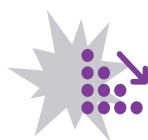


THE LONG-LASTING TOLL OF CONFLICT ON FERTILITY AND EARLY CHILDBEARING

BY ELIZABETH LEAHY MADSEN AND JOCELYN E. FINLAY

Key Findings



In the short term, conflict has dramatic effects on fertility.

Research across countries that experienced civil conflict over the past 40 years finds that fertility rates typically fall during the period of instability by up to one-third and rebound quickly after conflict ends. Fertility declines during conflict are often sharpest among women with more education and wealth. Poorer women and those with less education may have less capacity to modify their fertility decisions in response to societal shocks.



Over the long-term, childhood exposure to conflict increases girls' fertility later in life and has modestly contributed to population growth in sub-Saharan Africa (SSA).

New analysis across 36 countries in SSA shows that girls who were exposed to conflict as children go on to have 0.26 more children than peers who spent their childhood in stable environments. Due to this life course effect alone, the population of these countries is about 5 million people larger than it would have been without conflict.



Girls who grew up in conflict-affected countries are more likely to marry early.

Previous research suggests that during periods of conflict, women may be pressured to marry earlier for economic security or in response to changing social norms. New findings imply that the likelihood of early marriage lasts for a generation or more after conflict ends. In SSA, girls whose countries experienced conflict while they were young are more likely to marry early than girls in countries that have not experienced conflict.



Secondary education greatly reduces the effect of conflict history on early childbearing and total fertility.

Women with no education whose childhoods included conflict exposure are more likely to have their first child before age 15 than their non-conflict-affected peers, and they have 0.3 more children on average. However, girls exposed to conflict as children who attain secondary or tertiary education have no increased likelihood of early childbearing, and their completed fertility is only 0.1 children higher than their highly educated peers without conflict exposure.

As Conflict Incidence Rises in Africa, Fertility and Early Childbearing Remain High

Since 2010, the incidence of armed conflict in SSA has been rising, reversing a 20-year trend. Increasingly, civilians have become victims in these conflicts, directly targeted by governments and nonstate groups alike.¹ Researchers estimate that between 1995 and 2015, nearly 1 million people died as a result of conflict in Africa.²

SSA also faces a demographic challenge of persistent high fertility. On average, women in SSA have 5.1 children over the course

of their lives, twice as high as the global average of 2.5. These high fertility rates are driven in part by early childbearing. Each year, 11 percent of girls in SSA ages 15 to 19 give birth, compared to a global average of less than 5 percent.³

This policy brief explores the connections between armed conflict and demographic trends in SSA. It presents empirical evidence that links girls' experience of conflict in childhood to childbearing

outcomes later in life, including how these outcomes differ among women with differing levels of education.

While other studies have examined fertility changes during and immediately after conflict, the analysis presented here breaks new ground by examining life course trends in fertility in SSA among girls who were very young when they experienced conflict and offering policy recommendations to address these long-term consequences.

Fertility Typically Declines During Conflict and Rebounds With Peace

Evaluating the contemporaneous effects of conflicts on fertility, demographers have typically found a decline in childbearing during the period of active conflict, often followed by a rebound when instability wanes. The most significant factor in this fertility decline is women's reduced exposure to pregnancy, largely due to lower marriage rates and to couples' separation during war.

BOX

Demographic Effects of Disasters

Large-scale shocks to a society, such as natural disasters or war, affect all elements of population change: fertility, mortality, and migration.⁴ In both the short- and long-term, exposure to a disaster may change the motivation to have children and may influence marital and union patterns that propel fertility trends. The *contemporaneous effect* refers to short-term changes during and after a disaster, above and beyond replacement of children who died as a result. The *life course effect*, which has been studied much less, proposes that individuals' motivation for having children upon reaching reproductive age may be affected by early life exposure to disasters.

