

SEX RATIOS AND WOMEN'S MARITAL TIMING AND SEXUAL BEHAVIOR IN

CHINA

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A demographic revolution of sorts has been occurring in the People's Republic of China. A longstanding cultural preference for sons over daughters and sharp reductions in fertility have converged with more proximate factors, especially the widespread availability of sex-selective abortion technology, to create a shortage of girls in China over recent decades (Banister 2004; Cai & Lavelly 2003; Goodkind 2004). As these cohorts have aged, and as they continue to do so, China has and will continue to experience a dramatic overabundance of adult males relative to adult females (Tuljapurkar et al 1995; Poston & Glover 2005). The consequences of this impending imbalance in the numbers of adult males and females are thought to be profound and far-reaching (Poston & Morrison 2005). Our focus in this paper is on consequences of imbalanced sex ratios in China for women's marital timing and sexual behavior.

Theoretical Background

Our conceptual framework is grounded in theories linking imbalanced population sex ratios to family-related demographic behavior. Two broad theoretical approaches address the possible impact of imbalanced sex ratios on these behaviors. "Demographic-opportunity" theory emphasizes the impact of the sheer availability of potential sexual and marital partners on social and demographic behavior. Theoretically, residing in a community containing an abundance of members of the opposite sex increases the likelihood of finding an attractive sexual or marriage partner, thereby hastening the transition to first marriage and increasing the likelihood of sexual encounters. In contrast, when few potential mates are available, transitions to marriage will be delayed (and perhaps foregone entirely) and sexual encounters will be less frequent.

"Sociocultural" approaches focus on the impact of imbalanced sex ratios on women's (and, to a lesser extent, men's) social behaviors. Guttentag and Secord (1983) explicitly acknowledge gender differentials in responses to sex ratio imbalances and argue that marital quality and commitment are functions of attraction and dependency. Accordingly, members of the sex that is in short supply are less dependent on their partners because a greater number of alternative relationships are available to them. Should they become dissatisfied with their current partners, they can more easily form relationships with other members of the opposite sex. In contrast, members of the sex that is in relative oversupply are in a dependent position vis-à-vis their opposite-sex partners because there are fewer members of the opposite sex with whom to form a relationship. Members of the sex in short supply, then, enjoy greater dyadic power than members of the sex in relative oversupply.

The extent to which dyadic power shapes gender-specific behavior is constrained by the distribution of structural power which resides with men in all but a handful of societies (Guttentag & Secord 1983). Women's ability to use dyadic power to gain freedom and independence is limited. Men use their structural power to limit and modify women's potential use of dyadic power. The distribution of structural power circumscribes the way in which women's dyadic power, which is high when women are in undersupply, can be exercised.

Guttentag and Secord (1983) posit that in high-sex-ratio contexts (i.e., in populations or communities with a shortage of women) women will be greatly valued. Because of the relative scarcity of females, men will treat women with deference and respect. Although women's dyadic power will theoretically be high in such contexts, men will use their own structural power to limit women's economic and political independence. Thus, women's traditional roles as mothers and homemakers will be adulated and encouraged. Most women will marry, and they

will do so at an early age. Premarital sexual encounters for women will be limited and women's extra-familial roles will be severely constrained.

A different sex-role structure characterizes low-sex-ratio populations. Here, the surplus of women will encourage promiscuity among men and discourage their commitment to monogamy. Fewer men and women will marry, and those that do will marry later in life. Women's traditional roles will not be highly valued since men enjoy a surfeit of alternatives to their current partner. Because many women will not be able to find a partner or, if they do, to rely on their partner to maintain existing relationships, more will turn to extra-familial activities. This social context will increase the incidence of premarital and extramarital sexual relations.

For some outcomes, demographic-opportunity and sociocultural theories anticipate somewhat different effects of the sex ratio. With regard to marital timing, both demographic-opportunity theory and sociocultural arguments predict a positive association between the local sex ratio (number of men per 100 women) on women's marriage propensities. However, with regard to sexual behavior, demographic-opportunity theory posits that women will make the transition to first (premarital) sexual intercourse sooner when men are in greater supply, since these sex ratio imbalances signal a more copious supply of potentially attractive sexual partners. Sociocultural arguments make an opposite prediction for women. When women are in short supply (i.e., the sex ratio is high), men will use their structural power to limit women's sexual activity. Thus, while demographic-opportunity theory hypothesizes a positive association between the sex ratio and women's initiation of sexual intercourse, sociocultural arguments suggest an inverse effect of the sex ratio on women's transition to first sex.

