

THE TIMING OF SEXUAL DEBUT AMONG CHINESE YOUTH*

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March 2012

*Financial support from a China Scholarship Council grant (No. 2010601193) awarded to Wei Guo, a Social Sciences and Humanities Research Council (SSHRC) grant awarded to Zheng Wu, financial supports from China's National "973" project on Population and Health (No. 2007CB5119001) and National Yang Zi Scholar Program awarded to Xiaoying Zheng, and research assistance provided by Christoph M. Schimmele are gratefully acknowledged.

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ABSTRACT

CONTEXT: The age of sexual debut is declining in China. However, there is limited knowledge about the determinants of this milestone life event. This is a concern because young people lack knowledge about their sexual and reproductive health and are at risk of sexually transmitted diseases and unplanned pregnancies.

METHODS: The data come from the National Youth Reproductive Health Survey, conducted from 2009-2010, which examines the sexual behavior of over 22,000 unmarried youth (aged 15-24) from mainland China. Life tables are used to estimate the gender-specific survival distribution of sexual debut across urban/rural status (*hukou*) and region. Cox regression models (with robust standard errors) are used to estimate the gender-specific risk factors of the timing of sexual debut.

RESULTS: There are gender, urban/rural, and regional differences in the timing of sexual debut and the age-related prevalence of sexual experience. The determinants of sexual debut include gender, family structure, parental education, and community setting. These risk factors have gender-specific effects.

CONCLUSION: Strategies to prevent risky sexual behaviors need to consider gender differences in the timing sexual debut. There is also a need to target at-risk groups, who have the least amount of knowledge about their sexual and reproductive health.

THE TIMING OF SEXUAL DEBUT AMONG CHINESE YOUTH

In Western societies, the timing of sexual debut began to accelerate during the 1970s.¹ The decline in the age at sexual initiation corresponded to the Sexual Revolution and consequent relaxation of attitudes about premarital sex. The widespread increase in sexual activity among youth has generated much interest in the factors that associate with the timing of sexual debut.²⁻³ There is considerable social variation in the timing of sexual debut, such as between males and females, ethnic/racial groups, and social classes. The interest in the factors that predict the timing of sexual debut is important because the age at which it occurs is related to knowledge about sexual/reproductive health and risky sexual behaviors (e.g., use of condoms), and is thus an indicator of exposure to sexually transmitted infections (STIs) and other undesirable outcomes.⁴⁻⁷ Of particular concern is the risk of unwanted pregnancies and the increasing prevalence of HIV infections among the population aged 15-24 years.

Understanding social differences in the timing of sexual debut is, therefore, essential for identifying groups at risk of engaging in risky sexual behaviors. In China, there are 161 million unmarried youth (aged 15-24 years), but little is known about their sexual behaviors. At present, China is experiencing its own Sexual Revolution,⁸⁻⁹ which has presumably influenced the sexual behaviors of adolescents and young adults. Even though China has relaxed its conservative attitudes about sexual relationships and sex outside marriage, there remains a general reluctance to openly discuss it, especially with youth, who consequently tend to be ill-informed about their sexual and reproductive health.¹⁰⁻¹² With the increase of premarital sex, China is now facing the issue of risky sexual behavior among its adolescent and young adult population, including a rise in unwanted pregnancies and spread of STIs.¹³

This study examines the timing of sexual debut among Chinese youth aged 15-24. The study focuses on gender, urban/rural status (*hukou*), and regional differences in sexual debut, and models the gender-specific differences in the socioeconomic and demographic risks of the timing of sexual debut. This is an important issue because Chinese youth have limited knowledge about their sexual and reproductive health, which places them at risk of negative outcomes.¹⁴ This study uses data from the National Youth Reproductive Health Survey (NYRHS). The NYRHS is the first nationally representative survey on the sexual behaviors of Chinese youth. Previous studies on the timing of sexual debut and the factors that influence it are based on area or regional samples that are not representative of Chinese youth, and therefore do not offer generalizable findings.¹⁵⁻¹⁶ The absence of adequate national data has hitherto left a sizeable gap in our knowledge about the sexual behaviors of Chinese youth.

BACKGROUND

The Chinese Context

In comparison to Western societies, Chinese youth have a later onset of sexual activity. In the 1990s, for example, about three-quarters of all Chinese youth did not experience their sexual debut before age 20.¹⁷ This is largely because sexual relations in China have traditionally been organized around marriage, and sexual activity outside of marriage was uncommon until recently. Marriage is almost universal in China, but the majority of people are unmarried in their early twenties, with about half of women married at age 23 and half of men at age 25.¹⁸ Before 1980, sexual relations were closely tied to social institutions (the family) and procreation, which limited people's autonomy over their sexual desires and behaviors.^{8, 19-20} In this respect, the primary motivation for sexual intercourse was not

romantic love or pleasure, and this social norm circumscribed sexual activity and premarital sex.

During the Maoist period, sex was regarded as a “bourgeois indulgence” and sexual behavior was carefully monitored in schools and work places.⁹ This discouraged premarital sex and placed a “floor” on the timing of sexual debut, considering that, before 1980, marriage was restricted to ages 23 and 25 for rural women and men and ages 25 and 28 for their urban counterparts.²¹ Parish and co-authors demonstrate that trends in sexual behavior since 1950 are inseparable from changes in administrative policies, such as marriage laws and birth planning policies.¹⁷ From the 1950s to the 1970 there was an increase in the typical age of onset of sexual activity because of a tightening-up of the Maoist government’s regulation of sexual relations and reproduction. The vast majority of people born before 1944 did not have premarital sex, regardless of these policies, which reflected traditional attitudes about sex. As Parish and co-authors observe, before 1980, only 19% of urban and 14% of rural men had premarital sex. The comparative figures for women are 10% and 2%, respectively.