During the years that the Khmer Rouge ruled **Cambodia** in the late 1970s, fertility fell by about one-third, an effect like that of previous famine disasters in Bangladesh and China. This precipitous drop was due to fewer pregnancies among married women and lower marriage rates overall, given that death rates among men were so high. Even though instability continued for several years, fertility rebounded quickly after the fall of the Khmer Rouge, rising well above pre-war levels, as widowed women remarried and childbearing rates rose within marriage.⁵

During a war with Ethiopia in the late 1990s and early 2000s, fertility declined rapidly in **Eritrea**, largely due to the separation of married women from their husbands.⁶

Women living in the most conflict-affected areas of **Rwanda** during the 1994 genocide experienced delays in age at marriage and first birth relative to their peers living in parts of the country where conflict mortality was lower.⁷ The authors suggest that these delays in marriage could have been a result of high mortality among men, loss of family members who often help women navigate the marriage market, and stigma against women who had been subjected to sexual violence.

Conflict's Short-Term Effects on Fertility Vary Based on Education and Wealth

Conflict's effects on fertility across a society are not uniform, with differences emerging across levels of education and wealth. One study found that fertility rose sharply among teenagers during the 2003-2011 **Iraq** War, from 70 births to more than 95 births per 1,000 young women ages 15 to 19. Meanwhile, previous trends toward declining fertility continued for older women. The increase in fertility among young women, mostly due to an increase in marriage rates, was concentrated among those with primary education or less.⁸ The author hypothesizes that higher marriage rates among young women with low education may have been an outcome of rising social conservatism and attempts to provide economic security.

A study of **Angola** in the early 1990s found that as conflict began, fertility declines were more precipitous among relatively more-educated women and those from more-affluent households. These subgroups also experienced higher post-conflict rebounds in fertility than poorer and less-educated women.⁹

A global study applying statistical analysis affirmed that the contemporaneous effects of conflict on fertility vary by wealth and education, with fertility remaining higher during conflict in high-poverty countries and those with low female education levels.¹⁰

A study focused on **Cambodia** found that children who were primary school-age during the Khmer Rouge period lost nearly a year of schooling during the conflict period and, among girls, experienced a 1 percent increase in fertility later in life.¹¹ However, other research on the long-term effects of conflict on survivors' fertility later in life is extremely limited.

New Analysis Shows How Childhood Exposure to Conflict Affects Fertility Outcomes Later in Life

To address this research gap, economist Jocelyn Finlay created a sample of 1,200,206 women across 36 SSA countries, using data from Demographic and Health Surveys (DHS) conducted between 1990 and 2017. The women in this sample were born between 1941 and 2002 and were ages 15 to 49 years at the time of the survey.

Finlay also utilized data on the annual incidence of armed conflict in which at least one party is the government of a state.¹² Of the 36 SSA countries within the DHS sample, 26 experienced an armed conflict event that directly caused 25 or more deaths in a given year during the study period.

Finlay developed an empirical model to predict completed fertility (the average number of children among women at the end of their reproductive years) and incidence of early marriage and early childbearing for women who were exposed to armed conflict before the age of 11 (see Table 1). To isolate the impact of conflict exposure on marriage, initiation of childbearing, and fertility, the model controlled for urban/rural residence, education, and wealth, and included fixed effects for country, cohort, age, and interview year.

The results show that women who were exposed to armed conflict before age 11 were 0.8 percent more likely to be married before age 18 and 1 percent more likely to have their first birth before age 18 compared to women whose countries did not experience conflict while they were young. Women who were exposed to armed conflict when they were young were also 0.8 percent more likely to marry and to give birth before age 15.

The relationship with early exposure to armed conflict is not limited to initiation of childbearing. By ages 40 to 49, women who were exposed to conflict as girls had a total of 0.255 more children than women of the same age who were not exposed to conflict early in life.

Educational Attainment Mitigates Conflict's Effects on Fertility

When examining this relationship by educational attainment, Finlay found a notable difference between women who had no education and those who had secondary education or above.

Among women with no education, childhood exposure to conflict did not affect age of marriage but increased the probability of having the first child before age 18 by 0.6 percent. Further, these women had 0.295 more children over the course of their life than women without education who were not exposed to conflict—a larger effect on total fertility than across the sample of all women.

For women with secondary and tertiary education, childhood exposure to conflict did not affect the probability of early marriage or childbearing. However, women with secondary or tertiary education who were exposed to armed conflict in childhood had 0.124 more children than women with similar education levels and no conflict exposure.

