Sexual Frequency, Women's Decision-Making, and Contraceptive Use in Sub-Saharan Africa: A Multi-Country Analysis

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ABSTRACT

Since the 1994 Cairo ICPD conference, there has been increasing interest in women's empowerment, particularly for sexual and reproductive health. Women's ability to negotiate the timing of intercourse with a partner has not been studied extensively in Africa. We explore the relationships between women's autonomy and time since most recent intercourse in Ghana, Malawi, Mali, Rwanda, Uganda and Zimbabwe using Demographic and Health Surveys. We also examine the association between modern contraceptive use and time since most recent intercourse. We find a strong relationship between greater women's decision-making autonomy and less recent sexual activity in all settings. These associations warrant further investigation but could be evidence that greater women's autonomy results in women's improved ability to negotiate sex. Additionally, we find a consistent association between modern contraceptive use and timing of most recent intercourse suggesting another potential benefit of promoting contraceptive use for couples wanting to space or limit births.

Introduction

<u>Women's Empowerment and Sexual and Reproductive Health</u>

Since the International Conference on Population and Development in Cairo in 1994, there has been increasing interest in promoting women's empowerment and gender equality, particularly for sexual and reproductive health. Two of the principles of the Programme of Action which emerged from this conference address women's empowerment and sexual health.

The 4th Principle emphasizes the importance of women's empowerment: "Advancing gender equality and equity and the empowerment of women, and the elimination of all kinds of violence against women, and ensuring women's ability to control their own fertility, are cornerstones of population and development-related programmes. The human rights of women and the girl child are an inalienable, integral and indivisible part of universal human rights. The full and equal participation of women in civil, cultural, economic, political and social life, at the national, regional and international levels, and the eradication of all forms of discrimination on grounds of sex, are priority objectives of the international community." (United Nations, 1994)

The 8th Principle states: "Everyone has the right to the enjoyment of the highest attainable standard of physical and mental health. States should take all appropriate measures to ensure, on a basis of equality of men and women, universal access to health-care services, including those related to reproductive health care, which includes family planning and sexual health. Reproductive health-care programmes should provide the widest range of services without any form of coercion. All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so." (United Nations, 1994) On the 15th anniversary of the Cairo Conference, the issues of women's empowerment, universal access to family planning and sexual health continue to be salient in many developing nations.

Some studies have shown that women's autonomy may change throughout the lifecourse (Gipson & Hindin, 2007; Hindin, 2000a) and that women's autonomy levels can vary substantially by setting (Hindin, 2006) . Evidence on the importance of women's empowerment for improving sexual and reproductive health outcomes continues to be mixed, with some studies pointing to improved outcomes such as child health (Fantahun, Berhane, Wall, Byass, & Hogberg, 2007), contraceptive use, (Woldemicael, 2009) and birth spacing (Upadhyay & Hindin, 2005) when women are more empowered, while others point to the problems associated with autonomous decision-making on the part of women (Hindin, 2000b; Hindin & Adair, 2002; Mullany, Hindin, & Becker, 2005).

Analysis of the timing and correlates of sexual activity, as well as the choices around sexual intercourse have consistently been overlooked in research especially in regards to women's ability to negotiate the timing of sex. In this study, we explore the relationship between women's autonomy in household decisions and most recent sexual intercourse in six sub-Saharan African countries: Ghana, Malawi, Mali, Rwanda, Uganda and Zimbabwe. Household decision-making is just one aspect of women's empowerment (Beegle, Frankenberg, & Thomas, 2001; Mumtaz & Salway, 2009) but it is perhaps the easiest to measure since it is readily available in the Demographic and Health Surveys. We also consider the relationship between contraceptive use and the timing of most recent sexual intercourse in these same countries.

<u>The Importance of Sexual Frequency: A socio-demographic perspective</u>

Interest in coital frequency is firmly rooted in the demographic literature surrounding the issue of the timing and spacing of births. Beginning with the seminal work of Kingsley Davis and Judith Blake (Davis & Blake, 1956) who explored the social factors related to fertility over a half century ago, coital frequency was relegated to an "intermediate variable" that was not considered "a significant factor in inter-societal variations in fertility" (p.234).

