

## ORIGINAL RESEARCH ARTICLE

# Partner Communication, Discordant Fertility Goals, and Contraceptive Use in Urban Kenya

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## Abstract

This study assesses the degree of partner communication and perceived partner concordance and their association with contraceptive use among 2,891 women and 1,362 men in urban Kenya. Twenty-three percent of men and 30% of women report never discussing FP with their partner. Approximately 70% of participants perceive their partner to have concordant fertility desires. Multivariate analyses revealed that both male (AOR = 7.7 [95% CI = 5.5-10.7]) and female (AOR = 2.8 [95% CI = 2.3-3.3]) participants were more likely to use contraception if they report discussing FP with their partner. Participants who perceive that their partner wants fewer children also were more likely to use contraception (AOR, females = 1.8 [95% CI = 1.2-2.8]), (AOR, males = 1.9 [95% CI = 1.2-3.1]). Discussion of FP is a key determinant of contraceptive use; in couples with discordant fertility goals, pro-natalist males do not always dictate contraceptive behavior in urban Kenya. (*Afr J Reprod Health* 2013; 17[3]: 79-90).

## Résumé

Cette étude fait une évaluation du degré de communication entre les partenaires et la concordance des partenaires perçue et leur association avec l'utilisation des contraceptifs chez 2,891 femmes et 1,362 hommes dans le milieu urbain de Kenya. Vingt-trois pour cent des hommes et 30% des femmes ont déclaré qu'ils n'ont jamais discuté la PF avec leurs partenaires. Environ 70% des participants perçoivent leurs partenaires comme ayant des désirs de fertilité concordantes. Des analyses multi variées ont révélé que les participants mâles (AOR = 7,7 [IC = 5,5 à 10,7 95%]) et les femelles (AOR = 2,8 [IC 95% = 2,3-3,3]), étaient plus susceptibles d'utiliser la contraception s'ils déclarent qu'ils discutent la PF avec leurs partenaires. Les participants qui ont l'impression que leurs partenaires désirent moins d'enfants étaient également plus susceptibles d'utiliser la contraception (AOR, femmes = 1,8 [95% IC = 1,2-2,8]), (AOR, hommes = 1,9 [95% IC = 1,2-3,1]). La discussion sur la PF est un facteur déterminant de l'utilisation des contraceptifs ; chez les couples des objectifs de fécondité discordants, les hommes natalistes ne dictent pas toujours le comportement contraceptif dans les milieux urbains du Kenya. (*Afr J Reprod Health* 2013; 17[3]: 79-90).

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**Keywords:** Male involvement; Family planning; Couples, Discussion

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## Introduction

The 1994 International Conference on Population and Development (ICPD) encouraged practitioners of reproductive health to think in new ways in order to achieve successful family planning programs and policies in developing countries.

Whereas the domain of pregnancy prevention was previously seen as the responsibility of women, the ICPD's Program of Action (PoA) recognized the potential impact of involving men in the promotion of sexual and reproductive health,

suggesting that active participation of both men and women may be a key strategy for reducing unmet need for family planning<sup>1</sup>. Traditional patterns of male exclusion may unduly place the burden of family planning on already overburdened women<sup>2</sup>. In addition, in regions where approval by the male spouse is required for contraceptive use and other household and health decisions, failing to involve men in family planning programs and policies may result in perceived or actual male opposition to use, thereby reducing women's actual use of family planning<sup>3</sup>.

In evaluating the most effective ways for programs to increase male involvement in family planning, it is helpful to gain an understanding of the degree to which men and women agree on fertility preferences. In a 1996 multi-country review of couple studies conducted in sub-Saharan Africa, the median levels of spousal concordance on approval of family planning and desire for additional children were 79% and 75%, respectively<sup>4</sup>. These results were similar to those from another study using data from the 1988 Ghana Demographic and Health Survey (DHS), which found that, among married couples in Ghana, agreement between husbands and wives on desire for more children was 76%<sup>5</sup>. A subsequent study using DHS data from 18 countries, the majority in sub-Saharan Africa, found that discordant couple preferences are common with men often preferring more children and shorter birth intervals than their wives; in 10 to 26% of couples, there was disagreement on desire for additional children<sup>6</sup>. In line with these results, a 1999 study in Morocco found that 20% of couples were in disagreement on fertility preferences<sup>7</sup>. These studies indicate that across varying settings, husbands and wives often disagree when it comes to their desire for additional children.

Some evidence also suggests that when husbands and wives disagree on matters related to fertility, contraceptive use is lower. A study using Kenya DHS data from 1989 concluded that current contraceptive use is highly associated with whether a wife perceives that her husband approves of family planning such that those women who perceive that their husbands approve are more likely to use than those women who do not<sup>8</sup>. A subsequent study, using Kenya DHS data

from 1993, reported that the percentage of couples using contraception nearly doubled (from 23.2% to 39.2%) when both spouses wanted to stop having children compared to couples in which only the wife wanted to stop childbearing while the husband preferred to space<sup>9</sup>. These results suggest that husband-wife perceived and actual agreement on fertility intentions may influence contraceptive use and fertility.

