Polygyny, women's empowerment, and gender equality across Sub-Saharan Africa

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Abstract

Although the prevalence of polygyny has been declining across sub-Saharan Africa, this form of marriage remains widespread. Polygyny has been linked to poorer health and well-being among women and children, with greater gender inequalities within polygynous households often cited as an explanation. Leveraging multiple waves of data from the Demographic and Health Surveys, we examine the relationships between polygyny and women's empowerment and marital egalitarianism and test whether these associations have changed over time. The results results show that women in polygynous unions are less likely to use modern contraception, have lower decision-making power, and are more likely to condone intimate partner violence. Where data on marital relations exist, women in monogamous unions reported more egalitarian spousal relations than their counterparts in polygynous unions. These results reflect the changing nature of polygyny in the context of its declining prevalence and its implications for women's empowerment and marital egalitarianism.

Introduction

In Sub-Saharan Africa, variations in marriage patterns, economic conditions, and cultural practices drive much of the family complexity and diversity that exists. Polygyny is a family form that that has a long history in the region and is practiced, even if to varying extents, across ethnic, religious, and socioeconomic lines (Goldman and Pebley 1989). In recent decades, the institution of marriage has been rapidly changing across the subcontinent as age at first marriage has increased, the practice of marriage payment (bridewealth) has declined, and individual spousal selection has become more common (Anderson 2007; Bishai and Grossbard 2010; Bongaarts, Mensch and Blanc 2017; Loforte 2000; Marston et al. 2009; Meekers 1995; Smith 2001). Growing evidence also suggests that the prevalence of polygyny is declining across the region (Chae and Agadjanian 2022; Fenske 2015).

A large body of literature has examined the implications of polygynous unions for marital and family life. Studies show that women in polygynous unions are more likely than women in monogamous unions to suffer from higher levels of anxiety and depression and experience physical, sexual, or emotional intimate partner violence (IPV) across a wide range of African settings (Abramsky et al. 2011; Amo-Adjei and Tuoyire 2016; Behrman 2019; Bove and Valeggia 2009; Jansen and Agadjanian 2020; Makayoto et al. 2013; McCloskey, Owoo et al. 2021; Williams and Larsen 2005). Being in a polygynous union is also associated with fertility and HIV infection, though the direction of these relationships varies by wife's rank (Gibson and Mace 2007; Lardoux and Van de Walle 2003; Reniers and Tfaily 2012). Moreover, research shows that children in polygynous families suffer from higher rates of malnutrition and mortality and that these relationships vary by wife's rank (Gibson and Mace 2007; Gyimah 2009; Hadley 2005; Omariba and Boyle 2007; Strassmann 1997).

Greater gender inequalities and power differentials within polygynous households is one potential explanation for the negative associations observed between polygyny and health among women and children (Bove and Valeggia 2009; Zeitzen 2008). Studies have generally demonstrated the importance of women's empowerment for their own health and well-being, as well as those of their children (Cunningham et al. 2015; Duflo 2012; Kim et al. 2007). Empowerment increases women's abilities to make decisions that benefit themselves as well as their family (Kabeer 1999). Historically, the practice of polygyny has been most prevalent in patriarchal and patrilocal societies, where polygyny functions as a symbol of a wealth and further

stratifies society by privileging men (Zeitzen 2008). In these societies women are particularly disadvantaged as they have limited access to land, inheritance, and formalized power (Goody 1973; White and Burton 1988). Moreover, compared to women in monogamous unions, those who enter into polygynous unions tend to have lower levels of education, larger spousal age differences, and higher acceptance of intimate partner violence, which are all associated with greater gender inequality (Amo-Adjei and Tuoyire 2016; Behrman 2019; Bove and Valeggia 2009; Gibson and Mace 2007). As a consequence, women in polygynous arrangements likely experience greater gender asymmetry within the household. Yet, even in polygynous unions, there might be complex power differentials between senior and junior wives with senior wives typically holding greater power, and junior wives, especially of younger age, garnering more favors from husbands (Madhavan 2002; Owoo et al. 2021; Zeitzen 2008).