Evidence that coital frequency is important for fertility transitions has emerged, primarily for countries in Asia. Rindfuss and Morgan (Rindfuss & Morgan, 1983) noted that "despite the fact that coitus is a necessary precondition to conception, social demographers have generally ignored coital frequency as a variable…it [coital frequency] is seldom recognized in the socio-demographic literature" (p. 259). Lavely's study of China before the widespread availability of contraception shows that coital frequency explains low marital fertility (Lavely, 2007). Based on qualitative and quantitative evidence from Korea, Malaysia and Taiwan, it has been found that the move from arranged marriages to romantic marriages affects coital frequency, particularly for younger people. This shift in marriage type, which has also increased coital frequency in some Asian nations, particularly in new marriages, has "an effect on the pace and level of fertility." Other studies in the region have also highlighted the importance of coital frequency in the timing of the first birth or birth spacing, with coital frequency increasing when marriages are between people who are more "familiar" or "intimate" or those in which women are more comfortable with their partners (Fricke & Teachman, 1993; Hong, 2006). Interestingly, this social-demographic perspective highlights the importance of the quality and type of conjugal relationship in determining both the intermediate variable of "coital frequency" and the outcome of fertility. Women's comfort or intimacy with their partner is seen as playing a key role, particularly for the timing of the first birth. Interestingly, sexual frequency remains one of the least studied determinants of fertility (Brewis & Meyer, 2005; Brown, 2000).

Sexual decision-making, communication and sexual pleasure
Little attention has been paid to the issue of sexual pleasure; yet for most individuals, seeking sexual pleasure is a main reason for people having sex (Philpott, Knerr, & Maher, 2006) and some research has shown that contraception can either augment or detract from sexual pleasure (Higgins & Hirsch, 2008). A second body of research, which looks at sexual intercourse and couple communication is relatively new—the feasibility of microbicide use for HIV prevention. The use of microbicides has raised a number of issues in regard to couples and sexual activity—microbicides would be a women-initiated method of HIV prevention, would potentially decrease the need for condoms, and would likely change the experience of sexual intercourse for both partners as it increases lubrication, which may have an impact on sexual pleasure. While the intent of these studies is often to simply determine whether microbicides would be acceptable, in the process of assessing acceptability, the research has emphasized the importance of relationship quality, communication, and intimacy for couples who may use microbicides.

In Zimbabwe and Malawi, two of the countries used for the current research, Woodsong and Alleman (Woodsong & Alleman, 2008) explore microbicide acceptability. Using a range of qualitative techniques and populations, they explored a number of themes. They found that women generally reported that men's pleasure during sex was more important than women's pleasure. They also showed that women's pleasure in some settings was the absence of pain, since many women experienced pain with intercourse due to norms around "dry sex." Microbicides were seen to increase women's pleasure by alleviating pain. This study also

showed that it is normative for men to decide on the timing of sex and it is difficult for women to refuse their male partners. Covert use of the microbicide was generally considered unacceptable as women were supposed to be "silent and submissive", and violence could ensue if men found out about covert microbicide use.

Qualitative data, measuring the acceptability of condoms and a potential microbicide gel, were collected in South Africa, Tanzania, Uganda and Zambia by Montgomery and colleagues (Montgomery, et al., 2008). For the gel, most participants felt that men needed to know about its use (and that women needed permission to use it), and, like the Woodsong and Alleman participants, violence was seen as a potential outcome of covert use. In some settings, there was a preference for dry sex, but in other settings, actual experience with the gel increased men's sexual pleasure. In this study, while negotiations around condom use were not really possible for women, according to the participants, use of the gel led to more communication, particularly for women, who found that disclosing use of the gel actually built trust, while negotiation around condom use suggested they didn't trust their partners.

Using an innovative design to explore means of enhancing communication between partners through participatory methods, Kesby (2008) explored communication about sexual health in rural Zimbabwe.   Focus group discussions revealed that women generally had no ability to negotiate sex with their partners, most sex within marriage was 'forced', and most women did not experience sexual pleasure. Men generally decided when to have sex, condom use, and the timing of births.

Based on the above-mentioned studies, we anticipate that if women have the opportunity to choose, they will opt for less frequent sexual intercourse. We use women's autonomy in household decisions as proxy for her ability to negotiate and make choices around the timing of sexual intercourse in her relationships.

Sexual Frequency and Contraceptive Use
Based on a multicountry study published nearly two decades ago, women using contraceptive methods that were unrelated to sexual frequency (pills, implant, IUDs) had the highest sexual frequency compared with women using no methods (Blanc and Rutenberg 1991). In addition, the same study showed that women who reported wanting to have another child soon, report more recent sexual activity compared with women who want to delay or space their births. In a study of coital frequency in Nigeria, contraceptive use was associated with higher coital frequency (Barden-O'Fallon, Tsui, & Adewuyi, 2003). Women above the age of 35 in India had more frequent sexual intercourse if they were using a contraceptive method (Agarwal, Deka, & Takkar, 1999). Despite the data suggesting that contraceptive use is associated with more frequent sexual activity, there remains the issue of sorting out the causal ordering of such an association. We anticipate that women who report modern method use will be more likely to have a shorter interval since last sexual intercourse compared with women using less effective or no methods.

