generation pertains to the change in the log odds of marriage for those with less than a high school degree in the respective generation compared to

those with less than a high school degree in the Lucky Few Generation, the generation reference group. For this lowest category for education level, there is a decline in the probability of marriage over each successive generation. The simple coefficient for Generation X shows that those with less than a high school degree experienced a steep decline in the log odds of marrying. There was also a decline in marriage for those in the Baby Boomer generation, but it was less steep than the decline in Generation X. This pattern holds for both men and women. However, the magnitude of the decline for women is greater than for men in each generation.

For the Lucky Few generation, women having a bachelor's degree have no advantage in entering first marriage versus those with no high school degree. The effect of having a high school degree, however, shows the expected positive effect. This can be interpreted as a marital advantage for those with a high school degree in comparison to those with less than a high school degree. Unexpectedly, the high school degree advantage is also in comparison to women who are college educated. It appears that education level has a curvilinear effect on the entry into first marriage for women in the Lucky Few generation. The education effects, however, are monotonic for men as expected. College educated men have a greater marriage advantage than those with only a high school degree and those with a high school degree have a marriage advantage over those with less than a high school degree.

An important feature of this model is that it allows for the effect of education to change by generation. This is tested by the significance level of the coefficients for the interaction term between each education level and generation. Since the Lucky Few generation is the reference group for generation, the effect of each education level for this generation is fully represented by

each single variable for education level. The significance level of the interaction term between each education level and generation indicates if there are different effects of education for the generation included in the model as compared to the Lucky Few generation.

Each of the interaction terms for education level and the indicator for being in the Baby Boomer generation was not statistically different from zero. This means that there was no increase in the marital advantage by education level in this generation. This finding is true for both men and women. In regards to the men, that they as baby boomers experienced an economic regime of relatively more equal wages and more job security and stability may explain why they experienced no increase in the marriage advantage by education level. In other words, men in this generation may have been able to afford marriage more so irrespective of education level. Alternatively or additionally, the experience of being socialized in the families so influenced by the major event of World War II and the near memories of the Great Depression may have produced sentiments of insecurity. For them, family formation may be highly valued as a strategy of security and emotional reward rather than being predominantly induced by economic incentives.

The finding for women provides initial support for our first hypothesis. Despite their mass entry into the workforce, female baby boomers did not experience an increase in the positive effect of their earning power on marriage. It may be that they, with their male counterparts, experienced socialization in their own family during the critical stage of childhood that oriented them deeply toward family formation via a model where the female homemaker was still an ideal. Overall, the lack of any advantage for women who are college educated calls into question whether the

incentives of the two-earner household structure might have been driving the marital decision among this generation. Yet we must determine the education effect in the subsequent generation to fully establish support for the first hypothesis.

Among Generation X women, the positive effect of having a bachelor's degree is pronouncedly more positive. This then provides the support for the first hypothesis and the career entry model. However, there is no parallel increase in the marriage advantage among women with a high school degree in this generation. Differently for men in the X generation, there was a greater positive effect at both levels of educational attainment. It may be that the increase in the earning power of women by education level is located only or mostly among college educated women. It may be that during this generation, a high school diploma was not a salient indicator of earning power for women based on an interaction between gender-based occupational segregation with the economic transformation toward skill-based technology.

Increased technology in even lower-skilled occupations and union rules of promotion by occupation classifications (these are often based on skill-level and/or training levels) may have resulted in an increased salience of education as an indicator of earning power along the full spectrum of male-dominated jobs. However, for women at the low-skilled end of the occupation hierarchy, there was less unionization and mass machination (Reskin and Ross 1990). This may explain why there was not an increase in the effect of education on marriage for women with only a high school degree. For women, it is reasonable to see that most of the gains in the effect of education on earning power would be at the college level. A bachelor's degree would garner women access to the higher paying jobs in the sectors they more so predominantly occupied,

such as the education, health and medical fields. (Waldman and McEaddy 1974, U.S. Bureau of Labor Statistics 2012).