Yet findings from two additional studies contradict this conclusion. A 1995 study from Nigeria with a sample of 2,662 married couples used logistic regression models with an interaction term to capture the effect of couples' joint fertility preferences on their reproductive behavior. Results indicated that discordant couples for which the husband is more pro-natalist are not significantly more likely to have an additional birth as compared to discordant couples where the wife is more pro-natalist<sup>10</sup>. As recently as 2005, a study in Kwa-Zulu Natal found no significant relationship between the husband's desire for additional children and contraceptive use. In fact, in this study of 238 married or cohabiting couples, it was the wife's fertility preferences that were found to be a "key determinant of use". These two studies indicate that men do not have a clear and dominant influence on contraceptive decision making<sup>11</sup>.

While the impact of husband fertility preferences on family planning use may be unclear in the literature, numerous studies suggest that spousal communication is a key determinant of contraceptive use<sup>8,12-18</sup>. For example, in a 2002 study using longitudinal data from Ghana, it was found that spousal communication about family planning, as reported by female participants, strongly predicted contraceptive use, even after controlling for other factors<sup>13</sup>. A Nigerian study on male reproductive intentions found that inter-spousal communication, as reported by more than 3,000 couples, was significantly associated with having a smaller family size<sup>14</sup>.

Research on interventions designed to increase male involvement indicates that attempts to involve men in decisions regarding family planning and ideal family size are often successful. In a 1992 study in Zimbabwe, men exposed to a multimedia communications campaign promoting

use of family planning among men were significantly more likely to both use family planning and to agree that both spouses have a say in determining ideal family size, as compared to men not exposed to the intervention<sup>19</sup>. Findings from a 2011 assessment of The Malawi Male Motivator Project suggest that improving communication skills is a necessary step for increasing men's ability to join in contraceptive decision making<sup>20</sup>.

The literature exploring the potential benefits of male involvement is vast yet few studies have assessed the role of perceived partner fertility preferences and communication among *urban* populations, a fast growing population and one that may differ substantially from their rural counterparts in terms of marital norms and practices. In particular, between 2000 and 2030, urban populations in Africa are expected to double<sup>21</sup>. The objective of this study, therefore, is to describe the degree of reported spousal communication and perceived spousal concordance regarding fertility preferences among a sample of men and women from three urban areas of Kenya (Nairobi, Kisumu, and Mombasa). In addition to assessing the degree of spousal communication and perceived partner fertility preferences, we look at the association of each with current use of modern contraception. By looking at a large sample of men and women separately, we can determine whether the role of partner influence is different for women and for men in urban settings of Kenya.

## Methods

The data used in this analysis were collected in 2010 as part of a baseline survey for The Measurement, Learning & Evaluation (MLE) Project. The MLE Project is the evaluation component of the Urban Reproductive Health Initiative (URHI), a multi-country program in India, Kenya, Nigeria, and Senegal that aims to improve the health of the urban poor. The country-level program of the URHI in Kenya, *Tupange*, is led by Jhpiego, an international health organization affiliated with The Johns Hopkins University in Baltimore. *Tupange* is a 5-year (2010-2014) family planning project designed to

assist the government of Kenya to revitalize its family planning program in five urban areas.

Baseline data to evaluate the *Tupange* project were collected at the individual level from a representative sample of women and men from three major urban areas: Nairobi, Kisumu, and Mombasa. A two-stage sampling approach was used. In the first stage, a random sample of primary sampling units (PSU) was selected from each city and from those selected PSUs, in the second stage, a random sample of 30 households was chosen for household and female interviews. In half of the selected households, men were also interviewed. All males (ages 15 to 59) and females (ages 15 to 49) in selected households were asked to participate in a detailed interview with a trained same-sex interviewer following an informed consent protocol. Using pencil-and-paper, interviewer-led surveys, men and women were asked about their fertility desires, family planning use, and reproductive health.

The baseline survey in Kenya collected data from 2,503 men in Nairobi, Kisumu, and Mombasa. Because this is an assessment of partner communication and perceived spousal concordance, we excluded any men who were not in union (that is, not married or living with their partner) (n=981). We also exclude men with missing data for key variables (n=28). Because we are only interested in studying men with partners who are eligible to use contraception, we exclude men who are sterilized or have wives who can't get pregnant (n=15) or are already pregnant (n=117). As a result, we included a total of 1,362 men in this analysis. We also collected data from 5,774 women in Nairobi, Mombasa, and Kisumu. We excluded women who were missing data on the key variables (n=32). We also excluded women who were not married or living with a partner (n=2,341) as well as women who are currently pregnant, can't get pregnant, have had a hysterectomy, or are menopausal (n=510), given that we only want to include women in union who are eligible for contraceptive use. Accordingly, we included a total of 2,891 women in this analysis. Although the women and men were from the same households, only three-fifths of the men could be matched with their wives<sup>22</sup> since a number of the spouses were not available for interview or not

residing in the same house. For this analysis that sought to understand the role of perceived spousal fertility desires and reported spousal communication and the association of each with modern family planning use, we preferred to include the full sample of married women and married men rather than the smaller sub-sample of matched couples.