Over the past few decades, growing evidence suggests that women's empowerment has been increasing in Sub-Saharan Africa. Across the region, markers of female empowerment such as educational attainment and modern contraceptive use have grown (Bongaarts et al. 2017; Emina, Chirwa and Kandala 2014; Frye and Lopus 2018). Whether women in monogamous and polygynous unions are experiencing similar increases in empowerment is unknown. Given the nature of empowerment, where women have greater agency to make their own decisions, women who are more empowered are probably less likely to enter into polygynous unions or to allow their monogamous unions to transition into polygynous ones. With the declining prevalence of polygyny, there is increasing selection into it (Chae and Agadjanian 2022), particularly by less empowered women. Furthermore, women are marrying at later ages and are increasingly choosing their own spouses (Bongaarts et al. 2017; Lesthaeghe, Kaufmann and Meekers 1989; Meekers 1995; Mensch 2005). This transformation in union formation is likely changing marital relations between husbands and wives. Individuals who choose their own spouses are probably more likely to have a closer physical and emotional bond and more egalitarian relations with them.

Our study takes advantage of multiple rounds of nationally representative data collected in 19 countries to test these general propositions about the relationship between polygyny and women's empowerment and marital egalitarianism by comparing women in polygynous and monogamous unions. However, because women's empowerment and marital egalitarianism may vary by wife's rank in polygynous unions, we also investigate whether senior and junior wives

have different levels of empowerment and marital egalitarianism. Finally, we investigate whether and how the association of polygyny with women's empowerment is changing in the context of declining polygyny prevalence.

Data

Our study draws on data from the Demographic and Health Surveys (DHS) to investigate differences in women's empowerment and marital egalitarianism between women in monogamous and polygynous unions. The DHS are national representative, household-level surveys conducted approximately every 5 years in most low- and middle-income countries. Data are collected using standardized surveys that allow comparisons over time and across countries on a wide range of indicators, including marriage, fertility, health, and nutrition. In most cases, the sample is based on a stratified two-stage cluster design where the first stage consists of drawing enumeration areas (EA) from Census files or existing sampling frames, and a second stage, where a sample of households is selected within each EA from an updated list of households. All women aged 15-49 years and all (or a subsample of) men, typically aged 15-49 years[1], living in selected households are invited to participate in the survey.

Over the past few decades, the DHS has collected data in 43 Sub-Saharan African countries. Our study focuses on 19 countries that meet the following criteria: 1) at least two or more surveys have been conducted; 2) at least a 10-year gap exists between the earliest and most recent survey; and 3) information on key variables were collected. These countries, located in different parts of the subcontinent, along with the survey years, are listed in Table 1. Our study sample consists of women, 15-49 years, who reported being currently married or living together with a man as if married at the time of the survey. All analyses are conducted at the country level.

Dependent variables

This study examines several dimensions of women's empowerment and relations within marriage. Women's empowerment is represented by three variables: 1) decision-making score; 2) current modern contraceptive use; and 3) acceptance of intimate partner violence. The first outcome, the decision-making score, represents women's abilities to participate in decision-

[1] Age range varies by country and survey year.

making for themselves and their households and reflects the degree to which they have control over their lives. We construct this score using women's responses to the following three questions: 'Who usually makes decisions about 1) health care for yourself; 2) making major household purchases; and 3) visits to your family or relatives.' Potential responses include herself, her husband/partner, jointly with husband/partner, someone else, and other. For each question, we code responses as "1" where the woman reports making the decision herself or jointly with her husband. All other responses are coded as "0". Next, we sum responses to these three questions to obtain a decision-making score that ranges from 0 to 3. Higher scores denote greater decision-making.

Current modern contraceptive use is a proxy for women's empowerment in the specific area of sexual and reproductive health and is constructed using responses to two questions. Non-pregnant women are asked the following question: "Are you currently doing something or using any method to delay or avoid getting pregnant?" If a woman answered yes, then she is asked which method she is using. Women who reported female/male sterilization, IUD, injectables, implants, pill, condom, female condom, diaphragm, foam/jelly, and/or other modern methods are coded as using modern contraception. All other non-pregnant women are coded as not using modern contraception. We acknowledge that the DHS data do not allow for ascertaining how contraceptive decisions are made.

