

# Competing for a mate can shorten lifespan

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"Love stinks!" the J. Geils band told the world in 1980, and while you can certainly argue whether or not this tender and ineffable spirit of affection has a downside, working hard to find it does. It may even shorten your life.

A new study shows that ratios between males and females affect human longevity. Men who reach [sexual maturity](#) in a context in which they far outnumber women live, on average, three months less than men whose competition for a mate isn't as stiff. The steeper the gender ratio (also known as the operational [sex ratio](#)), the sharper the decline in lifespan.

"At first blush, a quarter of a year may not seem like much, but it is comparable to the effects of, say, taking a daily aspirin, or engaging in moderate exercise," says Nicholas Christakis, senior author on the study and professor of medicine and medical sociology at Harvard Medical School as well as professor of sociology at Harvard University's Faculty of Arts and Sciences. "A 65-year-old man is typically expected to live another 15.4 years. Removing three months from this block of time is significant."

These results are published in the August issue of the journal *Demography*.

An association between gender ratios and longevity had been established through studies of animals before, but never in humans. To search for a link in people, Christakis collaborated with researchers from the Chinese University of Hong Kong, the University of Wisconsin and Northwestern

University. The researchers looked at two distinct datasets.

First, they examined information from the Wisconsin Longitudinal Study, a long-term project involving individuals who graduated from Wisconsin high schools in 1957. The researchers calculated the gender ratios of each high-school graduating class, then ascertained how long the graduates went on to live. After adjusting for a multitude of factors, they discovered that, 50 years later, men from classes with an excess of boys did not live as long as men whose classes were gender-balanced. By one measurement, mortality for a 65-year-old who had experienced a steeper sex ratio decades earlier as a teenager was 1.6 percent higher than one who hadn't faced such stiff competition for female attention.

Next, the research team compared Medicare claims data with census data for a complete national sample of more than 7 million men throughout the United States and arrived at similar results (for technical reasons, the study was unable to evaluate results for women who outnumbered men at sexual maturity).

Much attention has been paid to the deleterious social effects of gender imbalances in countries such as China and India, where selective abortion, internal migration and other factors have in some areas resulted in men outnumbering women by up to twenty percent. Such an environment, already associated with a marked increase in violence and human trafficking, appears to shorten life as well.

The researchers have not investigated mechanisms that might account for this phenomenon, but Christakis suspects that it arises from a combination of social and biological factors. After all, finding a mate can be stressful, and stress as a contributor to health disorders has been well documented.

Says Christakis, "We literally come to embody the social world around

us, and what could be more social than the dynamics of sexual competition?"

**More information:** Lei Jin, Felix El Wert, Jeremy Freese, and Nicholas A. Christakis, "Preliminary Evidence Regarding the Hypothesis That the Sex Ratio at Sexual Maturity May Affect Longevity in Men," *Demography*, Volume 47-Number 3, August 2010: 579.

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