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## **Baby boys are more likely to die than baby girls**

*C-sections and neonatal ICUs help more baby boys to survive, study of developed countries finds*

Male infants in developed nations are more likely to die than female infants, a fact that is partially responsible for men's shorter lifespans, reveals a new study by researchers from University of Pennsylvania and University of Southern California.

The paper, which will be published online in the Monday, March 24 edition of the Proceedings of the National Academy of Sciences, analyzes 15 countries spanning three continents and hundreds of years. It finds that the gender gap in infant mortality was as high as 30 percent at its peak around 1970.

The disparity has narrowed in recent decades due to medical advancements that have helped more baby boys survive, specifically, caesarean sections and the spread of intensive care units for premature babies, the study found.

The marked reversal of historical trends indicates that at an age when males and females experience very similar lives, they are very different in their biological vulnerability, but how different depends on environmental and medical conditions," said corresponding author Eileen Crimmins, associate dean and professor at the USC Davis School of Gerontology.

In the 20th century the leading causes of infant death shifted from infectious diseases such as diarrheal diseases to congenital conditions and complications of childbirth and premature delivery, according to the study.

Boys are 60 percent more likely to be premature and to suffer from conditions arising from being born premature, such as respiratory distress syndrome. They are also at a higher risk of birth injury and mortality due to their larger body and head size.

The spread of intensive care units for infants has especially favored the survival of small and premature baby boys, the research found, because boys were more vulnerable across a range of weights. Since 1970, the percentage of deliveries by c-section has grown from an average of 5 percent to more than 20 percent. C-sections are also 20 percent more common for males.

The 15 countries analyzed include Sweden, France, Denmark, England/Wales, Norway, The Netherlands, Italy, Switzerland, Finland, the United States, Spain, Australia, Canada, Belgium and Japan.

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Greg L. Drevenstedt of the University of Pennsylvania was lead author of the study. Other authors are Sarinnapha Vasunilashorn and Caleb E. Finch of the USC Davis School of Gerontology. Research was supported by National Institutes of Health, the Ellison Medical Foundation and the Ruth Ziegler Fund.

Drevenstedt, Greg L., Eileen Crimmins, Sarinnapha Vasunilashorn and Caleb E. Finch, The rise and fall of excess male infant mortality. PNAS, DOI 10.1073 pnas.0800221105

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