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RESEARCH ARTICLE



A qualitative study on fertility preferences and barriers to fertility autonomy in rural Uganda among women with an unmet need for family planning

Rebecca L. Luttinen^a, Christine Muhumuza^b, Susan M. Kiene^{c,d}, Rhoda K. Wanyenze^d, Trace S. Kershaw^e, Haruna Lule^f, Samuel Sekamette^g and Katelyn M. Sileo^{h,i} 

^aDepartment of Sociology and Demography, University of Texas at San Antonio, San Antonio, TX, USA; ^bDepartment of Epidemiology and Biostatistics, Makerere University School of Public Health, Kampala, Uganda; ^cDivision of Epidemiology and Biostatistics, San Diego State University School of Public Health, San Diego, CA, USA; ^dDepartment of Disease Control & Environmental Health, Makerere University School of Public Health, Kampala, Uganda; ^eDepartment of Social and Behavioral Sciences, Yale School of Public Health, New Haven, CT, USA; ^fGlobal Centre of Excellence in Health (GLOCEH), Kampala, Uganda; ^gButambala District Health Department, Gombe Hospital, Gombe, Uganda; ^hThe Department of Discovery and Implementation for the Common Good, Connell School of Nursing, Boston College, Chestnut Hill, MA, USA; ⁱDepartment of Public Health, The University of Texas at San Antonio, San Antonio, TX, USA

ABSTRACT

Women's autonomy in fertility decision-making is essential for improved health and social outcomes. Guided by the social-ecological model, this investigation explores multilevel influences on the fertility autonomy of women with an unmet need for family planning in rural Uganda. We conducted four focus groups with men and women ($n=26$), and 15 key informant interviews with community leaders and individuals involved in the provision of family planning. The data were analyzed thematically. The results highlight how community-level norms reinforce gender inequalities in decision-making and underpin beliefs to not limit men's number of children. Religious norms and polygamy practices were shown to influence attitudes towards family size and family planning, as well as shape relationship dynamics related to fertility. Concerns about poverty were identified as a driver of shifting preferences and increasing acceptance of family planning. Results showcase how health system weaknesses limit women's access to family planning services, contribute to mistrust of health systems and drive misinformation about contraceptives, especially among men. This study underscores the need for multifaceted gender transformative interventions to increase women's fertility autonomy. This study also highlights health system strengthening, religious leader endorsement and male engagement as approaches to increase women's autonomous use of family planning.

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Introduction

Sub-Saharan Africa (SSA) has the highest fertility in the world. High birth rates are negatively associated with indicators of country development, including low levels of education, high poverty rates and high maternal mortality (Hirschman, 2001; Susuman et al., 2016; Upadhyay et al., 2014). In Uganda, the fertility rate is 4.2 children per woman, and 15% of women and 20% of married women have an unmet need for family planning (e.g. women who want to delay or stop childbearing but are not using a modern method of contraception) (UNFPA, 2024).

In Uganda and similar settings, women's decision-making autonomy remains a critical area of study in relation to high fertility. Research has shown that when women are in control of their own decision-making, they have better engagement in health care, overall health outcomes and higher levels of happiness (Ali & ul Haq, 2006; Dito, 2015; Osamor & Grady, 2016). Furthermore, the ability to make autonomous

CONTACT Katelyn M. Sileo  sileo@bc.edu  Connell School of Nursing, Boston College, 140 Commonwealth Avenue Chestnut Hill, Chestnut Hill, MA 02467, USA

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reproductive decisions is a human right and it is part of the United Nation's Sustainable Development Goal to achieve gender equality around the world (UBoS, 2021). However, only 46% of women in the least developed countries reported they have decision-making power in their sexual and reproductive health, compared to 82% in more developed regions from 2007 to 2022 (UNFPA, 2024).

An ecological lens is an appropriate framework to explore the factors affecting women's fertility preferences. The social-ecological model is a framework used to describe the interplay between individuals, the groups they exist in, and the environment around them (Green et al., 1996). At the individual level, younger age, lower parity, lower educational attainment and lower knowledge about family planning are associated with the desire for more children (Ahinkorah et al., 2020; Atake & Gnaku Ali, 2019). However, women exist within communities and, if they are partnered, within relationships. At the interpersonal level, studies show male partners greatly influence contraceptive use dynamics and that male dominance in decision-making pertaining to women's health may be on the rise in Uganda (Andriano et al., 2021; Sarnak et al., 2021). Studies in Uganda report that women commonly resort to using contraception in secret because their partners are not supportive of its use (Namasivayam et al., 2022; Sileo et al., 2024a). Furthermore, 45% of ever-partnered Ugandan women report experiencing physical intimate partner violence (IPV) in their lifetime, an indicator of gender inequity and a factor negatively associated with both contraceptive use and reproductive autonomy (Muluneh et al., 2023; Tesema et al., 2024; UBoS, 2021).

