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Unveiling youth fertility aspirations: The role of gender attitudes in sub-Saharan Africa

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Abstract

High fertility preferences and strong socio-cultural norms around gender and family slow fertility transitions in sub-Saharan Africa (SSA). We examine how gender attitudes shape fertility preferences among youth aged 15–24 using Demographic and Health Survey data from 10 high-fertility SSA countries (total fertility rate ≥5 in 2015–20). We conduct pooled and country-specific negative binomial regressions separately for men and women, relating attitudes towards wife beating and gender preferences for children to the ideal number of children. Tolerance of wife beating is associated with 7% higher desired fertility for both men and women (IRR=1.07, p<0.001), with substantial cross-country variation in magnitude and direction, particularly among women. Gender preferences (son, daughter, or none versus balanced) show clear differences between men and women; these associations are generally positive for men and mixed for women, although modest in magnitude. This study finds marked variation across and within countries, highlighting context- and gender-specific patterns in how gender attitudes relate to young people's fertility preferences in high-fertility SSA. *(Afr J Reprod Health 2026; 30 [2]: 13-39).*

Keywords: Gender Attitudes, Attitudes Towards Wife Beating, Gender Preferences for Children, Fertility Preferences, Ideal Number of Children, Demographic and Health Surveys (DHS)

Résumé

Cette étude analyse l'association entre des attitudes de genre et les préférences de fécondité des jeunes de 15–24 ans en Afrique subsaharienne (ASS). À partir des EDS de 10 pays à forte fécondité, nous estimons, pour les hommes et les femmes, des régressions binomiales négatives, groupées et par pays, reliant la justification des violences conjugales et les préférences de sexe des enfants au nombre idéal d'enfants (NIE). La justification des violences conjugales est associée à un NIE supérieur de 7% chez les hommes et les femmes (IRR=1.07; p<0.001), avec une forte hétérogénéité entre pays, particulièrement chez les femmes. Les préférences de sexe (garçons, filles ou aucune; réf. équilibrée) montrent des contrastes, généralement positifs chez les hommes et mixtes chez les femmes, mais leurs effets sur le NIE restent modestes. L'étude met en évidence de fortes variations entre et au sein des pays et montre que la relation entre les attitudes de genre et les préférences de fécondité des jeunes est à la fois contextuelle et spécifique au genre dans les pays d'ASS à forte fécondité. *(Afr J Reprod Health 2026; 30 [2]: 13-39).*

Mots-clés: Attitudes liées au genre, attitudes envers les violences conjugales, préférences de sexe des enfants, préférences de la taille de la famille, nombre idéal d'enfants, Enquêtes Démographiques et de Santé (EDS)

Introduction

Sub-Saharan Africa (SSA) remains a striking outlier in the global fertility transition. While much of Asia and Latin America began their fertility transitions in the mid-20th century, SSA's decline only started in the late 1980s and has progressed more slowly.[1–5] As of 2017, countries like the Democratic Republic of Congo (DRC) and Niger had yet to register substantial fertility declines, while others such as Chad, Mali and Somalia were in early transition stages.[6]

A growing body of evidence has linked this lag not only to limited family planning uptake but also to high fertility preferences,[1,7,8] which are rooted in socio-cultural norms that valorise large families. Yet how these norms and attitudes shape fertility desires among young adults, the architects of future demographic trends, remains insufficiently understood. Previous studies have typically focused on married women and often excluded men, thereby overlooking the gendered dynamics through which empowerment and reproductive aspirations are co-constructed, creating a blind spot in SSA fertility

research. By foregrounding youth aged 15–24 and systematically including men, this study addresses this gap. It investigates how attitudes towards wife beating and gender preferences for children are associated with desired fertility among young men and women in and across high-fertility SSA countries, focusing on cross-country variation and gender differences.

Understanding the association between gender attitudes and fertility ideals requires situating fertility preferences within broader theories of women's empowerment and gendered social structures. Empowerment, conceptualised as the capacity to exercise agency and make strategic life choices,[9] directly shapes reproductive decision-making but operates within normative systems that constrain or enable its expression.[10,11] Both gender systems (beliefs and norms about male and female roles) and family systems (kinship structures and obligations) shape empowerment and consequently, reproductive preferences.[12] Within patriarchal systems that prioritise family and patrilineality, practices such as bridewealth, commonly observed in SSA,[13] institutionalise male authority and women's subordinate status, limiting their reproductive autonomy.[14,15] Within this context, fertility functions as a form of gender performance: men often report stronger preferences for large families as markers of social status,[16–19] while women, too, align with pronatalist norms in which motherhood is central to female identity, using childbearing to secure social standing and economic security.[20–23] Taken together, these perspectives highlight that fertility preferences in SSA cannot be disentangled from the social organisation of gender and the power hierarchies that structure reproductive choices.

Despite the theoretical recognition that women's empowerment generally lowers fertility preferences, empirical findings in SSA remain mixed:[24] some analyses support this negative association,[25–30] while others report null or even positive relationships,[27,28,30] suggesting that the impact of women's empowerment on fertility preferences in SSA is highly country- and context-specific. Since gender norms shape both women's autonomy and reproductive decision-making, attitudes towards wife beating and son preference, often used as indicators of women's status,[24,28,31–34] offer an important lens for understanding these dynamics. Yet few studies have focused specifically on youth, including both young women and young men.

Tolerance of wife beating, often interpreted as a reflection of norms that perpetuate unequal gender roles and women's subordinate status relative to men,[35] is linked in SSA to higher desired fertility. Both men and women who justify wife beating tend to desire larger families,[27,28,30,34,36,37] although evidence varies by country.[27] Women more often seem to justify wife beating than men,[38–40] suggesting an internalisation of norms that uphold male authority and female subordination.

Similarly, while son preference is strongly linked to higher desired fertility, particularly in Asia and North Africa, the relationship appears weaker in SSA,[41,42] where studies are limited and findings less consistent. A previous study found lower ideal family sizes among women without son preference in 22 of 33 SSA countries, and the reverse in 11.[28] Although son preference is generally less prevalent in SSA,[42,43] sons play pivotal roles in SSA's patrilineal inheritance systems and in the continuation of the family name.[19,44,45] In some Nigerian communities, for instance, women's social recognition within their husbands' families depends on producing sons,[19] reinforcing male-biased norms that sustain high fertility.[19,46,47] In most SSA countries, both men and women tend to prefer sons over daughters,[42,43,48–51] although women more often prefer a balanced gender composition,[43,51] while men show a stronger and more consistent son preference.[19,50]

Existing research has primarily focused on son preference, leaving gaps in our understanding of how other gender preferences, such as a preference for daughters, a balanced composition or no gender preference, shape fertility desires. Moreover, men's perspectives have been largely overlooked in fertility preference research. Few studies systematically compare how socio-cultural attitudes linked to women's status influence fertility preferences across SSA, particularly among young adults who will drive the region's future fertility trends.[52] Addressing these gaps is crucial to gaining a fuller understanding of fertility dynamics in SSA's rapidly growing youth population.

This study integrates multiple dimensions of gender attitudes, including tolerance of wife beating and a spectrum of child gender preferences, to

provide novel insights into the socio-cultural drivers of fertility desires among young adults aged 15–24 in high-fertility SSA settings. Highlighting both men's and women's perspectives across diverse national contexts, it contributes to a more nuanced understanding of fertility trends in a region poised for rapid demographic change.

Methods

Data and study population

Data were derived from the Demographic and Health Surveys (DHS), which are nationally representative surveys conducted in over 90 countries. The focus was on SSA countries with a total fertility rate (TFR) of 5 or more children per woman in 2015–2020,[53] for which DHS data collected between 2010 and 2020 were accessible. Ten countries met these criteria: Angola, Burkina Faso, Burundi, Chad, DRC, Mali, Niger, Nigeria, The Gambia, and Uganda. Somalia, despite having a high TFR, was excluded due to the absence of DHS data. This selection allowed to include a broader range of high-fertility countries beyond those identified as lagging in the fertility transition.[6]

The analysis focused on young men and women aged 15 to 24 years, regardless of their marital status. This age group received limited attention in previous research, particularly never married men and women.[24] Understanding fertility preferences of young people is crucial as it plays a significant role in determining and predicting future fertility trends.[52] Furthermore, fertility preferences in these age groups are less likely to be biased by post facto rationalisation, the tendency of individuals to adjust their desired family size based on their current fertility outcomes.[54] This post facto rationalisation is logically more common among older adults.[55]

The analysis draws on country-level samples as well as pooled samples for men and women. We first pooled all countries to estimate overall associations including country dummies to account for country-specific differences. In these pooled analyses, coefficients represent average associations conditional on country-specific effects. To examine heterogeneity, we fitted the same models for each country separately. Separate pooled samples were created, one for men and one for women. Niger was excluded from the pooled samples due to missing data on religion (a variable included in the main model) but retained in the country-specific analyses. The weighted (unweighted) pooled samples comprised 64,242 (65,986) women and 20,468 (21,984) men. Most surveys were conducted in the late 2010s, except for Burkina Faso (2010) and Niger (2012). TFRs ranged from 5.01 in Uganda to 6.95 in Niger (see Table A.1 in the Appendix).

The sample was restricted to respondents who reported a desire to have children, since only this subgroup was queried regarding gender preferences for children. Respondents with no stated child desire comprised a negligible share of the sample (0.1% to 3.7% across countries and genders; Table A.2 in the Appendix). Sensitivity analysis confirmed that the mean desired number of children remained consistent regardless of their inclusion (Table A.3 in the Appendix).

Variables and measurement

Dependent variable

The dependent variable, *ideal number of children*, is a well-established indicator of fertility preferences.[25,-,37] In the DHS, respondents without children were asked: *"If you could choose exactly the number of children to have in your whole life, how many would that be?"*; those with children were asked a retrospective variant of the same question. Non-numeric responses (e.g. "up to God") were excluded from the analyses. Robustness checks confirmed that their exclusion did not affect conclusions substantively. Percentages of non-numeric responses are provided in Table 1. Seventeen respondents had missing data for this variable: three women from Burkina Faso, two women from Niger, four women and five men from Chad, and two women and one man from the DRC.

