

The role of polygyny in sub-Saharan Africa's fertility decline

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Across 23 sub-Saharan African countries, fertility decline in the past few decades is in good part attributable to the shrinking share of women in polygynous unions. As Sophia Chae and Victor Agadjanian show, these women have experienced only modest fertility decline and stable fertility preferences, whereas both have been declining among women in monogamous unions.

Researchers have long examined the relationship between polygyny and fertility in sub-Saharan Africa (SSA). Much of this early work, conducted in societies characterized by high fertility and widespread polygyny, found that women in polygynous unions tended to have fewer births than those in monogamous unions (Garenne and Van de Walle 1989; Goldman and Pebley 1989). This research also showed that senior wives typically had more children than their junior counterparts (Gibson and Mace 2007), indicating that rank within polygynous unions also shaped reproductive outcomes. Lower coital frequency, older husbands, higher rates of infertility, and greater marital instability were commonly cited explanations. Yet this body of research was largely descriptive, focused on single countries or specific ethnic or regional contexts, and was undertaken during a period of both high fertility and prevalent polygyny.

Change in nuptiality and fertility in SSA

Over the past several decades, sub-Saharan Africa has undergone profound social, demographic, and economic change. Women are marrying later, partner choice has become more individualized, informal unions have become more common, and fertility has begun to decline across most countries. At the same time, the prevalence of polygyny has fallen substantially, though it remains an important marital institution in many settings (Chae and Agadjanian 2022). These transformations invite a reassessment of the relationship between

polygyny and fertility.

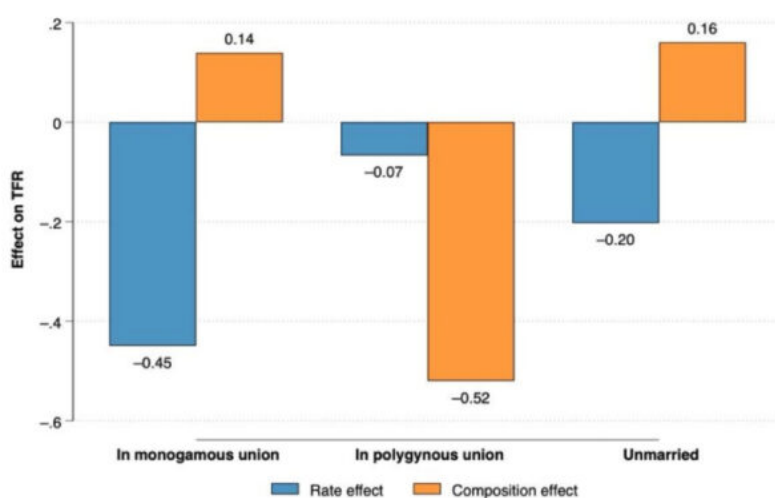
In a recent publication, we analyzed data from multiple rounds of the Demographic and Health Surveys (DHS) in 23 countries, spanning more than two decades, to examine the polygyny-fertility relationship (Chae and Agadjanian 2025). Specifically, we assessed how much of the region's fertility decline can be attributed to the shrinking share of women in polygynous unions and how fertility reductions differ by polygyny status and by wife's rank within polygynous unions.

Declining polygyny as a driver of fertility reduction

In the earliest DHS surveys in our sample (1995-2005), 23% of reproductive-age women (15-49 years) were in polygynous unions, compared with 47% in monogamous unions. In the most recent surveys (2012-2023), the former figure had declined to 16% and the latter had increased to 49%. Over the same period, recent fertility (TFR, average of the preceding three years) fell from 5.9 to 4.9 births per woman. Fertility, however, did not decline uniformly across marital categories. Women in monogamous unions experienced the largest absolute reduction, from 7.1 to 6.1 births. Unmarried women also saw declines, from 2.8 to 2.1 births. By contrast, fertility among women in polygynous unions changed only modestly, falling from 6.8 to 6.5 births.

To quantify the contributions of different factors to the overall decline in TFR, we decomposed the change into two components: shifts in marital composition and changes in fertility rates within marital categories. The results were striking. The single largest contributor to the TFR decline was the reduction in the proportion of women in polygynous unions, a composition effect accounting for more than half a birth (Figure 1). The next-largest contributor was the decline in fertility rates among women in monogamous unions, which accounted for slightly less than half a birth. Fertility within polygynous unions changed very little over time and therefore had only a modest impact on the region's overall fertility decline.