Acceptance of intimate partner violence (IPV) measures another dimension of women's empowerment, specifically the acceptance of unequal gender roles. We focus on physical IPV, as women's acceptance of men beating their wives points most directly to their acquiescence of inequitable gender norms. We measure women's opinions of the acceptance of IPV using the following questions: "In your opinion, is a husband justified in hitting or beating his wife in the following situations: a) If she goes out without telling him? b) If she neglects the children? c) If she argues with him? d) If she refuses to have sex with him? e) If she burns the food?" If a woman reports "Yes" to the situation, we code her response as "0"; if she reports "No", we code her as "0". We sum responses to all five questions to obtain an IPV acceptance score. This score ranges from 0 to 5 with higher scores representing greater acceptance of IPV.

Our analysis of marital egalitarianism is limited to five surveys – Burkina Faso 2010, Cameroon 2004, Mali 2006, Malawi 2004, and Rwanda 2005 – in which women were asked four questions about marital relations with their husband: "When two people marry or live together,

they share both good and bad moments. In your relationship with your husband/partner do the following happen frequently, only sometimes, or never? a) He usually spends his free time with you? b) He consults you on different household matters? c) He is affectionate with you? d) He respects you and your wishes?" For each question, we code the responses 0 for "never", 1 for "sometimes" and 2 for "frequently". We sum the responses to obtain a marital relations score ranging from 0 to 8. Higher scores indicate closer marital relations and greater marital egalitarianism between husbands and wives. Although this analysis cannot be readily extended to the rest of the subcontinent, the diversity of the five countries involved in it instills confidence in the generalizability of its results.

Independent variables

Our study focuses on two measures of polygyny to examine differences in measures of women's empowerment and marital egalitarianism. The first measure is a simple dichotomous variable indicating whether a woman is in a polygynous union. We construct this variable using responses to the following question: 'Does your (husband/partner) have other wives or does he live with other women as if married?' We code women as being in a polygynous if they reported yes to this question. All other women, including those who reported don't know[2], are coded as being in a monogamous union. Our second measure of polygyny is a three-category variable indicating whether a woman is in a polygynous union, and if she is, her rank within the union. The categories are: 1) monogamous; 2) polygynous – senior wife; and 3) polygynous – junior wife. We determine a woman's rank within a polygynous union using responses to the following question: 'Are you the first, second, … wife?'. Women in polygynous unions who reported being the first wife are coded as 'polygynous – senior wife' and those who reported being the second or higher order wife are coded as 'polygynous – junior wife'.

In regression models, we control for sociodemographic characteristics that may be associated with women's empowerment and marital egalitarianism. These measures include age, educational attainment (none, primary, secondary or higher), household wealth (poorest, second, middle, fourth, richest), urban residence, religion (Muslim, Christian, Other), and ethnic group (or region)[3]. We also control for women's marriage and childbearing histories, specifically

[2] Only a small percentage of women reported 'don't know' to this question.

[3] Not all surveys collected data on ethnicity across all surveys. In countries where this information was not consistently collected, we control for region of residence instead.

whether she was previously married and the number of children ever born, because these histories could affect power dynamics within marriage, both with her husband and with her co-wives (if polygynous). Additionally, we control for spousal characteristics such as spousal age difference (4 years or less, 5-9 years, 10+ years, don't know) and spousal education difference (same or lower, higher, don't know).

Methods

We analyze multiple rounds of survey data to examine whether women in monogamous and polygynous unions have different decision-making scores, modern contraceptive use, IPV acceptance scores, and marital relations scores. We investigate whether country-level differences exist both within and across survey years. If differences do exist, we study whether these differences are narrowing, widening, or remaining constant over time. To reflect the changing nature of marriage and women's empowerment in Sub-Saharan Africa, we examine whether variation on these measures exists by age group.

We conduct regression analyses using the most recent data to measure whether polygyny is associated with women's decision-making, modern contraceptive use, and IPV acceptance. Depending on the distribution of the outcome, we estimate associations using linear or logistic regression. We construct separate models for each country and run models using both polygyny measures: 1) monogamous vs polygynous marriage and 2) monogamous vs polygynous (senior wife) vs polygynous (junior wife). In all models, we control for sociodemographic characteristics, marriage and childbearing histories, and spousal characteristics.