Culturally grounded gender norms shape relationship dynamics and men's greater decision-making power. Inequitable gender norms can manifest in male fertility preferences overtaking their female spouse's preferences (Andriano et al., 2021; Cleland et al., 2020; Sarnak et al., 2021). Other community-level factors, like religious norms, influence fertility decision-making. The most common religion practiced in Uganda is Christianity, which values large family size and Catholic doctrine (one group within Christianity) has been known to openly reject contraceptive use (Paul, 1968). Research has shown that Catholics in some regions of Uganda are less likely to use contraceptives than those that identify with other religions, including Muslims (Otim, 2020). Protestant sentiment of contraceptive use in Uganda is mixed, as research has shown varying levels of contraceptive use amongst Protestants over time (Rutaremwia et al., 2015). In regions of Uganda, there are also large sub-populations that practice Islam. Research regarding Islam's stance on contraception is mixed and varies by setting – on one hand, the Qu'ran emphasises the value of children, and some imams (Muslim leaders) openly campaign against contraceptive use (Jeffery et al., 2008). However, other imams argue that the proper interpretation of the Qu'ran's stance on bearing children is to do so in a responsible manner, while promoting contraceptive use as a way to do so (Shabaik et al., 2019). More research is needed to understand how Muslims in Uganda view contraceptive use.

At the health system level, an important factor that affects a woman's ability to achieve her fertility preferences is access to quality family planning services and contraceptives. Research has connected poor health care system quality with lower family planning method utilisation in SSA, although the measurement of health care quality varies by study (Fruhauf et al., 2018; Mugisha & Reynolds, 2008; Tessema et al., 2016; Tumlinson et al., 2015). Accessibility to providers and information on the services available are among the factors that increase both health system quality and patient contraceptive uptake (Tessema et al., 2016; Tumlinson et al., 2015). Contraceptive uptake is also influenced by the power dynamics between providers and clients seeking family planning services. For example, women may be less likely to seek out health care services from male providers, or female sex workers may fail to seek services for fear of discrimination (Duby et al., 2018; Nikiema et al., 2012). In contrast, factors that increase family planning service use include transportation access or living near a health clinic (Namasivayam et al., 2022; Sileo et al., 2023b).

The purpose of this paper is to explore factors influencing women's fertility preferences and autonomy in fertility and contraceptive decision-making through a social-ecological lens in a rural district in central Uganda. This paper uses qualitative data collected from reproductive-aged women and men with an unmet need for family planning as well as from stakeholders with expertise in the local community and family planning services. These data were collected as part of the formative phase of a developmental pilot intervention, which was used to inform the development of an intervention to reduce the unmet need for family planning in rural Uganda. Guided by the social-ecological model, we explore women's individual-

level fertility preferences in relation to men's preferences, as well as underlying community-level norms and health system factors influencing women's ability to achieve their fertility preferences.

Methods

We conducted a qualitative study with women and men of reproductive age with an unmet need for family planning, with local family planning experts and community leaders in Butambala District in central Uganda in 2020. We purposively sampled women and men with an unmet need for family planning because this group is at risk for not meeting their fertility preferences. Butambala District is in central Uganda, southwest of Kampala. Covering roughly 405 square kilometres, it had an estimated population of 110,000 in 2020, and the main industry is subsistence farming. These data were collected as part of the formative phase of a pilot intervention trial, the results of which have been published elsewhere (Sileo et al., 2024a, 2024b).

Participants were recruited from three villages in the Butambala district, which were comprised of approximately 100 households each. Our district partners assisted in our selection of the three villages, which were chosen to mirror communities that were selected to implement a family planning intervention, as previously described. We selected villages with population sizes of approximately 1000, served by their own government Health Centre III (HCII) (and thus, similar access to contraceptives), and similar trade and religious affiliations. The two major religions practiced in this district are Christianity and Islam, and within the selected villages, there is a larger representation of the Muslim population than nationally. Polygamy is common (regardless of religion). HCIIIs offer a range of free family planning services, including short-term methods (condoms, oral pills, injectables) and long-term reversible methods (implant, intrauterine devices). General hospitals (HCVs) offer all methods, including non-reversible methods (i.e. tubal ligation, vasectomy). Village Health Teams (VHTs), the local cadre of community health workers, support the health system to educate community members on family planning methods and provide them free of charge. Contraceptives are also available for purchase from local shops and private clinics.

From June to October 2020, we conducted four focus groups with community members, two with only men and two with only women (26 total, 13 women and 13 men). The focus group participants were recruited through door-to-door mobilisation by the VHTs. Those who were recruited were screened for eligibility and informed of the study. Groups were gender segregated and split by age-group to ensure open discussion (18–29 vs. 30 years and older). We also held 15 key informant interviews (KIIs) with clinic supervisors, family planning health workers, VHTs and elected and religious leaders.

We recruited individuals of reproductive age with an unmet need for family planning to explore barriers to contraceptive use and fertility preferences among this group. An individual was considered as having an unmet need for family planning if they indicated that they wanted to delay or stop childbearing for at least one year but were not currently using a modern contraceptive method. This measure was adapted from the Demographic and Health Survey definition, which uses a two-year time period (UBoS & ICF, 2016). We used a one-year time period because it was in line with the pilot period for the broader intervention. We focused on married individuals as the study's larger aim was to develop a couples-based intervention; however, for focus groups, men and women were not recruited as couples but as individuals. The other inclusion criteria for focus group participation were being from the selected villages, being within reproductive years (women: Aged 18–40, or an emancipated minor, defined as individuals below 18 years who are married, have a child, or are self-sufficient; men: Aged 18–50 or an emancipated minor) and fluent in Luganda. Local VHTs familiar with the communities recommended potentially eligible individuals to the study team. Participants in the focus groups received 7000.0 Ugandan Shillings (~\$2.0 USD) as compensation for their participation. A research assistant used a brief screening tool to assess eligibility of the referred individuals and obtained written informed consent. The study was approved by the institutional review boards (IRB) at the University of Texas at San Antonio in the United States and the Makerere University School of Public Health in Uganda, and was approved by the Uganda National Council for Science and Technology.