This study investigates perceived spousal concordance (with respect to fertility preference) and reported couple communication (with respect to family planning) and the association of each with modern contraceptive use. The outcome of interest in this analysis is current modern contraceptive use. This is measured by asking participants which method(s), if any, they (or their partner) are currently using. The focus of this analysis is on modern method use and thus the small number of participants who were using natural methods (6% and 12% in the women's and men's weighted sample, respectively) were classified as not using modern methods. The goal of most family planning programs is to increase modern method use; the focus of this analysis is consistent with those goals.

We measured perceived spousal concordance by asking participants if they believe their partner wants the same number of children as they do or whether they believe their partner might prefer more children or fewer children than they do. A small number of women and men reported that they do not know their spouse's preference; this was created as the fourth category. To measure spousal communication on family planning, participants were asked if they had ever discussed family planning with their partner. Women and men were coded as 1 if they reported ever discussing family planning and zero otherwise.

In all analyses, we controlled for several confounding variables including age, education, religion, parity, employment, city, and wealth (see Table 1 for the categorizations and distributions of these variables). We also tested for interactions between discussion of family planning and perceived partner preference to determine whether those women and men who discussed family planning and perceive that their spouse wants more (or fewer) children than they behave differently than those who discussed and perceive

their partner wants the same number. For models with interactions, we used bootstrap standard errors to determine significance between predicted probabilities of contraceptive use for the interacted categories. The result of this test indicated the presence of interaction between discussion of family planning and perceived partner preference in the women's dataset but not the men's. For this reason, two models are presented for the women's results while only one model is necessary to present results from the men's data. We used multivariate logistic regression to examine these relationships and all statistical computation was performed using Stata 11 software<sup>23</sup>. Weighted percentages, which take into account the differential sampling proportions across the three cities, are shown for all descriptive data. All multivariate analyses are performed using robust standard errors (adjusting for clustering in the data) but without weights since we are exploring relationships between variables rather than trying to describe characteristics of a representative sample of women or men from a city. Additionally, the main parameter for the weight variable 'city' is included as a covariate in the multivariate analysis to control for potential variations across the three cities.

## Results

### *Background characteristics*

Approximately half of men in union included in this analysis were over the age of 35 (Table 1). The majority of these men (67%) possessed at least a secondary education and close to one-third (31%) had four or more live births. In contrast, based on sample selection criteria, the women in union included in this analysis were much younger (78% under 35 years of age). The women were also less educated, with a little over half holding at least a secondary education. Women in our analysis also experienced fewer live births than the men, with average parity of 2.2 children. While the vast majority (97%) of men had been employed within the last 12 months, only 60% of women reported employment within the same time period. Regarding religion, the majority of participants of either gender were Protestant/other Christian and

about one fourth were Catholic while a much smaller segment (about 10%) reported being Muslim or of another faith or having no faith. About three-fourths of men and women in the weighted sample reside in the capital city of Nairobi while approximately one-fifth live in the

coastal city of Mombasa and a much smaller number (5%) live in the Western province in the city of Kisumu. As expected, approximately 40% of both men and women reside within the lower two wealth quintiles.

**Table 1:** Demographic characteristics among men and women in union in urban Kenya, by gender

	Percent Women N = 2891*	Percent Men N = 1362*
<b>Age (yrs)</b>		
<b>Men</b>		
15-24	NA	7.7
25-29	NA	16.3
30-34	NA	25.9
35-39	NA	17.9
40-44	NA	13.0
45-59	NA	19.3
<b>Women</b>		
15-19	3.8	NA
20-24	25.9	NA
25-29	29.1	NA
30-34	18.9	NA
35+	22.3	NA
<b>Education</b>		
No education	3.4	2.4
Primary incomplete	14.2	6.4
Primary complete	29.3	23.8
Secondary or greater	53.2	67.4
<b>Parity</b>		
0	6.5	5.6
1	31.5	20.9
2	28.2	23.6
3	17.1	18.4
4 +	16.7	31.5
<b>Religion</b>		
Catholic	24.0	24.7
Protestant/other		
Christian	64.4	64.9
Muslim/None/Other	11.6	10.4
<b>Employment in last year</b>		