Prior research indicates that China is undergoing a Sexual Revolution,^{8,19,22} which is confirmed in the trends in sexual behaviors that Parish et al. observe. The age of onset of sexual activity has decreased and the prevalence of premarital sex has increased.²³ Data from the NYRHS demonstrate that 60% of unmarried youth are willing to have premarital sex and 22% have done so.²⁴ The liberalization of attitudes toward sex was partly a consequence of the Deng Xiaoping administration’s “Open-Door” policy (and economic reforms) that began in the late 1970s. In the post-reform era, the state eased its regulation over personal behaviors and lowered the legal age of marriage (to 20 for women and 22 for men). The rollback of socialist principles also increased self-reliance and individualism, which created a more

favorable climate for autonomy over sexual behavior. These emerging values were reinforced with the exposure to Western values and norms (e.g., through popular media), a result of opening China to global markets. In addition, the Sexual Revolution began because of the implementation of state birth planning policies.⁸ The heavy promotion and distribution of contraceptive methods under the One-Child policy delinked sexual intercourse from procreation. The promotion of contraception (rather than abstinence) fuelled the notion that sex was something that could be done primarily for pleasure.

With these changes in attitudes there is a growing need to provide youth with information about their sexual and reproductive health.^{11,14,23} The behaviors of China's youth is driving the Sexual Revolution, but these people appear to be ill-prepared for sexual intercourse, given the upsurge in unwanted pregnancies and spread of STIs and other reproductive disorders. In particular, there is a widespread lack of knowledge about contraception and safer sexual behaviors. About half of Chinese youth do not use any form of contraceptive/protection at sexual debut.²⁴ About 23% of unmarried women have had unwanted pregnancies, with about 91% of them terminated through abortion. Over half of STIs in China occur in the population age 29 and younger.²⁵ Sex education programs have been implemented in schools since 1985, but these have generally not addressed topics useful for reducing risky behaviors.^{11,26} The curriculum is focused mainly on the basic facts about reproduction. The discussion of contraception (safer sex) tends to be excluded out of concern that this could be seen as promoting sexual activity (promiscuity) among youth. This reluctance to provide a comprehensive sex education is a hangover from the taboo nature of sex in the older generation.

Determinants of Sexual Debut

The timing of sexual debut is not a chance event, but is linked to factors that antedate it.^{2, 27-28} Both biological factors (age of puberty) and social opportunities (dating) influence the age of debut,²⁹⁻³⁰ but these factors alone are insufficient for explaining social variation in the risk of early debut. Psychosocial readiness for intercourse and the social and demographic factors that precede it are other important factors. Our interest is with the social and demographic determinants (population differences) of the timing of sexual debut. We have selected these social determinants on the basis of prior theories and research about the timing of sexual debut and the variables that are available in the NYRHS. Given the paucity of Chinese research, this study draws on Western-based research for guidance in what determinants of sexual debut to look for in Chinese youth. To some extent, the determinants of sexual debut could be culturally sensitive, but the following variables are likely relevant for China.

Gender. Sexual debut is a different event for males and females.³¹⁻³² This event is more problematic for females, who tend to experience more negative consequences from early onset, such as social stigma, depression, unwanted pregnancies, and abortion. Singh et al. examine gender differences in the age of sexual debut in the United States, the United Kingdom, and 12 other countries from Latin America and the Caribbean, sub-Saharan Africa, and Asia.³³ Excepting the African countries, their findings demonstrate that a higher proportion of males than females reported sexual debut before age 17 in all countries. The prevalence of early sexual debut is higher among males and the median age of debut is lower. Moreover, the context of sexual debut is different for males and females. For males, debut during teenage years tends to occur outside of marriage, whereas it occurs within marriage for females. Chinese society continues to emphasize the importance of premarital virginity for

females and so far the Sexual Revolution has been male-centered.^{8,20} Hence, we anticipate that the timing of sexual debut will be earlier for males than females.

Family Structure. The relationship between age of sexual debut and family structure is well-established. In urban China, the prevalence of sexual debut is lower among adolescents from two parent families than in single-parent or step-families.¹³ This pattern is consistent with findings from Western countries.^{4, 34-35} The effect of family structure appears to be context and gender dependent. Santelli et al. demonstrate that living in a single-father household associates with a high risk of early debut for males and females.²⁸ Living in a single-mother household has a weaker effect on the timing of debut of females and a non-significant effect for males. Newcomer and Udry argue that household differences in parental control and time available for tending to children's emotional needs could explain these household-level differences.³⁶ In China, divorce is a rare event in the life course. There is a paucity of research on the effects of divorce for Chinese children, but the available evidence suggests that it has negative effects on the well-being and behavior of children.³⁷ This is largely because of societal discrimination against divorced families, which represents a difficult context of adjustment and deprives children of familial resources. In accordance, we expect that living in a non-conventional household will represent a risk factor for the timing of sexual debut among Chinese youth.

Parental Education. There are numerous studies that demonstrate a strong relationship between parental education and the timing of sexual debut.^{13,30,38} This relationship can function through several pathways.³¹ Foremost, parental education is a proxy for household socioeconomic status, which tends to associate with social differences in risk-taking behaviors. It also determines access to information about sex, medical advice, and contraception. In

addition, parental education matters because risk-taking has different implications across socioeconomic status. The opportunity costs (e.g., pregnancy) likely rise with socioeconomic status, considering that adolescents from better-off families have greater access to post-secondary education and perhaps higher expectations from their parents to establish successful careers before parenthood. Our expectation is that higher parental education will postpone the timing of sexual debut among Chinese youth.