Methodology
For our analysis, we use the most recent data available from the Demographic and Health Surveys. We excluded all women who reported being single, divorced, widowed or in a polygynous union from the analysis in addition to women who identified themselves as visitors in the household in which they were surveyed. Furthermore, women who were pregnant were

also dropped from the analysis. After exclusions, the total sample size used for the individual-level analysis ranged from 1944 currently married/cohabiting women in Ghana to 5556 currently married/cohabiting women in Malawi. The sample sizes for each country are displayed in Table 1.

Measures:
Outcome Variable:
Time since most recent sex
To measure time since most recent sex, we used the question from the Demographic and Health Surveys that asks respondents to indicate the day/week/month/year that they last had sexual intercourse. Sexual activity was assessed as a continuous variable of time (by day) since most recent sex. We also estimate the frequency of sex using the median time between episodes. So, for example, if women reported a median time since first sex as one week, the median time between episodes of sex is twice as long or two weeks (see Table 3).

Key Independent Variables:
Household Decision-Making
In the surveys, respondents were asked to indicate the person in the household that has the final say on the following decisions: respondent's health care, large household purchases, household purchases for daily needs, and respondent visiting family and friends. For some countries respondents were asked about additional decisions, however, to maintain congruency we only included the decisions that were asked in every country. Women who responded that someone other than themselves, their partner made the decision were dropped from the analysis. With the four questions on decision-making we created three summative scales measuring the number of decisions in which the woman only, partner only, and woman and partner jointly had the final say. Thus each respondent had three decision-making scores ranging from zero to four.

Contraceptive Use
Current contraceptive use was coded into a categorical variable of no use, traditional/folk method use and modern method use. Traditional/folk methods include periodic abstinence, withdrawal, lactational amenorrhea, method of fixed days and other. Modern methods include pill, IUD, injections, condom (male and female), sterilization (male and female), and norplant.

Other Covariates:
Studies have shown that a number of sociodemographic and relationship factors are related to the timing of sexual intercourse including age, parity, duration of relationship, fertility intentions among others (Schneidewind-Skibbe, Hayes, Koochaki, Meyer, & Dennerstein, 2008; Stewart, Morrison, & White, 2002). The covariates that were controlled for in the multivariate analysis include socio-demographic variables: urban/rural residence, respondent's education, partner's education, respondent's age, difference in age between partner and respondent, wealth; couple-related variables: husband's residence and marital duration; and fertility-related variables: contraceptive use, parity, and fertility preference.

The difference in age between the respondent's partner and the respondent was calculated and dichotomized into similar age (partner less than 3 years older than respondent) and older (partner 3 or more years older than respondent). Wealth is a composite measure of the assets, building material, water availability and sanitation facilities of the household. Individuals are

ranked and divided into wealth quintiles based on their household's score from the composite measures. Partner's residence was assessed as a dichotomous variable of whether or not the partner lives with the respondent or lives elsewhere. Marital duration was coded as a categorical variable in five-year increments. For parity we created a dichotomous variable comparing with no births to all others since it is normative for couples to have at least one child in all of these settings (women with no children were coded as "1" and compared with women have one or more children coded as "0"). The variable measuring fertility preference was divided into three categories: wants a child within two years, wants a child after two years/unsure of timing/undecided, and wants no more children/sterilized/infecund.

Statistical Analysis
The analysis was conducted using STATA 10 (StataCorp, 2009). All analyses were conducted with sampling weights using the svy command in STATA. The mean values and percent distributions for the outcome variables and the covariates were calculated and are displayed in Table 2.

Unadjusted and adjusted analyses were done for the main outcome under consideration: time since most recent sex with household decision-making and contraceptive use as the main predictor variables. When analyzing the association between the predictor variables and most recent sex, we used time-to-event models. We utilized a block modeling strategy to assess how the different groups of common variables attenuated the association between decision-making and most recent sex. This strategy resulted in the following four models:

- Model 1: Household decision-making variables only: wife's decision-making score and husband's decision-making score.
- Model 2: Model 1 + two couple-related variables (husband's residence and marital duration)
- Model 3: Model 2 + fertility-related variables (current contraceptive use, fertility intentions, and parity)
- Model 4: Model 3 + socio-demographic variables (residence, age of respondent, age difference between respondent and partner, education of respondent, education of partner, wealth, and respondent's employment status)

Results
Table 1 shows the countries, years and sample sizes of the six Demographic and Health Surveys used in the analysis. Table 2 shows the mean values and the percent distributions of women by selected variables in each of the six countries. When aggregating over the past month, the majority of women report sexual intercourse ranging from 61% in Ghana to 88% in Rwanda. The majority of women in all six countries resided in rural areas and had an average age between 29 and 33 years. Respondents from Mali reported the least amount of education with 80% of the women having no formal schooling. Over half of the women in Malawi, Rwanda and Uganda had less than a primary education whereas the majority of women from Ghana and Zimbabwe had at least some secondary education. The majority of women in all six countries had partners who were at least three years older. Less than 10% of male partners in each of the countries except Ghana and Zimbabwe lived somewhere different than the respondent. In Ghana and Zimbabwe, nearly a quarter of all male partners lived in some place other than with the respondent. Only 39% of women in Zimbabwe were employed compared to 89% of women in Ghana.

