

The Transition to First Marriage in China, 1966–2008: An Examination of Gender Differences in Education and *Hukou* Status

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Abstract Using retrospective life history data from the 2008 Chinese General Social Survey (CGSS), this study examines the entrance into first marriage in China, a country that has been experiencing profound socioeconomic changes for the past several decades. We examine educational differences across rural and urban regions and across gender as determinants of marriage. Results reveal that for rural women, increasing education (especially from the least educated to middle levels of education) decreases marriage chances. For urban women, increasing education does not affect their marriage chances, net of other factors. For the former, results are consistent with the broad East Asian cultural practice of women “marrying up.” For the latter, we argue that modernizing forces (e.g., improvements in education) have reduced the incidence of this practice. We also find effects attributable to unique features of the Chinese institutional context, such as the rural/urban divide and effects of the household registration (*Hukou*) system.

Keywords Marriage · China · *Hukou* system · Marrying up

1 Introduction

Marriage remains a bedrock institution in every society and has been at the forefront of profound changes throughout the past half century. Changes in prevalence, timing, dissolution, and alternatives to marriage have been documented in the USA (Raley 2000), parts of Europe (Kalmijn 2007), and more recently Asia (Frejka et al.

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2010; Jones 2005). Many demographic and sociological theories (e.g., Goode 1963; Lesthaeghe 2010) assume that family practices converge to a uniform pattern as countries experience social changes associated with industrialization or postindustrialization. However, while a decline in marriage prevalence and rising divorce rates have been observed in diverse regions around the world (Lester 1996), there are striking differences in the pace, timing, and degree of change across countries. Although similar economic and social forces are transforming societies worldwide, generalizations about changes in marriage patterns cross-nationally are difficult to establish because of variations in social context and cultural history.

In this article, we examine the entrance into first marriage using retrospective life history data from China, a country that has been undergoing major societal and economic transformations. Our research utilizes a case study approach to examine how aspects of the institutional context (i.e., the household registration system) and prevailing marriage customs (i.e., the norm of “marrying up”) shape the marriage experiences of individuals against the backdrop of massive economic, social, and demographic changes. We focus on gender differences in education across rural and urban regions, as well as differences related to household registration system (or *Hukou*). While much of what family scholars know about the marriage transition was learned from research in Western settings (which have long since experienced industrialization, urbanization, and modernization), China’s experience presents an opportunity to study marriage patterns in a contemporary setting presently undergoing these changes. Furthermore, China’s distinct cultural and historical context provides a novel setting in which to explore these issues, yielding insights into universal versus particular aspects of familial and marital changes.

2 Theoretical Background

2.1 Global Transition in Marriage

Family scholars have identified widespread changes in family relationships—which include changes in marriage patterns—accompanying global industrialization, economic development, and modernization. Mechanisms implicated in these changes include ideational influences favoring later marriage and smaller families (Lesthaeghe 2010; Thornton 2001) as well as sociostructural influences linking industrial development to pressures on the traditional family system, which are argued to lead to a worldwide convergence toward the Western conjugal family type (Goode 1963).

Changes in marriage, in particular, reflect the increased participation of women in the paid labor force and greater gender equality in educational opportunities. Studies in more developed countries have demonstrated noticeable alterations to marriage patterns accompanying these macro-level societal changes. For example, during the twentieth century, as women increased their labor force and educational participation, changes in the timing and frequency of marriage occurred in the USA and Europe (Frejka 2008; Kalmijn 2007; Sweeney 2002).

Oppenheimer (1988) argues that women's education, an indicator of earnings ability (or future earnings ability), has become a valuable marriage asset, as their labor market attachment has begun to resemble that of men. This view challenges the long-standing model of marriage developed by Parsons and Bales (1955) and by Becker (1981). In this view, when few women participate in the paid labor force, men and women follow a specialized division of labor: women specialize in unpaid domestic work, and men earn money. As women's work attachment increases, the advantages of specialization in marriage decline, and Becker argues that women experiencing higher opportunity costs to marriage (i.e., especially those having higher education) are likely to forgo matrimony altogether, as they no longer depend on men financially. Known as the "economic independence hypothesis," this phenomenon implies a negative association between education and entrance into marriage.

Oppenheimer posits not that women forgo marriage, but that as their education and labor participation increase, the nature of marital matching changes to reflect greater marital selection, as both men and women seek a partner with higher earnings potential. A variety of US studies support this view, demonstrating that marriage prevalence has increased over the decades among highly educated women (Torr 2011) and that similarly educated individuals tend to marry one another (Schwartz and Mare 2005; Shafer and Qian 2010).

Marriage is thus an institution in transition, based more on individual free choice and romantic love, postponed to later in life as people adjust to changes in educational opportunities, the closing of the gender gap in education, increased nonagricultural employment, and the proliferation of an urban lifestyle. Yet, those who study reproductive and family change (e.g., Goode 1963; Mason 1997) as well as value changes more generally associated with modernization (e.g., Inglehart and Baker 2000) recognize that the exact pattern of change within a given society depends on variations in initial conditions, cultural differences, and other path-dependent idiosyncrasies. In China, two facets of the social context uniquely shape marriage outcomes as the country develops economically. The first is the long-standing practice of marrying up: women typically marry better educated (and often older) men. The second is the existence of a significant rural–urban regional division, reified by the rigid Hukou system, which has produced a vast disparity in life outcomes and standards of living between urban and rural residents and has affected local marriage markets.

Because of the unevenness of China's economic development and its concentration in urban areas, insights into how modernizing forces are changing the nature of Chinese marriage can be gained by examining the marrying-up custom across rural and urban areas, especially when considering differences in household registration.

2.2 Marrying Up in the Chinese Context

In China, as well as throughout other parts of Asia, the practice of marrying up remains a cultural preference. As a consequence, highly educated women in countries like South Korea, Japan, and Singapore are especially prone to

experiencing a “marriage squeeze” and remaining single or delaying marriage, notwithstanding their paid work (Choe 2006; Jones 2005; Ono 2003; Raymo and Iwasawa 2005). Even in Japan, which has seen many decades of industrial development, educated women are still sometimes seen as unappealing spouses (Nemoto 2008). Similarly, in China, “beautiful women and intelligent men” is the criterion used to judge the suitability of a spouse (Xia and Zhou 2003). A popular Chinese saying conveys the double standard facing men and women as they age: “men flower in their 40s, but women are like Tofu residue in their 30s.” This notion illustrates that women’s physical appearance and men’s economic standing are keys to marriage market success. Women also generally face greater family pressure to marry early, as men favor younger women in their early to mid-20s, whose fecundity is thought to be at its peak. Women who remain unmarried beyond a certain age (so-called leftover women, *Shengnu nu*) are perceived negatively. In parts of East Asia where cohabitation and out-of-wedlock birth are relatively uncommon (and most procreation occurs within marriage), older and more highly educated women especially face discrimination in the marriage market, and have difficulty finding marriage partners. Research from China indicates that although acquiring a college education delays marriage for both men and women, the effect is stronger for the latter. Indeed, Ji and Yueng (2014) report that most women (even those in the most highly urban settings) eventually marry by age 35. Regarding the education effect on marriage formation, it differs for men and women. Tian (2013), who controls for both school attainment and enrollment, finds that higher educational attainment encourages men’s, but reduces women’s marriage odds at older ages (consistent with a marriage squeeze for educated women, or the practice of marrying up).

