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ABSTRACT

Decision-making regarding fertility and family planning involves a complex process of discussion and negotiation by married couples. This study investigates how various social, demographic, and economic factors influence spousal agreement on waiting time to next birth. We also explore how the practice of polygyny in the society affects spousal agreement on waiting time to next birth.

The study uses nationally-representative samples of matched cohabiting couples included in 14 recent Demographic and Health Surveys (DHS) in sub-Saharan Africa (Benin, Burkina Faso, Ghana, Mali, and Chad from west and central Africa; and Ethiopia, Kenya, Uganda, Rwanda, Malawi, Mozambique, Zimbabwe, Zambia, and Namibia from eastern and southern Africa), conducted during 1999 to 2004. We compare reported waiting time to next birth by the husband and the wife to measure spousal agreement or disagreement. Couples where the difference is within ±2 months are defined as having agreement on waiting time to next birth. We examine the influence of selected social, economic, and demographic characteristics of couples on spousal agreement on waiting time to next birth, using binary logistic regression.

We find that in sub-Saharan Africa spousal agreement on waiting time to next birth is associated with wanting the next child sooner. When the spouses disagree on waiting time to next birth, the wives want to wait longer than their husbands in most cases. Additionally, we find that the demographic factors are the primary determinants of spousal agreement on waiting time to next birth, not the socioeconomic factors. The strongest predictor of waiting time to next birth is infecundability. In most countries, cohabiting couples with fewer children and couples with infecund wives are more likely to agree on waiting time to next birth. Wife's age is also positively associated with spousal agreement. Effects of socioeconomic factors, such as education, employment, and wealth status are generally weak and inconsistent. The separate analysis of pooled data for the low and high polygyny countries also shows strong effects of demographic factors, not socioeconomic.

The findings highlight some of the challenges in developing programs to promote spousal communication and birth spacing and underscore the need for the programs to be gender-sensitive.

INTRODUCTION

Various studies have demonstrated that longer birth intervals are better for the health of the mother and the child (Rutstein, 2005; DaVanzo et al., 2004; Conde-Agudelo and Belizan, 2000). Recently, the WHO technical consultation group on birth spacing agreed that after a live birth a mother should wait at least 24 months before attempting the next pregnancy (WHO, 2006). However, the consultation group also noted that it is up to the individuals and couples to make their own choices for the timing of the next pregnancy.

Decision-making regarding fertility and family planning involves a complex process of discussion and negotiation by married couples. Decisions may be influenced by the attitudes and intentions of one or both spouses. Yet, discussion on waiting time to next birth between spouses remains uncommon. A study in Uganda by Blanc and others (1996) found relatively little evidence of negotiation about spacing births than about stopping childbearing altogether. Overall, only 39 percent of men and 31 percent of women ever discussed the timing of the next birth with their spouse, compared with 47 percent of men and 45 percent of women who discussed having no more children (Blanc et al., 1996).

In sub-Saharan Africa, women have a widespread desire to have longer birth intervals than they currently have (Blanc et al., 1996; Rafalimanana and Westoff, 2001). Studies that investigated reproductive preferences in relation to actual reproductive behavior in sub-Saharan Africa have found that birth spacing preferences influence actual birth intervals and fertility in some but not all countries (Rafalimanana and Westoff, 2001). If realized, the desire to avoid short birth intervals may translate into benefits for the lives of women and children. DaVanzo and others (2003) used longitudinal data from Malaysia and found that couples where both partners wanted another child tended to have a subsequent child sooner, i.e., had a shorter waiting time to next birth, than couples where the partners disagreed on wanting another child.

Previous research has shown that women's education, number of living children, women's work status, and household wealth affect reproductive preferences and behaviors (Bhargava, 2007; Rafalimanana and Westoff, 2001; Fapohunda and Poukouta, 1997). More specifically, the number of living children has been shown to influence waiting time to next birth (Rafalimanana and Westoff, 2001). Differences in age and educational attainment between the husband and the wife are measures of relative power that have also been shown to affect reproductive preferences and behaviors (Wolff et al., 2000; Beegle et al., 2001; Barbieri and Hertrich, 2005).