Some variation was observed in the average number of children per woman, which ranged from 2.8 in Zimbabwe to 4 in Uganda. There was substantial variation across countries in the percent distributions for fertility preferences and contraceptives use. Only 14% of women in Rwanda reported wanting a child within two years whereas Mali had the greatest percent of women, 35%, who reported wanting a child within two years. Use of traditional contraceptive methods was less than 10% in all six countries; however, modern contraceptive use was more varied across countries with only 8% of respondents reporting modern contraceptive use in Mali compared to 68% of respondents in Zimbabwe. Decision-making power varied greatly by country with husband's having the final say on more decisions in Malawi and Mali than in other countries. Ghanaian and Rwandan women reported having the final say in more decisions, while Zimbabwean women reported the most joint decision-making.

Figure 1 shows the full distribution of the timing of most recent sex in the six countries. It is particularly noteworthy that although we see some similar median times across countries, there is a significant amount of variation within a given country in the timing of most recent sex. In Ghana, which seems to have the most aberrant pattern, there are few women who report sex in the last two days (as evidenced by the small size of the base and one-day markers, and there is heaping at one week and two weeks. In Ghana, a substantial number of women report their most recent sex as occurring one year before the survey date. In Malawi, Rwanda, Uganda and Zimbabwe, we see a substantial proportion of women reporting sex in the last day before the survey, but in Uganda and Zimbabwe there are a substantial proportion of women reporting last sex as one week before the survey which is not the pattern seen in Malawi or Rwanda.

Table 3 shows that the median time since most recent sex varies from 3 days in Rwanda and Zimbabwe to 14 days in Ghana. Assuming the survey date is unrelated to reported sexual activity, median sexual frequency would be twice the time to last sex. Sexual activity therefore occurs once every 6 days in Rwanda and Zimbabwe, once every 8 days in Malawi, Mali and Uganda, and once every 28 days in Ghana. Interestingly, other multi-country studies using the earlier rounds of the Demographic and Health Surveys found that compared with other countries in Africa, Ghanaians reported a lower sexually frequency (Blanc & Rutenberg, 1991).

Table 3 also shows the mean and median times since most recent sex by the number of household decisions in which the woman has the final say. Additionally, the percent of women reporting 0-4 decisions is displayed. The majority of women in every country except Ghana do not have a final say on a single household decision. The only country in which over 10% of women had the final say on all four household decisions was Rwanda. A very consistent pattern is observed across all six countries- as the number of decisions in which a woman has the final say increases, the mean and median time since most recent sex also increases by three- to ten-fold. To further examine this relationship, we use time-to-event or survival models to examine whether household decision-making is related to women's reports of the timing of last sexual intercourse.

Based on the unadjusted models and adjusted models of factors associated with the timing of most recent sexual intercourse (Table 4), the more decisions a woman reports making on her own as compared to joint decision-making, the less likely she is to have sex (relative hazard less than one) and the longer it is since she last had sexual intercourse. In contrast, in all countries except Zimbabwe and Ghana, there was a statistically significant positive relationship between

husband's decision-making and more recent sexual intercourse as compared to joint decision-making. In the adjusted model, all of the observed relationships between women's decision-making and recent sexual activity hold. The adjusted relationship between husband decision-making and the timing of most recent sexual activity is no longer significant except Zimbabwe and Rwanda in which a weak negative association (p < 0.1) is observed.

Women who were using modern contraception at the time of the survey reported more recent sexual activity than women who did not use any contraception at the time of the survey. Traditional contraceptive use followed a similar pattern except in Mali where no statistically significant relationship was observed. The statistically significant associations observed in the unadjusted models for modern contraceptive use were not attenuated after adjusting for all other covariates in the model (Table 4).   After adjustment, traditional contraceptive use was not found to be statistically associated with less recent sexual activity in Mali or Rwanda.

Several of the covariates were also found to have statistically significant associations with the timing of most recent sexual activity. The association between husband's residence and recent sexual activity was very strong with less recent sex being reported by respondents whose husbands live elsewhere compared to women whose husbands reside in the same house. This association remained strong even after adjusting for all other covariates. In the unadjusted analysis, the association between marital duration and recent sexual activity was not consistent across the six countries. A statistically significant positive association was observed in Malawi, whereas the opposite was true in Rwanda and Uganda. After adjustment for other covariates the association between marital duration and recent sexual activity was not statistically significant in any country, however, the hazard ratios for every country were positive except in Uganda.

