The Relationship between Partners' Family-Size Preferences in Southern Malawi

Sara Yeatman [Assistant Professor] and
Department of Health and Behavioral Sciences, University of Colorado, Denver, P.O. Box 173364, Campus Box 188, Denver, CO 80217. sara.yeatman@ucdenver.edu.

Christie Sennott [Assistant Professor of Sociology]
Purdue University, West Lafayette, IN.

Abstract

Studies of the relative influence of partners' fertility preferences on behaviors tend to treat preferences as fixed, largely independent traits despite existing theoretical arguments and empirical evidence suggesting that they are moving targets that may be jointly developed within relationships. In this study, we use couple-level panel data from married and unmarried young adults in southern Malawi to examine the relationship between partners' family-size preferences. We find evidence of assortative mating: young Malawians are more likely to partner with individuals who have similar family-size goals. Additionally, although partners' family-size preferences do not perfectly converge, changes among men's and women's preferences are significantly more likely to be "toward" than "away from" those of their partner. Our findings point to a need for studies regarding the relative influence of partners on reproductive outcomes to consider the interdependence of partners' preferences and the varied ways in which partners can influence shared reproductive behaviors.

Fertility preferences have long been of interest to demographers and other scholars who are seeking to understand fertility trends and social norms relating to childbearing. Micro-level studies in this area have typically focused on the predictors of fertility preferences and the relationship between preferences and fertility behaviors. Originally, such studies focused almost exclusively on women's preferences. Because fertility is not an individual outcome, however, fertility preferences need not be shared by partners in a couple (Thomson, McDonald, and Bumpass 1990; Becker 1996). This insight led researchers to call for the collection of data concerning men's fertility preferences, initially as reported by their female partners and then as reported by the men themselves (Coombs and Chang 1981; Thomson, McDonald, and Bumpass 1990; Becker 1996; Greene and Biddlecom 2000). These calls for data were largely heeded and a number of surveys—including the Demographic and Health Surveys and the US National Survey of Families and Households—began to interview husbands in addition to wives. As a result, researchers began to develop more complex models of reproductive behavior that included men's preferences (Ezeh 1993; Bankole 1995; Thomson 1997; Dodoo 1998; Thomson and Hoem 1998).

Despite making progress in understanding the additive and interactive effects of partners' preferences on reproductive behavior, studies in this area have treated partners' preferences as static and largely independent traits. This simplifying assumption is employed because of data limitations and analytic ease, but it stands in the face of decades-old demographic arguments that preferences regarding family size are dynamic and change over time (Ryder 1973; Lee 1980; Udry 1983). Longitudinal studies support these theories, showing that family-size preferences frequently change, often in response to reproductive and other life experiences (Heiland, Prskawetz, and Sanderson 2008; Iacovou and Tavares 2011; Yeatman, Sennott, and Culpepper 2013). Additionally, changes in the family-size preferences of partners in a couple are unlikely to be made independently. In other words, individuals change their preferences over time in response to changes in life circumstances, but they are also likely to be influenced by (or influence) their partner's preferences.

In this study, we test whether partners' family-size preferences are interdependent. Specifically, we use panel data from married and unmarried couples in southern Malawi to address the following two questions. Do young Malawians choose partners with similar family-size preferences? How do partners' preferences change relative to one another within a relationship?

BACKGROUND

Studies of Couples in Sub-Saharan Africa

Sub-Saharan Africa is a common context for studies of the relative influence of male and female fertility preferences on reproductive behavior because the gap between desired and actual fertility is large in many countries in the region. Studies of Nigeria and Kenya have shown that considering the fertility desires of both partners in a couple improves models of reproductive behavior (Bankole 1995; Dodoo 1998). Study findings are not uniform across contexts, however. For example, a number of studies have found that men's preferences are better predictors of contraceptive use than are women's (Dodoo and van Landewijk 1996; Bankole and Singh 1998; Dodoo 1998), whereas others have found the opposite (Dodoo 1993; Maharaj and Cleland 2005). Although the gendered influence of partners' preferences on reproductive behaviors need not be consistent across contexts, a few studies offer some insight into these discrepant findings. A study conducted in Nigeria concluded that men's preferences carry more influence when the couple has few children, whereas women's preferences dominate when parity is high (Bankole 1995). In addition, studies in Ghana have found that women's influence was greater when their preferences conformed to normative expectations (DeRose, Dodoo, and Patil 2002) and in matrilineal settings (Takyi and Dodoo 2005).