Two female interviewers affiliated with the Makerere School of Public Health trained in qualitative research and the study's protocol led the focus group discussions in the local language, Luganda. They followed an interview guide aimed to elicit community fertility preferences, attitudes towards

contraception, and relationship dynamics and other factors influencing fertility decision-making. The moderators audio-recorded all sessions and took detailed notes.

For the KIs, the district health team (health leaders at the district level), VHTs and other local partners recommended participants. The goal was to elicit insight on community norms on family size and family planning, the local health system and factors affecting family planning service delivery and contraceptive uptake. The key informants included health workers involved in the provision of family planning services (e.g. midwives), VHTs and religious and elected leaders. An experienced interviewer trained in the study protocol conducted one-on-one interviews. The questions varied by the expertise of each informant and individuals were compensated with 15,000.0 Ugandan Shillings (~ 4.0 USD).

The compensation levels for the focus group participants and the KIs were deemed appropriate in consultation with our district health partners and the intervention steering committee. It was also approved by the local Ugandan IRB. According to the standard customs for research study participation in Uganda and the local ethics committee, it is ethical to compensate participants for their time, and important to consider an amount that is not coercive. The interviews were recorded in Luganda and translated into English. All interviews were transcribed and double-checked. The transcripts were stored on computers with password protection, and were only made available to members of the study team. Those who transcribed were trained to exclude any identifying information (e.g. names) mentioned in the interviews, and were reviewed to ensure full de-identification.

Due to confidentiality concerns, the interview data are not publicly available.

Data analysis approach

We analysed the data using a hybrid deductive-inductive approach to thematic analysis (Boyatzis, 1998). First, we deductively coded the data guided by the Andersen Behavioural Model of Health Service Utilisation Babitsch et al. (2012), which was identified *a priori* and used for a separate research inquiry (Sileo et al., 2023b). Two undergraduate research assistants were trained in qualitative coding and worked with KMS to initially code the transcripts. The team used an iterative process to apply codes to transcripts manually and organise them in Excel, allowing for inductive identification of codes as well at this stage, meeting weekly to discuss codes and themes and resolve discrepancies through consensus.

To answer this paper's research question specific to multilevel determinants of fertility decision-making, the coded data were reorganised by RLL using the social-ecological model, to bring forward community, health-system, interpersonal and individual-level influences. While the original Andersen Behavioural Model focuses primarily on individual-level determinants, later iterations explicitly incorporate contextual (community and health system) factors alongside individual characteristics (Babitsch et al., 2012). In our analysis, we aligned the individual and contextual components of the Andersen model with the corresponding individual and community levels of the social-ecological framework. In our original use of the Andersen Behavioural Model of Health Service Utilisation, we adapted the model to include a domain of 'relationship factors' given the strong influence of the spousal and other relationships on fertility decision-making in the local context. These codes then populated the interpersonal level of the social-ecological model.

Two researchers led thematic analysis, RLL and KMS. After each had reviewed all transcripts and coded data, RLL wrote an impression summary of themes by social-ecological level, which was reviewed by KMS. The two together refined the themes through an iterative process of review and revision. The team then considered the major themes across all social-ecological levels, and how factors interacted across levels to affect fertility preferences. Through iterative review, refinement, and discussion the team distilled the themes into the five presented. Other co-authors aware of the study findings (having reviewed all transcripts) gave final feedback on themes and interpretation.

RLL and KMS iteratively reviewed the data to identify key themes related to influences of fertility decision-making by level of the social-ecological model and interactions across levels. Any disagreements were resolved between RLL and KMS through discussion. While deemed appropriate in many cases, inter-rater reliability has been contested; this study team did not use inter-rater reliability, as it is inherently a quantitative convention that assumes there is an objective set of codes (Armstrong et al., 1997). This is consistent with several qualitative experts in the field (Barbour, 2001; Stenfors et al., 2020).

Results

Sample description

The focus group sample was comprised of equal women ($n = 13$) and men ($n = 13$). The mean age of women was 32.5 (18–46, minimum to maximum) and of men was 32 (18–50). Just under 70.0% reported being Muslim, 15% being Catholic and 15% being Protestant, which mirrors the broader community's demographics. Over half (54.0%) of women had a primary level education compared to just under 62% of men. Following the study's inclusion criteria, all participants were married—for about 13.5 years, on average (standard deviation = 10.1). Men had more children, on average, compared to women, with a mean number of 6.3 compared to 5.2. Polygamy was common, as 54.0% of men reported having two or more wives, and about 70.0% of women were married to men with two or more wives. Lastly, only 30.0% of women reported they had never used family planning. See Table 1 for more information.