No	40.3	2.6
Yes	59.7	97.4
<b>City</b>		
Nairobi	73.6	75.7
Mombasa	20.7	19.7
Kisumu	5.7	4.6
<b>Wealth</b>		
First quintile (poorest)	17.0	22.5
Second quintile	20.7	19.1
Third quintile	23.8	21.6
Fourth quintile	21.1	18.3
Fifth quintile (richest)	17.4	18.4

\* All percentages are weighted

**Partner Communication**

More than one in five male participants report never discussing family planning with their partner. These percentages are even higher (31%) among female participants (Table 2). Of those men reporting that they engaged in discussions of family planning, 16% have not had these conversations within the last six months, while almost twice as many women report an absence of these discussions in the same time period (data not shown). About 25% of males report being the one to initiate discussion of family planning while women report being the one to initiate discussion of family planning about half the time (data not shown). In our multivariate analysis (discussed below) we focus on whether participants have ever discussed family planning with their partner and if this is associated with modern family planning use.

**Table 2:** Percentage of women and men in union in urban Kenya who are using family planning by spousal communication, perceived spousal concordance, and gender

	Percentage Women (N=2891) <sup>†</sup>		Percentage Men (N=1362) <sup>†</sup>	
	Total	Using FP	Total	Using FP
<b>Have you ever discussed FP with your spouse?</b>				

Yes	69.4	73.9	76.7	77.4
No	30.6	48.6*	23.3	28.8*
Total	99.7		100	
<b>Does your husband/partner want the same, more, or fewer children than you want?</b>				
Same	68.2	67.9	68.9	68.6
More	13.7	65.1	11.4	59.2
Fewer	4.6	81.5	9.5	78.1
Don't know	13.5	53.5*	10.2	45.6*
Total	100		100	

† All percentages are weighted

\* F-test results show significant differences in FP use by discussion or perceived partner preference group. Differences are significant at  $p \leq .05$

**Perceptions of Partner Fertility Preferences**

Approximately 70% of participants of either gender reported that their partner wants the same number of children as they want (Table 2); this is considered to be spousal concordance with respect to the number of children desired. About 20% of participants reported spousal discordance; in other words they believe that their partner wanted either more or fewer children than they themselves want. A slightly greater percentage of women reported the belief that their partner wants more children than they do whereas men are slightly more likely to think their partner wants fewer children than them.

**Modern Contraceptive Use**

Sixty-one percent of women in union report that they are currently using a modern contraceptive method while slightly fewer men in union (54%) report the same (Table 3). The most commonly used methods reported by currently contracepting women are oral contraceptives and injectables, both short-term, user-dependent methods. Male participants also reported high usage of these two methods with their partners along with male condoms and natural family planning methods. Approximately 40% of both women and men report a desire to limit future pregnancy (data not who communicated and those who did not on whether they are currently using modern family planning (77% and 29%, respectively). Also presented in Table 2 is the percentage of women using modern family planning by whether they perceive that their husband wants the same number, more or fewer children than them.

shown) yet only about 7 % of participants of either gender reported use of long acting or permanent methods including male or female sterilization, intrauterine devices, or implants.

Table 2 shows the cross-tabulation between discussion and perceived partner preferences and the outcome of contraceptive use. In particular, among women who discussed family planning, a significantly greater proportion (74%) report using modern family planning as compared to those who do not report discussion (49%). Likewise, among men there is a significant difference between those

**Table 3:** Percent distribution of contraceptive method mix among men and women in union in urban Kenya

	<b>Women</b> (N=2891)*	<b>Men</b> (N=1362)*
Female/Male sterilization	0.1	1.9
Implant	4.0	2.9
IUCD	3.1	1.8
Injectable	29.7	22.0
Daily Pill	17.7	12.5
Emergency contraception	0.0	1.0
Male condom	4.0	12.0
Other modern method	1.7	0.1
Natural methods	5.9	11.9
Not using	33.8	33.9
Total	100	100

\* All percentages are weighted

Notably a greater percentage of women who perceive that their partner wants fewer children than them is using family planning (81%) compared to all other groups (partner wants the same, partner wants more, and don't know partner's desire). For men, the pattern is similar to women.

**Multivariate Analyses**

In Table 4 the multivariate logistic regression odds ratios and 95% confidence intervals are presented for the analysis of women’s modern contraceptive use. Two models are presented; Model 1 includes the key exposure main effects (discussion of family planning and perceived partner fertility

desires) and Model 2 also includes interaction terms to explore whether or not the relationship between perceived partner fertility desires and contraceptive use is modified by discussion of family planning. Both models control for age, religion, parity, employment status, education, city, and wealth.