Similarly, countervailing hypotheses can also be derived from these two theoretical approaches regarding the likelihood of engaging in extramarital sex. Demographic-opportunity theory implies that, for married women, the likelihood of engaging in extramarital sex will be higher in communities containing relative large numbers of men; accordingly, the local sex ratio is hypothesized to be positively associated with women's risk of infidelity. In contrast, sociocultural arguments imply an inverse association between the sex ratio and women's engagement in extramarital sex since here, too, husbands' will use their structural power to constrain wives' sexual behavior even in the face of favorable demographic opportunities for women.

Data and Methods

We test these hypotheses using data from the recent Chinese Health and Family Life Survey (CHFLS), a large, nationally-representative survey of Chinese adults, to which we append information from the 2000 Chinese census describing the relative numbers of women and men in their local residential community. We use counties or county-equivalents (urban district, county-level city) as our approximation of "community." We append information about the local sex ratio to the individual CHFLS records to conduct analyses of how these sex ratios are associated with women's marital timing and sexual behavior. We select only female CHFLS respondents and examine the association between the sex ratio and three outcomes measuring women's marital timing and sexual behavior.

Women's marital timing is measured by whether the respondent *married by age 24* (scored 1 if yes; 0 otherwise). About 61% of this sample was married by age 24. *Premarital sex* is a binary variable scored 1 if the respondent had engaged in premarital sex (based on reported ages at first intercourse and marriage) and zero otherwise; 19.6% of this sample of women reported having had premarital sexual intercourse. *Extramarital sex* is a binary variable scored 1 if the respondent ever engaged in sexual intercourse while married and zero otherwise. About 7% of this sample of women in a heterosexual romantic relationship at the time of the CHFLS survey reported engaging in extramarital sex.

The primary independent variable for our analysis is the sex ratio—the number of men per 100 women. As noted above, we compute the sex ratio for the county (or, for cities that

comprise more than one county, city) of residence for each respondent. Because the selection of spouses, or sexual partners more generally, is further circumscribed by age, we assign to each female respondent a nine-year sex ratio with a two-year staggering of the numerator (number of males) and denominator (number of females). In addition to the sex ratio, the independent variables include dummy variables for birth cohort (1960s and 1970s, with 1950s as the reference category); dummy variables for highest level of education attained (elementary school, junior high school, senior high school, junior college, university, with none as the reference category), and a dummy variable for whether the respondent resided in a rural area at age 14 (1=yes). Models also include dummy variables for each of the communities inhabited by the respondents.

Results

Results from logistic regression analyses show that the coefficients for the sex ratio are positive and statistically significant for all three outcomes. A one-unit “increase in the age-specific sex ratio increases the odds that women marry by age 24 by 2.3%, and a one standard deviation difference in the sex ratio ($s = 10.05$) translates into a 26% “increase” in the odds of marrying by age 24. A one-unit “increase” in the age-specific sex ratio increases the odds that women will have engaged in premarital sex by 2.4%, and a one standard deviation difference in the sex ratio translates into a 27% “increase” in the odds of having had premarital sex. Finally, a one-unit “increase” in the age-specific sex ratio increases the odds that women will have engaged in extramarital sex by 3.2%, and a one standard deviation difference in the sex ratio translates into a 38% “increase” in the odds of having had extramarital sex. Moreover, these effects survive the inclusion of controls, and importantly, dummy variables for each of the communities inhabited by the respondents, thus ruling out the possibility that some characteristic common to *all* women in a given community is accounting for these associations. Substantively, at least for these three outcomes, the observed effect of the sex ratio is more consistent with demographic-opportunity theory than with sociocultural arguments.

We also find that women’s likelihood of engaging in premarital intercourse is higher for younger than for older birth cohorts, and that early marriage was especially rare among the 1950s birth cohort (a probable result of Maoist era social policy). Higher levels of education tend to delay marriage but increase the risk of engaging in extramarital intercourse. However, educational attainment is unrelated to the risk of engaging in premarital sex. Women who resided in a rural area at age 14 are significantly less likely than their urban counterparts to have engaged in premarital sex.

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