The key informants ($n = 15$) interviewed were comprised of health care workers involved in family planning, VHTs, and community religious and elected leaders. Across three villages, we interviewed family planning health workers ($n = 3$), health centre supervisors (who are also health workers) ($n = 3$), VHTs ($n = 3$), religious leaders ($n = 2$), and local elected leaders ($n = 4$). Out of the 15 interviewed, nine were male (60%).

Thematic results

Women participants and key informants described women's ideal family size as generally aligned with the national average ideal number of children for women of 4.8, ranging from 4.0 to 6.0 children (UBoS & ICF, 2016). In the next sections, we describe key findings on factors across social-ecological levels influencing women's fertility preferences and their ability to attain their preferences organised by five themes. Each thematic area describes interacting factors across the social-ecological model. Table S1 outlines the themes and subthemes presented in the following sections with example codes and illustrative quotes outlines.

Theme 1: Gender inequitable norms influence spousal decision-making, communication and men's greater say in fertility preferences A salient theme throughout women's and stakeholders' narratives was the strong perceived effect spousal preferences had on a woman's ability to achieve her fertility preferences. While many men did not quantify their preferences, among those who did, they said they wanted no fewer than six children, and there was consensus that men tend to want more than their spouses. Some men from the focus groups expressed desires for very large family sizes (i.e. 20 or more children) and others used non-quantifiable responses such as '*as many as God allows*' or '*to match their father's number of children*' (Men's Focus Group 18–29, Men's Focus Group 30–50). Narratives generally suggested that men's fertility preferences weigh more than women's, as one woman stated: '*Another challenge comes from our spouses. You may share with him that, "where we have reached [in family size], we can use family planning," but he will disagree and then you end up having children you don't want or [are not] ready to have*' (Women's Focus Group, Ages 30–49).

Table 1. Focus group participant demographics.

	Total ($N = 26$) n (%) / mean (SD*)	Women ($n = 13$) n (%) / mean (SD)	Men ($n = 13$) n (%) / mean (SD)
Age	32.2 (10.4)	32.5 (9.8)	32.0 (11.2)
Tribe			
Muganda	24 (92.3%)	13 (100.0%)	11 (84.6%)
Munya Rwanda	2 (7.7%)	0 (0.0%)	2 (15.4%)
Religion			
Muslim	18 (69.2%)	10 (76.9%)	8 (61.5%)
Catholic/Protestant	8 (30.8%)	3 (23.1%)	5 (38.5%)
Education			
No grade	4 (15.4%)	2 (15.4%)	2 (15.4%)
Primary	15 (57.7%)	7 (53.8%)	8 (61.5%)
Secondary	6 (23.1%)	3 (23.1%)	3 (23.1%)
Tertiary	1 (3.8%)	1 (7.7%)	0 (0.0%)
Years married	13.5 (10.1)	14.3 (9.8)	12.6 (10.8)
Number of living children	5.7 (4.1)	5.2 (3.7)	6.3 (4.5)
Number of wives	1.7 (0.7)	1.9 (0.7)	1.6 (0.7)
Ever used family planning	11 (42.3%)	9 (69.2%)	2 (15.4%)

*Note: SD = standard deviation.

In both the women's and men's focus groups, respondents repeatedly brought up joint decision-making as an indicator of relationship quality and a healthy marriage. However, narratives highlighted that equitable power dynamics within spousal relationships were not the norm locally, with men holding more decision-making power than women. Men's greater decision-making power ultimately aligns with prominent gender norms that afford men greater status than women, as a family planning health worker (KII) explained, *"They [men] are the heads in their homes, and the women fear to go against the rules they make at home"*. As the earlier quotation suggests, relationship inequity can result in women having children because of pressure from their partner. Some participants suggested this power imbalance is pronounced in couples with an age gap, noting how many women are expected to marry at a young age and start bearing children right away. Women's reproductive autonomy is further compromised without financial autonomy, which was said to be common in the region and is also tied to prominent gender roles. In the study communities, men are the primary breadwinners and women responsible for childcare/household duties, as the same family planning health worker (KII) went on to say: *"Men leave all the responsibility of taking care of children, in education, clothing and all that, to women"*.

Prominent gender inequitable norms and resulting inequitable power dynamics were also showcased in narratives that discussed IPV, which further limits women's reproductive decision-making power. Women, men, and key informants agreed that, while IPV is not condoned in their communities, it still occurs and can occur in the context of women's contraceptive use as well as fertility decision-making. As one woman shared, *"Physical abuse is not supported in the community, but if it concerns family planning, most men support the abuse"* (Women's Focus Group, Age 18–29).

Related to relationship equity, participants discussed the quality of spousal communication as central to women's ability to participate in fertility decision-making. If a partner's fertility intentions are at odds with the other, healthy communication can be used to find a common ground, as described by one man:

"If the father and mother relate well and there is harmony in the home with their children, then they will plan for the number of children they can care for based on their income. It means that those children will be well managed by their parents in all ways. They will manage and provide for them well to live happily" (Men's Focus Group, Ages 18–29).

In contrast, poor communication was discussed as a prominent barrier to women's achievement of their desired fertility. This was described by a health worker (KII) below.

"Most of the time, if the couple does not have the same intentions to conceive at a given time, you can find a man wants a baby, but the woman wants to delay it a bit. If there is a disagreement there, then it is up to her to find an agreement. Another situation is when a lady decides to start using family planning. This choice, most of the time, is decided by the man if they come together, but once there are side effects, the man will leave all the responsibilities to the lady".