Independent variables

Women's empowerment and their position in society are complex, multidimensional concepts encompassing economic, social, cultural, familial, political, and reproductive dimensions and cannot be directly observed.[35,56] Their measurement has been widely discussed in literature.[24] Common indicators in DHS-based research include tolerance of wife beating and son preference,[24,28,31–33] which are used

to capture attitudes towards gender roles and women's status. In this sense, they measure normative empowerment, that is, the extent to which individuals accept or reject gender inequality, rather than realised empowerment itself. Yet attitudinal measures reflect how empowerment (or its absence) is culturally constructed and psychologically internalised, which is a key mechanism linking gender norms to fertility preferences.[9,24]

The DHS provides three key subjective indicators on gender attitudes which can serve as subjective proxies for assessing women's position in society:[28,35] *attitudes towards wife beating, women's decision-making power within the household,* and *gender preferences for children*. In this study we use these attitudinal items on tolerance of wife beating and on gender preference for children to assess how such normative acceptance relates to fertility preferences among youth. Due to the unavailability of household decision-making data for unmarried respondents, this variable was excluded from the analysis.

Attitudes towards wife beating were measured using five questions on whether a husband is justified in beating his wife under specific circumstances: going out without informing him, neglecting the children, arguing with him, refusing sex, or burning food. Following established practice,[34,36,57] a binary variable was coded 1 if the respondent justified wife beating in any instance, and 0 otherwise, capturing general tolerance of norms sustaining female subordination and male dominance.[35] Respondents with partial responses were retained, while those with missing data for all five items were excluded, specifically four women and one man from Burkina Faso, and five women and one man from Chad.

Gender preference for children was derived from respondents who expressed a desire for children, who were asked "*How many of these* [ideal number of children] *would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl*?". Four preference categories were created:[43] son preference (wanting more boys than girls), daughter preference (more girls than boys), balanced preference (equal number of boys and girls), and no preference (children of either sex or selecting 'other' (i.e., "up to god") for all gender-specific questions).

Control variables

The analyses were adjusted for a range of individual-level socio-economic and demographic variables identified in literature as potentially affecting the relationship between women's position and ideal number of children.[25,29,33,34,36,46,58] Controls included place of residence (urban; rural), age group (15–19; 20–24), years of completed education, DHS household wealth index (poorest; poorer; middle; richer; richest),[59] total number of children ever born and marital status (never in union; currently in union; formerly in union). Religious affiliation was captured through dummy variables for major categories specific to each country (Muslim; Christian; Animist; other religion; no religion). Religion data were unavailable only for Niger. Yet, according to the 2012 Niger census, Islam is practised by about 99% of the population, so residual within-country variation by religion is minimal in this country.[60]

Statistical analyses

We modelled the ideal number of children as a count outcome using negative binomial regression (NBR) to account for overdispersion in the dependent variable. Although Poisson models yielded very similar IRRs, we retained NBR for all analyses because it does not assume equal mean and variance. Dispersion was small among women but sizeable among men in several countries, and NBR accommodates this while collapsing to Poisson when dispersion is negligible.

Analyses were conducted separately for men and women. Model 1 (M1) included one gender attitude indicator at a time (attitudes toward wife beating; gender preference for children), Model 2 (M2) included both indicators simultaneously, and Model 3 (M3) further adjusted for place of residence, educational level, religion, age, household wealth, total number of children ever born, and marital status. Models were first estimated on pooled data with country-fixed effects to obtain an overall association while controlling for unobserved country-level heterogeneity. The same specifications were then estimated separately by country to assess cross-country heterogeneity in the associations. As noted above, Niger was retained in the country-specific analyses but excluded from the

pooled models due to missing religion data. To assess potential bias from this exclusion, we conducted sensitivity analyses re-estimating the pooled models without adjusting for religion, first excluding and then including Niger. Estimates for the focal predictors were highly similar (results not shown).

Given the cross-sectional DHS data, our analyses estimate associations rather than causal effects; results should be interpreted as relationships between gender attitudes and fertility ideals, not causation. Alongside IRRs and two-sided p-values ($\alpha = 0.05$), we report McFadden's pseudo-R^2, a descriptive indicator of relative model fit across countries and genders with higher values indicating better fit. All analyses accounted for the survey design using appropriate DHS sampling weights and were conducted in R.

Results

Descriptive analyses

Table 1 presents the descriptive statistics on the ideal number of children and the proxies for women's position for men and women aged 15 to 24. Across the pooled sample, women reported a lower mean ideal number of children (5.41) than men (6.24). Burundi had the lowest values (3.78 for women, 3.53 for men), while the highest were in Niger for women (8.37) and Chad for men (9.64). In all countries except Burundi, men reported higher averages. Non-numeric responses ranged from 0% (Angola) to 20.2% (Chad) among women, and from 1.6% (Burkina Faso) to 14.5% (Chad) among men. Across the West African countries and in Chad, the mean ideal number of children among youth frequently exceeds period TFRs (see Table 1; Table A.1), signalling strong pronatalist norms among these cohorts. For example, in Nigeria, young women report 5.80 versus 5.42; in Chad, 7.48 versus 5.80; and in Niger, 8.37 versus 6.95. Men show a similar pattern (e.g. Chad 9.64 versus 5.80); however, comparisons with TFR for men are indicative only, since TFR is defined per woman. By contrast, in the remaining countries, youth ideals tend to fall below period TFRs (e.g. Burundi women 3.78 versus 5.45; Angola women 4.26 versus 5.55).

Attitudes towards wife beating, a proxy for gender norms and women's status, showed higher justification among young women than men in all countries (44.8% vs. 39.8% in the pooled samples). In seven out of the ten countries, over half of young women expressed tolerance of wife beating, with the highest levels in Mali (76.6%), DRC (76.5%) and Chad (72.2%). Although men were generally less tolerant, in those same countries over half still expressed acceptance. Nigeria and Angola stood out as exceptions, with markedly lower levels of tolerance among both men (25.9% and 23.5%) and women (29.3% and 25%).

Preferences around the gender composition of children further illustrated gendered social expectations. Nearly half of young women preferred a balanced mix of sons and daughters, while smaller proportions expressed a clear preference for sons (20.8%) or daughters (16.3%) or had no preference at all (16.1%). These preferences were shaped by regional dynamics: son preference dominated in West Africa and Chad, while daughter preference, although less common overall, was more prominent in some Middle and Eastern African contexts. Men displayed a different pattern, with a dominant preference for sons (43.5%), followed by balanced preference (34.7%), no preference (13%), and daughter preference (8.7%). Country-specific trends nuanced this pattern: in Angola and the two Eastern African countries, son preference fell below 40%, and daughters were more often preferred than no specific gender. In DRC, daughter preference (12.6%) also surpassed no preference.

Descriptive statistics for socio-demographic control variables (Tables A.4. to A.10 in the Appendix) revealed that urban residence was usually evenly distributed across genders, hovering around 40% in the pooled sample. However, national variation was substantial: over 70% lived in urban areas in The Gambia and Angola, while rural life remained dominant in places like Mali, Burundi and Uganda. Religious affiliation also shaped the social landscape, with approximately 38% identifying as Muslim and 60% as Christian. The Gambia had the highest Muslim representations (around 97%), while DRC, Angola and the Eastern African countries were predominantly Christian (ranging from 85 to 98%). The sample skewed slightly towards younger respondents (ages 15–19). Educational attainment revealed a consistent gender gap, with men averaging nearly one more year of schooling than women (7.51 vs. 6.62), a pattern seen across all countries. Wealth was relatively evenly distributed

Table 1: Summary statistics of ideal number of children and selected explanatory variables

		Ideal number of children[b]		Tolerance of wife beating	Gender preferences for children			
					Balanced preference	Son preference	Daughter preference	No gender preference
		mean	% NNR	N (%)	N (%)	N (%)	N (%)	N (%)
Pooled samples[a]	W	5.41	3.6	28778 (44.8)	30016 (46.7)	13380 (20.8)	10493 (16.3)	10353 (16.1)
	M	6.24	4.9	8138 (39.8)	7110 (34.7)	8914 (43.5)	1784 (8.7)	2661 (13.0)
WESTERN AFRICA								
Burkina Faso	W	4.86	2.6	2693 (40.8)	2720 (41.2)	2051 (31.1)	815 (12.4)	1009 (15.3)
	M	5.41	1.6	910 (37.1)	720 (29.3)	1324 (54.0)	114 (4.6)	296 (12.1)
The Gambia	W	5.43	9.2	2548 (53.1)	1753 (36.5)	1815 (37.8)	505 (10.5)	726 (15.1)
	M	7.05	7.9	857 (45.2)	441 (23.2)	1080 (56.9)	94 (5.0)	282 (14.9)
Mali	W	5.59	8.9	3022 (76.6)	1662 (42.1)	1109 (28.1)	586 (14.9)	589 (14.9)
	M	7.44	10.5	724 (51.7)	363 (25.9)	773 (55.2)	87 (6.2)	177 (12.6)
Nigeria	W	5.80	2.6	4385 (29.3)	6995 (46.8)	3250 (21.7)	2096 (14.0)	2619 (17.5)
	M	6.91	6.2	981 (25.9)	1177 (31.1)	1758 (46.5)	206 (5.4)	640 (16.9)
Niger	W	8.37	5.7	2194 (57.5)	1209 (31.7)	974 (25.5)	442 (11.6)	1189 (31.2)
	M	8.71	5.5	401 (36.7)	220 (20.1)	627 (57.4)	50 (4.6)	196 (17.9)
MIDDLE AFRICA								
Chad	W	7.48	20.2	5026 (72.2)	2352 (33.8)	1628 (23.4)	900 (12.9)	2080 (29.9)
	M	9.64	14.5	1033 (52.8)	486 (24.9)	956 (48.9)	119 (6.1)	394 (20.1)
DRC	W	5.57	5.0	5837 (76.5)	2658 (34.8)	1642 (21.5)	1898 (24.9)	1436 (18.8)
	M	6.00	3.2	2112 (67.8)	871 (28.0)	1465 (47.1)	393 (12.6)	383 (12.3)
Angola	W	4.26	0.0	1563 (25.0)	4236 (67.7)	856 (13.7)	951 (15.2)	211 (3.4)
	M	4.93	2.7	578 (23.5)	1468 (59.7)	649 (26.4)	262 (10.6)	79 (3.2)
EASTERN AFRICA								
Burundi	W	3.78	2.3	4397 (62.7)	2337 (33.3)	2149 (30.7)	1436 (20.5)	1087 (15.5)
	M	3.53	2.7	1212 (43.7)	912 (32.9)	1072 (38.7)	454 (16.4)	334 (12.0)
Uganda	W	4.20	1.3	4282 (53.5)	4926 (61.5)	801 (10.0)	1292 (16.1)	991 (12.4)
	M	4.75	1.3	1083 (48.6)	1096 (49.3)	671 (30.2)	327 (14.7)	131 (5.9)

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24. All data are weighted using the appropriate survey weights. W = women; M = men; NNR = non-numeric response.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.
[b]The mean ideal number of children and percentage non-numeric response were calculated by excluding respondents who did not express a desire for children.t available in the dataset

but skewed towards the highest quintile, particularly among men in Niger. Reproductive experience also differed by gender: women reported far more children ever born than men (0.74 vs. 0.14), with the widest gap in Niger (1.23 vs. 0.13) and the narrowest in Burundi (0.45 vs. 0.11), reflecting earlier unions among women. The proportion of women currently in union was four times that of men (41.8% vs. 9.8%, respectively), with the largest gender disparity in Niger (76.5% vs. 12.4%) and the smallest in Burundi (24.7% vs. 8.4%).