Next, we pool data across survey years to examine whether the relationship between polygyny and women's empowerment measures changes over time. Similar to the previous models, we run separate models for each country and estimate associations using either linear or logistic regression. To test whether the relationship between polygyny and women's empowerment changes over time, we include an interaction term between polygyny measures and survey year. We control for the same variables that were included in previous models.

Finally, we conduct regression analyses to test whether polygyny is associated with marital egalitarianism in five countries (Burkina Faso, Cameroon, Malawi, Mali, and Rwanda) where data on this measure were collected. Upon close inspection of the distribution of this variable, we observe that relatively few women had scores below four and more than one-third of

women had a score of 8. When we reverse code this count variable, we observe that it follows a Poisson distribution. Thus, we use Poisson regression to examine the association between polygyny and marital egalitarianism. Separate models are run for each country and all models include controls for sociodemographic characteristics, marriage and childbearing histories, and spousal characteristics.

Results

In this draft, we present descriptive statistics using data from the most recent surveys in our sample. In Figure 1, we show mean decision-making scores among women in monogamous and polygynous unions. Across the countries in the study sample, mean decision-making scores vary quite a bit, ranging from 0.6 in Mali to 2.6 in Zimbabwe. In all countries, except Comoros, Rwanda, Togo, and Uganda, we observe that women in polygynous unions have significantly lower mean decision-making scores than their counterparts in monogamous unions. Although the gap in mean decision-making scores appears small, most of these differences are highly significant.

Next, we focus on a specific marker of decision-making – modern contraceptive use. Here we show that the prevalence of modern contraceptive use varies quite widely across the countries in our study (Figure 2). Modern contraceptive prevalence ranges from 2% in Guinea to 75% in Zimbabwe. Despite this variation, we observe a consistent pattern: Modern contraceptive prevalence is significantly lower among women in polygynous unions in all countries, except Benin, Comoros, Gabon, and Niger, where no significant differences are detected.

In Figure 3, we present differences in mean IPV acceptance scores by polygyny status. Similar to prior outcomes, a great deal of cross-country variation exists in mean scores. While Malawian women are the least likely to report acceptance of IPV, Guinean women are the most likely to report acceptance of it. In 14 of 19 countries, we find that women in polygynous unions are significantly more likely than women in monogamous unions to report acceptance of intimate partner violence. Although differences between women in monogamous unions and those in polygynous unions appear small, most of these differences are highly significant.

Lastly, we examine differences in marital relation scores by polygyny status in five countries (Burkina Faso, Cameroon, Malawi, Mali, and Rwanda) where data on this measure was collected. Overall, a similar pattern is observed across all five countries: Women in polygynous

unions score significantly lower on marital egalitarianism than their counterparts in monogamous unions (Figure 4). On average, the gap between these women varies between 0.4 in Mali to 0.9 in Cameroon and Malawi.

Preliminary Conclusions and Next Steps

Results of these preliminary analyses indicate that, in most countries in our study, women in polygynous unions demonstrate lower levels of empowerment than women in monogamous unions. Specifically, women in the former group have lower decision-making scores and lower modern contraceptive use and are more likely to report acceptance of intimate partner violence. In five countries where data on marital relations were collected, we found that women in monogamous unions had more egalitarian relations with their husband than women in polygynous unions. Our completed paper will examine whether these differences persist when we take into account wife's rank using our alternative polygyny measure. Because of power imbalances within the household, both with husbands and with co-wives, we expect to observe differences in women's empowerment and marital egalitarianism by wife's rank. In addition, we will include regression results of the association between polygyny and women's empowerment (after controlling for sociodemographic characteristics, marriage and childbearing histories, and spousal characteristics) and show whether these relationships change over time. Our analyses will also consider whether these relationships vary by age cohort. Finally, we will explore whether these associations vary between Christians and Muslims, given the doctrinal difference in acceptability of polygyny between Christianity and Islam. We also plan to expand the analyses by including the most recent DHS data. Findings from this study will give us greater insight into the changing nature of polygyny and its influence on women's lives in Sub-Saharan Africa.

