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## Sex ratios at sexual maturity and longevity: Evidence from Swedish register data

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DATE RECEIVED: 22 Nov 2012

DATE PUBLISHED: 18 Oct 2013

WORD COUNT: 5504

KEYWORDS: **longevity, mortality, sex ratios**

DOI: **10.4054/DemRes.2013.29.31**

### Abstract

**Background:** This study tests the recently proposed hypothesis that the contextual sex ratio at sexual maturity is related to longevity. Previous empirical research in the United States has shown that a higher proportion of males at the age of sexual maturity increases the risk of mortality for males both before and after the age of 65.

**Methods:** I use Swedish administrative register data, linking the 1960 census to individual-level mortality data over the period 1960 to 2007. I calculate the sex ratio at two geographic levels, municipalities and parishes. Two different specifications of the sex ratio are calculated: males aged 18 to 27 over females aged 15 to 24, and males aged 18 to 22 over females aged 16 to 20. I conduct piece-wise constant survival analyses over the period from 1960 to 2007 to analyze the risk of mortality before age 65. I run separate analyses for males and females, using cohorts born in 1941 and 1942.

**Results:** For males, the results generally show that for both males and females a higher proportion of males was associated with a lower relative risk of mortality before age 65. The results were not statistically significant.

**Conclusions:** The lack of a consistent statistically significant association for either males or females, and the trend for males being in the opposite direction of what was hypothesized, suggests that support for the hypothesis in Sweden is very weak.

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