Partner Agreement Regarding Family-Size Preferences

Aggregate agreement regarding ideal family size among men and women in many settings obscures frequent disagreement within couples (Coombs and Fernandez 1978; Mott and Mott 1985; Mason and Taj 1987). Around the world, spousal reports of desired family size correspond approximately half the time (Becker 1996), and one study found that fewer than

half of spouses in sub-Saharan Africa reported preferences that were within one child of their partner's preferred number of children (Bankole and Singh 1998).

Studies of couples' preferences tend to focus exclusively on married couples. These studies assume, either implicitly or explicitly, that partners' preferences remain stable over the course of the relationship. Preferences and intentions, however, are likely to be negotiated within the context of a relationship (Becker 1996; Voas 2003). In other words, reports of spousal agreement may reflect some degree of prior convergence of preferences and therefore mask higher levels of disagreement at the start of relationships. Indeed, studies from Taiwan and Malaysia found that the length of time a couple had been married was a good predictor of preference concordance, with higher levels of disagreement found among couples married more recently (Coombs and Fernandez 1978; Coombs and Chang 1981). Examining preferences at both the beginning of the relationship and as it progresses would enable us to better understand the ways in which partners influence each other's preferences.

Potential Pathways of Partner Interdependence

We focus here on the interdependence of partners' family-size preferences. We identify two main mechanisms through which partners' preferences might be more similar to each other than we would expect by chance. We refer to these two mechanisms as "selection" and "influence."[1]

First, men and women may partner assortatively by preferences—that is, they may directly or indirectly select partners based on similarities in family-size goals. Evidence exists that structural factors such as homogamy in education, socioeconomic status, and religious values are associated with agreement between husbands and wives regarding family-size preference (Westoff et al. 1961; Thomson 1986). In these instances, indirect selection factors led to shared fertility preferences. This process may also work directly, however, with individuals explicitly choosing partners based on their fertility preferences or, perhaps more likely, disqualifying partners based on widely divergent family-size preferences.

Second, couples may directly or indirectly influence each other's fertility desires during the course of their relationship. For instance, a study from the United Kingdom found that both men and women adjusted their fertility expectations[2] in the direction of their partner's (Iacovou and Tavares 2011). A study conducted in Pakistan found that spouses' fertility preferences were among the largest predictors of both men's and women's desires to stop childbearing (Mahmood and Ringheim 1997). Explicit spousal discussion of goals regarding family size is one mode of influence. Additionally, an individual's perceptions of his or her partner's fertility desires could affect his or her own preferences regardless of the accuracy of these perceptions (Wolff, Blanc, and Ssekamatte-Ssebuliba 2000; Miller, Severy, and Pasta 2004).

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[1]Ezeh 1993 describes two mechanisms through which partners might influence one another's contraceptive attitudes: a "selection effect" and a "dominance effect." We build upon this work but replace the term "dominance effect" with "influence" in order to capture the complexity and potentially bidirectional nature of this effect.
[2]Fertility preferences, intentions, and expectations are related yet distinct constructs. Fertility preferences refer to childbearing desires; fertility intentions involve planning; and fertility expectations are projections that incorporate desires, beliefs about fecundity, and access to contraception (Ryder and Westoff 1967; Thomson 1997).

One method that researchers have used when seeking to understand the interdependence of partners' preferences is to examine the relationship between one partner's traits and the respondent's fertility preferences or intentions. For example, a study in Ghana found that a husband's education influenced his wife's fertility intentions more strongly than did her own education, but the relationship was not reciprocal (DeRose and Ezeh 2005).

Of course, context matters, and men may have less influence on their partner's fertility preference in societies that are not patriarchal or characterized by patrilineal arrangements that confer power on men (Caldwell and Caldwell 1990; Dodoo 1998; Dodoo and Tempenis 2002). The region of Malawi under study is largely matrilineal and may provide women greater autonomy in the formation of their fertility preferences and greater influence on their partner's preferences. Studies of matrilineal groups have demonstrated that this type of arrangement provides women more power to translate their fertility preferences into outcomes (Takyi and Dodoo 2005). Matrilineal societies change the cost–benefit analysis of children because maternal kin are more likely to be involved in childcare in matrilineages than in patrilineages (where children become part of the father's lineage) (Takyi and Dodoo 2005).

Another approach that has been used to measure the relative influence that partners have on one another's fertility goals is to consider the effect that one partner's preferences have on the other partner's childbearing intentions (Miller and Pasta 1996; Thomson 1997; Testa 2012). These studies use the relationship between partners' preferences and intentions to draw conclusions about the relative influence of partners in situations where their desires are in conflict. We argue here, however, that preferences themselves are malleable and that by considering them prospectively within relationships we can better understand the complex ways that partners influence each other's reproductive goals.