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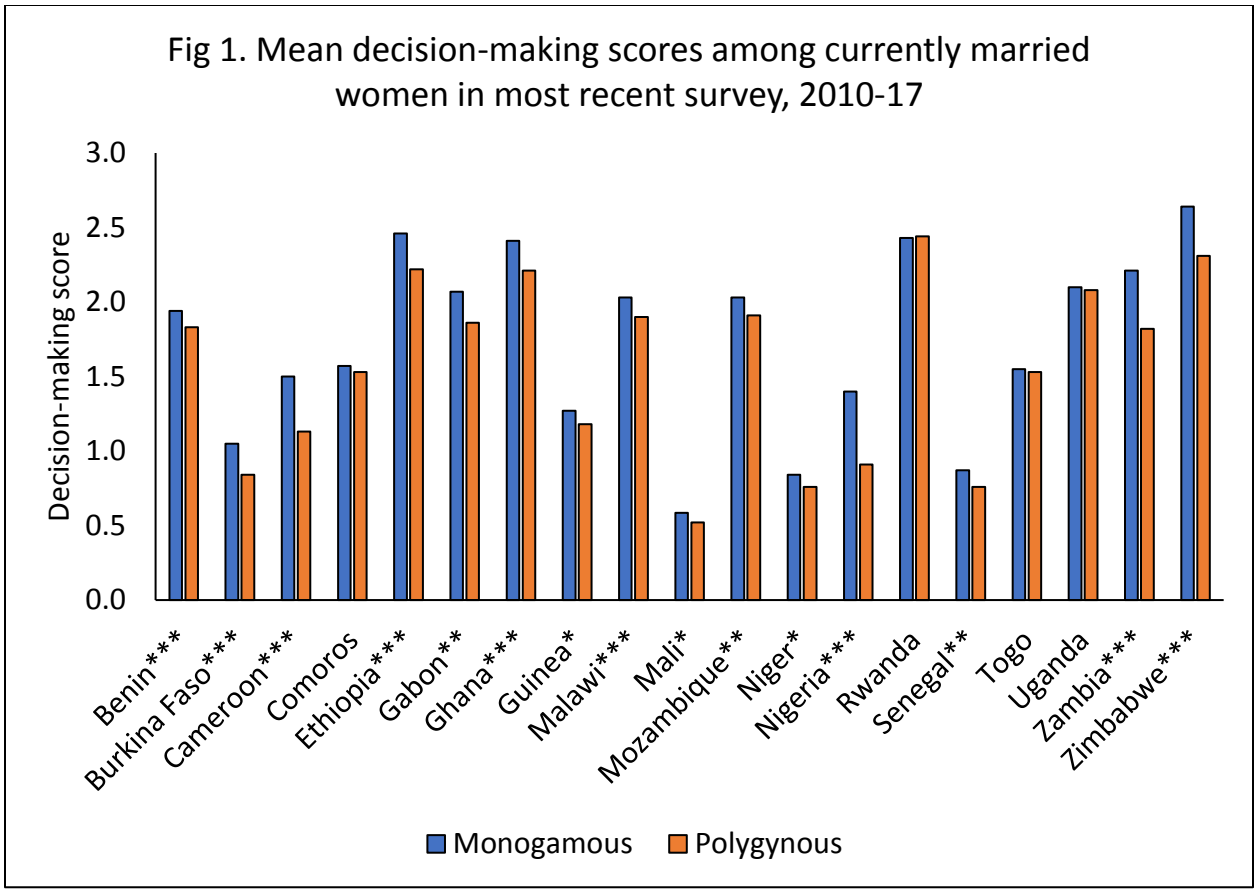
Table 1. Country and survey years, Demographic and Health Surveys