Formal Sex Education. Kohler, Manhart, and Lafferty report that comprehensive sex education lowers the risk of teenage pregnancy and sexual experience.³⁹ However, abstinence-only education has no effect, which indicates that the content of sex education is crucial. Mueller et al. demonstrate that having sex education postpones the age of sexual debut and increases the use of contraception at sexual debut.⁴⁰ These authors observe that sex education is particularly beneficial for promoting well-being among groups prone to contracting sexually transmitted diseases. As discussed above, many Chinese youth have limited knowledge about sexual and reproductive health, especially contraception and self-protection from STIs. There are also social gaps between them in their level of knowledge.¹⁴ For example, youth from lower socioeconomic and rural households appear to have the least knowledge. Our expectation is that a lack of sex education will associate with the timing of sexual debut, considering that it represents a lack of knowledge about the potential health risks.

Community Setting. This study also considers urban/rural (*hukou*) and regional differences in the timing of sexual debut. The *hukou* or household registration system controls population movement in China and is a source of social conflict. Those with rural registration (official status) have comparatively limited access to educational opportunities and almost no access to public employment, health care, and pensions.⁴¹ There are also regional imbalances

in development because reform-era economic policies favored the modernization and industrialization of the eastern (coastal) regions.⁴² The intuitive assumption is that premarital sex is more common in urban and well-developed regions, largely because this is where social change (Sexual Revolution) is centered. Whether social institutions are more prohibiting in rural and less developed regions is an open question. There is some indication that premarital sex is less prevalent in these regions, where non-virginity has relatively high costs for women in the marriage market,⁴³ but this may no longer be true.¹⁰ Changes in sexual norms are decreasing the age of sexual debut in rural areas, but there has been a larger increase in the prevalence of premarital sex in urban areas, perhaps because of earlier age at marriage in rural areas.^{17,44} While it remains unclear how community setting influences the timing of sexual debut among unmarried youth, it is apparent that it represents a potentially important determinant.

METHODS

Data

This study uses data from the National Youth Reproductive Health Survey (NYRHS). The NYRHS was a collaboration of Peking University, the National Working Committee on Children and Women under the State Council, and the United Nations Population Fund. The survey was conducted by Peking University from October to November 2009. The target population includes unmarried youth aged 15-24 living in all mainland provinces, autonomous regions and municipalities, excluding youth living in Tibet, which has less than 0.2% of China's total population.⁴⁵ The survey used a multistage sampling design. The country was initially divided into 7 geographic regions and then, using the probability proportional to size (PPS) sampling method, 40 administrative regions were selected. Within each region, the

target population was further divided into three groups: in-school youth, off-school youth, and youth living in collective households. The third group included primarily those who were working and living in (company) dormitories. For in-school youth, in each selected administrative region, a sample of schools (junior/high schools, colleges, and universities) was selected and then a sample of students was selected from each school. For out-of-school youth, in each selected administrative region, a sample of counties (municipalities) was selected using PPS sampling. Using the same method, a sample of city neighborhoods (villages) was selected and then households (youth) were selected from each neighborhood (village). For youth in the collective households, in each selected county (municipality), a sample of dormitories was selected using area sampling method and then a sample of youth was selected from each of these dormitories. For all three groups of youth combined, a total of 22,288 unmarried people aged 15-24 completed the interview and the overall response rate was 75.1%.⁴⁶

Dependent Variable

This study examines the timing of sexual debut among Chinese youth. The dependent variable was constructed from the question: “How old were you (in years) when you had sexual intercourse for the very first time?” To protect confidentiality and reduce non-responses, the data from this section of the interview was collected with a self-directed (paper) questionnaire, which the respondents completed in privacy to ensure anonymity. Sexual debut is a milestone life course experience and people are likely to remember accurately at what age it occurred.^{32,47} Recall errors tend to be random and have minimal impact on the estimates of age at sexual debut. The timing of sexual debut was measured from age 12 to the survey date. The exposure to this event was measured in years. The data did not permit a more refined

measurement (e.g., month of debut) of the timing of sexual debut. The dependent variable was right censored for respondents who had not had sexual intercourse at the time of the survey.

Independent Variables

The analysis considers a selection of variables that could influence the timing of sexual debut (see above), and conducts separate analysis for males and females, considering that effects of these variables could be gender-specific. The variables are: gender, family structure, parental education, formal sex education, educational attainment, and school attendance. The analysis also considers two “community-level” variables, *hukou* (urban/rural status) and geographic region. The weighted descriptive statistics for the independent variables are presented in Table 1. About 18% of the sample is aged 15-16 years, 49% is aged 17-20 years, and 33% is aged 21-24 years.

Table 1 About Here

Gender is measured using a dummy variable, with females coded as the reference group. The study sample consists of 50.8% males and 49.2% females. Of respondents aged 15-16 years, 5% of males and 2.8% of females reported having their sexual debut at the time of the survey. About 17% of males and 13% of females aged 17-20 years reported a sexual debut. Among those aged 21-24 years, about 46% of males and 39% of females had their sexual debut.

The NYRHS divided (sampled) the youth population into three strata or sub-populations. These include: (a) youth who are currently in school (e.g., grade school, university), living either on campus or in the community; (b) youth who live in private households (mostly their parent’s home) and are currently working or unemployed; and (c) youth who are employed and living in collective dwellings, such as a workplace dormitory. In

the analysis, the latter two groups are combined (reference group), and those currently attending school are compared to them. In the study sample, 46% of the respondents are currently attending school.

Family structure is a measure of whether the respondent is from an intact (two biological parent) household or in other situations, such as single-parent households or stepfamilies. Over 94% of respondents are from intact families. Both father's and mother's educational attainment is measured using a four-level categorical variable that includes: elementary school or lower, junior high school, senior high school or technical school, and college diploma or higher.