As this quote illustrates, although decision-making power is held by men, communication between spouses is still key. Moreover, implied in this quotation and corroborated by other narratives, family planning is mainly viewed as a woman's domain, making it a woman's responsibility to advocate for it.

Theme 2: Gender norms influence community beliefs that men should not limit their number of children and contribute to men's disapproval of contraceptive use

Building on theme 1, participants described how social status tied to high fertility is a driver of men's large family size preference, underpinned by community-level gender norms. Participants explained how having many children was linked with higher esteem, and the fulfilment of ideals for both men and women's gender roles. However, when it came to the desire to have children without limitations, the discussions made apparent that these norms were more influential for men than women. As the quotation below showcases, peers and others in the community reinforce this norm through praise or criticism:

"Whenever they [men] get more children, they are praised that as powerful. Even others will bully you if you have fewer children or [children] from only one woman. You will be taken like a less important man, silly, simple and just like a nobody. So, they will be on your case until you also start getting different women so that you produce children like that" (Women's Focus Group, Ages 30–49).

This quotation also highlights an idea that was widely discussed as driving men's preferences for large families – that men should have children from more than one woman. Men explained that having children from multiple women ensures one has healthy and successful children (as bearing children with more wives increases the chance of 'desirable' traits or familial wealth). However, it also serves to reinforce gender norms that allow men the freedom to have multiple partners, a practice that was discussed as widely accepted for men (even for non-Muslim men) and less accepted for women.

While narratives tied high fertility to women's status as well, its greater salience for men was apparent in a phrase repeated throughout the focus groups and interviews: 'you cannot limit a man's fertility.' Relatedly, participants explained how families reinforce large family size norms through a belief that can be summarised as the 'expand the clan mindset,' which was repeatedly brought up when discussing men's fertility preferences. Men are expected to bear many children to spread the family name and legacy. In the men's focus group (ages 18–29), one man explained, '*No parent can say I want to have only two children; that is why there is a saying that goes "ekikka kyala baana" – a clan is expanded by children you have*'. The expand the clan mindset also contributes to pressure for women to bear male children so that the family name can be carried on to the next generation.

These beliefs, underlying the norm that men should not limit their number of children, were identified as a driver of men's disapproval of contraceptives, a notion that was overwhelmingly supported by all participants. As such, in both the men's and women's focus groups and KIs, respondents explained that if a woman's husband does not support family planning, she will have to use it in secret or not use it at all, as one elected leader (KI) said: "*Some men don't really support contraceptive use, and this pushes the women whose husbands are not in support to go secretly to obtain methods*".

Theme 3: Religious norms and polygamy practices influence attitudes towards family size and family planning, and shape relationship dynamics related to fertility

At the community-level, religious norms were discussed as a driving factor influencing individual-level beliefs and interpersonal dynamics relevant to fertility decision-making for women and men. Participants shared that both major religions of the region, Islam and Catholicism, promote large family size. This included a historical disapproval of family planning by the Catholic church, as an elected leader (KI) explained, "*I am a Catholic. Originally, our religion has not been in support of family planning*", but, as the leader suggests, participants agreed that this disapproval has relaxed over time locally. The religious leaders interviewed explained that both Catholic and Muslim leaders are now more likely to promote having the number of children one can take care of, recognising poverty is worsened by a lack of family planning. This is demonstrated in the following quotation in which a community leader explains their imam's stance on child spacing.

"He urges the people telling them, 'given the current conditions and the poverty levels, we have to space out our children depending on our circumstance because it may be difficult to care for many children. So, let us be obedient and use family planning, if it can help" (KI, Religious leader).

Religious norms, in conjunction with gender norms, also appeared to underpin the previously discussed sentiments that men should not limit the number of children they have. As one woman said, "*Now, as for Muslims, they have a belief that [you should] produce as many children as you can because each child comes with a blessing. God will take care of those children*" (Women's Focus Group, Ages 18–29). Further, religious norms reinforce the previously discussed belief that men should have children with more than one woman, through the practice of religious polygamy. However, while men commonly cited the Qu'ran as justification for not limiting their number of children and wives, many participants countered this idea by stating that the Muslim religion only supports the addition of wives that one can provide for.

An elected leader (KI) explained how men taking on more children/families than they can manage causes marital problems; this was also discussed as a major source of relationship dissatisfaction by women participants.

"The Qu'ran allows men who are capable to have several women and calls for balancing of these women. But you cannot afford to buy or provide basic needs to one spouse fully, instead you buy and then divide it up amongst them [wives]. That causes conflict among [married couples] and such things happening in families then they cannot move forward. You cannot build love between them and a good relationship".

Women described male role neglect as a factor influencing their desire to limit their number of children, illustrated in the following quote.

"You can wake up one morning when the man has left you with the children alone, so you end up becoming the father and mother of the children, while he continues his ways with other women. In situations like these, you must use family planning so that you can have the number of children you can manage on your own" (Women's Focus Group, Ages 30–49).