These results show that education ameliorates the impact of early exposure to conflict on childbearing. Girls exposed to conflict who later complete secondary education or more do not marry or have children sooner, despite the instability they experienced during childhood. Regardless of education level, women exposed to conflict as children have higher completed fertility, but the impact is more than twice as high among women with no education (see Figure, page 4).

Increased Fertility Among Conflict-Affected Girls May Slow the Demographic Transition

Although conflict has many short-term effects on fertility, mortality, and migration, the long-term effects of childhood exposure to conflict on demographic outcomes across SSA have been unknown. Finlay calculated three of the aggregate demographic effects of higher fertility among women who were exposed to conflict as girls. In the sample of SSA women included in the analysis, 42 percent of women were exposed to conflict as girls, assuming they lived in the same country when surveyed that they had as children.

Finlay compared these results to a hypothetical scenario in which this conflict-associated effect had not occurred. In this counterfactual, total fertility across SSA would have been 4.68 children per woman, compared to the actual 4.75 observed in the sample (see Table 2, page 4). The annual population growth rate would have been 2.59 percent instead of 2.65 percent, and the total population of the 36 countries in 2019 would have been 1.101 billion instead of 1.106 billion—a difference of over 5 million people.

TABLE 1

Effect of Early Childhood Conflict Exposure on Childbearing Outcomes in SSA

Compared to women not exposed to conflict as young children	Marriage Before Age 15	First Birth Before Age 15	Marriage Before Age 18	First Birth Before Age 18	Total Children Ever Born
	Probability				Number
All Women	0.8%	0.6%	0.8%	1.0%	0.255
Women With No Education	No statistically significant effect	0.6%	No statistically significant effect		0.295
Women With Secondary or Tertiary Education	No statistically significant effect				0.124

Note: All numerical results shown are statistically significant at p<0.01.

Source: Jocelyn E. Finlay analysis of DHS data.

TABLE 2

Demographic Outcomes in SSA With and Without Long-Term Effects of Conflict

2019 Estimates	Actual	Counterfactual
Total Fertility Rate	4.75	4.68
Population Growth (%)	2.65	2.59
Population Size	1,106,573,000	1,101,325,593

Note: Sample included 1,200,206 women of reproductive age from 36 SSA countries. Surveys were conducted between 1990-2017.

Source: Jocelyn E. Finlay analysis of DHS data.

Although these fertility effects are relatively modest, the demographic toll of conflict—years after it ends—serves to offset broader trends toward fertility decline in many SSA countries. With persistently high fertility rates, countries with a history of conflict retain youthful age structures, which makes them more vulnerable to further civil conflict in the future.¹³

Fertility Decisions Can Reflect Efforts to Build Resilience

In addition to delays in marriage and separation from partners, researchers have proposed several social, cultural, economic, and individual pathways by which conflict exposure affects fertility. As may have happened in Iraq, war can change gender norms, expanding support for more conservative roles for women that favor early marriage and childbearing.¹⁴ Increases in marriage rates among young women during conflict in Syria and Tajikistan were linked to cultural concerns about protecting young women’s honor.¹⁵ These shifting norms may more successfully take root among families where education for girls was not a priority or an economic possibility.

Marriage may also become an important route for economic security when income-generating opportunities are limited by instability. A study exploring early marriage during the Rwandan genocide proposed that marriage

became transactional for women whose families, homes, and/or livelihoods had been destroyed.¹⁶

Beyond these short-term effects, the concept of resilience may be helpful when considering how conflict exposure early in life affects outcomes several years later. Resilience is a dynamic concept that refers to the ability of an individual, community, or society to rebound from a crisis. Personal attachments to family and friends, which form an important part of an individual’s social capital, can build resilience—as can education.¹⁷

Resilience can be applied to childbearing outcomes through individuals’ assessment of their prospects as they seek physical, economic, and social security. Girls who grew up in fragile settings may have children as a form of insurance to protect against the need for support in a future crisis.¹⁸ Research from more-developed countries has shown that young women living in high-poverty settings with little income mobility may choose to have children as a way to find satisfaction and attachment immediately, given that they see few possibilities for economic success.¹⁹