In parts of East Asia (including China), marriage patterns differ from those of Western countries. Alternatives to traditional marriage, such as divorce, cohabitation, and nonmarital birth, are relatively uncommon (Rindfuss et al. 2004) and people are increasingly delaying marriage or retreating from it altogether (Frejka et al. 2010; Jones 2005; Tsuya and Bumpass 2004). Smits and Park (2009) point to Confucianism as an important factor differentiating marriage patterns in East Asia from those in other parts of the world. The Confucian tradition is associated with familism, patriarchy, and strong prescriptions on roles within families. In this tradition, women have historically been expected to maintain domestic roles, a clear contrast to the more individualistic and egalitarian heritage of the West.

Despite massive socioeconomic changes and government efforts to intervene in family affairs, both marriage practices and gender norms have been resistant to change in China. Although passage of the 1950 marriage law established legal equality between the sexes, as well as monogamy and free choice in marriage (Song 2009), China remains a persistently patriarchal society, and women are often encouraged, or prefer, to marry up (Ji and Yeung 2014; Tian 2013). While marrying up exists in many societies, in the West, it is no longer commonly practiced, perhaps due to modernizing forces. Indeed, some research even suggests the US women face no pressure to “marry up” (Hou and Myles 2008; Rubin 1968), and others find an increased prevalence of educational homogamy since the 1960s (Schwartz and Mare 2005).

Marriage customs notwithstanding, Chinese society remains in flux due to the pervasive economic, social, and demographic changes over the past several decades. As we elaborate below, these changes may have affected marriage patterns. However, as most changes have been concentrated in urban areas, especially along the East Coast, we expect marriage patterns in cities to be most affected. We now consider how rural–urban differences in economic development, as well as the household registration system that helps maintain a rigid divide between these regions, could shape marriage patterns.

2.3 The Rural–Urban Divide: Implications for Marriage Customs

After the establishment of the People’s Republic of China in 1949, government policies were instrumental in creating a vast divide between rural and urban regions. The Chinese Communist Party institutionalized the division of the country into rural and urban regions, separated in terms of administration, finances, and resources (Knight et al. 2006). As part of these efforts, large-scale government-operated collective farms and policies aimed at depressing the price of food relative to manufacturing goods essentially forced rural peasants (the majority of the population) to subsidize urban industrialization, which led to long-term rural–urban segregation (Knight 2008).

Following the tumultuous period of the Cultural Revolution (1966–1976), a series of economic liberalization policies beginning in 1979 ushered in an era of economic reforms, which transformed the economy from central planning to market based (Bian and Logan 1996; Nee and Matthews 1996). Collectivized farming gave way to smallholder production following the creation of the “household responsibility system.” However, economic expansion and returns to education asymmetrically favored urban areas on China’s East Coast, while economic prospects were more limited in rural areas, particularly in the inland and western regions (Hauser and Xie 2005; Li and Walder 2001; Xie and Hannum 1996). Although the rural–urban educational gap closed somewhat during the Cultural Revolution with the development of rural schools (Treiman 2013), the rural gains regressed in the 1980s, and education has continued to favor urban areas (Hannum 1999).

A major reason for the pervasive divide between rural and urban areas has been government control of migration, effectively protecting urban workers from competition from lower-wage rural workers. In the first decades following the foundation of People’s Republic of China, people were free to migrate. In 1958, however, a strict law was enacted which sought to ease population and economic pressure by preventing rural people from moving to urban areas. After the reform and opening policy in 1978, rural people were encouraged to migrate to cities to work in construction and service jobs, as rural labor was cheaper. However, rural residents’ ability to take advantage of economic development has been hampered by the Hukou system, a vestige of the planned economy that denies rural migrants lacking urban Hukou status access to social benefits (Chan and Buckingham 2008; Liang 2001). Urban workers have continued to receive preferential treatment in employment, wages, housing, social security, and so forth. Consequently,

differences between rural and urban regions persist, and Hukou status remains a de facto social class marker in China.

Hukou status can even affect marriage chances. Research by Fan and Huang (1998) showed that peasant women with rural Hukou are blocked from urban marriage markets, although reforms in the late 1990s were associated with an uptick in intermarriage between individuals of different Hukou status (Nie and Xing 2011). Despite large-scale migration to cities, marriage norms still basically resemble those of rural areas: universal marriage at a young age (Jones 2004). However, regional variation in marriage prevalence and timing does exist, which likely reflects a combination of economic development stage and local cultural, ethnic, and religious customs. Despite these differences almost all Chinese people marry by their mid-to-late 30s (Ji and Yeung 2014).

Yet, likely influenced by marrying up, poorer and less-educated men in rural areas face difficulties finding a marriage partner (Jin et al. 2005). The situation for rural men (especially if they stay in their hometown) is even more difficult, considering that migration has increasingly become a primary way to seek increased income.

Urbanization and migration had another consequence for marriage, related to housing. In traditional Confucian culture, wives have usually followed a patrilocal postnuptial residence pattern, moving into their husband's household (Jin et al. 2005). Chinese people, especially the young, regard property ownership as a necessary precondition to starting a family, and renting is often seen as a waste of money. Thus, with modernizing influences and high migration levels, many young people no longer work or settle in their place of origin and may require a prolonged period of wealth accumulation to finance their housing. Since the launch of urban housing reforms in the late 1980s (and especially since the passage of the State Council's Housing Reform Directive of 1998), market-based housing has become widespread, leading to high costs for urban couples intending to start a family. The time required to accumulate sufficient wealth will tend to delay marriage, and may also impact marrying up. As suggested in research by Yu and Xie (2013), women's earnings potential (as indicated by their education level) becomes an important asset to bring to a marriage for couples who need to finance housing in urban areas.