In China, a person's *hukou* (or household registration) represents their official classification as either "agricultural" (rural) or "non-agricultural" (urban) and it determines where people can permanently reside and also their access to public resources. Just under 52% of the respondents are classified as rural residents. Region is measured using a three-level categorical variable: Eastern China, Central China, and Western China. Table 1 indicates that 23% of respondents live in Western China, 45.6% in Eastern China, and 31.4% in Central China.

Formal sex education is measured as having received (or not received) sex education in school. Table 1 shows that less than 35% of the respondents in the study have received sex education. The analysis also controls for the educational attainment of the respondents, which was measured as junior high school or less (reference group), senior high school or technical school, and college diploma or higher. Among those who are sexually experienced, the distribution of educational attainment is roughly similar for the males and females.

Statistical Methods

Our interest is the timing (age) of sexual debut and the predictors of it. We use life table techniques to estimate the survival distribution and describe the gender-specific timing of sexual debut across urban/rural setting (household registration) and region. Life table techniques are a well-established method for describing survival data.⁴⁸⁻⁴⁹ The estimates are non-parametric and not subject to biases due to violations of distributional assumptions of the underlying hazard. We use Cox's proportional hazard models for the multivariate survival analysis.⁵⁰ The Cox model examines the gender-specific relationship between the hazard rate of sexual debut and the selected covariates. Because of the nature of multistage sampling design, the analysis uses robust standard errors to account for possible clustering effects.

RESULTS

The main objective of this study is to examine social differences in the timing of sexual debut among Chinese youth. Our preliminary life table analysis suggests that the median age at sexual debut is 22.8 years for unmarried Chinese youth, and that males had their sexual debut at younger age (22.5) than females do (23.1).

Figures 1-3 plot the survival function of sexual debut from age 12-24 years. The figures present the cumulative survival rates (of remaining a virgin) for each year of age, for males and females, urban/rural (*hukou*) status, and region (Western China, Eastern China, and Central China). The gender-specific survival rates are presented for urban/rural status and region. Log-ranked tests for equality of function were performed to determine whether the differences in these survival rates are statistically significant. The differences are highly significant ($p < .001$) in all the figures.

Figures 1-3 About Here

Figure 1 illustrates the cumulative survival rates for males and females from ages 12 to 24 years. Among the youth in the study sample, sexual debut before age 17 is nearly non-existent. All (100%) males and females were virgins at the age of 15 years and almost all (99%) were virgins at 16 years old. The figure shows that sexual debut before age 18 is a very rare event. Only 7% of males and 5% of females reported experiencing their sexual debut at or before this age. The onset of sexual activity increases at around age 21 for both males and females. The ages 21-24 appear to be the normative stage in the life course for onset of sexual activity. The majority of males (56%) have experienced sexual intercourse at age 23 and the majority of female (61%) at age 24. In comparison, 80% of the males and 86% of the females in our study were sexually inexperienced (virgins) at the age of 20. A small (but statistically significant) gender gap in the timing of sexual debut emerges between ages 17-20. A higher proportion of males than females (20% versus 14%) reported having had sexual intercourse at age 20 or sooner. This gap is the largest between the ages of 21-22, and begins to decrease afterward.

Figure 2 plots urban/rural (*hukou*) differences in the cumulative survival rate of remaining a virgin from age 12-24. Separate plots are presented for males and females to capture gender differences (interactions) in the urban/rural survival rates. For males, sexual debut before age 16 is virtually non-existent and uncommon before turning 19 years old. At age 18, 10% of urban and 16% of rural males have experienced sexual intercourse. Beginning at age 15, an urban/rural gap begins to emerge. At each age between the ages of 16-22 years, a higher proportion of rural males have had their sexual debut. There is a similar urban/rural pattern in sexual debut for the females in the study. Sexual debut is almost non-existent before age 16 and uncommon before age 18 for both urban and rural females. Starting at age 15, a

higher proportion of rural females reported having their sexual debut. To some extent, then, living in a rural areas associates with an earlier age of onset.

In Figure 3, we present the gender-specific cumulative survival rates (of remaining a virgin) of Chinese youth in Eastern, Central, and Western China. Across all three regions, none of the males or females in the study experienced their sexual debut before the age of 16 years. After age 17, some regional differences in sexual debut become visible, but these are not large. In general, cumulative survival rate at ages 17-24 years is the lowest in Western China and the highest in Eastern China. The regional gap in sexual debut, therefore, is most prevalent between youth from the Eastern and Western regions, with the Central region falling in-between. For both males and females, the majority of youth from Western China experience their sexual debut about 1 year earlier than youth from Eastern China. In all regions, the proportion of male virgins is lower at all ages (from age 17 onwards) in comparison to females. However, the gender gap (at age 24) in cumulative survival is smaller among Eastern youth than among Central and Western Chinese youth.

Table 2 presents the results from the Cox regression models (with robust standard errors) that examine the risk factors of the timing of sexual debut. The table present separate results for males and females. In a separate analysis (results available upon request) we confirmed that gender has a significant ($p < .001$) effect on the timing of sexual debut. Within each year of age (e.g., at age 16, age 17, and so on) males have a 30% higher risk of experiencing their sexual debut than females, after adjusting for the risk factors presented in Table 2.