Spousal discussion and negotiation about reproductive preferences and choices occur within specified social contexts. Social norms and values are known to influence individual

reproductive preferences and behaviors, such as spacing of births, stopping childbearing, and practicing contraception (Pollak and Watkins, 1993). Marriage as a social institution has also been shown to influence reproductive preferences and behaviors. A number of studies have examined the impact of polygyny on contraceptive use and fertility behavior at the individual level (Hogan et al., 1999; Nyblade and Menken, 1993), but Ezeh (1997) argued that polygyny is not only an individual-level variable but also a contextual variable.

Previous research has demonstrated the value of using couples' data to better understand reproductive preferences and behaviors in developing countries (Becker, 1996; Dodoo, 1993; Greene and Biddlecom, 2000). In this study, we use matched couples' data from recent Demographic and Health Surveys (DHS) in 14 sub-Saharan African countries to explore how various social, demographic, and economic factors influence spousal agreement on waiting time to next birth. We investigate how infecundability and spousal education and age differences, as well as economic well-being, influence spousal agreement on waiting time to next birth. We also explore how polygyny, as an institution of marriage and cultural norms, affects spousal agreement on waiting time to next birth.

DATA AND METHODS

The data are from 14 recent Demographic and Health Surveys (DHS) in sub-Saharan Africa, namely Benin, Burkina Faso, Ghana, Mali, and Chad from west and central Africa; and Ethiopia, Kenya, Uganda, Rwanda, Malawi, Mozambique, Zimbabwe, Zambia, and Namibia from eastern and southern Africa. The earliest survey included in this report is the Zimbabwe DHS (completed in 1999) and the latest is the Chad DHS (completed in 2004). In each country, the survey interviewed adult women age 15-49 and adult men age 15-59 (15-54 in Kenya, Uganda, Malawi, and Zimbabwe; 15-64 in Benin). Women and men were interviewed using similar questionnaires. Appendix Table A1 provides information about the survey year; numbers of currently married women, men, and matched couples; and proportion of couples in polygynous union for each country.

In this study, a woman is defined as infecund if she was in a stable union (married only once), was sexually active (had sex in the last 12 months), did not use any contraceptive method, and did not have a child birth in the last five years.

We measure spousal agreement on waiting time to next birth using matched information from each spouse's response to the question, "How long would you like to wait from now before the birth of another child?" This question was asked if the respondent indicated that she/he intends to have (a/another) child in the future. For women or men who responded "as soon as possible," a value of 9 months is imputed. Using the difference in the duration of waiting time to next birth, in months, a three-category variable is generated: 1) both husband and wife indicating similar waiting time to next birth, i.e. if the difference is within the range of -2 to +2 months; 2) the husband wanting longer duration of waiting time if the difference is more than 2 months; and 3) the wife wanting longer duration of waiting time if the difference is smaller than -2 months. The first category represents spousal agreement, while the latter two represent disagreement between the partners.

We examine the influence of key social, economic, and demographic characteristics of couples on spousal agreement on waiting time to next birth, using binary logistic regression. The characteristics included: urban/rural residence, wife's education, husband's education, spousal education difference, wife's age, husband's age, spousal age difference, wife's employment, husband's employment, type of marital union, number of living children, fecundity, and household wealth status. Further details on these variables are provided in Table 3. Separate logistic regressions are run for each country. Namibia was excluded from the multivariate analysis due to small numbers of matched couples with information on waiting time to next birth.

One of the caveats of the matched couples' data is that for polygynous unions multiple wives are matched with one husband to form multiple couples. However, the questions in the men's questionnaire did not ask the husband about each wife. This raises the concern regarding statistical independence of responses from a polygynous husband (Speizer and Yates, 1998; Bankole and Singh, 1998). To address this, we randomly selected a wife from each polygynous husband to form only one representative couple from a polygynous union. We compared spousal agreement (or disagreement) on waiting time to next birth between the two sets of couples, one with multiple couples in a polygynous union and the second with one representative couple with a randomly selected wife, but found no significant differences between the two sets (Appendix Table A2). The analysis presented in this paper uses the first set with multiple couples representing polygynous unions.