As described earlier, household duties, such as childcare, mainly fall on women. Women in polygamous relationships also tend to live in separate houses than their husband, allowing some women in these relationships to use family planning without their partner's approval. However, in contrast, for other women, relationship strain associated with men having multiple partners was said to foster competition between wives. This can lead to women having more children to maintain a higher stance than other wives, shown in the following quote by a HCW (KII):

"They have no particular number [of children planned] because the man will want to satisfy these women. He goes on to get a woman when he already has eight children and the new wife will want to compete with her co-wife and also produce eight of them".

Theme 4: Family income is a driver of fertility preferences, and poverty and changing economic conditions impact preferences for smaller family size

One of the most salient factors discussed as determining both men and women's fertility preferences was family income, as described by one woman (Women's Focus Group Age 30–49): *"I think when people talk about finances [as key to family size preferences], I agree with them, I need to know about my financial standing and income that can be able to sustain the children we want"*. Despite men's expressed disapproval of contraceptive use, men in focus group discussions reflected on how socioeconomic circumstances constrain their ability to care for large families, as one man (Men's Focus Group, Ages 30–50) expressed, *'Ideally, a man would have many children, but the current economic situation fails us'*.

Income was discussed as a factor enabling family expansion. However, given the socioeconomic status of the community, income was mainly talked about as a limiting factor. The communities in which participants live are agrarian and the work they do is mainly subsistence farming. Many respondents brought up how living in poverty has reduced their own desire for large families, and religious leaders empathised with these concerns (as discussed under theme 3). One elected leader (KII) explained how increased cost of living has made it more difficult to have large families and increased the desire for family planning to limit children for women specifically, given their role in raising children:

"The cost of living in this area has been going up, making it hard to cater or to look after big families, or many children. The women here play a big role in bringing up children, and providing for their children. So, they see family planning use would help in reducing [to a] family size that can be manageable to them".

Theme 5: Health system weaknesses limit women's access to family planning services, and contribute to mistrust of the health systems and community misinformation about contraceptives, especially among men

Participants' narratives highlighted multiple factors related to the local health system that influence women's fertility autonomy. One of the most prominent direct factors was contraceptive access. Contraceptives are offered for free at the public clinics, however, issues with quality and stock create accessibility barriers, as described by one woman (Women's Focus Group, Ages 18–29):

"You may go to a health worker, who may not have the service [contraceptive method] you want and will tell you, 'wait until I go to Kampala to bring another stock.' I cannot go to Kampala for only your stock, so you have to wait for other stocks to be empty like panadol and all that, all while you may need a service urgently".

Availability and quality concerns were less of a concern at private clinics, however, these clinics present a cost barrier, as explained by an elected leader: *'In this village, there is a private health facility, very close by, so a few women who could afford the charges, would access it to obtain the method'*. Stock issues were compounded by issues related to negative experiences with long wait times, power divides between health workers and clients, health worker availability and their capacity to provide all

methods. One man (described his discontentment with the service provided by government clinic health workers.

"They [health workers] work on people for free. They could work on only one person and leave. They do whatever they want, after all, as they provide free services, and their salaries are guaranteed" (Men's Focus Group, Ages 30–50).

With poor service quality and accessibility reportedly commonplace, the narratives suggested that community members come to expect poor service, leading to less health-seeking behaviour overall. During a focus group discussion, the interviewer asked if women desire to be counselled about how to use family planning methods, one woman responded, *"I think it is okay if they refer us to the right and skilled people, not like when you hear that VHTs give children medication. Then an adult runs to them for treatment. We need specialists who work on particular methods"* (Women's Focus Group, ages 30–49).

As implied in the earlier quotation, there is a distinct tone of distrust of the health system, and a lack of confidence in health workers' ability to provide contraceptives. This was particularly highlighted within the men's focus groups as one man explained: *"The problem we face with those people from the clinic [providers] is that they inject women with expired drugs, and you find a woman getting a pregnancy that she did not plan to have"* (Men's Focus Group, Ages 30–50).

Furthermore, many examples showcased how individual's negative experiences with family planning services spread by word-of-mouth around the community, developing into negative community-wide beliefs, as well as misinformation and myths about contraceptives. There was a consensus that there is widespread concern in the community about family planning's side effects. Myths linking contraceptives to disease, were named by women specifically, as illustrated by a woman in a focus group (Ages 30–49): *"We have heard terrifying things from family planning users; they say contraceptives cause fibroids and they are cancerous. So that scares me whenever I want to use family planning"*. Men reiterated these myths. They also expressed a particular concern that side effects, like bleeding or reduced sex drive, can negatively affect their sexual relationships with women.

While these health system-level factors directly negatively influence a woman's contraceptive autonomy, by creating numerous access barriers for women who want to prevent pregnancy, they also interact with interpersonal dynamics to negatively influence women's autonomy through spousal disapproval. In the focus group discussions, men displayed particularly low levels of knowledge about contraceptives and fear of the side effects. One man expressed this fear himself, and explained how a wife's use of contraceptives can result in men replacing their wives for another partner:

"I hear [men say they fear family planning] based on the side effects of family planning with other women. I also fear it. I don't want to use it. Implants changes their way of life. They over bleed, others fatten, and you fear them. So, men end up running out and get side dishes [other partners]" (Men's Focus Groups, Ages 30–50).

Given men's low level of knowledge and overall disengagement with family planning services and education, when women get a typical side effect for a particular contraceptive method, participants explained how men are quick to force their wives to discontinue the method, demanding they return to the health facility for its removal.