Table 2 About Here

Table 2 demonstrates that family structure is a significant predictor of the timing of sexual debut for both males and females, after adjusting for the effects of parental education, urban/rural status (*hukou*), region, sex education, and educational attainment. Within each year of age, males from intact (two married, biological parent) households have a 28% lower risk of experiencing their sexual debut in comparison with those from other family circumstances (e.g., single-parent households). The risk is about 30% lower for females from intact households. These results are consistent with our expectations, which were based on the findings from Western (e.g., United States, Britain) studies. These studies demonstrate that living in an intact household is an important factor in the decision to postpone sexual debut.^{36,51} However, from our results it is unclear whether this difference in the timing of sexual debut is related to a difference between intact and non-intact households in parental resources or a negative reaction to divorce. There is a paucity of Chinese research on the consequence of divorce for children, and this is an important question for future research.

The analysis also examined whether parental resources influence the timing of sexual debut. The results are not entirely consistent with our expectations, and weaker than expected. As cited above, there are good reasons to expect that higher levels of parental education would associate with a postponement of sexual debut. The effect of paternal education on the risk of sexual debut is consistent with this expectation. Compared to males whose fathers have elementary school or less, those whose fathers have junior high school or senior high school have a lower risk of sexual debut. At each age, the risk of sexual debut is about 28% lower for males whose fathers have junior high school and 32% lower for males whose fathers are high school graduates. There is no significant difference between males whose fathers are college graduates, which is a perplexing finding. The effect of maternal education on the sexual

behaviors of males is also counterintuitive. The results indicate that the risk of sexual debut *increases* at higher levels of maternal education. Males whose mothers are high school or college graduates have around a 40% higher risk of sexual debut in comparison to those whose mothers have elementary school or less. For females, the effect of parental education is non-significant, with one exception. Those whose fathers have junior high school have a 28% lower risk of sexual debut in comparison to those whose fathers have elementary school or less education.

The effect of urban/rural status (*hukou*) is another significant predictor of the timing of sexual debut. In contrast to our expectations but consistent with the bivariate analysis (see Figure 2), having an urban status decreases the risk of sexual debut for both males and females. Our expectation was that the timing of sexual debut would be increased in urban areas because this is where the Sexual Revolution is centered. But our results in Table 2 suggest that the converse appears to be the case. After controlling for the effects of the covariates, the hazard rate is 19% lower for urban males and 24% lower for urban females in comparison to their rural counterparts.

The effect of region on sexual debut is weak. In comparison to males in the Western region, those in the Eastern region have a 32% lower risk of sexual debut. For all other regional comparisons the results are non-significant. It is not clear why males from the Eastern region (which is comparatively more urban and modernized) would have a lower risk of sexual debut than the under-developed (and presumably more traditional) Western region. This contradicts our assumption that the risk would be higher in the Eastern region.

Table 2 indicates that formal sex education has a non-significant effect on the timing of sexual debut for both males and females. This is an unsurprising result considering that the

content of sexual education in China is very limited and seldom contains teaching about contraceptive or self-protection from HIV or STIs.¹⁰⁻¹² This implies that sex education in China is not providing Chinese youth with useful information for making their decision to have/postpone their sexual debut. Table 2 also indicates that youth with higher education (college diploma) have a lower risk of sexual debut compared to those with junior high school or less.

DISCUSSION

The average age at sexual debut among Chinese youth is 22.8 years. This is obviously higher than is typical in Western societies (e.g., 17 years in the United States), but it represents a decline from the sexual behaviors of previous generations.¹⁷ Moreover, this decline in the timing of sexual debut has occurred in the context of premarital sex, which was taboo a generation ago. This change in the sexual behaviors of Chinese youth parallels the normative shift in attitudes about sex, although the present study could not directly confirm this assumption. As discussed above, sexual intercourse has become delinked from marriage and procreation over the last several decades, and there is less social regulation of sexual behavior. The respondents in our study (target)population, who were born after the “Open-Door” policy and economic reforms began, have come of age in a relatively permissive sexual culture (by Chinese standards), which has presumably influenced the sexual behaviors among them.

In China, sexual debut before age 18 remains a rare event and the proportion of virgins at age 24 suggests that marriage is still an important context of sexual debut for many people. The normative age of onset at sexual activity is between 21-24 years, which is roughly the same between urban/rural status and regions. In all community-level contexts, females tend to

postpone their sexual debuts longer than males. This finding is consistent with our expectations and accords with the notion that premarital sex has a higher cost for females. Previous literature suggests that the Sexual Revolution in China has been male-centered and the social climate remains less permissive of female sexuality outside marriage.⁸ There are negative perceptions of females who appear to engage in regular premarital sex, and this can dampen their prospects on marriage markets. To some extent, this is also changing (especially the expectation of premarital virginity), but generally in regards to premarital sex between couples engaged to be married.¹⁰ Premarital sex is much less socially acceptable outside this context for females, which could explain their comparatively higher age at sexual debut.

Our expectation was that youth in urban areas would have a higher risk of sexual debut than those in rural areas. This was premised on the notion differences in exposure to a liberal sexual culture would lead to an urban/rural difference in the age of sexual debut. In contrast, our findings show rural status increases the risk of sexual debut at all ages. In other words, whatever influence of the Sexual Revolution might have on the sexual behaviors of youth, this is not a good explanation for the urban/rural difference in the onset of sexual activity. The most plausible explanation for this difference is the culture of early marriage in rural areas. The literature suggests that community settings that encourage early marriage also lead to an earlier onset of sexual activity.³¹ While premarital sex was once taboo in rural areas, a new cultural norm is emerging.¹⁰ Premarital sex has become increasingly common and socially acceptable among couples who are expected (engaged) to be married. Given the younger age at engagement and marriage in rural areas, this could explain the difference in the timing of sexual debut between urban and rural youth.

