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## Could changes in reported sex ratios at birth during China's 1958-1961 famine support the adaptive sex ratio adjustment hypothesis?

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### Abstract

**Background:** The adaptive sex ratio adjustment hypothesis suggests that when mothers are in poor conditions the sex ratio of their offspring will be biased towards females. Major famines provide opportunities for testing this hypothesis because they lead to the widespread deterioration of living conditions in the affected population.

**Objective:** This study examines changes in sex ratio at birth before, during, and after China's 1958-1961 famine, to see whether they provide any support for the adaptive sex ratio adjustment hypothesis.

**Methods:** We use descriptive statistics to analyse data collected by both China's 1982 and 1988 fertility sample surveys and examine changes in sex ratio at birth in recent history. In addition, we examine the effectiveness of using different methods to model changes in sex ratio at birth and compare their differences.

**Results:** During China's 1958-1961 famine, reported sex ratio at birth remained notably higher than that observed in most countries in the world. The timing of the decline in sex ratio at birth did not coincide with the timing of the famine. After the famine, although living conditions were considerably improved, the sex ratio at birth was not higher but lower than that recorded during the famine.

**Conclusions:** The analysis of the data collected by the two fertility surveys has found no evidence that changes in sex ratio at birth during China's 1958-1961 famine and the post-famine period supported the adaptive sex ratio adjustment hypothesis.

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