To explore the role of polygyny as an institution that affects waiting time to next birth at an aggregate level, we pooled data separately for six countries with a relatively high prevalence of polygyny (20 percent or higher) and for the remaining eight countries with a lower prevalence of polygyny (less than 20 percent). We compared spousal agreement on waiting time to next birth between the two polygyny groups, and examined whether the various demographic and socioeconomic factors affected spousal agreement on waiting time to next birth differently in the two groups of countries. When analyzing the pooled data from each of the two groups of countries, we created new sets of weights that accounted for both the survey sampling weights and the size of the population of each country.

RESULTS

Considering couples in which both partners want to have another child, the proportion wanting similar waiting time to next birth ranges from 18 percent in Namibia to 47 percent in Zambia (Table 1). Only about a third of couples in most countries reported that both partners have similar waiting time to next birth. In 8 of the 14 countries (Benin, Burkina Faso, Ghana, Mali, Chad, Ethiopia, Kenya, and Namibia), a higher proportion of wives want longer wait time to next birth compared with their husbands. On the other hand, in Uganda, Rwanda, Malawi, Mozambique, Zimbabwe, and Zambia – all in eastern and southern Africa – a higher proportion of husbands want longer waiting time than their wives.

Namibia stands out as having only 18 percent of couples where both partners agree on the waiting time to next birth, and where a much greater proportion of wives want to wait longer (57 percent) than their husbands (25 percent).

Table 1. Spousal agreement on waiting time to next birth by country

	Agreement	Disagreement		
	Both want similar waiting time	Husband wants to wait longer	Wife wants to wait longer	Number of couples
West and Central Africa				
Benin	37.6	28.1	34.3	925
Burkina Faso	33.4	25.0	41.7	1,400
Ghana	37.3	25.0	37.6	1,074
Mali	35.8	27.9	36.3	1,358
Chad	34.0	30.8	35.2	580
Eastern and Southern Africa				
Ethiopia	32.5	29.8	37.7	693
Kenya	33.0	31.2	35.7	601
Uganda	38.5	34.6	26.9	495
Rwanda	39.4	34.8	25.8	625
Malawi	41.4	30.8	27.8	738
Mozambique	35.4	34.0	30.6	809
Zimbabwe	35.8	32.2	32.0	371
Zambia	46.8	33.8	19.5	574
Namibia	18.0	25.1	56.9	154

Table 2 presents the median waiting time to next birth for couples by whether both spouses want similar waiting time, the husband wants to wait longer, or the wife wants to wait longer. Since waiting time can be affected by age, we also present the median waiting time to next birth by the age of the wife. In most countries, when both partners agree, the median waiting time to next birth is 24 month or shorter; the shortest waiting time is 16 months in Mali and Mozambique. However, when the husband and the wife disagree on waiting time to next birth,

the median waiting time tends to be longer in all countries. In 8 of the 14 countries, when the spouses disagree, the wives want to wait longer for next birth than their husbands. In the remaining 6 countries, the wives and husbands have similar median waiting times irrespective of which partner wants to wait longer. Younger wives prefer longer waiting time to next birth (24-37 months) than older wives (14-25 months) in all but three countries—Chad, Uganda, and Zambia—where the median waiting time to next birth is 24 months in both age groups.

Table 2. Median waiting time to next birth (in months) by spousal agreement and by age of the wife

	Agreement	Disagreement		Wife's age	
	Both want similar waiting time	Husband wants to wait longer	Wife wants to wait longer	15-34	35-49
West and Central Africa					
Benin	24	36	36	25	16
Burkina Faso	24	39	48	36	25
Ghana	20	48	49	37	26
Mali	16	36	36	24	14
Chad	24	25	36	24	24
Eastern and Southern Africa					
Ethiopia	19	37	40	36	19
Kenya	24	37	48	31	17
Uganda	24	36	36	24	24
Rwanda	25	37	37	36	25
Malawi	24	36	37	27	24
Mozambique	16	24	36	24	15
Zimbabwe	18	43	49	36	18
Zambia	19	28	36	24	24
Namibia	23	27	36	26	18

Differentials in Spousal Agreement on Waiting Time to Next Birth

Table 3 presents the social, economic, and demographic differentials in the percentage of couples in which both spouses agree to have similar waiting time to next birth. In 11 of the 14 countries, the percentage of couples in which both spouses want similar waiting time to next birth is higher in urban areas compared with rural areas.