In addition to contraceptive use, the other fertility-related variables, parity and fertility intentions, were strongly associated with the timing of most recent sexual activity in most of the countries. As compared to having one or more children, being nulliparous was statistically significantly associated with more recent sexual activity in Ghana, Malawi, Rwanda and Uganda. After adjustment, some of the previously significant relationships were attenuated; however, the positive association between nulliparity and more recent sexual intercourse remained or became statistically significant in Ghana, Malawi, Mali and Zimbabwe. In the unadjusted analysis, women with a desire to space or limit childbearing were more likely to report less recent sexual activity than women who reported wanting a child within two years except in Rwanda where no difference was found between women wanting to space and those wanting a child within two years.   After controlling for all other covariates, each country, including Rwanda, showed statistically significant associations between fertility preferences and recent sexual activity.

No consistent pattern was found between the socio-demographic variables and recent sexual activity across countries. For example, in the unadjusted models, wealth is highly associated with recent sexual intercourse in Ghana, Rwanda, Uganda and Zimbabwe. No association between wealth and recent sexual activity was observed in Malawi and Mali. After controlling for other covariates, the strong association remains in Ghana, Rwanda and Uganda. For other variables, such as residence (urban vs. rural) and respondent's employment status, the association with recent sexual activity is not in the same direction across all six countries. Age, which is commonly believed to be associated with a decline in sexual activity, is negatively

associated with recent sexual activity in Rwanda and Uganda. After controlling for all other variables, age is only associated with recent sexual activity in Mali (p<0.05) and Rwanda (p<0.001).

DISCUSSION
In each of the six countries studied, sexual frequency and timing of most recent sexual intercourse varies considerably across women. We find that sexual frequency is strongly related to women's autonomous decision-making power, and her current contraceptive use; however, many of the standard sociodemographic variables appear unrelated to the timing and frequency of sexual intercourse.

It appears that, overall, women are behaving rationally in regards to sexual intercourse. Married women who have no children and/or want children within two years reported more recent sex than their counterparts who wish to space or limit their childbearing. Furthermore, women who are using a modern contraceptive method and are thus at lower risk of pregnancy are also reporting more recent sex than women who are not using any method at all. The remarkably consistent results seen between modern contraceptive use and having more recent sexual activity are potentially an important message that can be adopted to promote modern contraception. This message has the potential to decrease a husband's opposition to contraception in some settings.

As hypothesized, we find that women who have the final say in more decisions were also less likely to report more recent sexual activity. The uniformity of the association, significant in all six countries examined, is even greater than anticipated. The association is very strong with median time to most recent sex varying from three to 100-fold between women who report the final say in zero decisions compared with four out of four decisions. To our knowledge, this is one of the first papers to examine this association. We anticipated that compared to households where decisions were made jointly, in households where the decisions were made solely by the men, there would be more recent sexual activity. This pattern was evident in the bivariate models but did not hold after adjusting for other covariates (data not shown).

There are some limitations to this study that should be taken into consideration. First, we only included six countries in the analysis; however, we purposely selected countries from different regions throughout Sub-Saharan Africa to allow us to assess for similarities and differences between regions. We were also limited to the variables that are collected by Demographic and Health Surveys. In this study, wantedness of last sexual intercourse or desired sexual frequency would have been valuable additions. We are also limited in our ability to assess the validity of women's self-reports on sexual activity; however other studies have found reasonably reliable reports of sexual frequency in other African settings (Lagarde, Enel, & Pison, 1995) and using the Demographic and Health Survey data (Blanc & Rutenberg, 1991). Using cross-sectional data is another limiting factor that precludes us from determining causality for the observed associations. We are limited in our ability to explain the association we found between decision-making and recent sexual activity and what the causal mechanism may be between a longer interval between sexual intercourse and women's greater autonomy. Finally, based on our criteria for inclusion in the study, the results are not generalizable to unmarried sexually active women or women in polygynous unions.

Despite these limitations, the findings from this analysis contribute to our understanding of frequency of sexual activity in sub-Saharan Africa and its relationship to household decision-making and contraceptive use. It is evident that in all of the countries under study, sexual frequency is not solely related to procreation. Sexual activity has commonly been overlooked in both demographic and family planning research, yet it is evident from our study that a strong association exists between decision-making and the time since most recent sexual intercourse.