Yet the magnitude of the increase in log odds among college-educated Generation X women (0.307) was much greater than that among their male counterparts (0.163). This shows a trend toward convergence in the education effects on marriage by gender. While the magnitudes of the positive effect of education levels on marriage are not equivalent by gender, the pattern does trend toward that direction. In Generation X, for the first time both men and women with a college degree or more have the greatest marriage advantage followed by those with a high school degree. Both men and women with less than a high school degree fare worst in the marriage market. That the overall pattern becomes parallel between men and women provides partial support for the second hypothesis.

Models 2 and 3: Discrete-Time Hazard Model for the Transition to First Marriage, 1978-2004

Table 7 and Table 8 present the two discrete-time hazard models for the transition to first marriage observed from age 18 to 35 across the years 1978 to 2004 (Model 2 and Model 3). As discussed previously, this sample differs in that it only includes two generations, the Baby Boomer generation and Generation X. In this second analytic sample used for Model 2 and Model 3, the event history data are left-censored for any individual married prior to finishing school whereas in the first analytic sample used for Model 1 the event history data are based on a left-censoring of any individual married at 15 years old or earlier. Model 2 replicates the specification of Model 1, but the estimates are based on the filters and different data structure of

the second analytic sample. Model 3 incorporates the specification of Model 2, but additionally includes the variable for lagged annual earnings, which is logged.

Model 2 shows the effect of having a college degree on marriage among women is negative for the reference group generation in these models, the Baby Boomers. There is a positive effect of having a high school diploma among women. For men, both having a high school degree and having a college degree confer a marriage advantage and the marriage advantage for the college degree is higher than for the high school degree. As expected, there is an increase in the direction of having a marriage advantage for women with a college degree in Generation X. There is also a sizeable but smaller increase among women with a high school degree. The findings in this model also supports hypothesis one that the effect of education on marriage becomes increasingly positive among women in Generation X.

However, hypothesis two, does not gain a strong level of support when we look at whether there is a convergence in the effects of education on first marriage by gender. Though never married college-educated women in Generation X have much higher log odds of marrying than in the Baby Boomer generation, the increase does not result in a marriage advantage for college educated women over women with less than a high school degree. Further, the increase experienced by men with a high school degree and men with a college degree is even greater in magnitude than the increase experienced by women at these same education levels. Thus, in Model 2, we do not see a gender convergence in the form of the pattern or in the magnitude of the marriage advantage by education level in Generation X.

In Model 3, the pattern of the education effects differ compared to the results of Model 2. In this model there is the additional variable for lagged annual earnings (logged). Based on the AIC and BIC value, Model 3 is superior. In this model, a typical woman with a high school degree has a marriage advantage in the Baby Boomer generation. However, in this generation like in Model 2 there is a negative education effect on marriage for baby boomer women with a college degree. For men of this generation, the education effect is not statistically significant for those with a high school degree. Yet there is a marriage advantage for baby boomer men with a college degree. There is no increase in the marriage advantage for women with a high school degree in Generation X. There is a rather large increase in the magnitude of the marriage advantage for college educated women. However, the increase in the marriage advantage for men with a college degree is even greater in magnitude. Unexpectedly, the increase in the magnitude of the marriage advantage is greatest for men with a high school degree.

These findings provide support to hypothesis one in that women gain a marriage advantage for having a college degree in Generation X. The pattern shows that changes in the marriage advantage by education trends to the expected relation where college educated women have the greatest marriage advantage followed by women with a high school degree and then women with less than a high school degree are least likely to marry. However, the trend is more weakly seen in this model than it is in Model 1. There is still the expected pattern of men with a college education having the greatest marriage advantage followed by men with a high school degree. But in contrast to the results in Model 1, in this model the gains in men's education effects were greater in magnitude than the gains experienced by women. Thus, based on the results found in

Model 3 we could not say that there is a clear trend toward convergence in the magnitudes of the education advantage by gender.