Another factor leading to changes in marriage was the passage of the Second Marriage Law in 1980, which set 20 and 22 as the minimum legal ages of marriage for women and men, respectively (Diamant 2000). This legislation helped boost the median age at first marriage during the economic boom of the 1980s and 1990s (Han 2010). Furthermore, the gender gap in secondary education closed more completely in urban areas than rural areas (Hannum 1999). As a consequence, sex differentials in education are less common in cities, lowering the chances of educational hypergamy for women.

In summary, the literature points to differential marriage chances by education level for men and women, across rural and urban sectors, and depending on Hukou status. While other research has examined gender differences in the effect of education on marriage in China (cf. Ji and Yeung 2014; Tian 2013; Yu and Xie 2013), our study advances the literature by explicitly examining the education effect separately for men and women in both rural and urban sectors, while taking into

account Hukou status. We find that pathways to first marriage differ by education level for rural and urban men and women having different Hukou status. These dissimilar marriage trajectories reflect China's unique cultural and institutional context of marrying up and the regional divide between rural and urban areas related to the Hukou system.

3 Hypotheses

We argue that China's marriage custom of marrying up and the institutional context of the Hukou system will affect entrance into first marriage in disparate ways for men and women in rural versus urban areas. Specifically, due to the relative lag in socioeconomic development in rural China, marrying up will persist there. Consistent with this view, lower-educated rural men will be particularly disadvantaged in the marriage market because they face a greater disconnect between the realities of the underprivileged rural economy and the expectation that they must fulfill the male breadwinner role. Men's chances of marrying will increase with higher education, as they may be seen as better providers. For rural women, increasing levels of education will have the opposite effect on their marriage chances, not as a result of greater opportunity costs to marriage (as argued by Becker), but because education may push up their age of marriage and might be seen as undesirable by some men. Also, educated women will experience a marriage squeeze as the pool of educated men diminishes as they continue to find marriage partners.

Those living in urban areas (both men and women) should face greater barriers to establishing a marital household due to higher costs of living. In this context, if Oppenheimer is correct, women's education (an indicator of present or future earnings ability) could be seen as a more desirable characteristic to bring to a marriage. Furthermore, the education gap between men and women in urban areas has been decreasing, further reducing marrying up. Hence, in contrast to their rural counterparts, urban women's chances of getting married should increase with more education. However, since major macro-level societal changes in China have occurred only in recent decades, women's education may not yet have become fully accepted as a valuable marital asset. Therefore, at a minimum, women's marital chances will not decrease with additional education, as they do in rural areas.

Finally, we consider urban residents with a rural Hukou, many of whom are migrants. For them, the restrictive household registration system should act as a barrier to the urban marriage market, as they cannot attain basic social benefits and therefore have difficulty finding a marriage partner. A priori, it is not certain how this will affect educational influences on marriage for men and women, although the chance of marriage for both sexes might be intermediate between the rural and urban marriage patterns, as they experience barriers to the urban marriage market, while also benefitting from urban economic opportunities that could make them more competitive in the rural marriage market on return visits.

4 Methods

4.1 Data

We use micro-level data from the 2008 Chinese General Social Survey (CGSS), a comprehensive, continuous, large-scale national social survey of adults, administered annually or biannually since 2003. It is conducted and hosted by the National Survey Research Center at Renmin University of China and gathers data on social trends and the changing relationship between social structure and life quality. Adopting a multistage stratified sampling design, it covers most of the 31 Chinese provinces, with 480 community-level units. In 2008, researchers interviewed 6000 adults in rural and urban areas (in 20 provinces, four autonomous regions, and four centrally directed cities); the resultant files include retrospective life history data on education and work, enabling us to construct a life history file in which each individual's characteristics changed across years. We use the 2008 CGSS wave because it is the only year for which life history data on key variables for our analysis (e.g., age at marriage, education, and employment history) are available for a broad sample of the Chinese population. The 2008 survey also contains demographic information on family and household members, which we incorporate into our analysis.

4.2 Sample and Basic Research Design

We use retrospective data from a cross-sectional sample of adults between the ages of 35 and 60 in 2008. Our research design considers insights from Rindfuss et al. (1982), who point out that not all person-years available for retrospective life history data should necessarily be used to conduct such analysis, due to two problems.

The first is that the range of exposure intervals varies proportionally by age. For example, if we assume that individuals are “at risk” of getting married starting at age 18, at the extremes, a respondent who was 60 in 2008 could have experienced a first marriage anytime between 1966 and 2008, while an 18-year-old is limited to only 1 year (2008). This situation clearly introduces bias into the interpretation of the age effect. Our design addresses this problem by observing each birth cohort for an equivalent duration (i.e., from 18 until a maximum of 35, an age by which most Chinese people are already married). To make this possible, we limited our analysis to cohorts born between 1948 and 1973, for which we have complete data across this entire age range.

The second problem is related to the age-period-cohort problem (see Glenn 2003). Even if each cohort had identical exposure intervals, a time trend could potentially influence the outcome during the period under investigation. This is because individuals are aging over calendar time, making it impossible to disentangle the effects of aging from changes in historical periods. This situation again muddies the interpretation of age and period effects. While we cannot address

this issue analytically,¹ we do include a control for birth cohort in our model, which may capture some of the unmeasured effect of period factors.

We limited our sample to only those individuals who had not yet experienced first marriage by age 18, which excluded a small fraction of cases (68 individuals). To deal with missing data, we removed approximately 6 % of cases ($n = 1558$ person-years) in which an individual had missing data on any variable included in our analysis in any person-year. Our analytical sample included 23,186 person-years, contributed by 3203 individuals.

Entrance into first marriage is the dependent variable in our analysis, while sex, education, rural/urban residence, and Hukou status are the main independent variables of interest. We also include a number of control measures. We organize our data into time-varying measures of marriage, age, education, employment sector, and Hukou status. We also include time-invariant measures of sex, region, and family background.

4.3 Measures

4.3.1 Dependent Variable

Our dependent variable is a time-varying dichotomous measure of whether marriage occurred in a given person-year (regardless of the exact timing of the marriage in that year), derived from a survey item for which respondents indicated their age at first marriage. Cases were coded as 0 before this age and 1 upon reaching it. To illustrate the marriage pattern, we used life table estimates to create survival curves, which we graph separately for men and women (see Fig. 1). The figure shows that overall survivorship declined (i.e., people experienced first marriage) with advancing age, especially in their mid- to late 20s and into their early 30s. Survivorship was lower for women at every age (i.e., more women married at younger ages than men), and the overall drop in survivorship was somewhat steeper for women in their mid- to late 20s.