**Table 4:** Association between discussion of family planning with partner and perceived partner fertility desires and modern contraceptive use among women in union in urban Kenya

	Use of modern contraception			
	Model 1 – Women		Model 2 - Women	
	Adj OR <sup>†</sup>	95% CI	Adj OR <sup>†</sup>	95% CI
<b>Have you ever discussed family planning with your partner?</b>				
No	Ref	---	Ref	---
Yes	2.76 <sup>***</sup>	( 2.30 , 3.31 )	3.42 <sup>***</sup>	( 2.69 , 4.36 )
<b>Does your husband/partner want the same, more, or fewer children than you want?</b>				
Same	Ref	---	Ref	---
More	1.49 <sup>***</sup>	( 1.18 , 1.89 )	2.57 <sup>***</sup>	( 1.79 , 3.68 )
Fewer	1.80 <sup>**</sup>	( 1.15 , 2.82 )	2.04 <sup>*</sup>	( 0.93 , 4.50 )
Don't know	1.08	( 0.86 , 1.35 )	1.27	( 0.89 , 1.82 )
<b>Interaction - Discussion and Perceived Partner Preferences</b>				
Discuss*More	NA		0.40 <sup>***</sup>	( 0.25 , 0.65 )
Discuss*Fewer	NA		0.86	( 0.33 , 2.25 )
Discuss*Don't know	NA		0.80	( 0.50 , 1.28 )

\*p≤.10 \*\*p≤.05 \*\*\*p≤.001

<sup>†</sup> Adjusted for age, religion, parity, employment, education, city, & wealth

Model 1 indicates that the odds of modern contraceptive use among women who report that they discussed family planning with their partner are 2.8 times (95% CI=2.3, 3.3) the odds of modern contraceptive use among women who did not reportedly discuss family planning with their partner. This effect is significant in both of the women’s models. Also found in Model 1 is that women who perceive that their partner wants either more (OR = 1.5 [95% CI = 1.2 to 1.9]) or fewer (OR = 1.8 [95% CI = 1.2 to 2.8]) children than them have a significantly increased odds of

being modern method users. To test if there were interactions between discussing family planning and perceived partner fertility desires, we created interaction terms between discussion and each of the perceived partner preference categories. These were put into a second model, controlling for the main effects. The only interaction term that was significant was the one for discussion and perceiving that the partner wants more children (OR = 0.4 [95% CI = 0.3 to 0.7]). In Model 2, as found before, discussion and wanting more or fewer children remain positive and significant.

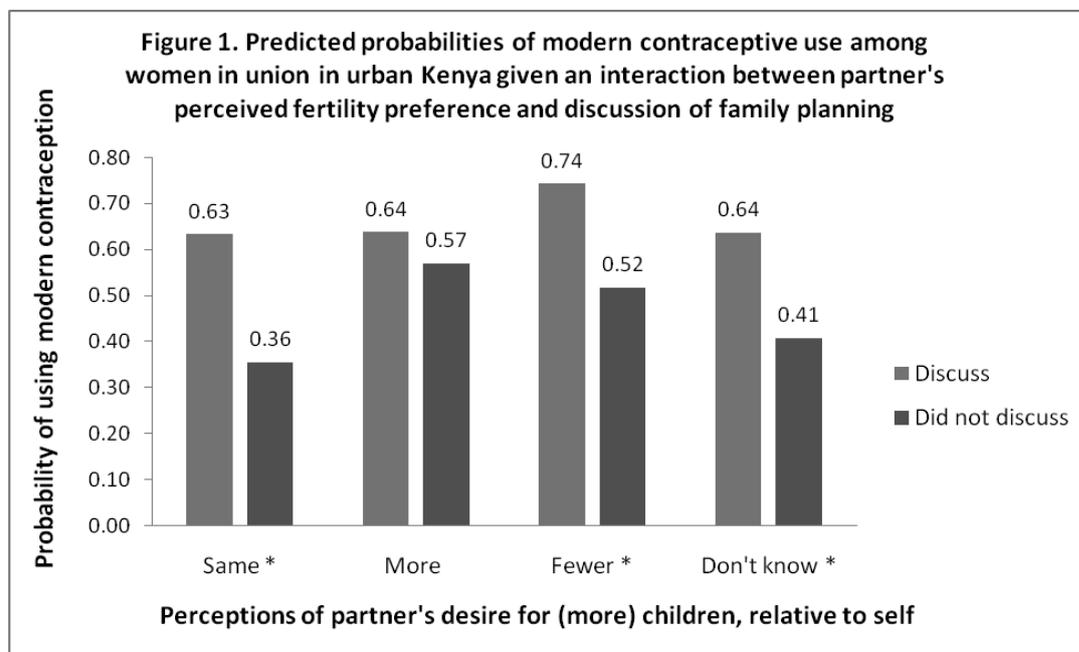
**Table 5:** Association between discussion of family planning with partner and perceived partner fertility desires and modern contraceptive use among men in union in urban Kenya

	Use of modern contraception	
	Model 1 – Men	
	Adj OR <sup>†</sup>	95% CI
<b>Have you ever discussed family planning with your partner</b>		
No	Ref	---
Yes	7.67 <sup>***</sup>	( 5.49 , 10.70 )
<b>Does your wife/partner want the same, more, or fewer children than you want?</b>		
Same	Ref	---
More	0.78	( 0.51 , 1.20 )
Fewer	1.94 <sup>***</sup>	( 1.23 , 3.07 )
Don't know	0.79	( 0.56 , 1.13 )

\*p≤.10 \*\*p≤.05 \*\*\*p≤.001

<sup>†</sup>Adjusted for age, religion, parity, employment, education, city, & wealth

**Figure 1**



\* Bootstrap standard errors were significant at p≤0.05, indicating a significant difference between probabilities for those who discussed family planning and those who did not.