However, in Model 3 we do see a trend toward gender convergence in Generation X via the lagged annual earning variable. The marriage advantage for earnings increased for women in Generation X while it does not increase for men in Generation X. Though the magnitude is not equivalent to that for men, the earning effect on marriage is now also positive for women. This is a substantive change compared to in the Baby Boomer generation where earnings did not confer a marriage advantage for women. Thus, while the support is not as clear as anticipated for the hypotheses across all three models, the overall findings support the theory that it is in Generation X that the effect of the earning power on marriage for women becomes pronouncedly more positive. Further, while there is not a full gender convergence in the effects of earning power on marriage, there is a robust finding of support for the claim that there is a trend toward gender convergence at the college educated level in Generation X. That we do not find this trend among women with a high school degree may be due to a weakening market reward to having a high school diploma for women in more women-concentrated industries and occupations.

Limitations

The dataset used in this study provides a unique opportunity to conduct a study with panel data over an extended period. While there are substantive benefits derived from the longitudinal nature of this data over a long historical period, there are also major trade-offs. Firstly, there are a limited set of variables that actually are available for the life history. Thus, the findings should be considered with caution because we cannot incorporate other variables that may affect the

included covariates and/or the probability of marriage. This leaves our models vulnerable to confounding and omitted variable bias, which could result in inefficient as well as biased estimates.

Furthermore, the interpretations of the findings must be considered tentative since the analysis does not separate the three measures of time—age, period, and cohort. More specifically, I do not distinguish between the effects of Generation X being raised in a restructured family environment in the mid- to late-1960s or those due to exogenous factors of the normative climate for the period in which they entered and remained in the marriage market over the ages 15 to 35 (i.e. the event observation years of 1980 to 2004). Given the structure of the data, there are some years of overlap in the period of event observation between generations. Yet since I include a variable for age in addition to the variable for generation, further disentangling period effects would require a more complicated analysis and induce additional analytical issues. In addition to the issue of adding conceptual complexity, including within any model specification all three concepts—personal time (age), historical moment of the observation year (period), and generation (an aggregate of birth cohorts)—could cause an identification problem and severe multicollinearity (Buss 1974 and Hagenaars 1990).

Additionally, endogenous selection bias is an issue for this study because it is not only plausible that the predictor variables affect the probability of marriage, but the predictor variables may be affected by marriage. However, I would argue that it is a credible assumption that changes in the education patterns are more so driving the major changes in marriage formation than that postponed and delayed marriage has driven higher levels of education. With the age of marrying

already beyond the starting teenage years when one typically considers entering marriage or entering college, I assume that the great increase in women going to college cannot be largely explained by delayed marriage patterns.

I would argue that those who go to college do so mainly due to exogenous factors such as greater access to higher education and the increasing return to educational attainment than because they are more and more so single. Furthermore, under the premise of the career entry model of the two earner household structure, spouses more so gain from each other's education level. Thus, the effect of educational advancement on marriage should be increasingly positive, which was demonstrated in the findings of this study. I would also conjecture that being married should less and less compete with acquiring higher educational credentials under the increasing prevalence of the two-earner household structure that has been observed over the observation period used in this study. Thus, I find the argument that changes in marriage patterns predominantly drive the increases in higher education levels less compelling than that education level or being in school more so affect marriage patterns.

In this study, I assume that the effect of educational attainment is increasingly positive as attitudes and values shift such that it primarily has an effect as a market characteristic and, more specifically, as a proxy for long-term earning potential. However, education has been theorized to represent non-market characteristics, such as child rearing quality and/or status benefits (Becker 1973). Unfortunately, I am not able to decompose in this study the two possible types of characteristic that educational attainment may play, especially for women. That is, I do not separate the component that operates as a market characteristic and reflects long-term earning

power versus the component that operates as a non-market characteristic that may reflect value in domestic household production. Yet I maintain that the assumption is reasonable that educational attainment is increasingly a market characteristic for women. Further, the finding that the effect of educational attainment among women increasingly acts like that of the effect among men validates the underlying approach of this study.