Bivariate associations

Table 2 presents the results of bivariate negative binomial regressions (M1), illustrating the association between each measure of gender attitudes (attitudes towards wife beating and gender preference) and young people's reproductive ideals. Young people who condoned wife beating expressed a significantly higher desire for children than those who rejected such violence. This pattern held true across the full sample, with notable incidence rate

Table 2: Results of bivariate negative binomial regressions (M1): associations of wife beating attitudes and gender preferences with ideal number of children, pooled and by country

		Tolerance of wife beating		**Gender preferences for children** (ref. balanced preference) **Son preference**	**Daughter preference**	**No gender preference**		
		IRR	Pseudo R^2	IRR	IRR	IRR	Pseudo R^2	N
Pooled samples[a]	W	1.14***	0.005	1.02*	0.97***	1.15***	0.003	62516
	M	1.10***	0.001	1.18***	1.06**	1.33***	0.005	20814
WESTERN AFRICA								
Burkina Faso	W	1.07***	0.001	1.06***	0.98	0.99	0.001	6391
	M	1.17***	0.005	1.03	1.02	0.96	0.000	2467
The Gambia	W	1.10***	0.003	1.03*	0.97	1.08*	0.001	4296
	M	1.12**	0.002	1.06	1.15	1.49***	0.007	1624
Mali	W	1.00	0.000	1.03	1.00	1.05	0.000	3669
	M	1.00	0.000	1.08*	0.95	0.87	0.002	1197
Nigeria	W	1.28***	0.015	0.97*	0.93***	1.18***	0.006	14641
	M	1.21***	0.004	1.18***	1.02	1.42***	0.007	3673
Niger	W	1.08***	0.002	0.95*	0.84***	1.01	0.004	3600
	M	1.16***	0.004	0.93	0.96	0.94	0.001	1063
MIDDLE AFRICA								
Chad	W	0.98	0.000	1.06*	0.93***	1.02	0.002	5404
	M	1.00	0.000	1.23***	1.32**	1.20	0.004	1633
DRC	W	1.09***	0.001	0.98	0.94***	1.02	0.001	7128
	M	1.09*	0.001	0.99	1.01	0.99	0.000	2910
Angola	W	1.14***	0.003	1.01	1.07*	1.23***	0.002	6132
	M	1.17***	0.003	1.07*	1.24***	1.88	0.006	2358
EASTERN AFRICA								
Burundi	W	0.98	0.000	0.87***	0.93***	0.86***	0.004	6972
	M	1.05**	0.001	0.94***	1.00	0.87***	0.002	2778
Uganda	W	1.03**	0.000	1.00	1.03*	0.96**	0.000	7883
	M	1.03	0.000	1.05*	1.17***	1.16*	0.004	2174

*Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24. All data are weighted using the appropriate survey weights. W = women; M = men, IRR = incidence rate ratio. Significant at * p<0.05, ** p<0.01, *** p<0.001.*
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

ratios (IRRs) for both women (IRR = 1.14, $p < 0.001$) and men (IRR = 1.10, $p < 0.001$). These findings suggest that more traditional or patriarchal views, reflected in the tolerance of wife beating, are linked to more pronatalist orientations. However, the association was not universal. In Chad and Mali, as well as among Burundian women and Ugandan men, no significant link was observed.

Gender preference for children offered another window into social values and their demographic implications. Compared to a balanced preference, a preference for sons was associated with a higher ideal number of children among both young men (IRR = 1.18, $p < 0.001$) and women (IRR = 1.02, $p < 0.05$). Yet, the consistency of this pattern broke down at the country level. For women, son preference was linked to a higher desired number of children in just three out of ten countries, showed a negative association in three others, and bore no statistical relationship in the remaining four. For men, the picture was slightly clearer, with four countries showing positive associations, one negative, and five with no significant effect. This complexity is further illustrated by the example of Nigeria. There, women who preferred sons reported a lower ideal number of children (IRR = 0.97, $p < 0.05$), while men with the same preference reported a much higher ideal (IRR = 1.18, $p < 0.001$). Such divergent trends within the same national context highlight the importance of examining gendered experiences separately. Interestingly, in DRC, son preference had no significant bearing on fertility ideals for either men or women. The association between daughter preference and the ideal number

of children also revealed contrasting gender patterns. Among men, a preference for daughters was linked to a significantly higher desired number of children (IRR = 1.06, $p < 0.01$). In contrast, women who preferred daughters tended to want fewer children (IRR = 0.97, $p < 0.001$). This gendered divergence also varied by region. Among women, the negative association between daughter preference and fertility ideals appeared in half of the countries, especially outside Western Africa. In Burkina Faso, The Gambia and Mali, the trend did not hold, while in Angola and Uganda, daughter-preferring women desired more children (IRR = 1.07, $p < 0.05$ and IRR = 1.03, $p < 0.05$, respectively). Among men, daughter preference was a significant predictor of fertility ideals in only three countries: Chad (IRR = 1.32, $p < 0.01$), Angola (IRR = 1.24, $p < 0.001$), and Uganda (IRR = 1.17, $p < 0.001$), with uniformly positive associations.

Interestingly, even those without a specific gender preference were not neutral in their fertility expectations. On average, individuals who claimed to have no gender preference expressed a desire for more children, both among men (IRR = 1.33, $p < 0.001$) and women (IRR = 1.15, $p < 0.001$). This pattern could reflect a stronger religiosity or fatalism among respondents who do not prioritise child gender. Still, this trend was not universal. In five countries, the association between having no gender preferences and fertility ideals was statistically insignificant. More notably, in Burundi and among Ugandan women, the effect was negative (e.g., IRR = 0.86, $p < 0.001$ for Burundian women), suggesting that in some places, lack of gender preference may be more aligned with lower fertility aspirations.

When considering fit relative to the intercept-only model, a gendered divide emerged. For women, attitudes towards wife beating improved fit more (pseudo-R^2 = 0.005) than gender preferences (pseudo-R^2 = 0.003). For men, by contrast, gender preferences improved fit more (pseudo-R^2 = 0.005), whereas attitudes towards wife beating contributed minimally (pseudo-R^2 = 0.001). These averages mask cross-country heterogeneity. In Burkina Faso, for example, both variables contributed similarly to model fit for women's fertility ideals, whereas among men only attitudes towards wife beating were significantly associated with their desired number of children.

Multivariate associations

Pooled samples analyses

The multivariate analysis, shown in Table 3, explores the factors shaping young people's fertility ideals in greater depth. Model 2 (M2) incorporates both wife beating attitudes and gender preferences for children, capturing the two key dimensions of gender attitudes. Model 3 (M3) builds on this by adding socio-economic and demographic controls, enabling a more rigorous assessment of the relative contributions of both dimensions.

When considered together in M2, tolerance of wife beating and gender preferences for children retained associations with the ideal number of children that were broadly consistent with those observed in the earlier bivariate regressions (Table 2), with the exception that the effect of son preference became statistically insignificant for women (IRR = 1.01, $p > 0.05$ in M2). Introducing control variables in M3, including place of residence, education, religion, age, household wealth, children ever born, marital status, and country of residence, dampened the effect sizes of these attitudinal predictors, but they generally remained statistically significant.

There was, however, a notable exception. Among women, the association between son preference and fertility ideals changed direction across models: it was positive in M1, non-significant in M2, and became significantly negative in M3 (IRR = 0.98, $p < 0.01$ in M3), indicating that women with son preference reported fewer desired children after accounting for broader socio-economic realities.

M3 showed a substantial improvement in model fit compared to M2 (pseudo-R^2 in M3 = 0.075 for women and 0.066 for men). The improvement in model fit from M2 to M3 was largely driven by the inclusion of religion, country, education and wealth.