SETTING

The present study was conducted in Balaka, Malawi, the capital of the Balaka district and a growing market town in the country's southern region. The 2008 census counted approximately 22,000 individuals living within the town boundaries and another 40,000 living within seven kilometers of town, the present study's catchment area. A number of tribes are represented in and around Balaka, but the largest groups are Lomwe, Ngoni, and Yao, three traditionally matrilineal groups. Among matrilineal tribes, children belong to their mother's clan, and although the children may maintain a relationship with their father following divorce, they would most likely live with their mother or her extended family (Peters 1997). In these communities, residence tends to be matrilocal, or focused around the woman's kin (Zulu 1996). Marriage in matrilineal communities is often "fluid"[3] (Peters 1997; Kaler 2001) and unstable. A study from rural Balaka found that one-third of marriages ended within five years, a rate that was more than twice as high as that found in a patrilineal area of northern Malawi (Reniers 2003). Although polygamy is practiced in Malawi, the

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[3]"Fluid" in this context means that marriage can arise through a gradual transition, marked by either a formal ceremony or by two people simply moving in together.

practice is not common in the southern region and less than 1 percent of the couples in our dataset were in a polygamous marriage.

Our analyses of the data from the 2010 Malawi DHS found that, on average, men of reproductive age wanted 0.1 children fewer than the number that women wanted. Sixty-four percent of married couples disagreed on their ideal family-size preference, however, with men wanting at least two children more than their partner wanted in 18 percent of couples and women wanting at least two children more than their partner wanted in 15 percent.[4] In other words, the small aggregate difference between men's and women's fertility preferences masks considerable disagreement within married couples.

DATA AND METHODS

Our data are drawn from Tsogolo la Thanzi (TLT),[5] a longitudinal study of young adults in southern Malawi. Respondents were interviewed every four months for a total of eight waves between 2009 and 2011. TLT began with a simple random sample of approximately 1,500 young women between the ages of 15 and 25 who were living within a seven-kilometer radius of the town of Balaka. Female respondents were asked to recruit their ongoing sexual and romantic partners into the study. Romantic partners were included because of concerns regarding underreporting of sexual partners among unmarried women and because these relationships often progress to sexual relationships and marriage. Women gave their partners tokens, which the men would bring to the research center to allow enrollment in the study. At each subsequent wave, women were asked to report on their ongoing relationships and any new sexual or romantic partners they may have acquired in the intervening four months. New partners were recruited on a rolling basis. Once a man was enrolled in the study, he remained in the study regardless of his current relationship to the woman through whom he was enrolled. Women and their partners were interviewed separately at each wave.

All interviews were conducted in private rooms at the TLT research center. A baseline interview was completed by 96 percent of contacted and eligible women. Fifty-eight percent of the romantic and sexual partners who were reported by women during the course of the study were successfully enrolled. This sample of partners was biased toward more serious and long-term relationships. To ensure that the same respondents were re-interviewed at each wave, a digital photograph was taken of each respondent during their first interview. At each subsequent wave, respondents checked in with a receptionist who used the photographs to confirm their identity. Eighty percent of women and 78 percent of their partners who were interviewed were followed through Wave 8.

At enrollment, male partners were given unique identification numbers that matched them to their female partner. A separate database was used to keep track of the couples. The database contained links between the partners that enabled us to match all relationship-specific data (e.g., start of relationship, relationship status) to a particular partner, which was

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[4]The 3 percent of couples in which one partner gave a nonnumeric response were excluded.

[5]Tsogolo la Thanzi is a research project designed by Jenny Trinitapoli and Sara Yeatman and funded by a grant from the National Institute of Child Health and Human Development.

essential because both men and women could report on as many as three relationships at each wave. Each survey wave lasted three months, allowing for a possible lag between partner interviews.

Dependent Variable

At each wave, respondents were asked about their ideal family size (the term used in the literature to refer to one's ideal number of children) using the following question: "People often do not have exactly the same number of children they want to have. If you could have exactly the number of children you want, how many children would you want to have?"[6] If either partner was missing a response or gave a nonnumeric response to the family-size question, their wave of data was dropped (n = 5). Because our sample is largely comprised of young adults who are in the early stages of their reproductive lives and who are unlikely to already have more children than their ideal,[7] we interpret ideal family size as family-size preference and use the terms interchangeably.