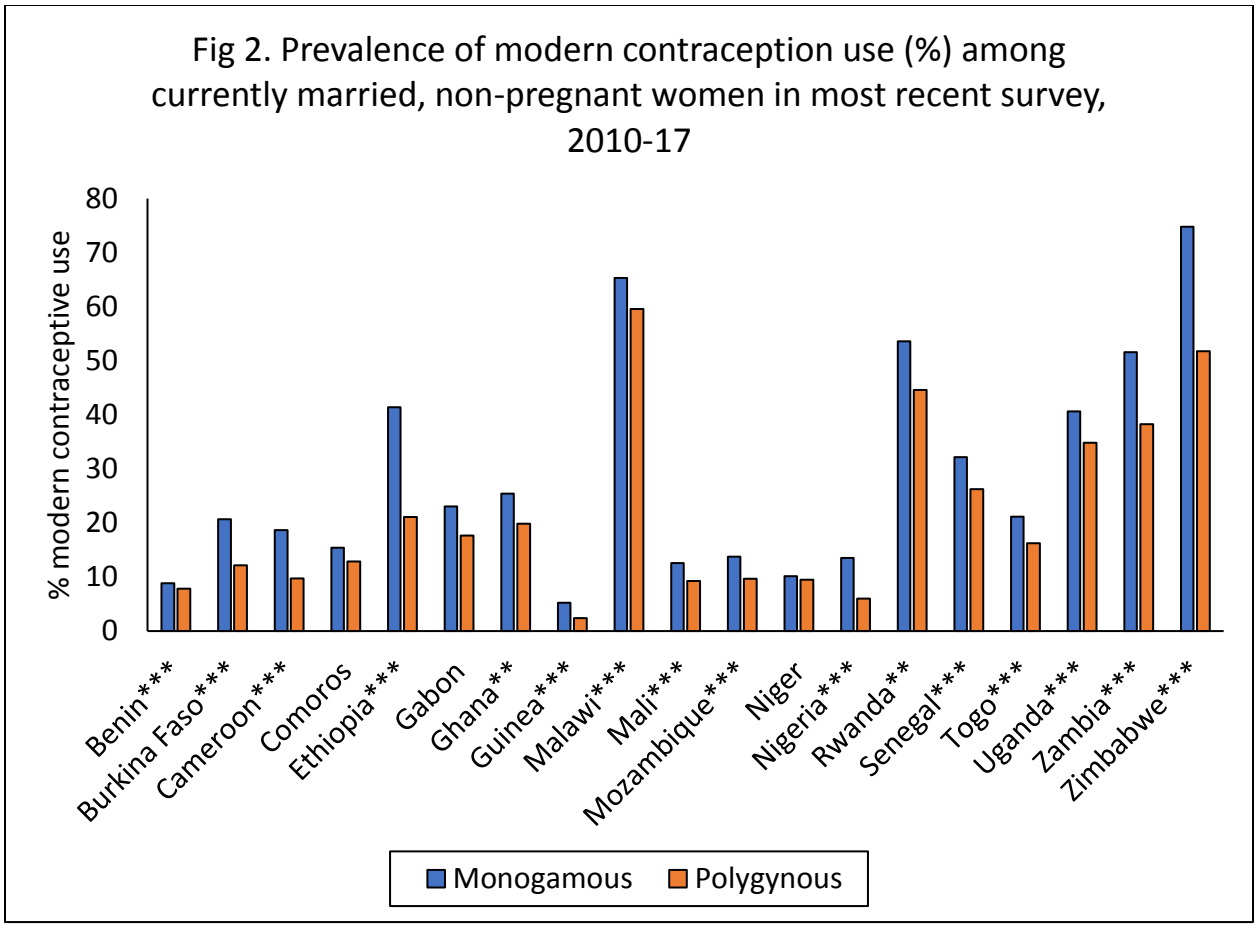
Country	Years	N (Women[a])
Benin	1996, 2001, 2006, 2011	34,217
Burkina Faso	1998, 2003, 2010[b]	27,963
Cameroon	1998, 2004[b], 2011	20,512
Comoros	1996, 2012	4,925
Ethiopia	2000, 2005, 2011, 2016	38,052
Gabon	2000, 2012	8,218
Ghana	1998, 2003, 2008, 2014	15,329
Guinea	1999, 2005, 2012	18,637
Malawi	2004[b], 2010, 2015	39,759
Mali	2001, 2006[b], 2012	31,758
Mozambique	1997, 2011	15,216
Niger	1998, 2006, 2012	23,058
Nigeria	2003, 2008, 2013	56,385
Rwanda	2000, 2005[b], 2010, 2014	24,073
Senegal	2005, 2010, 2014, 2015, 2016, 2017	56,096
Togo	1998, 2013	12,336
Uganda	2006, 2011, 2016	22,035
Zambia	1996, 2001, 2007, 2013	23,645
Zimbabwe	2005, 2010, 2015	16,703

[a] Refers to number of currently married women.
[b] Survey collected data on marital relations.