Consistent with existing demographic literature, the socio-economic and demographic control variables included in the model display expected associations with fertility ideals. Living in a rural area was associated with higher fertility ideals in both men (IRR = 1.05, $p < 0.01$) and women (IRR = 1.05, $p < 0.001$). Religious affiliation also mattered:

Table 3: Incidence rate ratios (IRRs) from multiple negative binomial regressions of wife beating attitudes and gender preferences on ideal number of children, unadjusted (M2) and adjusted (M3) for covariates

	Model 2		**Model 3**	
	Women[a]	Men[a]	Women[a]	Men[a]
Attitudes towards wife beating (*ref. disapproving*)				
Tolerance of wife beating	1.14***	1.09***	1.07***	1.07***
Gender preferences for children (*ref. balanced preference*)				
Son preference	1.01	1.17***	0.98**	1.06***
Daughter preference	0.96***	1.05*	0.95***	1.05**
No gender preference	1.15***	1.33***	1.03**	1.14***
Place of residence (*ref. urban*)				
Rural			1.05***	1.05**
Religion (*ref. Muslim*)				
Christian			0.80***	0.67***
Animist			1.02	0.82***
No religion			0.87**	0.67***
Other religion			0.86***	0.68***
Age (*ref. 15-19 years old*)				
20-24 years old			1.00	1.02
Completed years of education			0.98***	0.99***
Wealth index (*ref. Middle*)				
Poorest			1.06***	1.10***
Poorer			1.03***	1.06**
Richer			0.95***	0.91***
Richest			0.89***	0.82***
Total children ever born			1.02***	1.04***
Marital status (*ref. Never in union*)				
Currently in union			1.04***	0.94**
Formerly in union			0.95**	0.98
Country dummy (*ref. Burundi*)				
Burkina Faso			1.05***	1.15***
The Gambia			1.23***	1.43***
Mali			1.14***	1.42***
Nigeria			1.39***	1.54***
Chad			1.67***	2.24***
DRC			1.50***	1.73***
Angola			1.18***	1.53***
Uganda			1.11***	1.30***
Weighted sample size N	*62516*	*20814*	*62516*	*20814*
Pseudo R^2	*0.008*	*0.006*	*0.075*	*0.066*

*Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24. All data are weighted using the appropriate survey weights. Significant at * p<0.05, ** p<0.01, *** p<0.001. Model 1 (bivariate associations between each key independent variable and the ideal number of children) is presented in Table 2.*

[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

Muslims consistently reported a higher ideal number of children than members of other faiths. Notably, among women, there was no significant difference between Muslims and followers of animist religions. Age showed no significant association with desired fertility. Education, by contrast, showed a clear and consistent negative relationship with ideal family size in both genders, reinforcing the established link between schooling and lower fertility aspirations. Wealth also showed a similar pattern: wealthier individuals generally aspired to have fewer children. For each additional child already born, both men and women reported slightly higher desired family sizes (IRR = 1.04 for men, IRR = 1.02 for women; both p

Table 4: Results of adjusted negative binomial regressions (M3) of wife beating attitudes and gender preferences on ideal number of children, pooled and by country

			Gender preferences for children (ref. balanced preference)				
		Tolerance of wife beating	**Son preference**	**Daughter preference**	**No gender preference**		
		IRR	IRR	IRR	IRR	*N*	Pseudo R^2
Pooled samples[a]	W	1.07***	0.98**	0.95***	1.03**	62516	0.075
	M	1.07***	1.06***	1.05**	1.14***	20814	0.066
WESTERN AFRICA							
Burkina Faso	W	1.02	1.03*	0.99	1.00	6391	0.033
	M	1.09***	0.97	1.01	0.99	2467	0.051
The Gambia	W	1.04**	1.01	0.99	1.02	4296	0.018
	M	1.09*	1.05	1.12	1.56***	1624	0.025
Mali	W	0.97	1.00	0.98	1.04	3669	0.015
	M	0.95	1.06	0.98	0.98	1197	0.025
Nigeria	W	1.10***	0.98*	0.93***	1.04**	14641	0.086
	M	1.09***	1.09***	0.95	1.19***	3673	0.076
Niger	W	1.05**	0.96*	0.89***	0.99	3600	0.031
	M	1.15***	0.95	1.03	0.96	1063	0.022
MIDDLE AFRICA							
Chad	W	1.01	1.03	0.93***	0.99	5404	0.033
	M	1.00	1.21***	1.28**	1.13	1633	0.038
DRC	W	1.07***	0.98	0.93***	0.99	7128	0.029
	M	1.08*	0.98	1.01	0.97	2910	0.018
Angola	W	1.03	0.96*	1.03	1.10**	6132	0.030
	M	1.09**	1.04	1.19***	1.46	2358	0.031
EASTERN AFRICA							
Burundi	W	0.98*	0.87***	0.93***	0.86***	6972	0.007
	M	1.04*	0.95***	1.00	0.88***	2778	0.005
Uganda	W	1.00	0.99	1.02	0.97*	7883	0.014
	M	1.00	1.05*	1.16***	1.14*	2174	0.015

*Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24. All data are weighted using the appropriate survey weights. W = women; M = men; IRR = incidence rate ratio. Significant at * p<0.05, ** p<0.01, *** p<0.001.*

The models adjust for attitude towards wife beating, gender preferences for children, place of residence, educational level, religion (except for Niger), age, household wealth, total children ever born and marital status (and fixed effects for country in the pooled samples).

[a]*The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset*

< 0.001). Marriage and union status revealed intriguing contrasts. Women currently in a union reported a significantly higher desired number of children (IRR = 1.04, p < 0.001) compared to those never in union. Formerly partnered women expressed lower fertility ideals (IRR = 0.95, p < 0.01). Men showed the opposite trend: those in a union desired fewer children (IRR = 0.94, p < 0.001) than single men. Among men, those who had previously been in a union did not differ significantly in their ideal number of children compared to those who had never been in a relationship. Finally, the inclusion of country-level fixed effects confirmed what earlier patterns had hinted: national context matters deeply for understanding desired fertility, beyond what can be explained by the individual socio-economic and demographic characteristics. Using Burundi, the country with the lowest reported ideal fertility, as the reference, the analysis showed wide national variation. All other countries reported significantly higher fertility ideals than Burundi (all p < 0.001).

Burkinabè women and men desired 5% and 15% more children, respectively, than their Burundian counterparts. The largest gap was observed in Chad, where young women and men desired 67% and 124% more children, respectively, than their peers in Burundi.

To further contextualise these effects, Table A.11 in the Appendix reports average marginal effects (AMEs) on the expected number of ideal children. For continuous predictors, the AME reflects the change associated with a one standard deviation increase; for binary and categorical variables, it reflects differences relative to the reference category. Comparing the pooled models by gender, the pattern of relative importance is similar but not identical. Among women, religion, education and wealth showed the largest absolute AMEs, indicating the strongest associations with fertility ideals. Tolerance of wife beating showed a moderate association, ranking above number of children ever born, place of residence and marital status. In contrast, gender preference indicators were relatively limited in importance, indicating a relatively minor contribution to variation in women's fertility ideals. Among men, religion remained the dominant predictor, followed by wealth. Both tolerance of wife beating and gender preferences exhibited similar moderate effects, comparable to place of residence and marital status. For both genders, country-level factors ranked among the most influential predictors, further emphasising the role of contextual influences in shaping fertility ideals.

Country-specific analyses

Table 4 (M3) and Appendix Table A.12 (M2 and M3) present the IRRs from the multivariate models, disaggregated by country, complementing the pooled estimates in Table 3. Results reveal considerable cross-country and gender heterogeneity, especially for gender preference. Pseudo-R^2 in M3 further illustrate this contextual variation in relative model fit; for women, values range from 0.007 in Burundi to 0.086 in Nigeria; among men, from 0.005 in Burundi to 0.076 in Nigeria. These patterns indicate that the contribution of gender attitudes and other covariates to model fit differs across the region.

In M3, we found no association between tolerance of wife beating and the ideal number of children in Mali, Chad and Uganda. In the remaining seven countries, the association showed marked gender differences; among men the association was positive, whereas among women, it was positive in four, negative in one, and null in five countries, indicating within-country gender divergence. In Burundi specifically, a weak but significant negative association among women contrasted with a positive association among men.

Turning to gender preferences for children, the findings also revealed clear differences by country and gender. In Western Africa, these preferences had limited influence on fertility ideals, except among Nigerians and women in Niger. In contrast, gender preferences more often shaped ideal family size in Middle and Eastern Africa. Adjusting for socio-economic and demographic variables revealed that the association between gender preferences and fertility ideals remained stronger for women than men. Specifically, at least one gender preference was significantly associated with the ideal number of children in eight out of ten countries for women, compared to six for men.

Son preference, compared to balanced preference, was associated with higher desired fertility in three countries among men and in one among women, whereas a negative association was observed in one country among men and in four among women. In Nigeria, women who preferred sons reported lower ideal fertility, whereas men reported higher. Burundi was the only other country where son preference was significantly associated with desired fertility for both genders, with negative associations in both cases.

The pattern for daughter preference largely mirrored the pooled sample trends, but again only in a subset of countries. Among women, daughter preference was associated with lower fertility ideals in five countries, and among men, it was linked to higher fertility ideals in three countries. Chad was the only country where daughter preference significantly influenced both genders, although in opposite directions: negatively for women and positively for men.

Having no specific gender preference showed statistically significant associations with desired fertility in four countries among women and in four among men. Overall, associations were predominantly positive: three positive and two negative among women, and three positive and one

negative among men. Notably, Uganda presented a striking case of opposing gender effects. Among young women, having no gender preference correlated with a lower desired fertility, whereas for men, it correlated with higher fertility ideals. This divergence may reflect differing social expectations or reproductive agency between genders in that context.

Discussion

This study examines how socio-cultural attitudes reflecting women's position in society relate to fertility preferences among young people aged 15 to 24 in ten high-fertility SSA countries. Using DHS data and negative binomial regression, we assess associations between two key indicators of gender attitudes, namely tolerance of wife beating and preferences for the gender composition of children, and the ideal number of children. Our key contributions are the inclusion of men alongside women and our focus on youth irrespective of marital status; both have received limited attention in this literature. We explore how the associations vary by gender and country in SSA. We find that youth ideals frequently exceed period TFRs in several West African countries and in Chad. This divergence suggests intergenerational persistence of high fertility norms, with young cohorts anchoring aspirations above current realised fertility. In parts of Middle and Eastern Africa, where youth ideals are below the current TFR, preferences appear to be ahead of behaviour, suggesting a cohort shift towards smaller families as this group ages into childbearing. Together, these contrasts point to heterogeneous normative trajectories across the region.

Our findings align with previous research,[24,27–30,34,36,37] revealing significant associations between gender attitude indicators and fertility preferences. They demonstrate and confirm that these associations also hold among youth in high-fertility countries, pointing to the intricate interplay between societal norms and individual aspirations. These associations varied in significance, strength, and direction both across and within SSA countries, consistent with the mixed evidence in the region,[24,28] and remained robust after adjusting for a broad set of socio-economic and demographic variables, highlighting the influence of context- and gender-specific factors.