Our study also confirms an independent and strong association between modern contraceptive use and more recent sexual activity. A woman's ability to exert control over her sexuality is important from a human's right perspective and a health perspective, especially with high rates of HIV/AIDS and decreasing fertility preferences. The potential linkage between women's autonomy and the enjoyment of sexual intercourse needs further exploration. Additional studies are needed to further explore the associations found in our analyses. Longitudinal studies will be especially important in determining directionality and causality of the observed associations. Moreover, new and improved measures of women's empowerment (that take the multi-dimensionality of the concept) are needed. While coital frequency is used as a proxy for choice around sexual intercourse, better measures of how and when women and couples choose to have sex are needed. Programmatically, if women who are using contraception want and enjoy more frequent sexual intercourse, this message will likely resonate with men who can support their wives' use of modern contraception.

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Table 1: Details of the Demographic and Health Surveys used in the analysis of this report

Country	Dates of Fieldwork	Sample Size for Individual-Level Analysis[1]
Ghana	September 2008 – November 2008	1944
Malawi	November 2004 – January 2005	5556
Mali	May 2006 - December 2006	5308
Rwanda	February 2005 - July 2005	3927
Uganda	April 2006 - October 2006	2812
Zimbabwe	August 2005 - February 2006	3594

Table 2: Mean values and percent distributions of married women[a] across six countries, by selected variables, Demographic and Health Surveys

	Ghana	Malawi	Mali	Rwanda	Uganda	Zimbabwe
Sexual Intercourse past 4 wks (%)	61.0	75.0	79.9	87.5	81.0	80.4
Current Contraceptive Use (%)						
Modern Method	20.2	35.0	8.3	12.6	21.7	67.9
Traditional Method	8.5	5.0	1.4	8.6	7.1	1.8
Decision-Making Scores						
Woman Only Decision-Making Score 0-4 (Mean)	1.09	0.59	0.67	0.99	0.80	0.81
Husband Only Decision-Making Score 0-4 (Mean)	1.00	2.59	2.93	1.35	1.52	0.40
Joint Decision-Making Score 0-4 (Mean)	1.92	0.82	0.4	1.66	1.68	2.79
Residence (% Urban)	45.8	18.7	36.3	14.1	14.0	37.3
Age of Respondent (Mean)	32.9	29.4	29.8	32.8	30.6	30.3
Husband's Age (Mean)	39.5	35.1	40.5	38.0	36.3	36.8
Age Difference (%)						
Husband less than 3 years older	23.0	20.9	4.6	38.4	28.1	19.6
Husband 3+ years older	77.0	79.1	95.4	61.6	71.9	80.4
Education of Respondent (%)						
No Education	25.9	25.1	80.2	28.6	23.6	4.8
Incomplete Primary	17.1	52.8	10.0	50.7	49.0	30.1
Complete Primary	5.3	9.8	1.6	11.1	10.9	6.0
Incomplete Secondary	40.5	7.4	7.1	7.1	12.4	54.7
Complete Secondary	7.4	4.2	0.5	1.9	0.4	0.7
Higher	3.9	0.6	0.7	0.6	3.8	3.8
Husband's Education (%)						
No Education	18.6	13.7	75.9	26.4	8.1	2.9
Incomplete Primary	5.6	44.5	8.6	46.0	49.5	25.3
Complete Primary	2.3	16.0	1.8	15.4	13.3	3.1
Incomplete Secondary	46.0	11.0	9.5	8.3	19.0	58.7
Complete Secondary	16.5	13.1	1.4	2.4	1.6	3.1
Higher	11.0	1.7	2.8	1.6	8.6	7.0
Wealth (%)						
Poorest	16.2	13.7	17.1	20.1	20.0	18.4
Poorer	19.0	20.7	18.0	20.6	21.2	18.5
Middle	17.4	22.1	20.0	20.0	21.0	16.9
Richer	23.0	21.4	19.1	20.4	17.6	24.5
Richest	24.4	22.1	25.7	19.0	20.2	21.7
Living Children (Mean)	3.0	3.1	3.3	3.6	4.0	2.8
Nulliparous (%)	7.0	6.1	8.7	4.0	3.9	5.8
Husband lives in house with respondent (%)	75.9	92.9	90.5	91.2	91.9	75.6
Marital Duration (Mean Years)	3.2	2.9	3.2	3.0	3.2	2.9
Fertility Preferences						
Wants another within 2 years	21.7	16.1	35.4	13.5	18.7	16.9
Wants another after 2 years	39.8	41.4	41.6	41.5	39.4	36.8
Wants no more	38.5	42.5	23.0	45.0	41.9	46.3
Respondent is employed (%)	89.2	58.5	57.4	72.7	86.7	38.7
Number of Respondents	1944	5556	5308	3927	2812	3594