In Ghana, Uganda, Malawi, and Mozambique, the percentage of couples in which both partners want similar waiting time to next birth increases with increasing level of wife's education. In contrast, in Chad, Ethiopia, Zambia, and Namibia, the percentage of couples with both spouses wanting similar waiting time to next birth is higher when the wife has no formal education. In Chad, for example, in 35 percent of the couples where the wife has no education both partners want similar waiting time to next birth, compared with 23 percent of the couples where the wife has secondary or higher education. In most cases, there is no clear relationship between husband's education and spousal agreement on waiting time to next birth. In Burkina

Faso, Kenya, Uganda, Malawi, and Mozambique, spousal agreement on waiting time to next birth is higher when a wife is more educated than her husband, whereas in Benin, Ghana, Rwanda, and Namibia, it is higher when a husband is more educated than his wife.

In all countries, except Burkina Faso and Malawi, spousal agreement on waiting time to next birth is higher among couples with wives age 35-49 than among those with wives age 15-34. However, there is no clear relationship between husband's age and spousal agreement on waiting time to next birth. In 9 of the 14 countries, spousal agreement on waiting time to next birth is greater when the age gap between the spouses is shorter.

There is no clear relationship between work status of the wife or the husband and spousal agreement on waiting time to next birth. Both for the wife's and husband's work status, working for cash is positively associated with spousal agreement on waiting time to next birth in only 6 of the 14 countries. In 8 of the 14 countries, spousal agreement on waiting time to next birth is greater among monogamous couples than among polygynous couples. Namibia stands out as a country where spousal agreement on waiting time is much greater among polygynous couples than among monogamous couples.

In most countries, spousal agreement on waiting time to next birth is lower among couples with more living children, with the notable exception of Rwanda. In all countries, spousal agreement on waiting time to next birth is greater among couples where the wife was infecund. There is no clear relationship between household wealth status and spousal agreement on waiting time to next birth. In about half of the countries spousal agreement is greater among couples living in wealthier households, and in the other half it is greater among couples in the poorer households.

Table 3. Proportion of couples in which both spouses agree to have similar waiting time to next birth by demographic, social, and economic characteristics

