

# Missing Girls and Missing Boys: Differential Effects of Marital Residence, Co-resident Kin, and Household Wealth in Two Japanese Villages, 1716-1870

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**Background:** Postnatal reproduction control was common in both Eastern and Western historical populations, but in the East it was notably sex-selective. However, empirical research on determinants of sex-selective reproduction, especially in relation to marital residence, remains limited.

**Objective:** We compare sex-selective reproduction patterns between virilocal and uxrilocal marriages in historical Japanese communities, and examine whether and how co-resident kin and household wealth matter differently.

**Methods:** We analyze 13888 annual observations of 1045 married females, transcribed from local population registers in two northeastern Japanese villages Shimomoriya and Niita between 1716 and 1870. Our discrete-time event-history analysis employs binomial and multinomial logit models, with clustered standard errors or random effects at individual level, to examine effects of selected factors on the probability of having a recorded male or female birth by parity.

**Results:** Our simple tabulation reveals that there are more girls than boys recorded at first birth, but less girls at second and later births (Table 1 below). Such disparity in chances of having a girl or boy birth is also confirmed by the differential predicted probability among these two types of marital residence across the wives' life course (Figure 1). Our multivariate analysis (see Table 2, 3 and Figure 2, 3 in the full-text manuscript) further suggests that uxrilocal marriages favor girls more than virilocal marriages. Such girl preference is even stronger at first birth when uxrilocal families are land rich, and at later births when their surviving children are only males.

**Conclusion:** Unlike overwhelming “missing girls” in other East Asian historical populations, there were both “missing girls” and “missing boys” in historical Japanese population.

Conditional on household context, uxorilocal marriages have stronger girl preference than virilocal marriages.

**Contribution:** This study provides first empirical evidence of the differential effects of marital residence, co-resident kin and household wealth on sex-selective reproduction in historical East Asia. It highlights the complex agency in human reproduction within the dynamics of power and property of the family.

**Keywords:** Sex-selective reproduction control, marital residence, kin effects, wealth, Tokugawa Japan

Table 1. Reproductive age patterns and male-to-female sex ratio of recorded births by parity in virilocal and uxorilocal families

| Marital residence | Wife's age     |             | First birth |     | Second birth |     | Third and later births |     |
|-------------------|----------------|-------------|-------------|-----|--------------|-----|------------------------|-----|
|                   | First marriage | First birth | Sex ratio   | N   | Sex ratio    | N   | Sex ratio              | N   |
| Virilocal         | 15.5           | 19.9        | 94.0        | 487 | 123.3        | 364 | 109.0                  | 489 |
| Uxorilocal        | 13.9           | 19.1        | 68.1        | 190 | 116.4        | 132 | 109.9                  | 170 |

Figure 1. Predicted probability of having a recorded birth in the next year