Perhaps the most difficult finding to understand is the influence of parental education on the timing of sexual debut. The effect of parental education did not, for the most part, function in the expected direction. Our assumption was that the risk of sexual debut would decline as parental education increased. As noted above, this assumption was grounded in evidence from Western research, which suggests that parental education has a protective effect, i.e., postpones sexual debut. Our findings show that parental education has a very limited effect among females, and, while paternal education has a protective effect for males, maternal education has the opposite effect. We are unable to provide any empirical insight into these inconsistent findings. However, there is no reason to believe that parental education is not a reasonable indicator of socioeconomic status, especially since China's economy has become more market-oriented. There is no obvious reason for the unexpected effects of parental education, which is another topic for future research.

CONCLUSION

In China, there are no national studies on the timing of sexual debut among youth aged 15-24. This study addressed this gap in the literature with the aim of providing insight into the basic patterns and risk factors of the timing of sexual debut. This has important policy implications given that age at sexual debut is related to risky sexual behaviors. Though Chinese youth have a fairly late age at sexual debut in comparison with youth from other countries, their older age has not made them better prepared for sexual intercourse. Over half of Chinese youth do not use any form of contraceptive at sexual debut, which places them at risk of unwanted pregnancies and STIs.²⁴ Another issue is the risk of "early" sexual debut among Chinese youth. Though sexual debut is uncommon before age 19, a small proportion experience it by that age, which would likely represents an "off-time" transition to sexual

activity. This could be a potentially vulnerable group and a question for future research is the determinants and consequences of early sexual debut.

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Table 1 Sample Description and Descriptive Statistics of the Variables Used in the Analysis: Chinese Unmarried Youth (Aged 15-24), 2009

Variable	%	% Had first sex	
		Male	Female
Age at the interview			
15-16	17.7	5.0	2.8
17-20	49.1	17.4	12.9
21-24	33.2	46.1	39.3
Gender			
Male	50.8	25.5	—
Female	49.2	—	19.2
Main activity			
Attending school	46.0	14.4	8.9
Not attending school	54.0	34.6	28.3
Family structure			
Two biological parents	94.4	25.1	18.8
Other situations	5.6	30.2	27.1
Father's educational attainment			
Elementary school or less	14.2	29.2	21.9
Junior high school	37.4	24.7	19.0
Senior high school ^a	32.6	25.7	18.2
College diploma or higher	15.8	23.3	19.3
Mother's educational attainment			
Elementary school or less	25.5	25.3	21.2
Junior high school	38.0	26.4	18.9
Senior high school ^a	24.8	24.9	18.2
College diploma or higher	11.7	23.8	17.8
Hukou (household registration)			
Rural	51.5	25.7	20.2
Urban	48.5	25.1	18.2
Region			
Western China	23.0	28.1	19.8
Eastern China	45.6	24.5	19.3
Central China	31.4	24.9	18.6
Had formal sex education in school			
Yes	34.8	26.7	19.9
No	65.2	24.8	18.8
Educational attainment			
Junior high school or less	18.3	27.0	19.8
Senior high school ^a	56.4	20.9	16.6
College diploma or higher	25.3	34.6	24.4
<i>N</i>	22,288	11,212	11,076

Note: Weighted percentages, unweighted *N*.

Data sources: the 2010 National Youth Reproductive Health Survey.

^a This category includes both senior high school and technical school, which are designed for the students who have finished junior high school in China.

Table 2 Cox's Proportional Hazard Models of the Timing of Sexual Debut among Chinese Unmarried Youth Aged 15-24, 2009 (with Robust SEs)

Independent variable	Male		Female	
	Hazard Ratio	[95% C.I.]	Hazard Ratio	[95% C.I.]
Main activity				
Attending school (1=yes)	1.091	[0.862 1.380]	0.929	[0.679 1.272]
Family Structure				
Two biological parents (1 = yes)	0.721 *	[0.547 0.949]	0.705 **	[0.575 0.865]
Father's educational attainment				
Elementary school or less ^a				
Junior high school	0.719 *	[0.521 0.991]	0.722 *	[0.534 0.977]
Senior high school	0.682 *	[0.478 0.973]	0.723	[0.495 1.055]
College diploma or higher	0.773	[0.507 1.178]	0.913	[0.603 1.383]
Mother's Educational Attainment				
Elementary school or less ^a				
Junior high school	1.194	[0.973 1.465]	1.048	[0.884 1.243]
Senior high school	1.393 *	[1.079 1.799]	1.169	[0.927 1.473]
College diploma or higher	1.402 *	[1.044 1.883]	1.139	[0.793 1.637]
Hukou				
Urban (1 = yes)	0.811 **	[0.697 0.943]	0.756 ***	[0.653 0.875]
Region				
Western China ^a				
Eastern China	0.676 *	[0.463 0.988]	0.720	[0.479 1.083]
Central China	0.776	[0.495 1.217]	0.804	[0.486 1.330]
Had formal sex education (1 = yes)	1.099	[0.948 1.274]	1.038	[0.860 1.252]
Educational attainment				
Junior high school or less ^a				
Senior high school	1.056	[0.921 1.212]	1.075	[0.910 1.272]
College diploma or higher	0.697 ***	[0.583 0.834]	0.602 ***	[0.460 0.789]
Log L	-23,965		-17,314	
model (wald) χ^2	62.13 ***		117.47 ***	
d.f.	14		14	
Number of failures	2,868		2,114	
N	11,212		11,076	

Note: All variables were coded as dummy indicators with "1" as "yes", "0" otherwise.

^a Reference category.