Characteristics	West and Central Africa					Eastern and Southern Africa								
	Benin	Burkina	Ghana	Mali	Chad	Ethiopia	Kenya	Uganda	Rwanda	Malawi	Mozambique	Zimbabwe	Zambia	Namibia
Residence														
Urban	42.8	36.5	44.4	33.9	28.5	33.3	38.3	44.8	37.8	32.6	33.3	33.6	35.6	20.2
Rural	35.3	33.0	34.0	36.2	34.9	32.4	31.3	33.7	34.3	30.5	34.2	31.5	33.1	16.7
Wife's education														
No education	37.5	32.6	33.0	36.2	35.3	33.9	33.4	30.9	39.3	21.8	31.8	39.8	36.0	23.5
Primary	34.5	38.9	37.6	33.0	29.1	30.5	31.5	35.9	32.6	33.1	36.0	30.5	33.5	20.1
Secondary+	48.8	38.0	43.9	34.5	22.6	19.1	36.6	36.8	35.2	39.2	42.4	32.8	33.1	14.2
Husband's education														
No education	36.2	34.3	30.4	36.3	35.0	35.1	35.6	42.4	33.5	33.9	33.7	47.3	33.2	3.4
Primary	36.4	25.8	36.4	36.4	36.1	28.9	32.7	33.1	36.6	29.5	33.3	26.8	31.8	24.9
Secondary+	44.9	34.9	43.2	31.9	24.5	32.5	32.6	36.3	30.5	33.2	38.9	34.1	36.9	17.9
Spousal education difference														
Same education	37.5	33.8	31.5	36.0	35.2	35.4	31.2	31.1	31.9	30.2	31.4	36.4	36.5	8.2
Wife more educated	29.6	41.4	37.2	36.2	35.8	22.6	35.9	45.9	34.7	34.0	36.4	27.3	21.3	18.2
Husband more educated	39.5	27.5	42.6	35.3	31.4	30.0	32.4	31.9	35.8	29.8	34.9	31.7	36.6	24.7
Wife's age														
15-34	37.2	34.1	36.4	33.6	33.3	29.5	30.7	34.0	33.9	31.3	33.2	30.3	32.3	15.2
35-49	40.7	28.7	41.7	47.0	37.8	48.6	60.1	44.3	41.4	24.7	37.9	57.9	48.3	28.0
Husband's age														
15-34	37.3	38.5	36.1	38.7	36.9	28.4	30.3	34.3	32.6	30.9	32.3	29.7	30.3	17.7
35-44	37.7	26.7	40.8	30.0	28.5	33.3	36.6	38.2	38.0	33.0	33.5	35.9	42.4	20.1
45+	38.1	33.9	33.7	40.8	34.7	44.5	45.9	24.0	44.5	20.4	43.0	48.9	45.9	10.5
Spousal age difference (husband older)														
< 5 years/wife older	35.5	36.4	38.9	37.2	35.6	33.4	37.2	36.0	32.5	30.4	31.7	33.1	33.7	18.8
5 years and over	39.2	32.2	35.9	35.4	33.1	32.0	29.4	32.7	38.6	31.3	36.5	31.1	33.8	16.7
Wife's employment														
Not working	45.7	33.4	38.1	35.6	34.7	31.5	30.5	29.8	24.7	33.0	37.8	30.4	29.0	19.1
Working for cash	36.4	33.4	37.2	35.9	33.8	33.2	35.1	35.9	36.2	29.2	32.9	33.8	36.9	13.6
Husband's employment														
Not working	24.9	34.7	47.5	34.5	42.1	29.8	34.5	24.9	35.9	23.9	27.9	32.8	42.9	18.8
Working for cash	37.8	33.0	37.2	36.1	33.8	32.6	32.9	37.8	34.1	33.6	35.6	31.9	32.6	17.4
Type of marital union														
Monogamous	42.2	37.4	40.0	39.7	34.0	32.6	33.4	34.6	34.8	30.8	34.4	32.6	33.8	16.8
Polygynous	30.1	27.7	27.6	29.1	34.0	31.2	29.5	34.9	34.8	30.7	32.4	26.9	33.3	34.5
No. of living children														
0	52.6	59.9	65.8	55.6	51.6	47.6	48.1	57.0	49.7	42.8	47.3	40.1	46.4	17.1
1-2	38.7	32.1	34.9	35.5	30.8	26.7	31.1	34.3	32.0	29.3	30.3	32.0	31.7	17.3
3-4	34.0	24.8	30.7	30.5	35.7	30.1	27.6	28.4	28.8	22.6	32.2	24.6	32.7	26.3
5+	25.2	22.5	28.5	28.3	30.9	40.5	23.3	26.9	52.9	29.8	31.5	6.6	26.2	3.0
Fecundity[1]														
Fecund	34.5	31.8	35.0	32.9	31.7	31.4	29.6	33.6	32.8	29.3	33.4	29.5	30.7	15.5
Infecund	62.8	58.4	55.0	60.4	41.1	63.4	66.8	39.2	77.4	53.1	34.7	55.5	69.6	30.5
Household wealth status[2]														
Poor	38.2	38.0	32.3	34.7	32.5	30.2	29.7	33.5	37.0	27.2	27.6	34.7	33.2	19.1
Middle	29.6	30.1	32.6	42.2	34.6	31.1	28.6	33.3	31.8	31.5	43.3	26.8	37.4	17.9
Rich	41.9	29.3	47.8	33.8	35.1	36.5	38.1	37.5	34.8	34.1	39.5	32.0	31.5	16.9
Number of couples	925	1,400	1,074	1,358	580	693	601	495	625	738	809	371	574	154

[1] A woman is defined as infecund if she was in a stable union (married only once), was sexually active (had sex in the last 12 months), did not use any contraceptive method, and did not have a childbirth in the last five years.
[2] Household wealth status is measured by an index based on household ownership of durable assets (Rutstein and Johnson, 2004).

Multivariate Analyses

With other factors controlled, urban/rural residence has no significant association with spousal agreement on waiting time to next birth in any of the 13 countries included in the multivariate analysis (Table 4). Wife's education and education gap between the husband and wife also do not have any significant associations, except in Malawi where wife's education is significantly positively associated with the likelihood of both partners wanting similar waiting time to next birth.