Another limitation is that this dataset does not provide sample weights because the U.S. Census Bureau has not made sample weights publically available. Thus, we cannot be confident in the inferences and generalizations from this analysis to the U.S. population. Despite that each panel of the SIPP survey is a nationally representative survey, we can only be confident that these findings are descriptive of the sample without the application of an appropriate weighting scheme. Also, the requirement for record validation by social security number, which was the basis of the merging of the mingled data sources, may have excluded certain records that would induce a concern for selection effects. However, I expect that the effect of this merging procedure would be minimal among the native born analytic sample of this study.

Discussion and Conclusion

The central argument of this paper is that the de-genderization of the economic basis of the marital decision—an integral premise of Oppenheimer's career entry model—needed a blank slate and the appropriate historical context to shift so markedly. An underlying logic of cohort analysis is the understanding that each new cohort represents an opportunity for social change (Ryder 1956). A new generation is an aggregate of birth cohorts composed of individuals who never experienced the past historical experiences of prior generations and who have new

collective experiences. They can be considered analogous to a fresh start for the development of a new social context. Generation X represents a sub-group that both had an array of new social experiences as well as an openness to change that was amenable to the major adjustments in attitudes, norms, and expectations that I argue were an underlying requirement for Oppenheimer's forecasted change toward a new economics of marriage and the marital decision.

The findings of this study show support that it was within Generation X that men and women shifted to basing the marital decision on the economic incentives of the modern two-earner household structure of production. Based on new aggregate level experiences and an alternative normative framework, Generation Xers embodied a critical historical context and they began to reconcile the de-gendered arrangement of wage and household production to the de-gendered economic basis of the marital decision. Then, as the data in this study show, we see the appropriate indicators that marriage entry becomes increasingly based on a new set of incentives, such that women's earning power appears to be more and more translated into a marriage advantage.

As predicted by the career entry model, the data show a statistically significant increasingly positive effect of economic status on marriage for women at the college degree level. However, this effect was only observed among women of the X Generation; that is, individuals born after 1964. Further, the results show some support that there was a trend toward gender convergence in the patterning of the education and earnings effects between men and women among Generation Xers.

Via a generational analysis, this study contributes a social aspect to the otherwise economic approach of the gains-to-marriage debate. My argument implies that during the Baby Boomer era the economic re-arrangement of the gender roles in market labor was not alone sufficient to induce a new economic basis of the marital decision. Women's economic status was not spontaneously rendered a marriage advantage parallel to the mass entry of female baby boomers into the labor market as the career entry model predicted. Rather, it may be that adjusted social attitudes about gender roles in household production lagged the economic change of de-gendered wage labor. Then, it appears that the shift in the social context preceded the major transformation in the pattern of marriage formation being based on the economic incentives of the two-earner household model at the micro-level. Based on the findings presented, further research is merited that might focus on exploring more in-depth a dynamic understanding of changes in gender roles and family formation with consideration of the importance of the social context and generation turnover.

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Table 1. Sample I by Distributions of Predictor Variables