[a]Inclusion Criteria: Married/Cohabitating; Monogamous Unions; Household Resident at the time of the survey; Not Pregnant

Table 3: Mean and median times since most recent sex by country and the number of decisions in which women report having the final say, Demographic and Health Surveys

Country	Time since most recent sex in days Mean, Median (5th percentile, 95th percentile)	Time since most recent sex by # of household decisions made by women (percent of women): Mean, Median (5th percentile, 95th percentile)
Ghana	108.9, 14 (1, 365) days	0 decisions (42.8): 84.6, 14 (1, 365) days 1 decision (25.8): 94.8, 14 (1, 365) days 2 decisions (18.7): 119.2, 14 (1, 730) days 3 decisions (7.0): 168.8, 30 (1, 730) day 4 decisions (5.7): 247.2, 35 (4, 1460) days
Malawi	54.4, 4 (0, 305) days	0 decisions (65.5): 44.7, 4 (0, 244) days 1 decision (21.4): 51.2, 4 (0, 274) days 2 decisions (7.2): 81.1, 3 (0, 274) days 3 decisions (2.7): 112.7, 7 (0, 365) days 4 decisions (3.1): 165.3, 30 (0, 730) days
Mali	45.1, 4 (0, 213) days	0 decisions (67.5): 35.6, 4 (0, 183) days 1 decision (17.4): 36.6, 3 (0, 183) days 2 decisions (6.7): 39.3, 5 (0, 244) days 3 decisions (2.8): 57.1, 5.5 (0, 365) days 4 decisions (5.6): 186.4, 14 (1, 1095) days
Rwanda	79.5, 3 (0, 183) days	0 decisions (53.6): 12.2, 2 (0,30) days 1 decisions (19.0): 9.1, 2 (0, 30) days 2 decisions (11.2): 9.8, 2 (0,30) days 3 decisions (4.4): 49.0, 3 (0,61) days 4 decisions (11.9): 570.6, 30 (0,3285) days
Uganda	39.3, 4 (0, 213) days	0 decisions (52.7): 26.4, 3 (0,152) days 1 decisions (25.1): 37.6, 4 (0,213) days 2 decisions (12.4): 42.9, 4 (0,274) days 3 decisions (5.5): 48.6, 7 (0, 305) days 4 decisions (4.1): 193.0, 30 (1,730) days
Zimbabwe	30.1, 3 (0,152) days	0 decisions (55.3): 24.0, 3 (0, 91) days 1 decisions (20.7): 25.2, 3 (0,122) days 2 decisions (13.5): 32.5, 3 (0,213) days 3 decisions (5.5): 59.4, 7 (0,274) days 4 decisions (5.0): 78.8, 21 (1, 365) days

Table 4: Unadjusted and Adjusted hazard ratios of time since most recent sex in days

	Ghana Un-adjusted	Ghana Adjusted	Malawi Un-adjusted	Malawi Adjusted	Mali Un-adjusted	Mali Adjusted	Rwanda Un-adjusted	Rwanda Adjusted	Uganda Un-adjusted	Uganda Adjusted	Zimbabwe Un-adjusted	Zimbabwe Adjusted
Decision-Making Scores (Ref=Joint)												
Woman Only Decision-Making Score 0-4 (Mean)	0.88***	0.89***	0.89***	0.94**	0.90***	0.94*	0.77***	0.91***	0.88***	0.91***	0.89***	0.91***
Husband Only Decision-Making Score 0-4 (Mean)	1.03	1.02	1.03**	0.99	1.06***	0.98	1.10***	0.98+	1.04*	0.99	0.98	0.96+
Partner's Residence (Ref= Partner lives in house with respondent)	0.60***	0.58***	0.50***	0.52***	0.35***	0.33***	0.23***	0.28***	0.60***	0.62***	0.45***	0.42***
Marital Duration	1.01	1.04	1.01	1.03	1	1.03	0.90***	1.04	0.96***	0.99	0.99	1.03
Parity (Ref= 1+ Children)	1.69***	1.48***	1.47***	1.38***	1.07	1.19*	1.58***	1.1	1.4***	1.17	0.99	1.38***
Fertility Preferences (Ref= Wants another within 2 yrs)												
Wants another after 2 years	0.64***	0.64***	0.66***	0.62***	0.73***	0.71***	0.93	0.75**	0.72***	0.69***	0.84**	0.74***
Wants no more	0.71***	0.66***	0.72***	0.60***	0.76***	0.71***	0.69***	0.68***	0.66***	0.63***	0.81***	0.64***
Current Contraceptive Use (Ref=No Use)												
Traditional Method	1.89***	1.76***	1.43***	1.47***	0.95	0.99	1.16**	1.03	1.39***	1.37***	1.89***	1.73***
Modern Method	1.81***	1.84***	1.65***	1.74***	1.28***	1.30***	1.34***	1.28***	1.46***	1.56***	1.6***	1.69***
Residence	1.03	1.26***	0.82*	0.86*	0.97	0.91*	1.02	1.13*	0.96	1.15+	0.76***	0.97
Age of Respondent	1	1	1	1	1	0.99*	0.98***	0.98***	0.99***	1	1	1
Age Difference (Ref < 3 years older)	0.98	0.94	0.99	0.97	0.99	0.91	0.93*	0.87***	1	1	0.92+	0.88**
Education of Respondent	1.07***	1.04*	1.03	1.01	1.02	1.02	1.04*	1.03	1.07***	0.99	1.09***	1.05**
Education of Partner	1.04**	1	1.01	1	1.02	1.01	1.02	1.02	1.03*	0.99	1.06***	1.04+
Wealth (Ref = Poorest)												
Poorer	1.25**	1.31**	1.07	0.93	1.04	1.1+	1.19**	1.11*	1.26***	1.24**	1.18**	1.06
Middle	1.18*	1.41***	1.01	0.92	0.99	1	1.24***	1.12*	1.40***	1.44***	1.13*	1.06
Richer	1.22**	1.44***	0.98	0.96	1	0.98	1.30***	1.19***	1.36***	1.35***	1.43***	1.06
Richest	1.48***	1.62***	1.05	0.93	1.05	0.98	1.23**	1.2**	1.48***	1.41***	1.46***	1
Respondent is employed	1.03	1.04	0.93*	0.94*	0.89***	0.90*	0.97	1	0.98	1.09	1.24***	1.14***
Number of respondents	1944	1944	5556	5556	5308	5308	3927	3927	2812	2812	3594	3594