Discussion

This study used the social-ecological model to explore multilevel factors influencing the fertility preferences and contraceptive autonomy of women with an unmet need for family planning, using qualitative data from three rural communities in central Uganda. While most women expressed desire for 4–6 children, male participants expressed even higher levels of desired fertility rooted in intertwined gender, religious and cultural norms. Cultural practices (e.g. polygamy) and other traditional expectations (e.g. the desire to expand one's clan) were closely tied to the desire for a large family. In relationships, we found that men's greater decision-making power, underpinned by community gender norms, results in men commonly having the final say on fertility and contraceptive decision-making. Family income was viewed as important to achieving high family size desires, but a high level of poverty in the community was named as the primary reason to limit family size. Finally, at the health system-level, barriers to contraceptive method

access and perceived low quality of counselling on proper use were highlighted as preventing women from spacing and timing their fertility, while driving community distrust of the health system and family planning misinformation, contributing to men's disapproval of family planning use.

This study highlights how gender norms influence both community attitudes and interpersonal relationships in ways relevant to fertility decision-making. Men's fertility preferences were said to have more weight than women's due to gender norms appointing men as the household decision-maker. Men generally preferred larger families than women and disapproved of contraceptive use for family limiting, driven in part by community-level pressure to have a large family. These results are consistent with a similar investigation in Tanzania, which described how patriarchal gender norms contribute to men's greater say in fertility decision-making and their disapproval of contraceptives (Schuler et al., 2011). While participants brought up joint-decision-making as the 'gold standard' for fertility decision-making, they did not describe it as something that is commonplace in the community. As such, family planning interventions that promote open dialogue between partners, which can destigmatize conversations about sexual-reproductive health and emphasise that autonomous decision-making is a human right (Senderowicz & Higgins, 2020) may benefit this community. Studies have shown that couples-centred interventions, which are usually focused on improving communication skills and practicing empathy (Ainslie et al., 2022), can increase communication and equitable fertility decision-making between couples in SSA (Hartmann et al., 2012; Tilahun et al., 2015).

Gender transformative approaches can successfully promote open dialogue between women and men on reproductive health topics. These interventions aim to reshape individual attitudes and community norms more towards gender equity (Dworkin et al., 2015). Gender-transformative reproductive health interventions typically focus on changing men's attitudes and couple dynamics and can target community-level change through community mobilisation efforts (Ruane-McAteer et al., 2020). Family planning interventions that use a gender-transformative approach have been shown to increase contraceptive use in SSA settings (Doyle et al., 2018; Udenigwe et al., 2023). Gender-transformative approaches may also be appropriate for interventions that more holistically aim to increase women's reproductive autonomy, which scholars argue should be the goal of family planning interventions, rather than a narrow focus on contraceptive use alone (Senderowicz, 2020; Tumlinson et al., 2015). With a rights-based approach to family planning in mind, researchers should explore the use of gender-transformative interventions that can increase concordance between couples to make an informed choice together to use or not use contraceptives.

This study also found that religious norms play an important role in fertility preferences in this context. Population scientists cite religion as a driving factor of SSA's slower pace of fertility decline compared to the rest of the world (Caldwell et al., 1992; Turner & Götmark, 2023). This qualitative study adds to this literature by elucidating the mechanisms in which religion can influence desired fertility, including shaping individual attitudes to favour large family size and oppose contraception, as well as affecting interpersonal marital dynamics. The idea that men's fertility should not be limited influenced men's preferences, in turn, influencing women's fertility decision-making autonomy. Further, in some polygamous unions, women were said to use childbearing to gain higher status than other wives, while some men seek other wives for achieving their fertility preferences when their desires are discordant with their current wife/wives. While disapproval of contraception by religious groups was named as a deterrent to use, we also found support that religious leaders can play a role in public buy-in of family planning. As such, religious leader endorsement of family planning's public health benefits is strategy that can be used to engage both men and women, which has been used successfully in SSA and other settings for outcomes such as vaccination and engagement with maternal health care (Sadore et al., 2024; Syed et al., 2023).

We identified individual and family-level income as prominent determinants of both women's and men's fertility goals. Despite overall large family size preferences, people's economic concerns were discussed as driving increasing acceptance of family planning in this community. Poverty remains high in Uganda; the Uganda National Household Survey reports that 20.3% of the Ugandan population lives in poverty (World Bank, 2022). Making sure Ugandan women and families have access to contraceptives, should they choose to use them, remains vital in allowing them to limit childbearing, if they wish to do so, with important economic implications for families. Many family planning interventions have been successful in promoting greater access to contraceptives in areas where access is low and poverty is high (Mwaikambo et al., 2011).

Some family planning interventions with the specific goal of engaging men in family planning have done so by tying family planning to economic benefits (Shattuck et al., 2011; Sileo et al., 2024b).