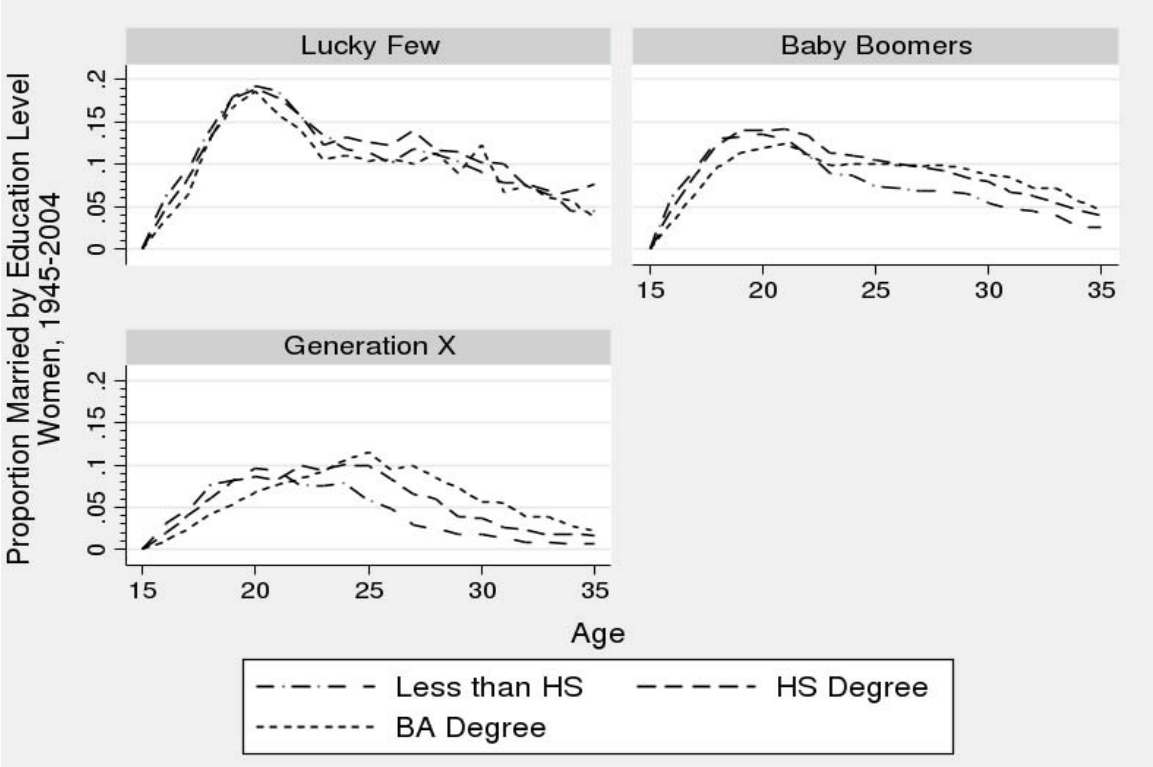
	Women		Men		Total	
Sample I	N	Percent	N	Percent	N	Percent
Number of Individuals	124,490	100	114,681	100	239,171	100
Variable	Frequency	Percent	Frequency	Percent	Frequency	Percent
Marital Status at Age 35						
Ever Married	104,781	84.2	91,438	79.7	196,219	82.0
Never Married	19,709	15.8	23,243	20.3	42,952	18.0
Highest Education Level						
Less Than High School Degree	15,596	12.5	15,430	13.5	31,026	13.0
High School Degree to Some College	81,832	65.7	70,705	61.7	152,537	63.8
Bachelor's Degree or Higher	27,062	21.7	28,546	24.9	55,608	23.3
Race						
White	100,224	80.5	95,934	83.7	196,158	82.0
Black	16,227	13.0	11,915	10.4	28,142	11.8
Latino	8,039	6.5	6,832	6.0	14,871	6.2
U.S. Generation						
Lucky Few: Born 1930-44	30,477	24.5	25,840	22.5	56,317	23.5
Baby Boomers: Born 1945-64	74,706	60.0	70,516	61.5	145,222	60.7
Generation X: Born 1965-69	19,307	15.5	18,325	16.0	37,632	15.7

Table 2. Distributions of Predictor Variables by U.S Generation, Sample I – Women

	The Lucky Few		Baby Boomers		Generation X	
Sample I, Women	N	Percent	N	Percent	N	Percent
Number of Individuals	30,477	100	74,706	100	19,307	100
Variable	Frequency	Percent	Frequency	Percent	Frequency	Percent
Marital Status at Age 35						
Ever Married	27,743	91.0	63,571	85.1	13,467	69.8
Never Married	2,734	9.0	11,135	14.9	5,840	30.2
Highest Education Level						
Less Than High School Degree	6,036	19.8	7,673	10.3	1,887	9.8
High School Degree to Some College	19,948	65.5	49,667	66.5	12,217	63.3
Bachelor's Degree or Higher	4,493	14.7	17,366	23.2	5,203	26.9
Race						
White	25,267	82.9	59,859	80.1	15,098	78.2
Black	3,756	12.3	9,862	13.2	2,609	13.5
Latino	1,454	4.8	4,985	6.7	1,600	8.3

[Graphical Analysis To Be Added]

Graph 1: Observed Proportion Marrying by Education Level (Time-Constant) and Generation, Sample 1 – Women