To help interpret the interaction between discussion and perceived partner preference, Figure 1 presents predicted probabilities of contraceptive use broken down by these two variables. As is apparent by the height of the bars, in all cases the probability of contraceptive use is greater among those who discuss relative to those who do not. However, in the case of women who perceive that their partners want more children

than them, the difference between these two probabilities (0.64 for those who discuss FP versus 0.57 for those who do not discuss FP for a difference of 0.07) is not statistically significant (p-value=0.15), suggesting that the influence of discussion on the relationship between perception and use is unremarkable for this group of women. The difference between those who discuss and those who do not within each of the remaining

categories - women with concordant partnerships (difference of 0.27), those who believe their partners want fewer children (difference of 0.23), and those who don't know their partner's preference (difference of 0.23) - is significant ( $p < 0.05$ ), indicating an influential role for discussion on contraceptive behavior for each of these categories.

Among men, similar models were run examining the association between discussion of family planning and perceived partner preferences on modern family planning use. The results are presented in Table 5. Men who report that they discussed family planning with their partner had more than seven times the odds of using a modern family planning method compared with men who report that they did not discuss family planning with their partner (OR = 7.7 [95% CI = 5.5 to 10.7]). In addition, the perception of the partner wanting fewer children is associated with greater contraceptive use (OR = 1.9 [95% CI = 1.2 to 3.1]). No other perceived partner fertility preferences are significant. Models were tested with interactions between discussion and the perceived partner fertility desire categories and none of these interactions were significant, therefore we only present the model with the main effects for men (Model 1).

## Discussion

Approximately one fourth of all study participants report never discussing family planning with their spouse. While a substantial percentage (68%) of participants perceive wanting the same number of children as their partner, approximately 20% report a perception that their partner's fertility preferences are discordant with their own. Approximately 40% of both men and women report not wanting (more) children. Yet, despite these large numbers of men and women with a desire to limit future pregnancy, only 7% of both men and women are using a long acting or permanent method of contraception.

In the multivariate regression analysis, male perceptions of their partner's fertility preferences appear to significantly influence male contraceptive behavior when men perceive their partners to want fewer children than them. In such

cases, where the male believes his wife wants fewer children than him, contraceptive use nearly doubles. Even more promising, men who have discussed use of family planning with their partners have greatly increased odds of contraceptive use. This discussion finding was similar among women, confirming that spousal communication on the topic of family planning leads to increased use<sup>13-18</sup>. Furthermore, our results showed that women who believe their partners prefer fewer children than they do have nearly twice the odds of using a modern method of contraception, compared to women who believe their partners want the same. Surprisingly, women who perceive that their partners want more children than them also had increased odds of contraceptive use, suggesting that, among discordant couples, the perceived preferences of the male do not always appear to dominate contraceptive decisions.

Examination of the interaction between our two main exposure variables allowed us to ascertain that the impact of perceived partner preference varies by the presence or absence of spousal communication. Among women who believe their partner wants the same or fewer children than they want or who don't know their partner's preference, the probability of contraceptive use is significantly higher if these women also have ever discussed family planning with their partner. For women who believe their partner wants more children, however, discussion does not significantly increase the likelihood of use. In other words, among this group of women, where their partner is thought to be more pro-natalist, contraceptive behavior is similar, whether or not the couple has ever discussed family planning. These findings suggest that, among urban males in the three cities included in Kenya, the preferences of men who are more pro-natalist than their partners do not always dictate decisions regarding future fertility or current contraceptive use, as was seen by the high use among women with this pro-natalist view of their husbands' desires. This is promising given the relatively large proportion (one-fifth) of participants with perceived discordant partner fertility preferences. Furthermore, increased contraceptive use among women who perceive their partner to want fewer

children than themselves indicates that men wishing to delay or limit births have some influence over the contraceptive behaviors of their more pro-natalist partners. And while discussion appears to increase contraceptive use, this effect is diminished among women whose partners prefer more children than them.