4.3.2 Independent Variables

Table 1 shows descriptive statistics for all person-years. Our model uses age as a parameterization of the baseline hazard of marriage. The average age across person-years was around 22. To capture the increasing and then declining marriage propensity occurring into the mid-20s (as shown in Fig. 1), in our event history

¹ We attempted to deal with this problem by adding period fixed effects (i.e., year dummy variables) to our model. Although researchers who developed age-period-cohort models (e.g., Yang and Land 2006) suggest that age, period, and cohort measures can simultaneously be included in a regression model, provided that (for example) age is introduced as a curvilinear effect, when we tried this approach, period measures were highly collinear with age and cohort measures. Although we were able to estimate the model, due to the collinearity issue we do not present it with our final results (although it is available on request). We note that, except for estimates related to cohort measures (which became nonsignificant), other estimates from that model matched those of our final model (e.g., Model 1), so period-specific factors had no particular bearing on our results.



Fig. 1 Survival curves for first marriage, by sex

analysis we used a second-order polynomial (i.e., age and age-squared) to model a curvilinear effect of the hazard of first marriage across age.²

Following Ryder (1965), we use birth cohort as a gauge of social change. We measure year of birth by grouping cases into a series of time-invariant dummy variables for whether the birth year was in 1948–1953, 1954–1960, 1961–1967, or 1968–1973. The first birth cohort would have been of marriageable age (their 20s) between the late 1960s and early 1980s, a period encompassing the Cultural Revolution as well as the very beginning of economic reform, when the government encouraged late marriage. The second cohort (1954–1960) was of prime marriage age between the mid-1970s and late 1980s, the early reform years, when economic growth in China was modest. The third cohort (1961–1967) was of prime marriage age during the early 1980s and mid-1990s, the early reform era but prior to the expansion of tertiary education. The final cohort (1968–1973) was of prime marriage age in the late 1990s into the early years of the new millennium. These respondents were of marriage age when the Chinese economy was growing rapidly and tertiary school expansion was just beginning.

Education is measured as a series of time-varying dummy variables including primary or below, junior high school, and senior/technical school and above. As the expansion of higher education in China is only a recent phenomenon, we combined college education with lower levels of education (i.e., technical schooling and senior high school) because of the low prevalence of high education in the sample. Of all cases, 31 % fall into the lowest educational group, while just over a third are in the

² Unfortunately, this strategy introduced collinearity between the main effect of age and its squared term. We attempted to diminish this problem by mean-centering the age variable before taking its square, but doing so created convergence problems in some models, so we ultimately abandoned this approach. In a separate set of models, we used a linear spline with knots at 25 and 30 years of age. Differences in the slope of all age coefficients were statistically significant, and confirmed a curvilinear pattern of marriage by age.

Table 1 Descriptive statistics for all person-years in 1966–2008

Variable	Range	Mean or %	SD
<i>Demographic</i>			
Age	18–35	22.07	3.53
Birth cohort			
1948–1953	0–1	17	0.38
1954–1960	0–1	26	0.44
1961–1967	0–1	27	0.44
1968–1973	0–1	30	0.46
Male	0–1	54	0.50
Han ethnic	0–1	93	0.25
Education			
Primary and below	0–1	31	0.46
Junior high	0–1	34	0.47
Senior high/technical/tertiary	0–1	36	0.48
Enrolled in school	0–1	12	0.32
Employment sector (2-year Lag)			
Formal	0–1	26	0.44
Self-employed	0–1	11	0.31
Agriculture	0–1	33	0.47
Not employed	0–1	25	0.43
Other	0–1	5	0.21
Job transition (1-year Lag)	0–1	3	0.16
Urbanicity			
Rural residence, rural Hukou	0–1	32	0.47
Urban residence, rural Hukou	0–1	18	0.39
Urban residence, urban Hukou	0–1	50	0.50
Region			
East Coast	0–1	40	0.49
Middle Inland	0–1	32	0.47
Western	0–1	17	0.37
Minority autonomous	0–1	11	0.31
<i>Family background</i>			
Father's education			
No schooling	0–1	38	0.49
Primary	0–1	38	0.49
Secondary and above	0–1	24	0.43
Mother's education			
No schooling	0–1	63	0.48
Primary	0–1	24	0.43
Secondary and above	0–1	13	0.34
Number of cases		23,186	

middle educational category; the remaining 36 % are in the highest category. Although we do not include differences across sex and rural/urban residence in the table, women are overrepresented among the lowest educational category (34 vs. 28 % of men) and underrepresented in the highest category (32 vs. 38 %). Furthermore, illustrating China's wide geographic disparities, a far higher percentage of the rural, compared to urban, sample is in this lowest category (59 vs. 18 %), and accordingly a far smaller proportion of the rural sample is in the highest educational category (11 vs. 47 %).

Based on work by Raymo (2003) on educational determinants of marriage in Japan, which showed that both educational attainment and enrollment had a distinctive effect on the timing of first marriage, we also include a time-varying measure of educational enrollment. Educational enrollment occurs in 12 % of person-years. Again we note a large difference across rural and urban subsamples (4 vs. 16 %; not shown in the table).

We include time-varying measures for the employment sector. The life history data included only information for the employment sector, not detailed occupational data. Using dummy variables, we grouped sectors into broad categories including formal employment, informal or self-employment, agricultural work, no employment, and a catchall "other" category. We lagged this variable by 2 years to avoid simultaneity problems related to changes in employment that may result from marriage, rather than determining it. We felt that at least a 1 year lag was theoretically justified, as some people, especially women, may drop out of the paid labor force upon getting married. However, decisions about marriage may take several years, and thus could reflect the state of employment preceding the 1-year lag by yet another year. To examine the effect of different lag lengths, we estimated separate models in which we lagged the employment measures from periods of 0 (no lag) to 5 years (results available on request). The employment sector coefficients in these models stabilized at the 2-year lag, confirming our theoretical expectations and justifying our rationale for including a 2-year lag. Note that in creating time lags, we used data from person-years prior to age 18. For example, for someone aged 18, the value of employment sector, lagged 1 year, would be his or her value when 17, for a 2-year lag it would be the value when 16, and so on. In a small number of cases (i.e., 78 person-years, which constitutes about one-third of a percent of the sample), this procedure generated missing data, which we coded as part of the catchall "other" category as an employment gap.

Most of the sample is employed in the formal sector (26 % of all person-years) or in agriculture (33 %), while unemployment (25 %) and self-employment (11 %) are the next most common categories. Although not shown in the table, formal sector work is much more common in urban areas (37 vs. 3 %), while agricultural employment prevails in rural areas (75 vs. 13 %). Unemployment is also more prevalent in urban areas (31 vs. 11 %).

We also measured job transition status in each person-year, which we specify as a dichotomous variable equal to 1 if an individual reported a different occupation from the previous year, and 0 otherwise. Like the employment sector measures, we lagged this measure, this time using a 1-year lag, because we feared that an employment transition may have been the result of marriage, rather than a

determinant of it. Again we used a series of models in which we lagged this measure by 0–5 years, and confirmed that results stabilized after a 1-year lag. These transitions occurred in about 3 % of the person-year records.