*** $p < .001$ ** $p < .01$ * $p < .05$

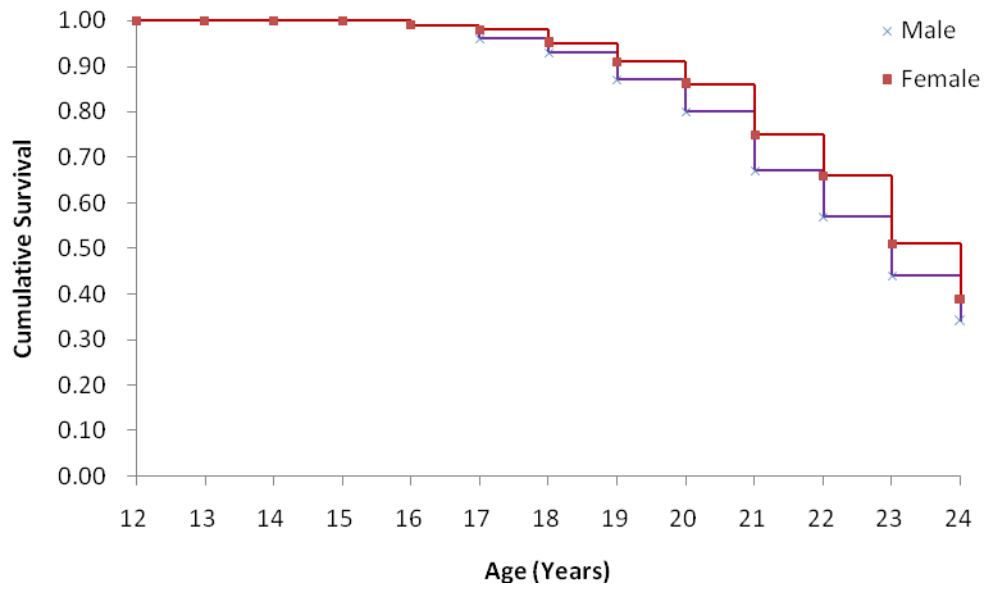


Figure 1 Survival Functions of Sexual Debut Among Chinese Youth by Gender

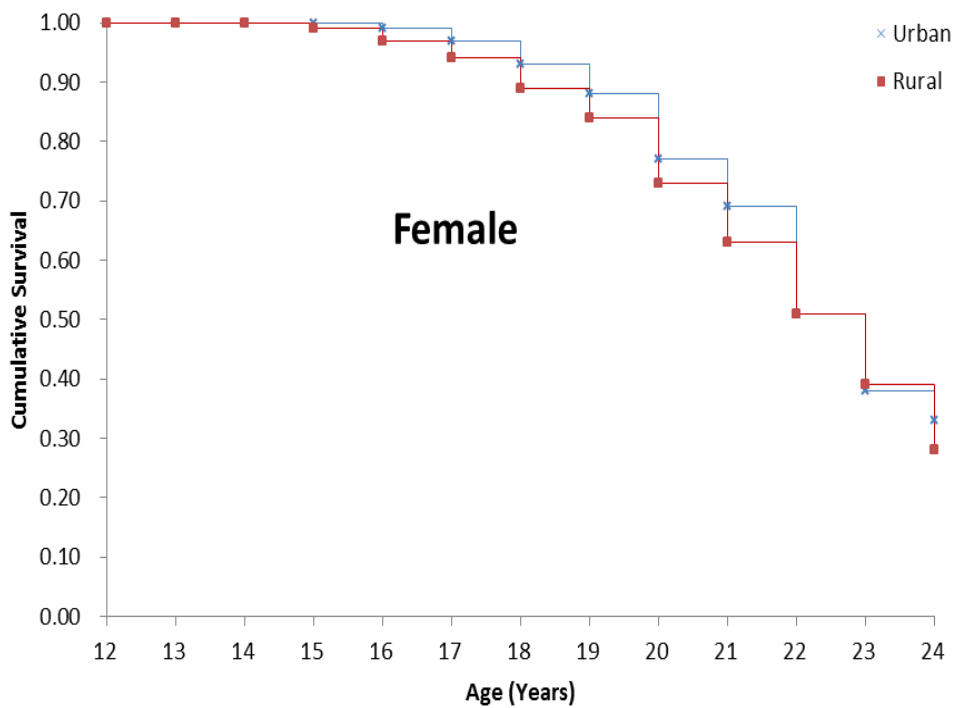
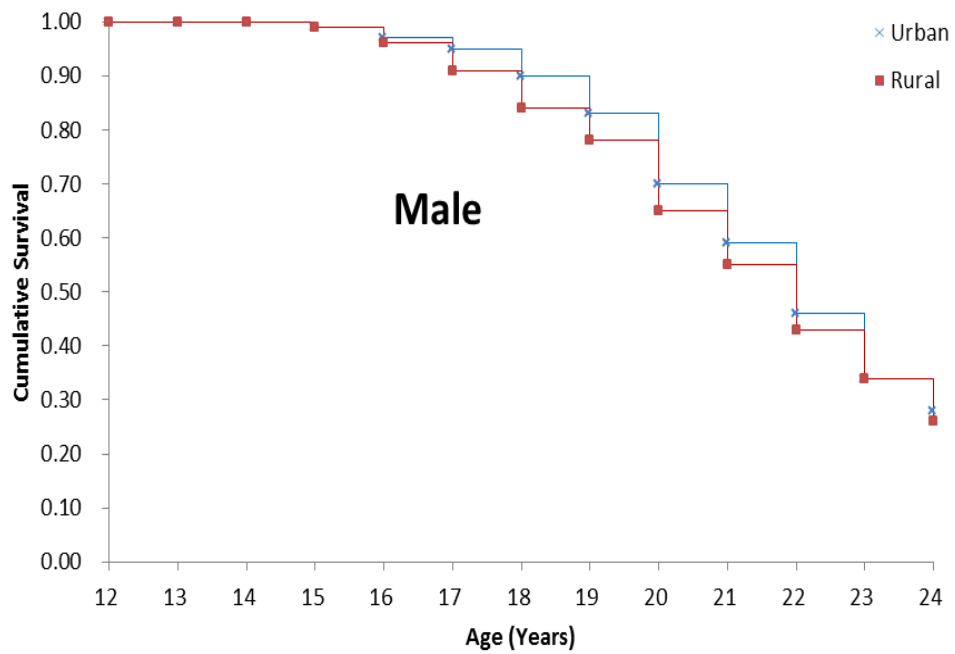