Individual and Partner Variables

Regression models also include the following individual-level variables. Number of living children is time-varying and measures the total number of children born by the first interview plus new births that occur between each survey wave. Age is time-varying. Education is a time-invariant variable that ranges from 0–14 years and is coded continuously. Religion is a six-category time-invariant variable: Catholic, Muslim, Mission Protestant (e.g., Anglican, Presbyterian, and Baptist), Pentecostal, New Mission Protestant (e.g., Church of Christ, Jehovah's Witness, and Seventh-Day Adventist), and African Independent Churches/other. Last, a time-varying index of nine common household goods[8] is used to approximate socioeconomic status.

Couple-Level Variables

At each wave, couples were classified as either married or unmarried. As noted above, marriage is fluid in southern Malawi and couples can marry in many different ways, including just moving in together. Although the correlation between male and female reports of marital status was high (0.85), there was not perfect overlap, so we used women's reports of the marital status of the relationship. The first time a partner was reported, female respondents were asked when they had started spending time together romantically. Using

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[6]We considered both ideal family size and additional desired children (ideal family size minus living children) as dependent variables. The correlation between partners was higher regarding additional desired children, but the proportion of couples having matching preferences was higher for ideal family size. The question regarding ideal family size was intended to include respondents' total number of children (with all partners). Respondents did not necessarily interpret it this way, however, and we acknowledge that this sort of Western phrasing is not easily translatable to the Malawian context. Men, in particular, may be less likely to include the children from previous relationships in their ideal family-size reports, although these children should be captured in our measure of the men's parity. Ultimately, we opted for ideal family size for interpretative ease and because our substantive results did not change across measures. The general similarity of findings may be attributable to the facts that one-third of the men and women in our sample had no children at enrollment and that many of those who had children had them with their current partner. Other studies have excluded couples who had children from earlier relationships (e.g., Thomson 1997), but this seemed imprudent in high-fertility Malawi.

[7]At enrollment, only seven men and two women reported ideal family-size preferences that were less than their current number of living children.

[8]Respondents were asked at each wave whether their household had the following nine goods in working condition: bed with mattress, television, radio, telephone, refrigerator, bicycle, motorcycle, animal-drawn cart, and car/truck.

the reported month, year, and interview date, we calculated a time-varying relationship-length variable (in months) for each couple.

Analytic Sample

The analytic sample consists of couples who were interviewed at least two times while their relationship was ongoing. Couples contributed between two and eight waves of data during a period of two and a half years, and remained in the sample through Wave 8 or until their relationship ended. Only waves in which both partners were interviewed are included in the analytic sample. If partners missed a wave, a change in their preferences was assessed based on their previous interview. Because female respondents could recruit more than one partner during the course of the study, we include only the first reported relationship in order to remove unobserved between-couple correlations.

Analytic Approach

We use a number of different analytic approaches to examine the association between partners' preferences at the start of, and during, a relationship. To answer our first question about the presence of assortative mating by family-size preference, we examine the association between partner preferences for a subsample of couples in new relationships (less than four months duration). Then, using the *xt* commands in Stata 12.0, we examine whether changes in partners' preferences are interdependent. Here, we are interested in whether partners' preferences move toward one another rather than whether they are simply correlated. We use gender-specific random-effects logistic regression models to examine the predictors of upward and downward shifts in family-size preference, approximating a multinomial approach with our panel data. The key independent variable in these models is a three-category measure of whether the partner's preference is the same, higher, or lower than the respondent's preference at the prior interview.

RESULTS

Our analyses involve a total of 758 couples and 4,173 couple-waves (8,346 individual-waves) of data. Table 1 presents individual- and couple-level descriptive statistics from the first wave at which the male partner was interviewed ("enrollment"). Women generally partnered with older men; on average, men were five years older than their partners. Women had almost one year of education more than their partners had, on average. Men and women both had approximately one child at enrollment. The sample had considerable religious diversity. The two most common religious faiths were Catholic and Muslim.

Fifty-one percent of male partners were enrolled at Wave 1 (not shown), and relationships varied considerably in length. Thirty percent of relationships were less than one year in length at enrollment. The median length of relationships at enrollment was 31 months, or slightly more than 2.5 years. The vast majority of couples (73 percent of the sample) were married at the time of enrollment, and an additional 83 couples (11 percent) married during the course of the study (not shown).

In the sample, both men and women had a mean ideal family size of 3.5 at enrollment (not shown). Men's preferences ranged from 0–8 children and women's ranged from 1–7

children (Table 2). Ideal family-size preferences were heavily clustered; approximately 90 percent of both men and women wanted between 2 and 4 children. Forty-four percent of couples agreed on their ideal family size. The female partner wanted more children than her male partner in 29 percent of couples and the male partner wanted more in 27 percent of couples.