Hukou status is included as a time-varying measure. It considers the granting of urban Hukou at birth or through Hukou conversion (Chan and Zhang 1999). With a series of dummy variables, we combine rural/urban residence and Hukou status (which we refer to throughout the article as “urbanicity”) into three categories: rural residence with rural Hukou (32 % of all person-years used), urban residence with rural Hukou (18 %; likely migrants), and urban residence with urban Hukou (50 %). We grouped a small number of rural residents with urban Hukou (contributing 241 person-years, or about 1 % of the sample) into this group because they probably represent individuals who were merely temporarily living in rural areas. We conducted a sensitivity analysis in which we excluded these cases from the analysis and found that results were robust to their exclusion. Also, the data did not include retrospective information on rural/urban residence or migration history. Consequently, we were forced to code individuals who spent some portions of their lives in rural areas, who subsequently migrated to urban areas, as urban residence throughout the entire period of observation. As such, our analysis underestimates the influence of rural residence on these individuals’ marriage chances.

We also include time-invariant variables, such as measures of sex and ethnicity, which use dummy variables for male and Han ethnicity, respectively. Mirroring the national population, most cases are Han (93 %). Men constitute over half of the person-year records (54 %), although women actually represent a slightly larger proportion of individuals in the sample (i.e., 52 %; not shown in the table). We examined individual-level descriptive statistics for all time-invariant measures to determine whether they differed from the person-year-level measures. As family background impacts marriage behavior (Jin et al. 2005), we also include father’s and mother’s education. Since parents are of the older generation and have relatively lower education, we grouped their educational attainment level into three categories: no schooling, primary education, and secondary or above. Overall, fathers were more educated than mothers, and larger differences were found across rural and urban regions (not shown in the table).

We also include dummy variables measuring region of residence in 2008. As with rural/urban status, we lacked retrospective data on residence, so we used a time-invariant measure from 2008. Since migration became a mass phenomenon first in the late 1980s (Liang 2001), and young people are the most likely to migrate, this limitation is more consequential for younger and middle-aged people and may result in some bias. Regions are divided into East Coast, Middle Inland, Western, and minority autonomous. Fewer than half of the respondents (40 %) are from the East Coast region, the most populous and economically developed. Close to a third are from the Middle Inland region, which has an intermediate level of economic development between the East Coast and Western region, from which about one in six sample respondents originated. 11 % of records are from minority autonomous regions, which are generally less economically developed, but distinct in terms of ethnic makeup, cultural practices, and marriage customs. Socioeconomic development and cultural differences distinguish many of these regions from the East Coast,

where we expect aggregate marriage patterns to be more similar to trends in other more developed East Asian countries.

4.4 Analytical Approach

We use event history analysis to examine the determinants of first marriage. Due to right censoring, event history analysis is preferable to other methods, such as a cross-sectional regression model (Cox and Oakes 1984). The unit of analysis is the person-year, and we use a discrete time probit specification (estimated using Stata 13). We chose this approach because event data were ascertained in years, a discrete time unit, and because the approach simplifies incorporating time-varying variables (Allison 1982, 1995). Individuals contribute records until they experience marriage or are censored at age 35.

Because probit coefficients are difficult to interpret directly, we compute predicted probabilities of the hazard of marriage derived from model parameters for key coefficients, which produce a more intuitive measure of the magnitude of covariate effects. We use micro-simulated predicted probabilities, which compare differences in counterfactual marriage hazards calculated by changing the value of some variable(s) of interest while holding other variables constant at their actual value in the data set. The computed values are then averaged across all cases. All models use robust standard errors to correct for heteroskedasticity (White 1980). We also checked for collinearity using Variance Inflation Factors (VIF).

5 Results

Table 2 shows results for two models. The first is a baseline additive model, while the second includes a three-way interaction among education, sex, and urbanicity (our composite measure of rural/urban and Hukou status). The former is included to show non-interactive effects of each variable, the latter for its direct relevance to answering our substantive question about gender differences in the effect of education on marriage across rural/urban areas (which also takes into account Hukou status). We also estimated intermediate models involving two-way interactions between, for instance, sex and education, sex and urbanicity, etc. These results were largely consistent with the results of the three-way interaction model and are available on request.

Model 1 results show that men have a significantly lower hazard of marriage compared to women as they tend to marry a bit older. Regarding educational differences, those with a primary school or lower education are significantly more likely to marry than the reference category (junior high school), although the highest educational category (i.e., senior high school/technical/tertiary) is not significantly different from the reference group. Thus, educational differences are mainly found across the least educated and middle-educated individuals, but are not evident for the most highly educated. Perhaps the added time to complete higher levels of education delays marriage and ultimately leads to a lower overall propensity of

Table 2 Discrete time event history probit regressions of transition to first marriage

Variable	Model 1		Model 2	
	Coeff	SE	Coeff	SE
<i>Demographic</i>				
Intercept	−13.0***	0.46	−13.3***	0.47
Age	0.91***	0.037	0.92***	0.038
Age square	−0.016***	0.00076	−0.017***	0.00076
Birth cohort				
1948–1953	−0.038	0.036	−0.026	0.037
1954–1960	−0.11***	0.032	−0.11***	0.032
1961–1967	0.082**	0.03	0.090**	0.03
(1968–1973)	–	–	–	–
Male	−0.32***	0.023	−0.024	0.086
Han ethnic	0.044	0.048	0.034	0.048
Education				
Primary and below	0.094**	0.03	0.25**	0.079
(Junior high)	–	–	–	–
Senior high/technical/tertiary	0.00043	0.03	−0.26*	0.11
Enrolled in school	−0.17**	0.059	−0.16**	0.059
Employment sector (2-year Lag)				
(Formal)	–	–	–	–
Self-employed	−0.15***	0.041	−0.14***	0.042
Agriculture	−0.10*	0.042	−0.11**	0.042
Not employed	−0.26***	0.041	−0.25***	0.041
Other	−0.18**	0.057	−0.19***	0.057
Job transition (1-year Lag)	−0.052	0.071	−0.046	0.071
Urbanicity				
Rural residence, rural Hukou	0.16***	0.036	0.20*	0.082
(Urban residence, rural Hukou)	–	–	–	–
Urban residence, urban Hukou	−0.12**	0.036	−0.055	0.072
Region				
(East Coast)	–	–	–	–
Middle Inland	0.18***	0.027	0.18***	0.027
Western	0.089**	0.033	0.11**	0.034
Minority autonomous	0.12**	0.041	0.12**	0.041
<i>Family background</i>				
Father's education				
No schooling	0.045	0.027	0.044	0.028
(Primary)	–	–	–	–
Secondary and above	−0.038	0.033	−0.042	0.033
Mother's education				
No schooling	−0.032	0.029	−0.043	0.03
(Primary)	–	–	–	–

