The Chicken-or-Egg Fallacy

By Parfait M. Eloundou-Enyegue

Professor Eloundou-Enyegue contributed the following piece as part of The New York Times Room for Debate series, which focused on the topic "Women's Choices: School vs. Children." The accepted thinking—that as women become more educated, they have fewer children—has been cited in campaigns to promote education for girls in countries with high population rates. But in a recent study, Joel Cohen, head of the Laboratory of Populations at Rockefeller University, and his co-authors from the University of Oslo, Øystein Knudtsholm and Nico Keilmanh, found that childbearing kept Norwegian women from pursuing a higher education more than education impeded childbearing.

Does such research challenge the conventional wisdom or are the results simply different from country to country, depending on a country's level of development? How do we refine the age-old question: Does education reduce childbearing, or does childbearing get in the way of education? Eloundou-Enyegue's piece addresses this discussion. His original piece appeared on July 14, 2011. The complete debate can be found at: http://nyti.ms/6pa0C

Across the world, women with more education generally end up having fewer children. To some, this appears to raise a chicken-or-egg question. Does childbearing limit women's educational attainment or does education get in the way of bearing multiple children?

It is difficult to pinpoint the right direction of causation. In theory, either scenario is plausible. A girl born in a "pragmatic" environment might later revise her childbearing aspirations as the experience of schooling transforms her world views, access to contraception, bargaining power, or economic opportunities. Conversely, a teen's unexpected pregnancy might alter the costs and social support available for her pursuit of education.

In practice, however, it is difficult to pinpoint the right direction of causation. To begin with, proving any causation is hard with the after-the-fact survey data that social scientists often use in their research. Second, most studies on this issue have specialized on one or the other direction, with some looking only at whether education influences childbearing, and others looking only at whether childbearing influences education.

Until this recent study, few had devised simple methods to simultaneously study and compare these two influences. A third problem is the framing of the question itself. Asking a simple either/or question obscures the fact that the answer could be neither or both. Or that the answer might vary across places and times.

In the end, weighing on this apparent chicken-or-egg question requires toeing a fine line between laying a methodological egg—that is, making bold claims with limited evidence—and being chicken, that is, excessively hedging findings and shying away from any firm conclusion.

Our view is that the early education and fertility outcomes in women's lives matter. The real question is how much each contributes to the later course of women's lives. These relative contributions likely vary across societies, depending for instance on the median ages when fertility begins and when education stops.

After all, childbearing has less room to get in the way of education when most girls quit school early, and education has more room to affect childbearing in societies that tolerate a wider range of family configurations.

About the Author

Parfait M. Eloundou-Enyegue, associate professor of development sociology and associate director of the Cornell Population Program, studies educational attainment and gender inequality. He has consulted for many development agencies, written extensively on questions about population and development, and is on the board of directors of the Guttmacher Institute, which aims to advance reproductive health worldwide through research, policy analysis, and education. Currently, Eloundou-Enyegue is studying 3,300 families to document changes in schooling and access to employment in Cameroon, his native country.

He joined the CALS faculty in 2000, yet yearned to maintain an intellectual bridge with sub-Saharan Africa. He saw a connection with Francophone Africa as particularly potent; therefore, his major outreach activity is to build capacity for demographic analysis in those countries. Limited by language barriers, scholars there had not forged close ties with U.S. scholars in population sciences. Yet Africa was in the midst of complex population changes, with many social and economic outcomes on the line. Experts believed that great strides could be made in reducing poverty, school dropout, gender inequality, and child and maternal mortality if policies were based on solid expertise in demographic data analysis.

In 2006, he began volunteering for summer teaching at IFORD, an institute for demographic training based in Cameroon. He was soon joined by some of his students and a few colleagues, including fellow development sociology professor Tom Hirsch, Cornell Statistical Consulting Unit director François Vermeyer, and three recent graduates, Vongai Kandivwa, MS '09, Sarah Giroux '03, MS '06, and Scott Sanders, MPA '06, MS '07. What started as a small volunteer effort has since grown into a complex venture holding workshops two or three times a year. The group hopes to help create a data and statistical center, modeled after Cornell's Institute for Social and Economic Research (CISER), to serve as a repository for social science data for the region.

SOUND BITES: "It's like Queen Anne's lace with an attitude," Charles O'Neill, coordinator of the Cornell Invasive Species Program, tells MSNBC about giant hogweed. "Its sap can make a case of poison ivy seem like a mild itch. Stay dead!" "I did the calculations and they could carry a Nimbus 2000," Cornell Lab of Ornithology expert and owl owner Laura Erickson told MSNBC while analyzing whether real-life Hedwig could perform the same tasks they are assigned in the fictional Harry Potter books and films. "A message from a wizard would weigh no more than the kind of ploy they would normally cash." "Birds get lost. It happens all the time," Kevin McGowan, of the Cornell Lab of Ornithology, told ABC News when questioned about the Antarctic emperor penguin that made a 2,000-mile wrong turn and wound up in New Zealand. "Greece could sell off its crown jewels by privatizing government assets, but everyone is going to recognize it as a fire sale, so the question is how much money they could raise," economist Eswar Prasad told NPR in a story about the country's debt crisis. "We're not trying to be cowards. We are being careful with this. We know we've screwed it up big time in the past," said entomologist Mark Whitney, commenting in the Erie Times-News on the introduction of wasps to combat the invasive emerald ash borer.

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