

## From birth on, one sex is hardier

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(HealthDay)—Women are known to outlive men. And that advantage may start early, according to researchers who've found baby girls more likely to survive famines, epidemics and other misfortunes.

The fact that females have this advantage in infancy—when there are few [behavioral differences](#) between the sexes—suggests biology may be at least partly responsible, the researchers said.

"Our results add another piece to the puzzle of [gender differences](#) in survival," said study leaders Virginia Zarulli, from the University of Southern Denmark, and James Vaupel, from Duke University.

They examined about 250 years of data on people who died at age 20 or younger due to severe circumstances. These included slavery in Trinidad and the United States in the early 1800s; famine in Sweden, Ireland and the Ukraine in the 18th, 19th and 20th centuries; and measles epidemics in Iceland in the 1800s.

Even when overall death rates were very high, females still lived longer than males by an average of six months to four years, according to the study.

Breaking down the results by age group, the researchers found that most of the female survival advantage came in infancy, with newborn girls hardier than newborn boys.

This early female survival advantage may be due to factors such as genetics or hormones, the researchers suggested in a Duke news release.

For example, estrogens (female hormones) have been shown to boost the immune system's ability to fight infectious disease, the researchers said.

The results were published online recently in the *Proceedings of the National Academy of Sciences*.

**More information:** Virginia Zarulli et al. Women live longer than men even during severe famines and epidemics, *Proceedings of the National*

*Academy of Sciences* (2018). [DOI: 10.1073/pnas.1701535115](https://doi.org/10.1073/pnas.1701535115)

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