Figure 1. Decomposition of TFR decline by marital category from earliest (1995–2005) to latest (2012–2023) DHS surveys, in selected SSA countries



Source: Chae and Agadjanian (2025) and Demographic and Health Surveys

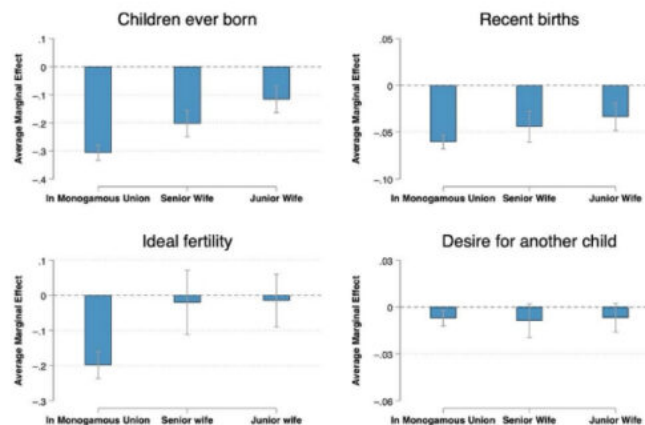
Different fertility trajectories for women in monogamous and polygynous

unions

To understand how fertility levels and fertility decline vary across union types, we estimated multivariable regression models that accounted for sociodemographic, marital, and spousal characteristics associated with both polygyny and fertility. In the earliest surveys, senior wives in polygynous unions had roughly the same number of children ever born as women in monogamous unions, while junior wives had fewer. For recent fertility (the number of births in the past three years) all women in polygynous unions had fewer births than their monogamously married counterparts.

Over time, fertility trajectories diverged sharply. Realized fertility, both lifetime fertility and recent births, declined among all women, but the largest reductions occurred among those in monogamous unions (Figure 2). Fertility among women in polygynous unions also declined, but at a much slower pace. As a result, the main driver of change in the polygyny-fertility relationship was the substantial reduction in fertility among monogamously married women. Within polygynous unions, the pace of decline varied somewhat. For children ever born, senior wives experienced a greater reduction than junior wives, while changes in recent fertility were modest and similar for both ranks.

Figure 2. Average marginal effects of DHS survey wave (between 1995–2005 and 2012–2023) on fertility outcomes by marital or polygyny status (senior or junior wife)



Note: 95% confidence intervals are shown. Negative values indicate that fertility declined between the earliest and latest surveys. Different scales are used across outcomes because of variation in the units of measurement.

Source: Chae and Agadjanian (2025) and Demographic and Health Surveys

Stable fertility preferences among women in polygynous unions

An examination of fertility preferences offers further insight into how polygyny shapes reproductive outcomes. In the earliest surveys, ideal fertility was high and similar for all married women, regardless of polygyny status. Similar proportions of senior wives and women in monogamous unions reported desiring another child, while a greater share of junior wives expressed this preference. Over time, however, only women in monogamous unions showed declines in both ideal fertility and desired fertility (Figure 2). Among women in polygynous unions, fertility preferences remained remarkably stable, with no significant differences by rank. This pattern suggests that the modest declines in realized fertility among polygynously married women likely reflect constraints, such as higher rates of infertility or longer periods of marital instability, rather than shifting preferences toward smaller families.

Implications for future fertility decline

These findings underscore the importance of considering marriage systems when assessing fertility change in sub-Saharan Africa. The decline in polygyny appears to have played a meaningful role in accelerating fertility reductions across the region. Countries where polygyny is becoming less common are likely to experience faster declines in fertility, whereas those where it remains widespread may experience a slower transition.

In broader discussions of population change in sub-Saharan Africa, attention often centers on education, economic development, and family planning programs. While these remain central drivers of fertility decline, our study shows that marriage patterns, particularly the decreasing prevalence of polygyny, impacts reproductive outcomes as well. Understanding the future of fertility in the region therefore also requires attention to the social institutions that structure women's reproductive lives.

Acknowledgements

This research received support from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (R03HD111618) and from UCLA's California Center for Population Research (NIH P2C-HD041022). Figures are reproduced with permission from Duke University Press.

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