As expected from the literature,[38–40] young women in our study were more likely to justify wife beating than men. In the pooled analyses, justification of wife beating, reflecting implicit endorsement of traditional patriarchal norms that legitimise male dominance,[35] was positively associated with desired family size among both men and women. However, the interpretation of this association differs by gender due to distinct social positions and power dynamics. For women, endorsing wife beating often reflects lower empowerment and conformity to gender norms that limit their autonomy,[35] which may align with a preference for larger families or reflect limited agency in shaping reproductive goals.[61] For men, it may reflect an active endorsement of patriarchal authority, where larger families align with traditional masculine roles and social status.[34,62] Thus, while the association reflects a shared endorsement of patriarchal norms, it operates through different pathways, highlighting gendered mechanisms in fertility preferences.

In many pronatalist, patriarchal settings in SSA, large families are culturally valued and closely tied to gendered expectations, social identity, and prestige.[33,45,62,63] Individuals who adhere to traditional gender norms, as reflected in their acceptance of wife beating, may see high fertility as both desirable and socially rewarding.[19–22] Moreover, reproductive choices are also shaped by broader socio-cultural influences, including expectations of extended kin, the role of bridewealth, and prevailing community norms around family planning.[14,15,20,22,58] As a result, individuals may report higher ideal family sizes both to conform to societal expectations and due to limited access to, or misconceptions about, family planning.

Yet despite these overarching patterns, our analysis reveals substantial variation in how this relationship manifests across countries and between genders. Among men, tolerance of wife beating shows a consistently positive association with desired fertility in almost all countries. Among women, however, the pattern is much more heterogeneous, with associations ranging from positive to negative or null depending on the country. This suggests that in some high-fertility contexts, holding more egalitarian gender attitudes is

not necessarily associated with more progressive fertility preferences, possibly reflecting broader contextual factors that shape or moderate this relationship.

In addition to attitudes towards wife beating, gender preference for children represents a second important indicator of how women's status is perceived within society. Our study broadened this perspective by examining the full range of gender preferences, including son, daughter, balanced, and no gender preference. In line with prior evidence,[19,42,43,48–51] young men in our study exhibited a stronger son preference, whereas young women tended to favour a more balanced preference, although both groups preferred sons over daughters. The relationship between gender preference and fertility desires showed no uniform pattern across SSA countries. In several settings, gender preference was not significantly associated with desired fertility, suggesting that gendered child preferences may play a limited role in shaping reproductive goals, which aligns with existing literature suggesting that son preference exerts a comparatively weaker influence on fertility decisions in SSA contexts.[41,42] In other settings, particularly among men, those expressing a preference (whether for sons, daughters or no gender preference) were more likely to desire larger families than those with a balanced preference. Interestingly, among women, preferences were more often associated with lower fertility ideals, although the direction and significance varied across contexts, reflecting a complex and nuanced pattern.

Notably, in some countries like Nigeria and Chad, son or daughter preferences were associated with opposite fertility patterns between genders. These disparities point to differing symbolic and practical meanings attached to gender preferences in children with men and women. In many patrilineal SSA societies, sons are traditionally valued for lineage continuity and inheritance and play a key role in enhancing a man's social status,[19,44,45] while for women, sons also secure status within the husband's family and provide social and economic protection, especially in widowhood.[19,64] Yet, our findings show that in some patrilineal contexts, such as Nigeria, Niger, and Burundi, young women who preferred sons were more likely to desire fewer children than those with a balanced gender preference. This suggests that son preference does not uniformly translate into higher fertility desires and may reflect more strategic reproductive planning among women. Although less studied, daughter preference also holds diverse meanings across contexts. In The Gambia, daughters are often seen as dependable caregivers in old age,[22] while among the Hausa ethnic group in Nigeria, they may represent economic value through early marriage arrangements.[19] Our results reflect this diversity: across multiple countries, daughter preference was associated with higher fertility desires among men and lower fertility desires among women.

The observed variability in the association between gendered attitudes and ideal family size, both within and between countries and across gender, reflects the contextual nature of fertility preferences in the region. The findings align with prior studies emphasising the role of structural and cultural determinants in shaping reproductive preferences.[24,28,58,65] Although individual-level socio-demographic variables remain important, the inclusion of country-fixed effects in our models highlights the presence of latent, macro-level forces, such as institutionalised gender norms, policy frameworks, and culturally specific valuations of children, that shape fertility ideals in distinctive ways.

Further support for this interpretation is furnished by the differential model fit of our fully adjusted model (M3) across national contexts. The model fitted desired fertility particularly well in Burkina Faso, Nigeria, Niger, and the three Middle African countries (Chad, DRC, and Angola), where fertility ideals are generally higher and lower educational attainment is more prevalent. However, this pattern cannot be fully explained by differences in these two factors alone, as for example, Mali and The Gambia also report high fertility ideals and low education levels but showed lower model fit, while Nigeria combines relatively higher education with strong model fit. This suggests that in some contexts, gender attitudes such as tolerance of wife beating and child gender preferences may be more consistently held and more tightly linked to fertility ideals, as reflected in higher model fit. Notably, the model exhibited consistently better fit for women's fertility ideals relative to men's, suggesting that women's fertility ideals may be more closely aligned with gender-related attitudes. Beyond the socio-cultural attitudes captured by gender-related

indicators, religion emerged as one of the most influential determinants of ideal family size. In our study, Muslim respondents consistently reported significantly higher fertility preferences compared to individuals affiliated with other religious groups, a pattern that aligns with a substantial body of literature linking Islamic affiliation to pronatalist orientations.[33,58,66,67] Religion, in this context, functions not merely as a system of belief, but as a comprehensive socio-cultural institution that shapes normative expectations surrounding family size, reproductive behaviour, and gender roles. Several mechanisms help explain this association. In many Islamic and customary settings, marital norms, including the permissibility of polygyny and the endorsement of early marriage, broaden the socially expected scope for childbearing and amplify ideals for larger families. Men may realise their preferred family size across multiple unions, while co-wives often articulate higher fertility desires due to competition for social status.[19,33,67] Doctrinal interpretations that portray children as divine blessings, cast childbearing as a religious obligation for women, and discourage contraception further consolidate pronatalist ideals.[19,33,68]

Closely intertwined with religious affiliation is ethnicity, which has likewise been shown to exert considerable influence over fertility preferences.[19,33,58,69] Fertility desires tend to be lower in East and Southern Africa and higher in West Africa, a pattern partially attributable to differing ethnic compositions.[33] Further intra-country evidence, such as from Nigeria, demonstrates that fertility aspirations diverge significantly along ethnic lines.[33,58] However, we excluded ethnicity from our analysis due to its considerable variation across and within SSA countries, to preserve the comparability of cross-national estimates. Nonetheless, it is important to acknowledge that the proxies we employed to measure societal perceptions of women's status, namely, attitudes towards wife beating and gender preferences for children, are themselves embedded within broader ethno-religious value systems. For example, clan and lineage systems play an important role; in patrilineal societies, fertility goals may be shaped by the desire for male heirs to ensure lineage continuity, while in matrilineal structures, where kinship and inheritance flow through female lines, desired fertility may be lower.[33] Although religion and ethnicity are often conceptualised at the individual level, they simultaneously delineate the normative and institutional context within which reproductive decisions are made. Taken together, these findings highlight the multidimensionality of the cultural environments in which fertility ideals are formed and call for greater sensitivity to these contextual influences in demographic analyses.

Consistent with previous studies,[25,29,34,36,46,58] our results also reaffirm the significance of determinants such as education, household wealth, parity, and place of residence. Youth residing in rural areas, those with lower educational attainment, those in the poorest wealth quintiles, and those who had already borne children reported higher desired fertility. Within this age group, age itself was not significantly associated with desired fertility. However, marital status showed different associations with fertility desires among men and women, likely reflecting gendered patterns of union formation that place men and women in distinct socio-demographic positions even within the 15–24 age range. These differences highlight the importance of attending to gendered trajectories in both marital and reproductive life. Future research should further explore these dynamics, with attention to how social norms, institutional structures, and lived experiences interact to shape fertility ideals among youth in high-fertility contexts.

Regarding the relative importance of the predictors associated with desired fertility, our study finds that although religion, education, and wealth consistently emerged as the strongest influences, the moderate role of attitudes towards wife beating (particularly among women) underscores the continued relevance of gender norms. The comparatively limited importance of gender preference suggests that explicit preferences for sons or daughters may be less central than broader social attitudes and structural factors. Taken together, these patterns highlight the need for interventions that address not only individual-level socio-economic factors but also deep-rooted gender norms and contextual influences. In turn, the descriptive gaps between youth ideals and period TFRs have clear policy implications. Where youth ideals exceed TFRs, efforts that address entrenched pronatalist norssms and the gender system sustaining them may be necessary to consolidate fertility decline. Where

youth ideals are already lower than current TFRs, meeting demand for smaller families will rest on easing barriers to education and contraception and aligning service quality with expressed preferences. Overall, these findings point to the complex interplay between gender norms and socio-economic factors in shaping fertility preferences, emphasising the value of addressing cultural attitudes alongside structural conditions in fertility research.

Strengths and limitations

Understanding the reproductive intentions of young adults is critical to anticipating fertility trajectories in high-fertility settings. Yet young people, particularly never-married individuals and men, receive limited specific attention in fertility research. A major strength of our study is its inclusive focus on young adults, regardless of marital status. Demographic research often centres on women aged 15 to 49, on married couples or treats men and women separately. Furthermore, studies frequently exclude never-married women, focusing instead on fertility within unions.[24] Research involving men also remains limited, despite growing evidence of their influence on reproductive decisions.[19,24,25,27] By including both genders and individuals at early stages of the reproductive life course, our study provides a more comprehensive understanding of fertility preferences among youth in high-fertility countries. This focus minimises post facto rationalisation and offers insight into intentions prior to the realisation of actual fertility outcomes. While our primary outcome, ideal number of children, captures stated preferences rather than observed fertility behaviour, it remains a robust indicator of reproductive intentions. Although such preferences may evolve in response to life events,[70,71] they provide an essential lens into the attitudes that will shape future demographic trends.[52] In SSA, where youthful populations and high fertility persist, such intentions hold particular relevance for policy. Notably, our findings reveal marked differences between national TFRs and youths' ideals, indicating divergence between aspirations and demographic trends. However, because the DHS data are cross-sectional, causal inference is not permitted: observed associations may reflect both the influence of gender attitudes on fertility ideals and the possibility that fertility norms shape gender attitudes.