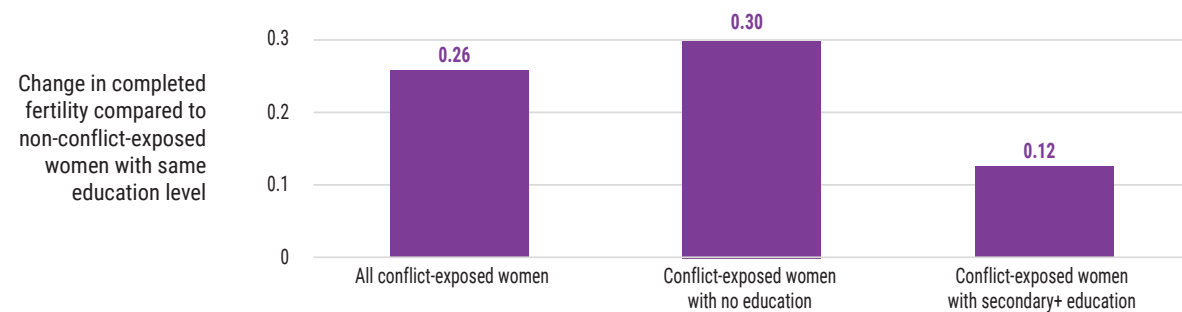
Given these pathways, family creation may serve as a way to gain autonomy in unsettled conditions. However, education can mitigate these effects, offering individuals affected by conflict a mechanism to build their resiliency and overcome some of the economic and social shocks of childhood in a conflict zone. The findings presented here suggest that women with no education may use childbearing to build resilience as they recover from exposure to conflict during childhood, but their peers who reach secondary school and beyond may develop resilience through education.

Efforts to Build Opportunities for Girls Affected by Conflict Must Extend Into Adulthood

The negative consequences of conflict reverberate across societies for several years, even decades. These new findings on demography and fertility, an underexposed

FIGURE

Women Exposed to Conflict as Girls Have More Children, Especially If They Received No Education



Source: Jocelyn E. Finlay analysis of DHS data.

element of the long-term effects of conflict, provide guidance for policymakers and program implementers across a range of fields, including family planning, maternal health, education, gender, youth, and post-conflict resilience-building.

Ensure that family planning services are available, accessible, and promoted. Shifts towards delayed childbearing and lower fertility have been gradual in many SSA countries and are further decelerated in countries with a history of conflict, even a generation later. Given higher fertility among girls previously exposed to conflict, it is important to support the availability and accessibility of family planning services and social understanding of their benefits for many years after conflict ends.

Build economic and community support for young female survivors of conflict to strengthen their individual resilience and reduce the appeal of early motherhood. Many post-conflict initiatives focus on reconciliation among combatants and recovery for survivors affected by violence and other forms of loss. The longer-term, less obvious effects among young people, especially girls, who grow up in conditions of deprivation and instability may be less prioritized but are also critical. If prospects for economic advancement are minimal, childbearing may be seen as a way to build attachment and social cohesion or as insurance against future shocks. However, attainment of secondary education and readiness for employment strengthen individual women’s resilience, offering alternative paths to early childbearing.

Address resurging support for early marriage and childbearing as pillars of women’s security and societal value. Conflict has been found to promote more conservative gender norms for women in the short term, and these effects may extend for years, especially for women from low-income and low-education backgrounds. Post-conflict programming should work with families and communities to counter the potential influence of these shifting norms and address the health and economic consequences of early marriage and childbearing.

Acknowledgments

This brief was written by Elizabeth Leahy Madsen, senior program director at PRB, drawing upon the research findings of and with extensive technical review from Jocelyn E. Finlay, senior research scientist in the Department of Global Health and Population at the Harvard T.H. Chan School of Public Health. We acknowledge review from Clive Mutunga and Shelley Snyder at the U.S. Agency for International Development (USAID) and Richard Cincotta for helpful suggestions. At PRB, we thank Leslie Aun, Barbara Seligman, Heidi Worley, and Prographics for their contributions. This publication is made possible by the generous support of USAID under cooperative agreement AID-AA-A-16-00002. The information provided in this document is the responsibility of PRB, is not official U.S. government information, and does not necessarily reflect the views or positions of USAID or the U.S. Government.

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