At twenty percent, the proportion of perceived discordant participants among our sample of women and men is in line with findings from several previous studies conducted in various low-income settings<sup>4-7,24</sup>. However, our discovery that the preferences of men who are perceived to be more pro-natalist do not always dictate household decisions regarding contraceptive behavior is in contrast to several other studies from Asia and Africa<sup>8,9,25,26</sup>. Our findings dispute previous evidence that contraceptive use is lower when husbands and wives disagree and the results suggest a weakening in the influence of men on contraceptive behavior in the urban Kenyan environment. Our results are in line with a handful of studies from Nigeria, Taiwan, and South Africa<sup>10,11-27</sup>. Not surprisingly, our finding that discussion of family planning resulted in greatly increased use of contraception among both women and men is strongly supported by numerous other studies<sup>8,12-18</sup>.

### **Limitations**

In any study using cross-sectional data it is important to note the potentially limiting factor of temporality and our inability to assure the direction of causality. With respect to the present study, it could be argued that participants using modern contraception are more likely to discuss family planning rather than the reverse. However, evidence from a longitudinal study of spousal communication in rural Ghana indicates that contraceptive use is strongly predicted by spousal communication of family planning<sup>13</sup>, giving weight to the hypothesis that the direction of causality runs from communication to use rather than the reverse.

An additional limitation of our study is the use of an explanatory variable that measures *perceived* partner preference rather than true partner preference. It is possible that participants' perceptions of partner preference are not accurate

which could indicate measurement error of a main explanatory variable in our analysis. However, it could also be argued that perceptions play an important role in fertility decisions and may be more important than true preferences. For example, if a woman mistakenly believes her partner prefers more children than she does, it may be her perceptions rather than her partner's true preferences, which drive her family planning behaviors. Further analysis comparing perception and truth would be of interest but is outside the scope of this paper that focuses on perceptions. An additional limitation with this measure is that in the case where the woman (or man) thinks that her (or his) spouse wants the same number of children it is not clear whether this woman (or man) would need or want to use modern family planning at this stage of their reproductive career. Future analyses may need to ask women (and men) how many children they think the partner wants; this can be compared to current parity to know if the woman (and her spouse) have attained their desired family size.

It is also important to note that the key independent variables in this analysis are likely to be endogenous. Unfortunately, there are no available instruments to undertake a more rigorous instrumental variable analysis to control for this potential endogeneity and the bias introduced on the estimated results. This is a limitation of this analysis and other analyses that examine the role of discussion and fertility preferences on family planning use.

### **Future Directions**

The results of this study indicate both that there is a sizable proportion of the urban population in Kenya not currently discussing family planning with their partners and that such discussions have the potential to greatly increase contraceptive use. Therefore interventions designed to increase partner communication on the topic of family planning have the promise of raising contraceptive prevalence in this setting as well as other urban environments. Previous interventions to increase partner communication have used peer-delivered education and a multimedia communication campaign with proven success<sup>19, 20</sup>. Additionally, perceptions of male fertility preferences appear to

have the most influence on their partner's contraceptive behavior in situations where the woman perceives that her partner prefers fewer children than her. As such, interventions designed to impart to men the tremendous health benefits of spacing and limiting births may influence reductions in ideal family size among urban males which, in turn, may increase contraceptive prevalence among discordant couples.

## Conclusion

The results of this analysis indicate that, among urban women and men in three cities in Kenya, both spousal communication around family planning and perceived concordant spousal fertility preferences are less than optimal. Among urban men and women, discussion of family planning was strongly associated with increased contraceptive use and the belief that their partner prefers fewer children appears to significantly influence use of contraception. Interventions to improve discussion of family planning among the 23 to 30% of participants not currently engaging in such discussions may be a key strategy for increasing contraceptive prevalence in low-income, urban settings.

## Acknowledgements

This research was supported by a grant awarded to the Carolina Population Center at The University of North Carolina at Chapel Hill by the Bill & Melinda Gates Foundation. We are grateful to the Carolina Population Center (R24 HD050924) for general support. The contents of this article are solely the responsibility of the authors and do not necessarily represent the official views of the Bill & Melinda Gates Foundation. An earlier version of this article was presented as an oral presentation at the sixth African Population Conference in Ouagadougou, Burkina Faso, in December 2011. At the time of article development, Jean Christophe Fotso and Paul Kuria were based at the African Population and Health Research Center. The authors would like to thank Peter Lance for his methodological inputs to this paper.

## Contribution of Authors

Katherine Tumlinson, Ilene Speizer, and Josh Davis conceived and planned the analysis, Jean

Christophe Fotso and Paul Kuria were based at the African Population and Health Research center. Linda Archer planned for and oversaw data collection in Kenya and preparation of the final dataset used for this analysis. Katherine Tumlinson and Ilene Speizer prepared the manuscript. All authors have seen and approved the manuscript.