The dual analytic strategy, combining pooled analyses for men and women with disaggregated country-level models, further strengthens the study. These approaches reveal substantial heterogeneity in fertility preferences across SSA, highlighting the limitations of one-size-fits-all models in explaining the complex relationship between gender norms and fertility preferences. Instead, our findings point to the need for context-sensitive frameworks that account for local variation in gender roles, social expectations, and reproductive behaviour. Recognising the spatial differentiation of fertility determinants is essential for developing tailored policy interventions. While our study provides initial insights into these patterns, further research is needed to unpack the mechanisms driving regional differences.

We acknowledge, however, that the use of attitudes towards wife beating and gender preferences for children as indicators of gender attitudes presents important conceptual limitations. While both are frequently employed in large-scale demographic studies[24,28,32,33] due to their availability and cross-country comparability, these measures primarily capture gender attitudes rather than realised agency in decision-making, mobility, employment, access to resources, or civic and political participation. They therefore measure normative empowerment, meaning the degree to which gender inequality is accepted or rejected, rather than empowerment as exercised in practice; consequently, findings may be biased where attitudes and agency diverge. Attitudes towards wife beating reflect normative acceptance of violence rather than broader dimensions of female autonomy or empowerment. Similarly, preferences for the gender composition of children may be shaped by multiple contextual factors and do not directly speak to women's agency or bargaining power within households. The relatively modest associations observed between these indicators and fertility preferences in our study, especially when compared to factors such as religion, education, and wealth, suggest that these measures reflect only certain dimensions of women's status and empowerment, rather than providing a comprehensive assessment. Nevertheless, they offer valuable and comparable

insights across contexts. Future research would benefit from including more multidimensional measures of women's empowerment, such as decision-making autonomy, social independence, and access to resources,[9,35,72] to better capture the complex ways in which gender dynamics influence fertility preferences. In addition, both indicators are susceptible to social desirability bias, particularly in contexts where public discourses around gender equality have gained prominence but underlying norms remain unchanged. This may lead respondents to underreport discriminatory attitudes, thereby attenuating observed associations.

Another potential source of bias concerns the handling of NNR in the ideal number of children question (e.g. 'Up to God'), which we coded as missing and therefore excluded from analysis. Excluding these cases could understate the association between unequal gender attitudes and fertility ideals, given evidence that more religious respondents are both more likely to provide NNR and more inclined to prefer larger families and hold traditional views.[25] Although some studies retain such cases by imputing the country-specific mean,[27] this approach is not well aligned with our count specification (negative binomial regression), which models integer counts and for which mean imputation is conceptually problematic. As a robustness check, we re-estimated the final models using linear regression, with and without country-mean imputation for NNR (results not shown), which yielded very similar results and left the substantive conclusions unchanged. If any bias remains from excluding NNR in the negative binomial models, it is likely conservative, so the association we report may be understated.

A further limitation is the exclusion of Niger from the pooled analyses due to missing religion data. Sensitivity checks comparing pooled models with and without Niger, both estimated without religion (results not shown), produced highly similar estimates for the focal predictors, supporting the robustness of the pooled conclusions.

Our findings highlight the importance of incorporating context-level variables into future research. Fertility desires are shaped not only by individual characteristics but also by wider structural and cultural environments. For instance, although we included religion as an individual-level control, we were unable to account for ethnicity due to its complex heterogeneity across countries, yet ethnicity plays a significant role in shaping fertility norms.[19,33,58,69] Factors such as laws addressing domestic violence,[73] access to family planning services,[33,74] and community-level education[65] are particularly relevant to understanding fertility preferences. The influence of women's education on fertility preferences appears to be more pronounced at the community level than at the individual level.[65] For example, high fertility preferences in rural SSA have been associated with low levels of community education, suggesting that collective educational investments may play a key role in shaping fertility norms and influencing the impact of gender attitudes.

Conclusion

This study highlights context-specific associations between gender attitudes and youths' desired fertility in high-fertility countries in SSA, with considerable variation between men and women and across countries. Tolerance of wife beating and preferences for the gender composition of children are related to fertility ideals, yet their direction and magnitude differ by setting. The findings emphasise the importance of accounting for socio-cultural norms and gender relations in analyses of fertility preferences. Promoting gender equality within the family and in broader areas such as inheritance rights is essential for challenging the societal acceptance of domestic violence and other norms that reinforce the subordination of women. Valuing sons and daughters equally is also an important step towards reducing the role of child gender in reproductive decisions. While individuals with more progressive gender attitudes often report lower desired fertility, this association is not uniform among youth in SSA. Policies should therefore be context sensitive, adapted to local social norms and institutional contexts. Context-specific approaches that recognise such variation are essential to support sustainable fertility transitions and improve reproductive health.

Contribution of authors

JDV conceptualised the original study, performed the analyses, and wrote the initial draft. SG helped conceptualise the study, reviewed and edited the initial manuscript, and supervised the project. All authors read and approved the final manuscript.

Availability of data and materials

The datasets analysed during the current study are available in the MEASURE DHS program repository, https://dhsprogram.com/data/available-datasets.cfm.

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Competing interests

The authors declare that they have no competing interests.

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APPENDIX

Table A.1: (Un)weighted sample sizes and total fertility rates in selected sub-Saharan African countries

			N for aged 15-24[a]					
			Women			**Men**		
	DHS survey year	TFR 2015-20	Unweighted	Weighted in country-specific analyses	Weighted in pooled analyses[b]	Unweighted	Weighted in country-specific analyses	Weighted in pooled analyses[b]
Pooled samples[a]	-	-	65986	-	64242	21984	-	20468
WESTERN AFRICA								
Burkina Faso	2010	5.23	6568	6596	2398	2505	2454	805
The Gambia	2019-20	5.25	4759	4799	402	1807	1897	155
Mali	2018	5.92	4001	3947	2757	1316	1400	875
Nigeria	2018	5.42	14993	14960	31724	3916	3780	9091
Niger	2012	6.95	3858	3814	-	1137	1092	-
MIDDLE AFRICA								
Chad	2013-14	5.80	6854	6961	2078	1933	1954	779
DRC	2013-14	5.96	7551	7634	11302	3025	3112	3976
Angola	2015-16	5.55	6152	6253	4876	2430	2458	1789
EASTERN AFRICA								
Burundi	2016-17	5.45	7118	7010	1753	2849	2772	610
Uganda	2016	5.01	7990	8010	6956	2203	2226	2390

Note: All data are derived from the selected DHS datasets except for the TFR, which originates from the United Nations, Department of Economic and Social Affairs Population Division.[53] *The geographic regions follow the system M49 coding classification of the United Nations. The totals provided exclude respondents who expressed no desire for children (ideal number of children equal to zero), as the gender preference question, one of the two independent variables of interest, was only asked to those wanting children.*
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

Table A.2: Weighted frequencies and percentages of respondents expressing desire or no desire for children

	Women		**Men**	
	No desire for children (ideal number = 0) N (%)	Desire for children (incl. non-numeric responses) N (%)	No desire for children (ideal number = 0) N (%)	Desire for children (incl. non-numeric responses) N (%)
Pooled samples[a]	1188 (1.8)	64242 (98.2)	381 (1.8)	20468 (98.2)
WESTERN AFRICA				
Burkina Faso	25 (0.4)	6596 (99.6)	19 (0.8)	2454 (99.2)
The Gambia	15 (0.3)	4799 (99.7)	1 (0.1)	1897 (99.9)
Mali	53 (1.3)	3947 (98.7)	40 (2.8)	1400 (97.2)
Nigeria	323 (2.1)	14960 (97.9)	107 (2.8)	3780 (97.2)
Niger	7 (0.2)	3814 (99.8)	8 (0.7)	1092 (99.3)
MIDDLE AFRICA				
Chad	27 (0.4)	6961 (99.6)	25 (1.3)	1954 (98.7)
DRC	116 (1.5)	7634 (98.5)	35 (1.1)	3112 (98.9)
Angola	240 (3.7)	6253 (96.3)	31 (1.2)	2458 (98.8)
EASTERN AFRICA				
Burundi	93 (1.3)	7010 (98.7)	9 (0.3)	2772 (99.7)
Uganda	76 (0.9)	8010 (99.1)	12 (0.5)	2226 (99.5)

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

Table A.3: Weighted mean ideal number of children calculated both including and excluding respondents desiring no children

	MEAN IDEAL NUMBER OF CHILDREN					
	Women			**Men**		
	Excluding zero ideal number (I)	Including zero ideal number (J)	Difference (I-J)	Excluding zero ideal number (I)	Including zero ideal number (J)	Difference (I-J)
Pooled samples[a]	5.41	5.30	0.11	6.24	6.12	0.12
WESTERN AFRICA						
Burkina Faso	4.86	4.84	0.02	5.41	5.36	0.05
The Gambia	5.43	5.41	0.02	7.05	7.05	0.00
Mali	5.59	5.51	0.08	7.44	7.22	0.22
Nigeria	5.80	5.68	0.12	6.91	6.71	0.20
Niger	8.37	8.35	0.02	8.71	8.64	0.07
MIDDLE AFRICA						
Chad	7.48	7.44	0.04	9.64	9.50	0.14
DRC	5.57	5.49	0.08	6.00	5.93	0.07
Angola	4.26	4.11	0.15	4.93	4.86	0.07
EASTERN AFRICA						
Burundi	3.78	3.73	0.05	3.53	3.52	0.01
Uganda	4.20	4.16	0.04	4.75	4.72	0.03