Finally, our study found healthcare quality influences women's ability to control their fertility via contraceptive use. These qualitative data highlighted multiple barriers to accessing high quality family planning services, aligning with other research in the region (Fruhauf et al., 2018; Tumlinson et al., 2022), including health system weaknesses such as stock outs, limited method mix, long wait time and low provider capacity to deliver and counsel on all methods and to manage side effects. Our findings suggest that negative experiences with family planning, direct or more often indirect (i.e. hearing about others' experience), contributed to a hesitation to trust the system, expressed mainly by men. Similarly, a systemic review found reports of provider/staff mistreatment of maternity care clients is a driver of health care system mistrust in Africa and Asia (Mannava et al., 2015). Thus, to increase women's ability to access and use contraceptives, should they choose to, there is a need to strengthen local health systems through provider training in person-centred family planning counselling. This type of family planning care is guided by patient preferences and needs, using strategies such as informed decision-making and proper provider-patient communication (Diamond-Smith et al., 2020; Sudhinaraset et al., 2018). There is also a need for efforts to assure there is a range of contraceptive methods consistently stocked. Research has shown that health system strengthening efforts dissipate negative attitudes towards the health system and can counter negative experiences resulting in community-wide misinformation about contraceptives (Diamond-Smith et al., 2020; Sileo et al., 2024a; Tumlinson et al., 2022).

Taken together, this study points to the need for multilevel approaches that consider not only women's personal preferences, but the influence of her partner, community norms, as well as health system factors to ensure she is able to make fully informed, autonomous fertility decisions. With a focus on resolving the high unmet need for family planning in this region, this research team used these data to inform the development of the multilevel intervention, *Family Health = Family Wealth* ($FH = FW$) piloted under trial registration number, NCT04262882. $FH = FW$ sought to engage both men and women in family planning by tying its benefits to physical, social and economic well-being, and engage men specifically through their interest in the economic benefits of family planning (Muhumuza et al., 2023; Sileo et al., 2023a, 2023b, 2024a, 2024b). The $FH=FW$ intervention is currently being tested in a full-scale efficacy trial.

Limitations

Our data collection team was made up of research staff affiliated with a nearby university. Their positionality as outside to the community and from an academic institution could have created a power imbalance or other perceptions that could affect social desirability bias. In addition, the team of interviewers was comprised of women. While our local partners felt that men would be open to discussing such topics with women, the sex of the interviewers could have influenced men's openness. This study also compensated participants for their time, which is ethical, but could increase the risk of social desirability bias affecting participants' responses. Additionally, this study was conducted in one district of Uganda. Therefore, the external validity (in terms of both location and context) of this study should be considered with caution.

While this study explored both fertility preferences and autonomy in fertility decision-making, it does not explore factors influencing women's desire to limit births as opposed to spacing out births. In the region where this study was conducted, contraceptive use may be more acceptable for spacing rather than limiting. Future studies should pay special attention to factors affecting women's fertility decision-making autonomy for spacing vs. limiting.

Our sample included women and men with an unmet need for family planning, which allowed us to explore individuals at risk of not meeting their family size preferences, but this inclusion criterion differs our sample from the general population. By having a sample with this definition of 'unmet need' our sample does not include perspectives on fertility autonomy among those wanting to get pregnant in the next year or those otherwise achieving their fertility preferences. In addition, this definition of an unmet need for family planning is limited in being solely focused on the desire to prevent pregnancy with modern contraceptives (as opposed to natural methods) (Cleland et al., 2014; Senderowicz & Maloney, 2022). Future work that examines fertility autonomy with a broader sample, including those achieving their fertility preferences, could add additional insights not uncovered in our study.

In addition, these data were collected during the beginning of the COVID-19 pandemic and shortly after Uganda underwent a three-month lockdown. Our team previously published a paper from these data exploring the effects of the COVID-19 pandemic on community family planning access (Sileo et al., 2023b). Given the timing of data collection, it is likely that participants' economic concerns were heightened at the time of the study. While the previously published study did not find COVID-19 to directly influence participants' fertility intentions (Sileo et al., 2023b), the specific timing of this study could have influenced other aspects of our results.

Conclusion

This qualitative study sought to understand factors affecting women with an unmet need for family planning's fertility preferences and autonomy in fertility decision-making through a social-ecological lens in a rural area of Uganda. This study sheds light on how community-level gender norms exacerbate issues in women's decision-making power and lead to disapproval of family planning among men, due in part to community pressure to have a large family. It highlights how religion and polygamy shape both fertility preferences and approval/disapproval of family planning. Financial concerns were tied to increasing acceptance of family planning. Lastly, this study showed how health system weaknesses limit women's access to contraceptives, deter health-seeking behaviour and drive misinformation about contraceptives. These results suggest the need for multilevel approaches to increase women's fertility autonomy in rural Uganda. More research is needed to understand this on a national scale and in other settings where fertility is high. Additionally, future studies should assess fertility autonomy beyond populations with an unmet need for family planning.

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Author contributions

Conceptualisation: RLL and KMS. Data curation: RLL, KMS, CM and SMK. Formal analysis: RLL and KMS. Funding acquisition: KMS and SMK. Investigation: RLL, KMS, CM and SMK. Project administration: KMS, CM and SMK. Visualisation: RLL and KMS. Methodology: RLL, KMS, CM, SMK. Writing – original draft: RLL and KMS. Writing – review & editing: RLL, CM, SMK, RKW, TSK, HL, SS and KMS. Supervision: KMS, SKM and CM.

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ORCID

Katelyn M. Sileo  0000-0003-3714-2945

Data availability statement

The data used in this study is not publicly available to protect the confidentiality and anonymity of respondents.

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