Graph 2: Observed Proportion Marrying by Education Level (Time-Constant) and Generation, Sample 1 – Men

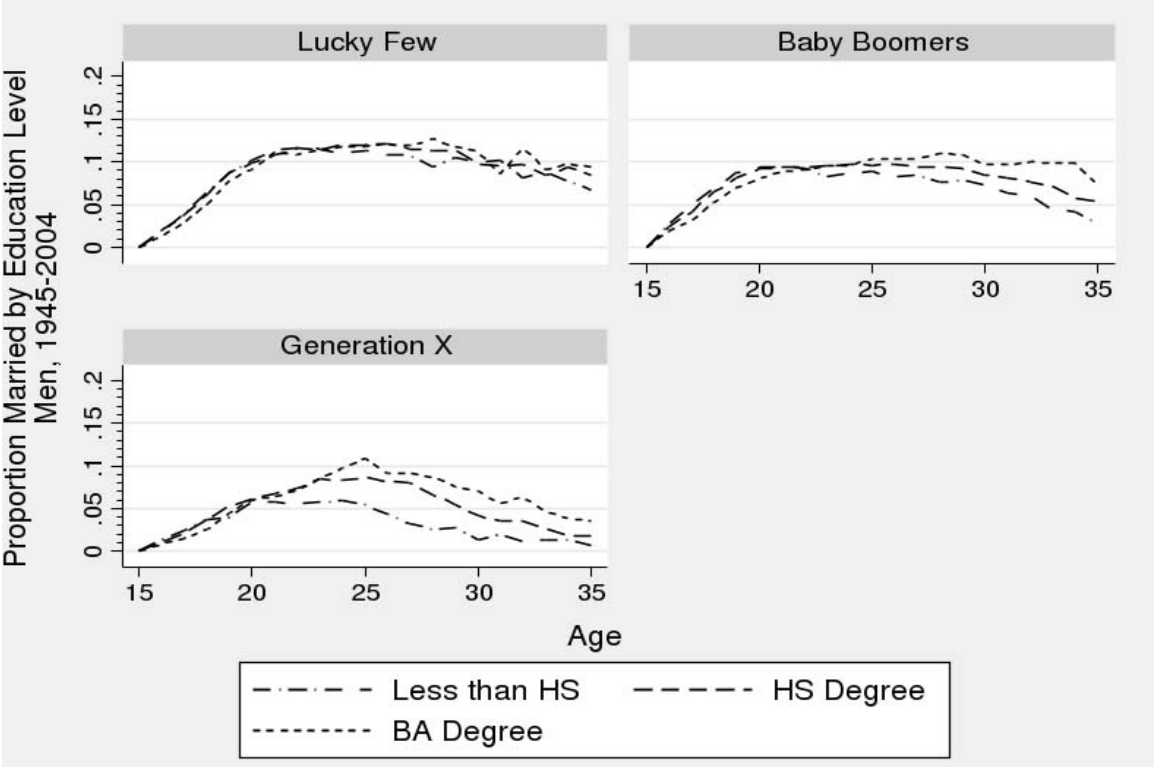


Table 3. Sample II by Distributions of Predictor Variables

	Women		Men		Total	
Sample II	N	Percent	N	Percent	N	Percent
Number of Individuals	31,826	100	33,632	100	65,458	100
Variable	**Frequency**	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Marital Status at Age 35						
Ever Married	21,746	68.3	22,207	66.0	43,953	67.1
Never Married	10,080	31.7	11,425	34.0	21,505	32.9
Highest Education Level						
Less Than High School Degree	3,465	10.9	4,463	13.3	7,928	12.1
High School Degree to Some College	22,293	70.0	23,070	68.6	45,363	69.3
Bachelor's Degree or Higher	6,068	19.1	6,099	18.1	12,167	18.6
Race						
White	24,425	76.7	27,216	80.9	51,641	78.9
Black	4,776	15.0	3,852	11.5	8,628	13.2
Latino	2,625	8.2	2,564	7.6	5,189	7.9
U.S. Generation						
Baby Boomers: Born 1960-64	16,724	52.5	18,375	54.6	35,099	53.6
Generation X: Born 1965-69	15,102	47.5	15,257	45.4	30,359	46.4