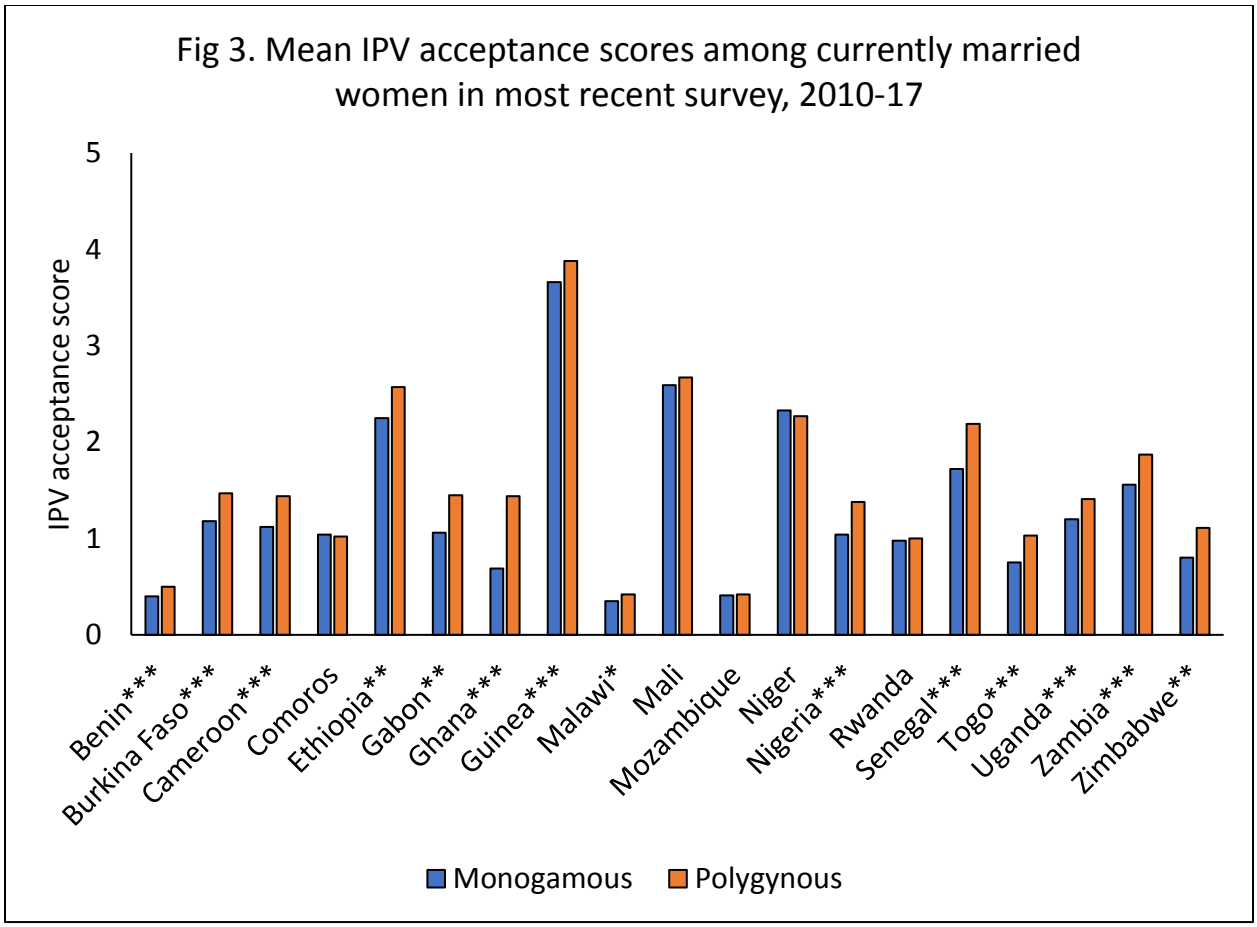
*** p<0.001, ** p<0.01, * p<0.05

Note: Significance levels are shown next to country names. Decision-making scores range from 0 to 3.