Table 2 continued

Variable	Model 1		Model 2	
	Coeff	SE	Coeff	SE
Secondary and above	-0.11*	0.043	-0.11**	0.043
<i>Interaction terms</i>				
Male × education				
Primary and below	-	-	-0.33**	0.13
Senior high/technical and above	-	-	0.12	0.15
Male × urbanicity				
Rural residence	-	-	-0.16	0.11
Urban residence and Hukou	-	-	-0.31**	0.1
Education × urbanicity				
Primary and below × rural residence	-	-	0.036	0.1
Primary and below × urban residence and Hukou	-	-	-0.09	0.11
Senior high/technical/tertiary × rural residence	-	-	0.23	0.16
Senior high/technical/tertiary × urban residence and Hukou	-	-	0.26*	0.12
Education × urbanicity × male				
Primary and below × rural residence × male	-	-	-0.12	0.15
Primary and below × urban residence and Hukou × male	-	-	0.26	0.17
Senior high/technical/tertiary × rural residence × male	-	-	-0.13	0.2
Senior high/technical/tertiary × urban residence and Hukou × male	-	-	-0.03	0.16
-2 Pseudo LL	16,089.6		16,007	
BIC	16,340.8		16,378.9	
Number of cases	23,186		23,186	

Robust SE

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

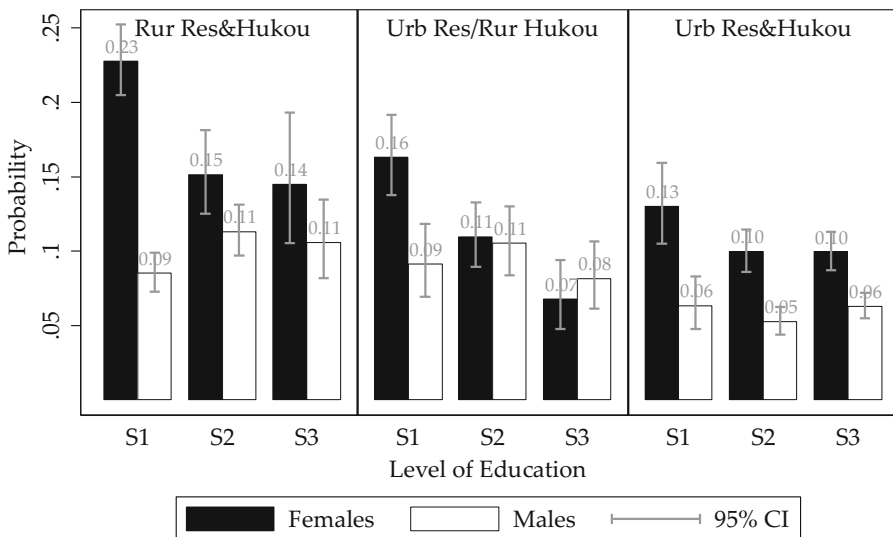
marriage among the best educated. Consistent with this view, the measure of educational enrollment has a negative effect on marriage.

In terms of urbanicity, rural residents with rural Hukou have a higher hazard of marriage than the reference category (i.e., urban residents with a rural Hukou, probably migrants), but urban residents with an urban Hukou have a lower chance of marriage than this reference group. This is consistent with our expectations, as urban areas are generally more expensive than rural areas and there are many alternatives to marriage, including building a career and acquiring more education. Regarding Hukou status, on the one hand, those with a rural Hukou who reside in an urban area have a lower marriage hazard than their rural counterparts, which may be related to the barriers they face in the urban marriage market stemming from their Hukou status. However, on the other hand, the fact that they are more likely to marry than their counterparts with an urban Hukou suggests that they are

nonetheless similar to other rural people in their marriage behavior, albeit the migrant experience may lead to postponed marriage.

To ease the interpretation of potentially complex interactive effects of sex, education, and urbanicity, we focus our discussion on results depicted in Fig. 2, which shows the predicted probability of marriage (in a given person-year) for all combinations of sex, education, and urbanicity (i.e., the variables involved in the interaction) generated from Model 2 in Table 2. To examine whether patterns we observe in this figure hold true in the population, we do not rely solely on the pattern of statistical significance shown in Table 2 (which, for variables included in the interaction—sex, education, and urbanicity—indicates statistical significance relative to the omitted category: women, with a junior high school education, who are urban residents with a rural Hukou). Instead, we add error bars showing the 95 % confidence interval centered at the value of each respective predicted value. However, we urge caution in interpreting statistical significance on the basis of these error bars alone, since two values can still be statistically significantly different despite having overlapping error bars (Cumming and Finch 2005). Therefore, to formally determine statistical significance, we estimated another model (see “Appendix”) in which parameterized each distinct sex–education–urbanicity combination with a series of dummy variables (relative to an omitted category) and we conducted a series of Wald tests (Long 1997) (also available on request). Several patterns are observable from the graph.

First, consistent with Model 1, women in nearly every case have a higher probability of marriage compared to men with the same education level and urbanicity category. Wald tests show that all but two of these contrasts (i.e., senior high school/tertiary/technical for those with rural residents with rural Hukou and



N = 23,186

S1 = Primary & below, S2 = Junior High, S3 = Senior HS/Tertiary/Technical

Fig. 2 Predicted probability of marriage across urbanicity and education, by sex

junior high school for urban residents with rural Hukou) are statistically significantly different at the 0.05 level. The only exception to the basic pattern of women having higher chances of marriage is for urban residents with a rural Hukou in the highest education group. Perhaps some of these women moved away from home for the purpose of acquiring higher levels of education and this had a delaying effect, which contributed to a lower chance of marriage. The least educated rural men (with a rural Hukou) seem to especially have a lower marriage hazard compared to similar women. This finding is broadly consistent with expectations of marrying up, especially considering that the majority of cases (almost 60 %) in the rural subsample have this low level of education (which is most likely why effects at higher levels of education are not evident in our analysis).

Second, also consistent with Model 1 and our expectations more generally, overall, rural residence with a rural Hukou is associated with the highest marriage chances (especially for women), while urban residence with an urban Hukou is associated with the lowest marriage chances (especially for men). Urban residents with a rural Hukou have marriage chances intermediate between the two (although for men, differences across rural and urban areas for those with a rural *Hukou* are not as large). Wald tests indicate that for a given sex and education level, differences across urbanicity status are all statistically significant. As we indicated earlier, these results probably reflect the costs of and alternatives to marriage in Chinese cities as well as barriers to the urban marriage market facing those with a rural Hukou. They may also reflect changing urban marriage norms, as urbanites develop a preference for marrying later in life.