Independent of other factors, wife's age is significantly positively associated with spousal agreement on waiting time to next birth in 8 of the 13 countries: Ghana, Mali, Ethiopia, Kenya, Uganda, Mozambique, Zimbabwe, and Zambia. The association is particularly strong in Ethiopia (aOR=3.03; $p<0.01$), Zambia (aOR=3.86; $p<0.01$), and Zimbabwe (aOR=5.66; $p<0.01$), where couples with wives age 35-49 are 3-6 times more likely to have spousal agreement on waiting time to next birth than couples with wives age 15-34. The age gap between the partners has no significant relationship with spousal agreement on waiting time to next birth in any of the 13 countries.

In most countries, employment status of the wife or that of the husband has no significant association with spousal agreement on waiting time to next birth. In the case of the wife's employment, working for cash is significantly positively associated with spousal agreement in only Rwanda and Uganda. In the case of the husband's employment, working for cash is significantly positively associated with spousal agreement in only Malawi and significantly negatively in Zambia.

In Benin, Ghana, and Mali, spouses in polygynous marriages are less likely to agree on waiting time to next birth than those in monogamous marriages. The number of living children has a significant relationship with spousal agreement on waiting time to next birth in 7 of the 13 countries (Benin, Burkina Faso, Mali, Ethiopia, Uganda, Zimbabwe, and Zambia). In these countries, spousal agreement is less common among couples with more living children.

Infecundibility is strongly negatively associated with spousal agreement on waiting time to next birth in 9 of the 13 countries. With other factors controlled, the spousal agreement was 2-7 times more common in couples where the wife was infecund. In the remaining four countries (Chad, Uganda, Mozambique, and Zimbabwe) the association between infecundability and spousal agreement is positive but not statistically significant.

The relationship between household wealth status and spousal agreement on waiting time to next birth is positive and significant in Ghana, Mali, Ethiopia, and Mozambique, but negative and significant in Burkina Faso.

Table 4. Odds ratios from binary logistic regressions predicting spousal agreement on similar waiting time to next birth

	West and Central Africa					Eastern and Southern Africa							
	Benin	Burkina	Ghana	Mali	Chad	Ethiopia	Kenya	Uganda	Rwanda	Malawi	Mozambique	Zimbabwe	Zambia
Residence													
Rural	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Urban	1.10	1.44	0.97	0.76	0.78	0.95	1.13	1.54	1.30	1.19	0.75	1.22	0.95
Wife's education													
No education	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Primary	0.80	1.39	0.85	0.90	0.71	0.81	0.72	1.09	0.77	1.57*	0.94	0.89	0.94
Secondary+	0.91	1.39	1.05	0.96	0.67	0.53	0.52	0.57	0.83	1.97	0.96	0.97	1.03
Spousal age difference													
Same education	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wife more educated	0.75	1.07	0.83	1.24	1.69	0.74	1.14	1.62	1.43	0.98	0.92	0.73	0.56
Husband more educated	0.99	0.80	1.02	0.92	0.92	0.87	0.84	0.98	1.33	0.90	1.03	0.84	0.97
Wife's age													
15-34	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
35-49	1.43	1.09	1.59*	1.81**	1.35	3.03**	2.56**	2.31*	1.13	1.11	1.61*	5.66**	3.86**
Spousal age difference (husband older)													
< 5 years/wife older	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5 years and over	1.28	0.91	0.94	1.08	0.90	1.00	0.90	0.81	1.36	1.07	1.18	1.01	1.08
Wife's employment													
Not working	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Working for cash	0.81	1.32	0.99	1.03	0.79	1.16	1.24	1.87*	1.76*	0.87	0.72	1.18	1.37
Husband's employment													
Not working	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Working for cash	2.09	0.93	0.80	0.82	1.54	1.86	0.56	1.50	0.89	1.49*	1.29	0.85	0.58*
Type of marital union													
Monogamous	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Polygynous	0.59**	0.79	0.63*	0.69**	0.72	1.03	0.65	1.13	0.85	1.20	0.78	0.93	0.88
No. of living children													
≤2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3-4	0.78	0.54**	0.72	0.72*	0.82	0.78	0.66	0.56*	0.72	0.69	0.98	0.33*	0.82
5+	0.51*	0.41**	0.60	0.47**	0.64	0.50*	0.48	0.55	2.32	0.85	0.98	0.09*	0.27**
Fecundity													
Fecund	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Infecund	2.59*	2.82**	2.29**	2.85**	1.37	3.26**	2.86**	1.56	6.89**	2.66*	1.33	2.20	6.76**
Household wealth status													
Poor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Middle	0.75	0.88	1.08	1.34*	1.14	1.40	1.15	0.90	0.76	1.14	1.75**	0.72	0.81
Rich	1.31	0.61**	1.73*	1.16	1.15	2.15*	1.36	1.30	0.79	0.87	1.78	0.62	1.05
Number of couples	920	1,400	1,074	1,335	577	691	601	495	620	737	808	370	571
Loglikelihood	-582.18	-847.58	-669.64	-830.74	-360.50	-432.37	-368.18	-309.53	-381.00	-443.77	-513.16	-218.12	-342.33