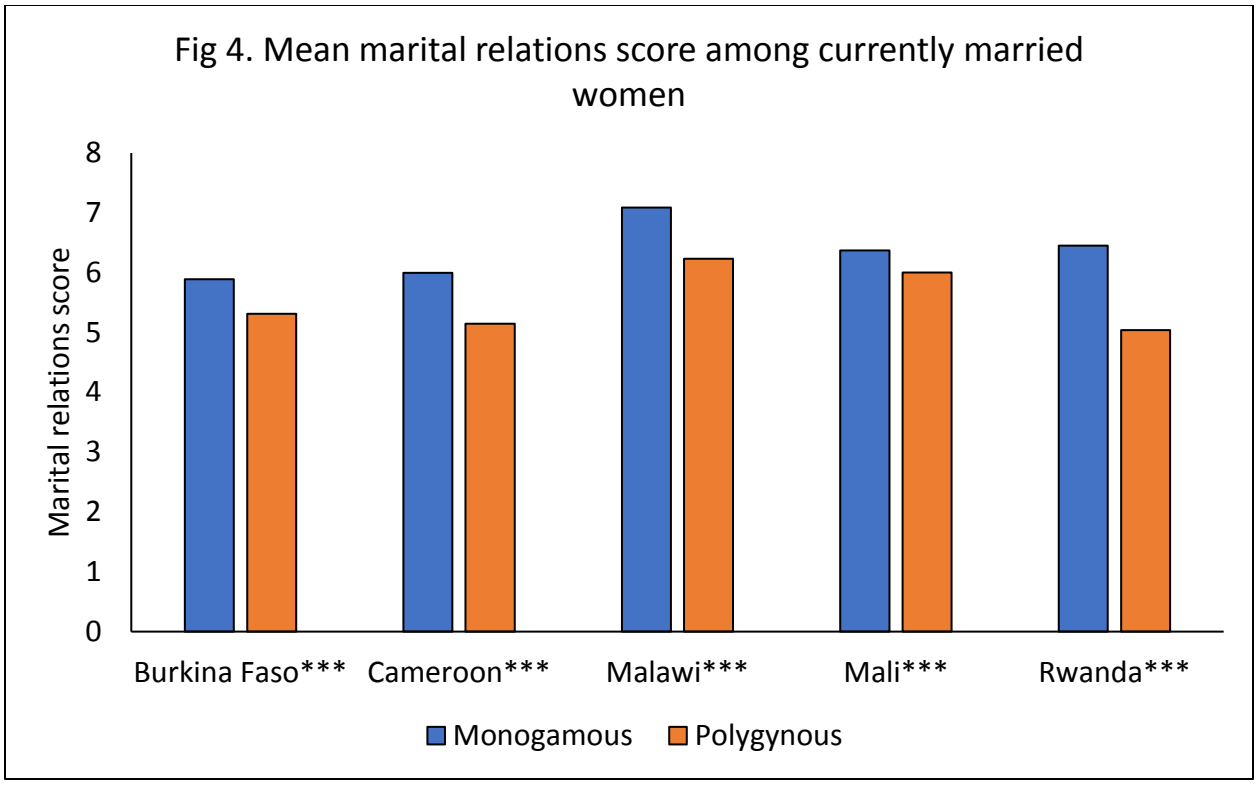
*** p<0.001, ** p<0.01, * p<0.05

Note: Significance levels are shown next to country names.



*** p<0.001, ** p<0.01, * p<0.05

Note: Significance levels are shown next to country names. IPV acceptance scores range from 0 to 5.



*** p<0.001, ** p<0.01, * p<0.05

Note: Significance levels are shown next to country names. Marital relations score only available in five countries in the following survey years: Burkina Faso (2010), Cameroon (2004), Malawi (2004), Mali (2006), and Rwanda (2005). Possible scores range from 0 to 8.