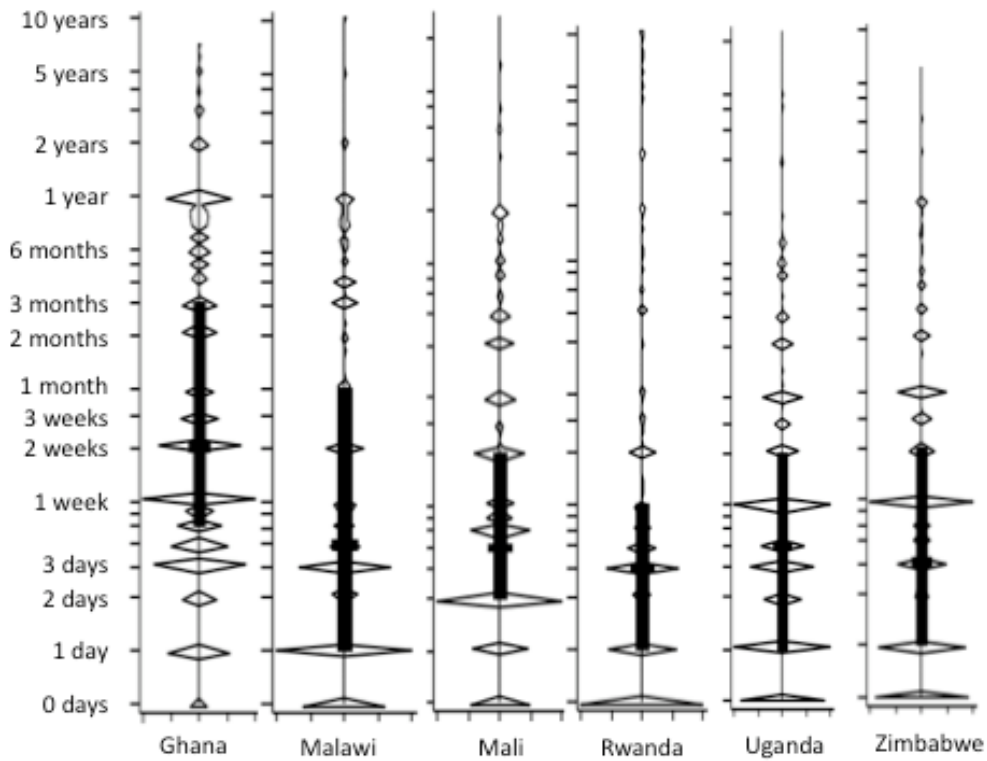***p≤ 0.001, **p≤0.01, *p≤0.05, †p≤0.10

Figure 1: Distribution of Most Recent Sexual Activity in Each of the Six African Countries Studied

Note: Solid bars indicate the 25th, 50th and 75th percentiles. Areas of the diamonds indicate the proportion of the sample report each time from most recent sexual activity. Y-axis is on a logarithmic scale to accommodate the wide range of responses.