Significance level: * p < 0.05; ** p < .01

Waiting Time to Next Birth by Polygyny Groups

Table 5 presents multivariate analysis of pooled data for two groups of countries based on the prevalence of polygyny. Independent of other factors, only wife's age and infecundibility are significant determinants of spousal agreement on waiting time to next birth in both countries with low prevalence of polygyny and countries with high prevalence of polygyny. In the low polygyny group of countries, the likelihood of spousal agreement is about twice as high among couples with wives age 35-49 as among those with wives age 15-34 (aOR=1.96; $p<0.01$), and in the high polygyny group of countries it is one-and-a-half times as high among couples with wives age 35-49 as among those with wives age 15-34 (aOR=1.50; $p<0.01$). Similarly, in both the low and high polygyny groups, the likelihood of spousal agreement on waiting time to next birth is more than twice as high among couples with infecund wives as among those with fecund wives (aOR=2.41; $p<0.01$ in the low polygyny group and aOR=2.12; $p<0.01$ in the high polygyny group).

In the high polygyny group, type of marital union and number of living children are also significantly associated with the likelihood of spousal agreement on waiting time to next birth. In this group, spousal agreement on waiting time to next birth is less common among couples in polygynous marriages and among those with a higher number of living children. None of the other factors have any significant association with spousal agreement on waiting time to next birth in either polygyny group.

Table 5. Odds ratios from binary logitistic regression predicting spousal agreement on waiting time to next birth by polygyny groups

	Polygyny group	
	Low	High
Residence		
Rural	1.00	1.00
Urban	0.97	1.12
Wife's education		
No education	1.00	1.00
Primary	0.97	0.93
Secondary+	0.78	0.90
Spousal education difference		
Same education	1.00	1.00
Wife more educated	0.90	1.34
Husband more educated	0.93	0.97
Wife's age		
15-34	1.00	1.00
35-49	1.96**	1.50**
Spousal age difference (husband older)		
< 5 years/wife older	1.00	1.00
5 years and over	0.96	0.93
Wife's employment		
Not working	1.00	1.00
Working for cash	1.13	1.10
Husband's employment		
Not working	1.00	1.00
Working for cash	1.01	1.25
Type of marital union		
Monogamous	1.00	1.00
Polygynous	0.83	0.76**
No. of living children		
≤2	1.00	1.00
3-4	0.80	0.65**
5+	0.85	0.52**
Fecundity		
Fecund	1.00	1.00
Infecund	2.41**	2.12**
Household wealth status		
Poor	1.00	1.00
Middle	1.27	0.99
Rich	1.49	0.99
Number of couples	4,550	5,801
Loglikelihood	-2,812.6	-3,671.8

Significance level: * p < 0.05; ** p < .01

DISCUSSION

We find that in sub-Saharan Africa spousal agreement on waiting time to next birth is associated with wanting the next child sooner. When the spouses disagree on waiting time to next birth, the wives want to wait longer than their husbands in most cases. Additionally, we find that the demographic factors are the primary determinants of spousal agreement on waiting time to next birth, not the socioeconomic factors. The strongest predictor of waiting time to next birth is infecundability. Couples with fewer children and couples with infecund wives are more likely to agree on waiting time to next birth. Wife's age, on the other hand, is positively associated with spousal agreement. Effects of socioeconomic factors, such as education, employment, and wealth status on spousal agreement on waiting time to next birth are generally weak and inconsistent.