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset

Table A.4: Weighted frequencies and percentages by place of residence

		PLACE OF RESIDENCE		
		Urban	**Rural**	**Total**
		N (%)	N (%)	N
Pooled samples[a]	Women	26762 (41.7)	37480 (58.3)	64242
	Men	8355 (40.8)	12113 (59.2)	20468
WESTERN AFRICA				
Burkina Faso	Women	2122 (32.2)	4474 (67.8)	6596
	Men	766 (31.2)	1688 (68.8)	2454
The Gambia	Women	3543 (73.8)	1256 (26.2)	4799
	Men	1478 (77.9)	420 (22.1)	1897
Mali	Women	1150 (29.1)	2797 (70.9)	3947
	Men	377 (26.9)	1022 (73.1)	1400
Nigeria	Women	6614 (44.2)	8346 (55.8)	14960
	Men	1626 (43.0)	2155 (57.0)	3780
Niger	Women	811 (21.3)	3003 (78.7)	3814
	Men	346 (31.7)	746 (68.3)	1092
MIDDLE AFRICA				
Chad	Women	1845 (26.5)	5116 (73.5)	6961
	Men	673 (34.4)	1282 (65.6)	1954
DRC	Women	3161 (41.4)	4473 (58.6)	7634
	Men	1266 (40.7)	1847 (59.3)	3112
Angola	Women	4498 (71.9)	1755 (28.1)	6253
	Men	1813 (73.8)	645 (26.2)	2458
EASTERN AFRICA				
Burundi	Women	1016 (14.5)	5994 (85.5)	7010
	Men	398 (14.4)	2374 (85.6)	2772
Uganda	Women	2159 (27.0)	5851 (73.0)	8010
	Men	509 (22.9)	1717 (77.1)	2226

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

Table A.5: Weighted frequencies and percentages by category of religion

		RELIGION						
		Christian	**Muslim**	**Animist**	**Other religion**	**No religion**	**Total**	**Missing**
		N (%)	N (%)	N (%)	N (%)	N (%)	N	N
Pooled samples[a]	Women	38387 (59.8)	24857 (38.7)	258 (0.4)	211 (0.3)	480 (0.7)	64193	50
	Men	12020 (58.7)	7798 (38.1)	161 (0.8)	60 (0.3)	427 (2.1)	20466	3
WESTERN AFRICA								
Burkina Faso	Women	2055 (31.2)	4128 (62.7)	350 (5.3)	0 (0)	55 (0.8)	6588	9
	Men	733 (29.9)	1509 (61.5)	203 (8.3)	2 (0.1)	5 (0.2)	2452	1
The Gambia	Women	144 (3.0)	4654 (97.0)	0 (0)	2 (0)	0 (0)	4800	-
	Men	41 (2.2)	1854 (97.7)	0 (0)	1 (0.1)	2 (0.1)	1898	-
Mali	Women	129 (3.3)	3652 (92.5)	13 (0.3)	3 (0.1)	151 (3.8)	3948	-
	Men	40 (2.9)	1301 (92.9)	11 (0.8)	3 (0.2)	45 (3.2)	1400	-
Nigeria	Women	6315 (42.2)	8574 (57.3)	39 (0.3)	32 (0.2)	0 (0)	14960	-
	Men	1462 (38.7)	2294 (60.7)	22 (0.6)	2 (0.1)	0 (0)	3780	-
Niger	Women	NA (-)	NA (-)	NA (-)	NA (-)	NA (-)	NA	-
	Men	NA (-)	NA (-)	NA (-)	NA (-)	NA (-)	NA	-
MIDDLE AFRICA								
Chad	Women	3180 (45.9)	3569 (51.6)	14 (0.2)	1 (0)	157 (2.3)	6921	40

	Men	895 (45.9)	994 (51.0)	16 (0.8)	1 (0.1)	44 (2.3)	1950	4
DRC	Women	7448 (97.8)	73 (1.0)	16 (0.2)	49 (0.6)	31 (0.4)	7617	17
	Men	2975 (95.6)	37 (1.2)	5 (0.2)	23 (0.7)	71 (2.3)	3111	1
Angola	Women	5899 (94.5)	20 (0.3)	12 (0.2)	0 (0)	309 (5.0)	6240	-
	Men	2059 (83.8)	5 (0.2)	20 (0.8)	0 (0)	374 (15.2)	2458	-
EASTERN AFRICA								
Burundi	Women	6643 (94.8)	247 (3.5)	0 (0)	84 (1.2)	36 (0.5)	7010	-
	Men	2592 (93.5)	119 (4.3)	0 (0)	18 (0.6)	43 (1.6)	2772	-
Uganda	Women	6808 (85.0)	1133 (14.1)	1 (0)	55 (0.7)	14 (0.2)	8011	-
	Men	1872 (84.1)	325 (14.6)	5 (0.2)	17 (0.8)	7 (0.3)	2226	-

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset

Table A.6: Weighted frequencies and percentages by category of age

		AGE		
		15-19 years old N (%)	**20-24 years old** N (%)	**Total** N
Pooled samples[a]	Women	34615 (53.9)	29627 (46.1)	64242
	Men	12146 (59.3)	8322 (40.7)	20468
WESTERN AFRICA				
Burkina Faso	Women	3294 (49.9)	3302 (50.1)	6596
	Men	1425 (58.1)	1028 (41.9)	2454
The Gambia	Women	2620 (54.6)	2179 (45.4)	4799
	Men	1096 (57.8)	801 (42.2)	1897
Mali	Women	2078 (52.6)	1869 (47.4)	3947
	Men	872 (62.3)	528 (37.7)	1400
Nigeria	Women	8268 (55.3)	6692 (44.7)	14960
	Men	2327 (61.6)	1453 (38.4)	3780
Niger	Women	1823 (47.8)	1991 (52.2)	3814
	Men	690 (63.2)	403 (36.9)	1092
MIDDLE AFRICA				
Chad	Women	3913 (56.2)	3048 (43.8)	6961
	Men	1218 (62.3)	737 (37.7)	1954
DRC	Women	3979 (52.1)	3655 (47.9)	7634
	Men	1717 (55.2)	1395 (44.8)	3112
Angola	Women	3284 (52.5)	2968 (47.5)	6253
	Men	1429 (58.1)	1029 (41.9)	2458
EASTERN AFRICA				
Burundi	Women	3805 (54.3)	3205 (45.7)	7010
	Men	1627 (58.7)	1145 (41.3)	2772
Uganda	Women	4196 (52.4)	3814 (47.6)	8010
	Men	1278 (57.4)	948 (42.6)	2226

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset

Table A.7: Weighted descriptive statistics for education in single years

		EDUCATION IN SINGLE YEARS				
		Mean	**Std. Deviation**	**Range**	**Total**	**Missing**
Pooled samples[a]	Women	6.62	4.637	18	64234	8
	Men	7.51	4.250	24	20467	1
WESTERN AFRICA						
Burkina Faso	Women	2.56	3.738	17	6588	8
	Men	3.85	4.275	17	2452	2
The Gambia	Women	6.82	4.295	16	4799	-
	Men	7.05	4.002	16	1897	-
Mali	Women	3.72	4.014	17	3947	-
	Men	4.79	3.979	16	1400	-
Nigeria	Women	7.26	5.142	18	14960	-
	Men	8.13	4.770	18	3780	-
Niger	Women	1.87	3.290	19	3809	5
	Men	3.93	3.919	20	1083	9
MIDDLE AFRICA						
Chad	Women	3.46	4.061	17	6942	19
	Men	5.80	4.449	19	1953	2
DRC	Women	6.85	3.708	18	7634	-
	Men	8.21	2.995	18	3112	-
Angola	Women	6.27	3.744	18	6253	-
	Men	7.36	3.378	24	2458	-
EASTERN AFRICA						
Burundi	Women	5.68	3.524	18	7010	-
	Men	6.10	3.391	17	2772	-
Uganda	Women	7.25	3.292	18	8010	-
	Men	7.32	3.373	18	2226	-

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset

Table A.8: Weighted frequencies and percentages by category of wealth index

		WEALTH					
		Poorest N (%)	**Poorer** N (%)	**Middle** N (%)	**Richer** N (%)	**Richest** N (%)	**Total** N
Pooled samples[a]	Women	10819 (16.8)	12421 (19.3)	12487 (19.4)	13672 (21.3)	14844 (23.1)	64243
	Men	3705 (18.1)	3703 (18.1)	4130 (20.2)	4415 (21.6)	4515 (22.1)	20468
WESTERN AFRICA							
Burkina Faso	Women	970 (14.7)	1168 (17.7)	1210 (18.3)	1274 (19.3)	1975 (29.9)	6597
	Men	411 (16.7)	446 (18.2)	453 (18.5)	437 (17.8)	707 (28.8)	2454
The Gambia	Women	783 (16.3)	861 (17.9)	923 (19.2)	1084 (22.6)	1147 (23.9)	4798
	Men	276 (14.6)	346 (18.2)	319 (16.8)	392 (20.7)	563 (29.7)	1896
Mali	Women	570 (14.4)	704 (17.8)	747 (18.9)	851 (21.6)	1075 (27.2)	3947
	Men	253 (18.1)	306 (21.9)	262 (18.7)	267 (19.1)	312 (22.3)	1400
Nigeria	Women	2570 (17.2)	3082 (20.6)	3070 (20.5)	3278 (21.9)	2959 (19.8)	14959
	Men	785 (20.8)	758 (20.1)	782 (20.7)	807 (21.4)	647 (17.1)	3779
Niger	Women	620 (16.3)	706 (18.5)	725 (19.0)	797 (20.9)	967 (25.3)	3815
	Men	117 (10.7)	185 (16.9)	191 (17.5)	207 (18.9)	393 (36.0)	1093
MIDDLE AFRICA							
Chad	Women	1261 (18.1)	1289 (18.5)	1328 (19.1)	1344 (19.3)	1739 (25.0)	6961

	Men	250 (12.8)	338 (17.3)	394 (20.2)	338 (17.3)	634 (32.4)	1954
DRC	Women	1308 (17.1)	1378 (18.1)	1345 (17.6)	1556 (20.4)	2047 (26.8)	7634
	Men	517 (16.6)	479 (15.4)	654 (21.0)	703 (22.6)	759 (24.4)	3112
Angola	Women	948 (15.2)	1045 (16.7)	1232 (19.7)	1461 (23.4)	1567 (25.1)	6253
	Men	353 (14.4)	341 (13.9)	446 (18.1)	553 (22.5)	765 (31.1)	2458
EASTERN AFRICA							
Burundi	Women	1141 (16.3)	1337 (19.1)	1439 (20.5)	1433 (20.4)	1659 (23.7)	7009
	Men	385 (13.9)	488 (17.6)	527 (19.0)	616 (22.2)	756 (27.3)	2772
Uganda	Women	1399 (17.5)	1523 (19.0)	1416 (17.7)	1577 (19.7)	2095 (26.2)	8010
	Men	373 (16.8)	384 (17.3)	444 (19.9)	521 (23.4)	504 (22.6)	2226