Third, irrespective of urbanicity status, women's chances of getting married generally decline with higher levels of education, consistent with marrying up. However, the difference between the second and third educational categories (i.e., junior high school and senior high school/tertiary/technical) is small compared to the difference between the lowest education category (primary school and below). This probably reflects low levels of education for rural women (in our sample, 55 % have only a primary school education or lower, while another 30 % have just a junior high school education³). Wald tests (not shown) indicate that the differences in women's education are significant for rural residents with a rural Hukou ($p = 0.0000$) and for urban residents with a rural Hukou ($p = 0.0000$), but not for urban residents with an urban Hukou ($p = 0.1609$). If Oppenheimer's theory is correct, we would expect to find that for urban women (with an urban Hukou) increasing education increases their marriage chances; however, this view is not consistent with our evidence. As educational differences for urban women with an urban Hukou are nonsignificant, their chances of getting married do not suffer as they become more educated. This is consistent with our view that modernizing forces are changing marriage patterns and represents a clear contrast to women with rural Hukou (both urban and rural residents), who have lower marriage chances as their education level increases (as predicted by marrying up).

³ Indeed, the error bar for rural women with a rural Hukou is particularly large, consistent with the notion that high levels of education there were uncommon, therefore increasing the uncertainty in the coefficient estimate.

Fourth, for men, differences across educational levels, irrespective of urbanicity, are negligible in magnitude, although Wald tests reveal that they are significant for rural men with rural Hukou ($p = 0.0256$) as well as urban men with urban Hukou ($p = 0.0000$). For rural men with a rural Hukou, the chance of getting married in a given person-year is higher with a junior high school education compared to primary or lower schooling, but it drops slightly for the highest education level, probably reflecting a low prevalence of high education in this subsample. For urban men with an urban Hukou, marriage chances are lowest with a junior high school education, and nearly equivalent for the other two education levels, but differences are very small in magnitude. Given the small effect sizes, it may be that education is less salient for men's marriage chances than for women's. Perhaps other factors, such as actual earnings, accumulated wealth, or family wealth, are key to men's marriage prospects.

Returning to Model 1, we find that several control measures also have statistically significant effects on marriage. Both age and age-squared are significant and consistent with a curvilinear (inverted U-shaped) pattern of marriage by age. We calculated the peak marriage age (net of other factors) to be around 27. Relative to the youngest birth cohort (born 1968–1973), members of the next youngest cohort (1961–1967) were more likely to marry, while members of the 1954–1960 cohort were less likely to marry. The lower marriage chances of the 1954–1960 cohort most likely reflects government efforts to raise the marriage age, while the effect for the 1961–1967 cohort is probably due to differences in economic growth in the early years versus later years of economic reform.

Many of the results for other control measures point generally to economic development lowering the chances of marriage. In particular, all employment sector effects show a lower propensity of marriage compared to the formal employment sector, arguably the highest paying and most stable sector. The effort needed to acquire such employment could have led to delays in marriage as those employed in this sector attained higher human capital. This finding may point to a wealth status effect or the ability to afford marriage, as people who are employed in the formal sector are economically secure and are preferred partners, an important consideration in China. All regions show a higher marriage propensity compared to the East Coast, the most economically developed region. Also, the chance of marriage is lower for those whose mother has the highest level of education (secondary and above), relative to those whose mother only has a primary education.

As the CGSS data oversampled urban residents, we also conducted a sensitivity analysis to account for this factor. Specifically, we weighted our regression results (available on request) using sampling weights included with the data set. Weighting did not change any of our main substantive results.

6 Conclusions

In this article, we have examined the transition to first marriage using retrospective life history data from China, a country that has experienced massive socioeconomic and demographic changes in the past several decades. In contrast to theories that

claim countries follow a similar trajectory of demographic and familial change during times of massive societal change (Goode 1963; Lesthaeghe 2010), our results point to the potential of a country case study to provide a more nuanced understanding of the complex relationships among cultural customs, economic development, and demographic and family changes. We found partial evidence of convergence to a more Western pattern of marriage, in the sense that results suggest a weakening of the long-standing custom of marrying up for urban women. Specifically, high education for urban women with an urban Hukou does not lower their marriage chances as it does for rural women. Perhaps reflecting the recentness of socioeconomic changes in China, we found no evidence that women's education is increasing their chance of marriage, as observed in the USA and parts of Europe.

Our findings show persistent differences in Chinese marriage patterns across rural and urban areas and Hukou status, reflecting the great divide in living standards and economic changes. In rural China, men and women face different marriage chances depending on their education level. For women, the chance of marriage declines with higher education, which we believe does not reflect greater opportunity costs to marriage (as suggested by Becker), but rather is consistent with marrying up. However, differences across education levels are stronger at the lowest levels, probably because most rural women have relatively low education. Men's chance of marriage increases with higher education, albeit marginally. Perhaps other factors such as income and family wealth are more important determinants of marriage, and effects of education are not yet as significant as they could become as cohorts of newly college-educated young people begin to enter a modernizing Chinese labor market. One noteworthy finding is the especially low chance of marriage of men rural with the lowest education level (especially compared to rural women with comparable education). Some of these men may live in remote rural areas where status hypergamy is still an important criterion for marriage, which greatly disadvantages them in the marriage market.

In urban China (among those with an urban Hukou), educational differences are not particularly significant in determining marriage chances for either men or women. Rather than showing that women's education is desirable for a prospective marriage, as suggested by Oppenheimer (1988), our results indicate that it is merely not a hindrance to it. Nonetheless, even this is a departure from the long-standing practice of marrying up, in which highly educated women are disadvantaged and experience a "marriage squeeze." This is consistent with our view that modernizing forces, such as educational gains by women vis-à-vis men, and a general uptick in the cost of housing (a necessary prerequisite for marriage in cities) are changing marriage behavior. It is also possible that changes in attitudes and values accompanying increased education, such as a preference for independent living for women or an increase in the ideal age at marriage, are also driving marriage behavior. However, given the costs of urban housing and the known stigma of being a "leftover" woman, these explanations are less likely than a change in marrying up.

Finally, the fact that the magnitude of educational effects on marriage for urban residents with a rural Hukou (particularly for women) are in between those of rural residents (with rural Hukou) and urban residents (with urban Hukou) reflects the barriers facing Chinese people due to restrictions associated with the Hukou system.