Table 4. Distributions of Predictor Variables by Generation, Sample II - Women

	Baby Boomers Generation		Generation X Generation	
Sample II, Women	N	Percent	N	Percent
Number of Individuals	16,724	100	15,102	100
Variable	Frequency	Percent	Frequency	Percent
Marital Status at Age 35				
Ever Married	12,442	74.4	9,304	61.6
Never Married	4,282	25.6	5,798	38.4
Highest Education Level				
Less Than High School Degree	1,855	11.1	1,610	10.7
High School Degree to Some College	11,986	71.7	10,307	68.2
Bachelor's Degree or Higher	2,883	17.2	3,185	21.1
Race				
White	12,812	76.6	11,613	76.9
Black	2,555	15.3	2,221	14.7
Latino	1,357	8.1	1,268	8.4

Table 5. Discrete-Time Hazard Model Building for the Effects of Education on the Transition to First Marriage: 1945-2004

Modeling by Stepwise Regression, Analytic Sample I

	Women					
	Step 1		Step 2		Step 3	
Intercept	17.655	***	17.181	***	17.137	***
Black	-0.972	***	-0.954	***	-0.949	***
Latino	-0.342	***	-0.272	***	-0.27	***
Age	1.246	***	1.238	***	1.234	***
Age-Squared	-0.023	***	-0.023	***	-0.023	***
High School Degree Only	0.271	***	0.291	***	0.315	***
Bachelor's Degree or More	0.027	ns	0.096	***	0.044	ns
Baby Boomer Generation			-0.351	***	-0.325	***
Generation X			-1.226	***	-1.226	***
High School Degree Only*Baby Boomer Generation					-0.033	ns
High School Degree Only*Generation X					-0.049	ns
Bachelor's Degree or More*Baby Boomer Generation					-0.035	ns
Bachelor's Degree or More*Generation X					0.307	***
NT	1,225,704		1,225,704		1,225,704	
AIC	687087		682113		682035	
BIC	687183		682233		682203	

Legend: * p<.05; **p<.01; *** p<.001; ns not statistically significant at .05 level.

Table 6. Discrete-Time Hazard Model for the Effects of Education on the Transition to First Marriage: 1945-2004

	Model 1	
	Women	Men
Intercept	-17.137 ***	-17.975 ***
	(0.219)	(0.312)
Black	-0.949 ***	-0.706 ***
	(0.019)	(0.025)
Latino	-0.270 ***	-0.120 ***
	(0.022)	(0.028)
Age	1.234 ***	1.142 ***
	(0.017)	(0.021)
Age-Squared	-0.023 ***	-0.019 ***
	(0.000)	(0.000)
High School Degree Only	0.315 ***	0.361 ***
	(0.020)	(0.027)
Bachelor's Degree or More	0.044 ns	0.442 ***
	(0.046)	(0.042)
Baby Boomer Generation	-0.325 ***	-0.230 ***
	(0.020)	(0.027)
Generation X	-1.226 ***	-1.117 ***
	(0.033)	(0.041)
High School Degree Only*Baby Boomer Generation	-0.033 ns	-0.008 ns
	(0.024)	(0.030)
High School Degree Only*Generation X	-0.049 ns	0.141 **
	(0.036)	(0.044)
Bachelor's Degree or More*Baby Boomer Generation	-0.035 ns	-0.075 ns
	(0.050)	(0.048)
Bachelor's Degree or More*Generation X	0.307 ***	0.163 *
	(0.061)	(0.064)
NT	1,225,704	1,361,994
AIC	682035	640980
BIC	682203	641150
Differential Education Effects on the Log Odds of Marriage by Generation (Sum of Component Effects if Interaction Term Statistically Significant, Otherwise Same as Reference, n/a)		
Lucky Few Generation and Baby Boomer Generation	Significance Level, Z Test	
High School Degree Only	0.315 ***	0.361 ***
Bachelor's Degree or More	ns	0.442 ***
Generation X	Significance Level, Wald Test	
High School Degree Only	n/a	0.502 ***
Bachelor's Degree or More	0.351 ***	0.605 ***

Legend: * p<.05; **p<.01; *** p<.001; ns not statistically significant at .05 level. Standard errors in parentheses.