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset

Table A.9: Weighted descriptive statistics for total children ever born

		TOTAL CHILDREN EVER BORN			
		Mean	**Std. Deviation**	**Range**	**Total**
Pooled samples[a]	Women	0.74	1.072	9	64242
	Men	0.14	0.547	9	20468
WESTERN AFRICA					
Burkina Faso	Women	0.82	1.039	6	6596
	Men	0.10	0.383	5	2454
The Gambia	Women	0.42	0.808	6	4799
	Men	0.02	0.146	2	1897
Mali	Women	0.94	1.118	6	3947
	Men	0.10	0.431	5	1400
Nigeria	Women	0.65	1.039	7	14960
	Men	0.07	0.408	7	3780
Niger	Women	1.23	1.282	7	3814
	Men	0.13	0.510	4	1092
MIDDLE AFRICA					
Chad	Women	1.08	1.307	9	6961
	Men	0.21	0.705	6	1954
DRC	Women	0.78	1.068	7	7634
	Men	0.18	0.589	9	3112
Angola	Women	0.94	1.152	6	6253
	Men	0.30	0.772	9	2458
EASTERN AFRICA					
Burundi	Women	0.45	0.824	5	7010
	Men	0.11	0.411	5	2772
Uganda	Women	0.80	1.080	8	8010
	Men	0.26	0.727	9	2226

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset

Table A.10: Weighted frequencies and percentages by category of marital status

		MARITAL STATUS			
		Never in union	**Currently in union/ living with a (wo)man**	**Formerlyin union/living with a (wo)man**	**Total**
		N (%)	N (%)	N (%)	N
Pooled samples[a]	Women	35466 (55.2)	26865 (41.8)	1912 (3.0)	64242
	Men	18274 (89.3)	2002 (9.8)	193 (0.9)	20468
WESTERN AFRICA					
Burkina Faso	Women	2783 (42.2)	3725 (56.5)	88 (1.3)	6596
	Men	2110 (86.0)	335 (13.7)	9 (0.4)	2454
The Gambia	Women	3118 (65.0)	1612 (33.6)	69 (1.4)	4799
	Men	1864 (98.3)	33 (1.7)	0 (0)	1897
Mali	Women	1493 (37.8)	2400 (60.8)	54 (1.4)	3947
	Men	1257 (89.8)	140 (10.0)	3 (0.2)	1400
Nigeria	Women	8594 (57.4)	6143 (41.1)	224 (1.5)	14961
	Men	3537 (93.6)	236 (6.2)	7 (0.2)	3780
Niger	Women	805 (21.1)	2917 (76.5)	91 (2.4)	3813
	Men	953 (87.2)	136 (12.4)	4 (0.4)	1093
MIDDLE AFRICA					
Chad	Women	2758 (39.6)	3880 (55.7)	324 (4.7)	6962
	Men	1675 (85.7)	257 (13.2)	22 (1.1)	1954
DRC	Women	4173 (54.7)	3081 (40.4)	381 (5.0)	7635
	Men	2680 (86.1)	373 (12.0)	60 (1.9)	3113
Angola	Women	3868 (61.8)	2138 (34.2)	248 (4.0)	6254
	Men	2105 (85.6)	320 (13.0)	33 (1.3)	2458
EASTERN AFRICA					
Burundi	Women	5061 (72.2)	1732 (24.7)	218 (3.1)	7011
	Men	2525 (91.1)	233 (8.4)	13 (0.5)	2771
Uganda	Women	4199 (52.4)	3288 (41.0)	523 (6.5)	8010
	Men	1825 (82.0)	345 (15.5)	56 (2.5)	2226

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24.
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

Table A.11: Average marginal effects from adjusted negative binomial regression (M3) of tolerance of wife beating and gender preferences on ideal number of children in pooled samples

	Model 3			
	Women[a]		**Men[a]**	
	AME (count)	% change	AME (count)	% change
Attitudes towards wife beating (*ref. disapproving of wife beating*)				
Tolerance of wife beating	0.36	6.9%	0.42	6.7%
Gender preferences for children (*ref. balanced preference*)				
Son preference	-0.09	-1.7%	0.40	6.5%
Daughter preference	-0.26	-4.8%	0.33	5.3%
No gender preference	0.14	2.6%	0.87	14.0%
Place of residence (*ref. urban*)				
Rural	0.26	5.0%	0.32	5.3%
Religion (*ref. Muslim*)				
Christian	-1.23	-20.0%	-2.65	-33.4%
Animist	0.14	2.2%	-1.41	-17.8%

No religion	-0.77	-12.6%	-2.60	-32.8%
Other religion	-0.85	-13.7%	-2.54	-32.1%
Age (*ref. 15-19 years old*)				
20-24 years old	0.01	0.3%	0.14	2.2%
Completed years of education	-0.39	-7.2%	-0.30	-4.7%
Wealth index (*ref. Middle*)				
Poorest	0.30	5.6%	0.64	10.3%
Poorer	0.17	3.2%	0.35	5.6%
Richer	-0.25	-4.6%	-0.55	-8.6%
Richest	-0.60	-10.8%	-1.18	-17.9%
Total children ever born	0.13	2.4%	0.15	2.4%
Marital status (*ref. Never in union*)				
Currently in union	0.20	3.8%	-0.40	-6.3%
Formerly in union	-0.25	-4.6%	-0.11	-1.7%
Country dummy (*ref. Burundi*)				
Burkina Faso	0.30	5.5%	0.94	14.9%
The Gambia	1.24	22.8%	2.69	42.5%
Mali	0.78	14.5%	2.60	41.5%
Nigeria	1.79	38.6%	2.82	53.7%
Chad	3.60	67.3%	7.62	124.2%
DRC	2.57	50.2%	4.29	73.4%
Angola	0.99	18.4%	3.31	53.4%
Uganda	0.57	10.6%	1.90	30.5%

Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24. All data are weighted using the appropriate survey weights. AME = average marginal effect; % change = average percentage change in the expected number of ideal children, holding other variables at their observed values (for continuous variables, a one standard deviation increase; for binary variables, a change from zero to one; and for categorical variables, each level relative to the reference category).
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset.

Table A.12: Incidence rate ratios (IRRs) from negative binomial regressions of tolerance of wife beating and gender preferences on ideal number of children: unadjusted (M2) and adjusted (M3) for covariates, pooled and by country

		Gender preferences for children *(ref. balanced preference)*										
		Tolerance of wife beating		**Son preference**		**Daughter preference**		**No gender preference**		*N*	Pseudo R^2	
		M2	M3	M2	M3	M2	M3	M2	M3		*M2*	*M3*
Pooled samples[a]	Women	1.14***	1.07***	1.01	0.98**	0.96***	0.95***	1.15***	1.03**	62516	*0.008*	*0.075*
	Men	1.09***	1.07***	1.17***	1.06***	1.05*	1.05**	1.33***	1.14***	20814	*0.006*	*0.066*
WESTERN AFRICA												
Burkina Faso	Women	1.07***	1.02	1.06***	1.03*	0.98	0.99	0.99	1.00	6391	*0.002*	*0.033*
	Men	1.17***	1.09***	1.01	0.97	1.01	1.01	0.97	0.99	2467	*0.005*	*0.051*
The Gambia	Women	1.10***	1.04**	1.03	1.01	0.98	0.99	1.08*	1.02	4296	*0.004*	*0.018*
	Men	1.16***	1.09*	1.07	1.05	1.16	1.12	1.54***	1.56***	1624	*0.010*	*0.025*
Mali	Women	1.00	0.97	1.03	1.00	1.00	0.98	1.05	1.04	3669	*0.000*	*0.015*
	Men	1.01	0.95	1.08*	1.06	0.95	0.98	0.87	0.98	1197	*0.002*	*0.025*
Nigeria	Women	1.27***	1.10***	0.96***	0.98*	0.94***	0.93***	1.17***	1.04**	14641	*0.021*	*0.086*
	Men	1.20***	1.09***	1.17***	1.09***	1.03	0.95	1.40***	1.19***	3673	*0.011*	*0.076*
Niger	Women	1.08***	1.05**	0.95*	0.96*	0.84***	0.89***	1.02	0.99	3600	*0.006*	*0.031*
	Men	1.15***	1.15***	0.95	0.95	0.98	1.03	0.98	0.96	1063	*0.004*	*0.022*
MIDDLE AFRICA												
Chad	Women	0.98	1.01	1.06**	1.03	0.93***	0.93***	1.02	0.99	5404	*0.002*	*0.033*
	Men	1.00	1.00	1.23***	1.21***	1.32**	1.28**	1.20	1.13	1633	*0.004*	*0.038*

DRC	Women	1.09***	1.07***	0.98	0.98	0.94***	0.93***	1.02	0.99	7128	*0.002*	*0.029*
	Men	1.09*	1.08*	0.98	0.98	1.00	1.01	0.98	0.97	2910	*0.001*	*0.018*
Angola	Women	1.14***	1.03	1.00	0.96*	1.05*	1.03	1.24***	1.10**	6132	*0.005*	*0.030*
	Men	1.15***	1.09**	1.06	1.04	1.23***	1.19***	1.81	1.46	2358	*0.009*	*0.031*
EASTERN AFRICA												
Burundi	Women	0.98	0.98*	0.87***	0.87***	0.93***	0.93***	0.86***	0.86***	6972	*0.004*	*0.007*
	Men	1.05**	1.04*	0.94***	0.95***	1.00	1.00	0.87***	0.88***	2778	*0.003*	*0.005*
Uganda	Women	1.03**	1.00	1.00	0.99	1.03*	1.02	0.96**	0.97*	7883	*0.001*	*0.014*
	Men	1.03	1.00	1.05	1.05*	1.16***	1.16***	1.16*	1.14*	2174	*0.004*	*0.015*

*Note: Data from selected DHS-datasets (2010-20), men and women aged 15-24. All data are weighted using the appropriate survey weights. Significant at * p<0.05, ** p<0.01, *** p<0.001.*
M2: this model adjusts for attitude towards wife beating and gender preferences for children. M3: this model adjusts for M2 and place of residence, educational level, religion (except for Niger), age, household wealth, total children ever born and marital status (and fixed effects for country in the pooled samples).
[a]The pooled samples include all selected SSA countries, except for Niger, as religion data is not available in the dataset