The separate analysis of pooled data for the low and high polygyny countries also shows strong effects of demographic factors, not socioeconomic, on spousal agreement on waiting time to next birth. The effects of wife's age and infecundability are stronger in countries with a low prevalence of polygyny, whereas the effects of type of marital union and number of living children are stronger in countries with a high prevalence of polygyny.

There are several limitations of our analysis that should be kept in mind when interpreting these findings. First, our analysis is based on reported birth spacing preferences, not actual behaviors. Reported preferences are subject to rationalization bias. Another limitation is that the couples where spouses disagree on wanting another child are excluded from the analysis. This may result in some selection bias to the extent there was misreporting on desire for another child. Finally, our analysis is based on cross-sectional data, so our results only show an association and do not imply any causality.

Despite these limitations, our findings have important implications. Our finding that spousal agreement on waiting time to next birth is associated with wanting shorter birth intervals, not longer intervals, poses a challenge for fertility and family planning programs attempting to promote spousal discussion and mutual agreement and to increase birth spacing. Our finding that demographic factors, such as wife's age, infecundability, and number of living children, are more strongly associated with spousal agreement than socioeconomic factors also poses a challenge to the extent that demographic factors are more difficult to modify. However, a positive association between having fewer children and spousal agreement on waiting time to next birth is consistent with family planning program objectives of reducing fertility. Our finding that husbands are generally more likely than wives to want a child sooner calls for the programs to be gender-sensitive.

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APPENDIX

Table A1: DHS surveys by country and year, and prevalence of polygyny

Country	Survey year	Sample characteristics: Currently married women	Currently married men	Matched couples	Percent matched couples relative to currently married women	Percent polygynous marriage
West and Central Africa						
Benin	2001	4,587	1,607	1,609	35.1	42.1
Burkina Faso	2003	9,537	1,973	2,340	24.5	47.9
Ghana	2003	3,694	2,726	2,133	57.7	22.6
Mali	2001	10,697	2,138	2,191	20.5	41.1
Chad	2004	4,415	1,063	924	20.9	34.1
Eastern and Southern Africa						
Ethiopia	2000	9,380	1,433	1,271	13.6	11.3
Kenya	2003	4,876	1,855	1,430	29.3	11.7
Malawi	2000	9,361	1,903	1,677	17.9	10.4
Mozambique	2003	8,377	1,780	1,435	17.1	19.2
Rwanda	2000	4,891	1,362	1,156	23.6	5.5
Uganda	2000/01	4,903	1,167	944	19.3	20.5
Zimbabwe	1999	3,553	1,203	907	25.5	9.5
Zambia	2001/02	4,731	1,249	1,120	23.7	11.8
Namibia	2000	2,827	1,184	805	28.5	3.9

[a] In most countries, the men sample interviewed men in the age group 15-59; while for Kenya, Malawi, Uganda, and Zimbabwe men aged 15-54 and; for Benin men aged 15-64 were interviewed;

Table A2. Percentage of couples in which both spouses agree on waiting time to next birth

Wait time to next birth	All couples: Both want similar waiting time	All couples: Husband wants to wait longer	All couples: Wife wants to wait longer	A randomly selected wife: Both want similar waiting time	A randomly selected wife: Husband wants to wait longer	A randomly selected wife: Wife wants to wait longer
West and Central Africa						
Benin	37.6	28.1	34.3	33.4	28.1	38.5
Burkina Faso	33.4	25.0	41.7	40.7	24.4	34.9
Ghana	37.3	25.0	37.6	37.0	25.8	37.2
Mali	35.8	27.9	36.3	35.6	28.4	36.0
Chad	34.0	30.8	35.2	37.3	30.5	32.2
Eastern and Southern Africa						
Ethiopia	32.5	29.8	37.7	37.6	29.9	32.5
Kenya	33.0	31.2	35.7	36.1	31.3	32.6
Uganda	38.5	34.6	26.9	38.1	27.5	34.4
Rwanda	39.4	34.8	25.8	39.4	25.9	34.7
Malawi	41.4	30.8	27.8	42.3	27.8	29.9
Mozambique	35.4	34.0	30.6	35.5	30.7	33.9
Zimbabwe	35.8	32.2	32.0	36.4	31.7	31.9
Zambia	46.8	33.8	19.5	47.4	20.3	32.3
Namibia	57.2	24.9	17.9	57.2	25.1	17.6