Figure 2 Survival Functions of Sexual Debut among Chinese Youth by *Hukou* and Gender

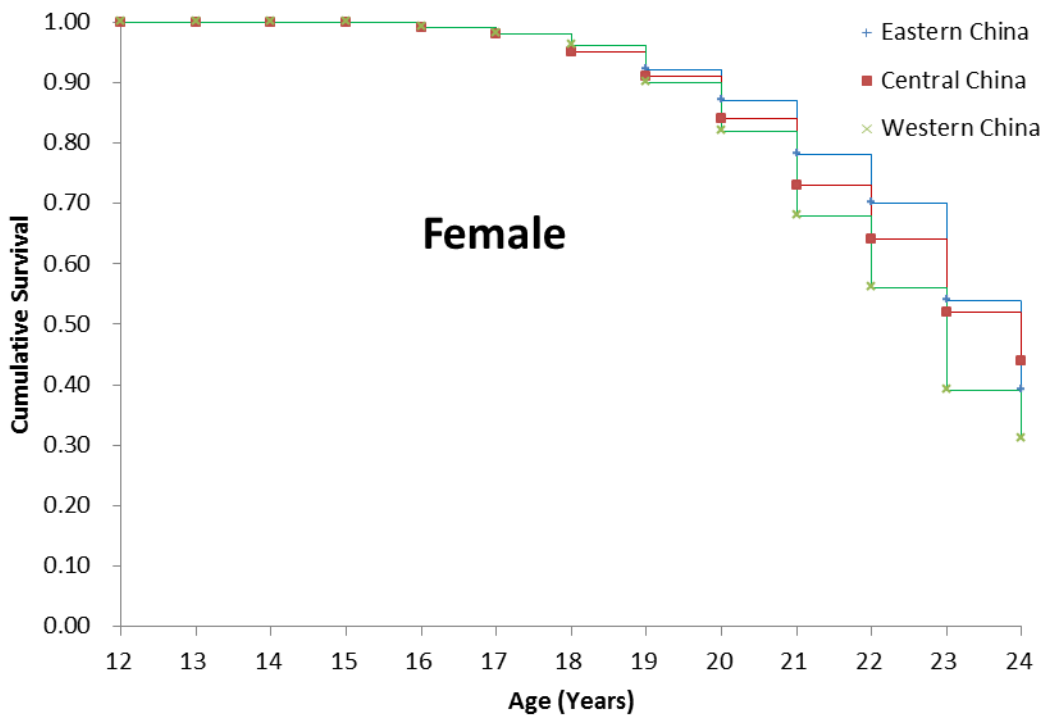
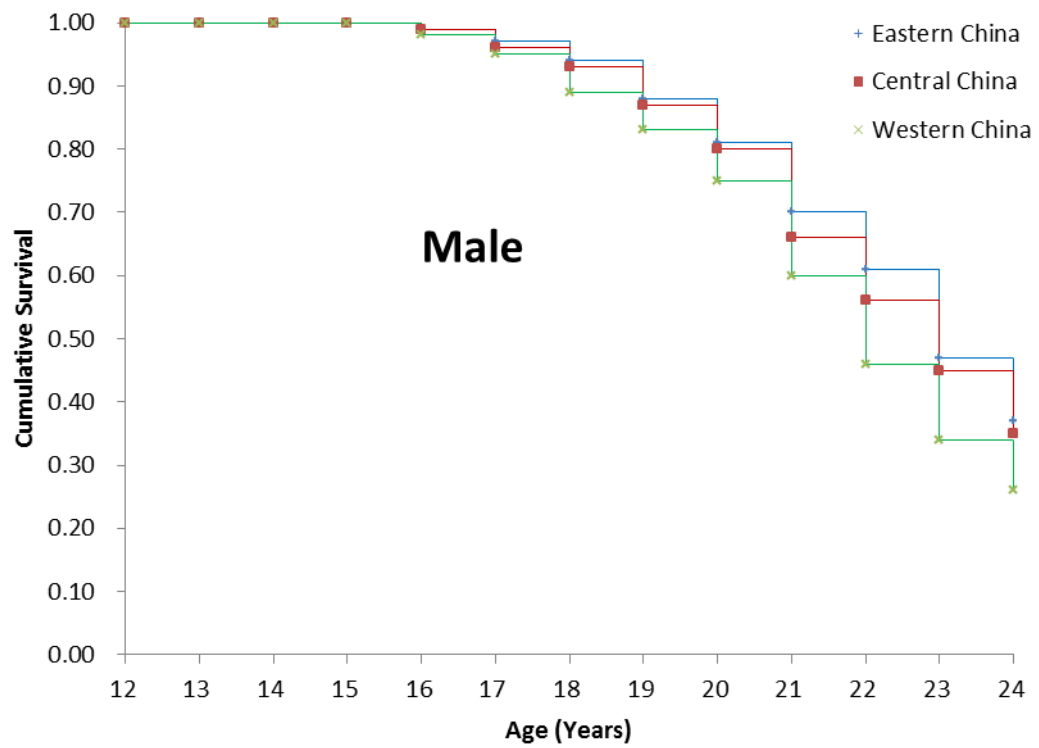


Figure 3 Survival Functions of Sexual Debut among Chinese Youth by Region and Gender