## References

1. Becker S, Robinson JC. Reproductive health care: services oriented to couples. *Int J Gynaecol Obstet.* Jun 1998;61(3):275-281.
2. Clark J, Yount KM, Rochat R. Men's involvement in family planning in rural Bangladesh. *J Biosoc Sci.* Nov 2008;40(6):815-840.
3. Blanc AK. The effect of power in sexual relationships on sexual and reproductive health: an examination of the evidence. *Stud Fam Plann.* Sep 2001;32(3):189-213.
4. Becker S. Couples and reproductive health: a review of couple studies. *Stud Fam Plann.* Nov-Dec 1996;27(6):291-306.
5. Salway S. How Attitudes Toward Family Planning and Discussion Between Wives and Husbands Affect Contraceptive Use in Ghana. *Int Fam Plan Perspect.* 1994;20(2):44-47+74.
6. Bankole A, Singh S. Couples' Fertility and Contraceptive Decision-Making in Developing Countries: Hearing the Man's Voice. *Int Fam Plan Perspect Mar.* 1998;24(1):15-24.
7. Speizer IS. Are husbands a barrier to women's family planning use? The case of Morocco. *Soc Biol.* Spring-Summer 1999;46(1-2):1-16.
8. Lasee A, Becker S. Husband-Wife Communication About Family Planning and Contraceptive Use in Kenya. *Int Fam Plan Perspect.* 1997;23(1):15-20+33.
9. Dodoo FN. Men matter: additive and interactive gendered preferences and reproductive behavior in Kenya. *Demography.* May 1998;35(2):229-242.
10. Bankole A. Desired Fertility and Fertility Behaviour among the Yoruba of Nigeria: A Study of Couple Preferences and Subsequent Fertility. *Popul Stud.* 1995;49(2):317-328.
11. Maharaj P, Cleland J. Women on top: the relative influence of wives and husbands on contraceptive use in KwaZulu-Natal. *Women Health.* 2005;41(2):31-41.
12. Azimi YN, Atiya AS. Husband-wife communication and family planning practices among Malay married couples in Mukim Rusila, Terengganu. *Med J Malaysia.* Jun 2003;58(2):218-228.
13. Bawah AA. Spousal communication and family planning behavior in Navrongo: a longitudinal assessment. *Stud Fam Plann.* Jun 2002;33(2):185-194.
14. Isiugo-Abanihe UC. Reproductive motivation and family-size preferences among Nigerian men. *Stud Fam Plann.* May-Jun 1994;25(3):149-161.
15. Klomegah R. Spousal communication, power, and contraceptive use in Burkina Faso, West Africa. *Marriage Fam Rev.* 2006(40):89-105.

16. Ogunjuyigbe PO, Ojofeitimi EO, Liasu A. Spousal communication, changes in partner attitude, and contraceptive use among the Yoruba of southwest Nigeria. *Indian J Community Med.* Apr 2009;34(2):112-116.
17. Yue K, O'Donnell C, Sparks PL. The effect of spousal communication on contraceptive use in Central Terai, Nepal. *Patient Educ Couns.* Dec 2010;81(3):402-408.
18. Link CF. Spousal communication and contraceptive use in rural Nepal: an event history analysis. *Stud Fam Plann.* Jun 2011;42(2):83-92.
19. Piotrow PT, Kincaid DL, Hindin MJ, et al. Changing men's attitudes and behavior: the Zimbabwe Male Motivation Project. *Stud Fam Plann.* Nov-Dec 1992;23(6 Pt 1):365-375.
20. Shattuck D, Kerner B, Gilles K, Hartmann M, Ng'ombe T, Guest G. Encouraging contraceptive uptake by motivating men to communicate about family planning: the Malawi male motivator project. *Am J Public Health.* Jun 2011;101(6):1089-1095.
21. UNFPA State of the World Population. Available at: [http://www.unfpa.org/swp/2007/english/chapter\\_1/index.html](http://www.unfpa.org/swp/2007/english/chapter_1/index.html).
22. Irani L. Family Planning in Urban Kenya: An Examination of the Factors Affecting Contraceptive Use. Chapel Hill: University of North Carolina at Chapel Hill; 2012.
23. StataCorp. Stata Statistical Software: Release 11. College Station, TX: StataCorp LP. 2009.
24. Barden-O'Fallon JL, Speizer IS. Indonesian couples' pregnancy ambivalence and contraceptive use. *Int Perspect Sex Reprod Health.* Mar 2010;36(1):36-43.
25. Hossain MB, Phillips JF, Mozumder AB. The effect of husbands' fertility preferences on couples' reproductive behaviour in rural Bangladesh. *J Biosoc Sci.* Sep 2007;39(5):745-757.
26. Razzaque A. Preference for children and subsequent fertility in Matlab: does wife-husband agreement matter? *J Biosoc Sci.* Jan 1999;31(1):17-28.
27. Coombs L, Chang M-C. Do husbands and wives agree? *Popul Environ.* 1981;4(2):109-127.