While a rural Hukou status may be a disadvantage in the urban marriage market because it is associated with an inferior social status, marriage chances for people in this circumstance are higher than those of urban residents with an urban Hukou, suggesting that they still act more like rural people with respect to marriage. Also noteworthy is that for the most educated men in this group, this is the lone circumstance in which their chances of getting married exceed those of women with comparable education and urbanicity. We speculate that the city is a better place for rural men to realize returns to their human capital, which could increase their marriage chances, particularly if they choose a bride from their hometown, where marriage prevalence is higher overall.

Our study reaches beyond existing research on marriage in China and informs a wider literature on marriage transition by examining the combination of the effects of sex, education, and urbanicity status on marriage. It also sheds light on the marriage situation in a non-Western country presently undergoing massive socioeconomic changes associated with economic development and modernization. Our approach has an advantage over cross-sectional studies of marriage determinants by recognizing the dynamic nature of individual decisions and the importance of educational roles and broader institutional circumstances, while better tracing the long-term, cumulative, and continuously changing processes leading to marriage (Blossfeld 2009). Put differently, we modeled the correlates of marriage as a changing set of individual characteristics, which not only better established the proper time ordering of events, but also enabled us to build in temporal lags that more realistically tracked the development of processes unfolding over time.

Our approach also has disadvantages. First, as we depended on retrospective data, our analysis is subject to recall bias, which could somewhat distort our results. Second, we began with a contemporary group of Chinese people and worked backward to define our sample; therefore, our analysis may be unrepresentative of everyone in the potential sampling universe due to death and emigration. However, these are rare events among the age groups we examined. The third problem is common among observational studies: the possibility of endogeneity bias, especially for such measures as rural–urban status and region of residence, for which we have data at only a single point in time (i.e., the 2008 survey year). We were forced to include some measures as time-invariant variables, and therefore were unable to measure their changes throughout the life course, resulting in some coefficient bias.

Weaknesses aside, there are few panel studies in China providing data for a study such as this, none with such detailed life history data. Our study makes a valuable contribution to the literature on marriage in a setting experiencing profound societal changes. Future studies are needed to collect prospective panel data on marriage and other life events to avoid some of the limitations of our approach. One area of special interest should be the long-term effect of the “one-child policy,” which has contributed to a high male-to-female ratio in China (Cai and Lavelly 2003; Trent and South 2011). This imbalanced sex ratio could have a profound impact on the marriage market in the future. Future research could determine whether women’s education, rural versus urban origin, and Hukou status will continue to structure marriage chances (especially further reductions in the practice of marrying up), or

whether future demographic changes will create increased competition for a declining supply of marriageable women, thus counteracting some of the influences of the modernizing forces we have described here.

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Appendix

See Table 3.

Table 3 Discrete Time event history probit regressions of transition to first marriage (dummy variable parameterization of three-way interaction)

Variable	Model 1		Model 2	
	Coeff	SE	Coeff	SE
<i>Demographic</i>				
Intercept	-13.0***	0.46	-13.3***	0.47
Age	0.91***	0.037	0.92***	0.038
Age square	-0.016***	0.00076	-0.017***	0.00076
Birth cohort				
1948–1953	-0.038	0.036	-0.026	0.037
1954–1960	-0.11***	0.032	-0.11***	0.032
1961–1967	0.082**	0.03	0.090**	0.03
(1968–1973)	–	–	–	–
Male	-0.32***	0.023	–	–
Han ethnic	0.044	0.048	0.034	0.048
Education				
Primary and below	0.094**	0.03	–	–
(Junior high)	–	–	–	–
Senior high/technical/tertiary	0.00043	0.03	–	–
Enrolled in school	-0.17**	0.059	-0.16**	0.059
Employment sector (2-year Lag)				
(Formal)	–	–	–	–
Self-employed	-0.15***	0.041	-0.14***	0.042
Agriculture	-0.10*	0.042	-0.11**	0.042
Not employed	-0.26***	0.041	-0.25***	0.041
Other	-0.18**	0.057	-0.19***	0.057
Job transition (1-year Lag)	-0.052	0.071	-0.046	0.071

Table 3 continued

Variable	Model 1		Model 2	
	Coeff	SE	Coeff	SE
Urbanicity				
Rural residence	0.16***	0.036	–	–
(Urban residence, rural Hukou)	–	–	–	–
Urban residence and Hukou	–0.12**	0.036	–	–
Region				
(East Coast)	–	–	–	–
Middle Inland	0.18***	0.027	0.18***	0.027
Western	0.089**	0.033	0.11**	0.034
Minority autonomous	0.12**	0.041	0.12**	0.041
<i>Family background</i>				
Father's education				
No schooling	0.045	0.027	0.044	0.028
(Primary)	–	–	–	–
Secondary and above	–0.038	0.033	–0.042	0.033
Mother's education				
No schooling	–0.032	0.029	–0.043	0.03
(Primary)	–	–	–	–
Secondary and above	–0.11*	0.043	–0.11**	0.043
<i>Dummy variable for sex, education, urbanicity combinations</i>				
Women, primary and below, rural residence	–	–	0.48***	0.069
Women, primary and below, urban residence and rural Hukou	–	–	0.25**	0.079
Women, primary and below, urban residence and Hukou	–	–	0.1	0.088
Women, junior high, rural residence	–	–	0.20*	0.082
(Women, junior high, urban residence and rural Hukou)	–	–	–	–
Women, junior high, urban residence and Hukou	–	–	–0.055	0.072
Women, senior high/technical/tertiary, rural residence	–	–	0.17	0.11
Women, senior high/technical/tertiary, urban residence and rural Hukou	–	–	–0.26*	0.11
Women, senior high/technical/tertiary, urban residence and Hukou	–	–	–0.056	0.071
Men, primary and below, rural residence	–	–	–0.14*	0.07
Men, primary and below, urban residence and rural Hukou	–	–	–0.1	0.095
Men, primary and below, urban residence and Hukou	–	–	–0.30**	0.093
Men, junior high, rural residence	–	–	0.019	0.072
Men, junior high, urban residence and rural Hukou	–	–	–0.024	0.086
Men, junior high, urban residence and Hukou	–	–	–0.39***	0.074
Men, senior high/technical/tertiary, rural residence	–	–	–0.021	0.093

Table 3 continued

Variable	Model 1		Model 2	
	Coeff	SE	Coeff	SE
Men, senior high/technical/tertiary, urban residence and Rural Hukou	–	–	–0.17	0.096
Men, senior high/technical/tertiary, urban residence and Hukou	–	–	–0.30***	0.069
–2 Pseudo LL	16,089.6		16,007	
BIC	16,340.8		16,378.9	
Number of cases	23,186		23,186	

Robust SE

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

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