Table 7. Discrete-Time Hazard Model for the Effects of Education and Earnings on the Transition to First Marriage by Gender: 1978-2004

	Women		Men	
	Model 2			
Intercept	-3.002	***	-3.281	***
	(0.060)		(0.034)	
Black	-0.984	***	-0.392	***
	(0.037)		(0.025)	
Latino	-0.173	***	0.062	*
	(0.033)		(0.027)	
Time	0.358	***	0.293	***
	(0.015)		(0.006)	
Time-Squared	-0.025	***	-0.019	***
	(0.001)		(0.000)	
High School Degree Only	0.102	*	0.070	*
	(0.040)		(0.030)	
Bachelor's Degree or More	-0.168	***	0.175	***
	(0.048)		(0.036)	
Generation X	-0.551	***	-0.661	***
	(0.057)		(0.042)	
High School Degree Only*Generation X	0.140	*	0.404	***
	(0.060)		(0.046)	
Bachelor's Degree or More*Generation X	0.337	***	0.381	***
	(0.071)		(0.055)	
NT	297,671		346,775	
aic	149809		160924	
bic	149925		161042	

Differential Education Effects on the Log Odds of Marriage by Generation
(Sum of Component Effects if Interaction Term Statistically Significant, Otherwise Same as Reference, n/a)

Baby Boomer Generation	Significance Level, Z Test			
High School Degree Only	0.102	*	0.070	*
Bachelor's Degree or More	-0.168	***	0.175	***
Generation X	Significance Level, Wald Test			
High School Degree Only	0.242	***	0.474	***
Bachelor's Degree or More	0.169	***	0.556	***

Legend: * p<.05; **p<.01; *** p<.001; ns not statistically significant at .05 level. Standard errors in parentheses.

Table 8. Discrete-Time Hazard Model for the Effects of Education and Earnings on the Transition to First Marriage by Gender: 1978-2004

	Women		Men	
	Model 3			
Intercept	-2.969	***	-3.390	***
	(0.062)		(0.037)	
Black	-0.945	***	-0.367	**
	(0.038)		(0.024)	
Latino	-0.156	***	0.086	***
	(0.032)		(0.027)	
Time	0.339	***	0.279	***
	(0.016)		(0.006)	
Time-Squared	-0.024	***	-0.019	***
	(0.001)		(0.000)	
High School Degree Only	0.093	*	0.051	ns
	(0.039)		(0.029)	
Bachelor's Degree or More	-0.176	***	0.133	***
	(0.048)		(0.035)	
Generation X	-0.611	***	-0.686	***
	(0.060)		(0.052)	
High School Degree Only*Generation X	0.111	ns	0.373	***
	(0.059)		(0.045)	
Bachelor's Degree or More*Generation X	0.282	***	0.338	***
	(0.070)		(0.055)	
Lagged Annual Earnings	0.005	ns	0.023	***
	(0.003)		(0.003)	
Lagged Annual Earnings*Generation X	0.014	**	0.007	ns
	(0.004)		(0.004)	
NT	297,671		346,775	
aic	149778		160780	
bic	149916		160919	

Differential Education Effects on the Log Odds of Marriage by Generation
(Sum of Component Effects if Interaction Statistically Significant, Otherwise Same as Reference, n/a)

Baby Boomer Generation	Model 3			
High School Degree Only	0.093	*	0.051	ns
Bachelor's Degree or More	-0.176	***	0.133	***
Lagged Annual Earnings	ns		0.023	***
Generation X				
High School Degree Only	n/a	***	0.424	***
Bachelor's Degree or More	0.106	***	0.471	***
Lagged Annual Earnings	0.019	***	0.030	***

Legend: * p<.05; **p<.01; *** p<.001; ns not statistically significant at .05 level. Standard errors in parentheses.