Assortative Mating

Our first research question asks whether an association between assortative mating and family-size preference exists among young men and women in Balaka. To address this question, we use data from the 116 couples in our sample who had been together for three or fewer months at enrollment, and thus had less time to have influenced each other's fertility preferences.[9] Forty-one percent of these couples had identical ideal family-size preferences at enrollment. Given the clustering of preferences, however, this could be a result of chance (i.e., even if partners were selected at random, some proportion would share preferences through chance alone),[10] of shared socioeconomic profiles resulting from assortative mating by background traits (Coombs and Fernandez 1978), or of assortative mating by family-size preferences.

Our first step toward homing in on this relationship is to examine whether the degree of agreement exceeds that expected by chance alone using a weighted kappa statistic (Viera and Garrett 2005). The weighted kappa gives partial credit for preferences that are close without being in precise agreement and is appropriate for measuring agreement in an ordered variable such as ideal family size (Cohen 1968). A kappa of 1 indicates perfect agreement and a kappa of 0 indicates agreement equivalent to chance (Viera and Garrett 2005). The weighted kappa statistic for couples in new relationships is 0.26 (not shown), demonstrating a fair level of agreement. This indicates some degree of assortative mating that leads to more similarity in family-size preferences than would be expected by chance, although this approach cannot illuminate whether this is an active process or an incidental outcome based on shared background characteristics.

We try to get some purchase on this question by using ordinary least squares (OLS) regression to examine the relationship between new partners' family-size preferences net of basic background characteristics. The absence of statistical significance would suggest that the association between partners' family-size preferences is primarily a result of the similarity of other background traits. Table 3 shows that the relationship between partners' preferences weakens but remains statistically significant when socioeconomic controls are added to the model. Our set of controls does not capture all of the background characteristics that could explain partners' shared preferences, but the findings show that men and women entering new relationships partner assortatively by family-size preference in ways that are not easily explained by background traits.

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[9]Our results were robust to different cut points (ranging from two to six months). We ultimately chose three months for theoretical reasons.
[10]An unweighted kappa statistic (not shown) predicts that 29 percent of couples would agree based on chance alone.

Partner Influence on Preferences over Time

Although evidence exists of some partner-preference concordance, preference homogamy is far from perfect. This leaves room for partners to influence each other's preferences as their relationship progresses. In 26 percent of the waves, both men and women changed their preferences (not shown). Tables 4 and 5 present odds ratios from a series of random-effects logistic regression models predicting upward and downward movement in family-size preferences by sex. The key independent variable is partners' preferences relative to respondents' preferences at the previous wave in which both partners were interviewed. Therefore, these models exclude the first wave in which both partners were interviewed, because the first wave lacks a prior wave from which to infer direction of movement.

The results are similar for men and women. Changes in family-size preferences are more closely associated with respondents' sociodemographic characteristics than with their partner's traits. Educated men and women have more stable preferences, evidenced by their lower likelihood of altering their preferences in either direction. Parity is associated with an increased likelihood of revising one's preferences upward for men and a reduced likelihood of revising them downward for women. This may be a result of reluctance to label an existing child as unwanted (Pullum 1981; Lightbourne 1985; Casterline and El-Zeini 2007). Changes among men's preferences are not associated with any of their female partners' sociodemographic characteristics. Women's preferences, however, are less likely to increase the more children her partner has and if he is Muslim (after controlling for her living children and religious faith). Men's preferences are marginally significantly less likely to increase as the length of the relationship increases.

The relative position of one's partner's preference in relation to one's own is the strongest predictor of changes in preferences for both men and women. When a man's fertility preference is lower than that of his partner, he has nearly four times the odds of increasing his preference, compared with a man who has the same preference as his partner. He is also less likely to decrease his preference if it would mean diverging from the preference of his partner. Similarly, a man who has a higher preference than his partner has almost four times the odds of revising his preference downward toward his partner's preference at the next wave. The findings for women are similar. A woman with a lower preference than her partner has 5.6 times the odds of increasing her preference, compared with a woman with the same preference as her partner, and a woman with a higher preference has 3.5 times the odds of decreasing her preference. Likewise, women are unlikely to make a change to their preference that would result in a greater divergence from their partner's preference.

Understanding the relative movement of partners' preferences is complicated by the fact that a non-negligible amount of noise exists in the measure of ideal family size, particularly in this high-fertility, low-literacy context. One indicator of this is the amount of change in preferences that could be considered corrective—that is, when a respondent changes his or her preference in one direction at one wave and reverts at the subsequent wave. Thirty-eight percent of changes among women and 40 percent of changes among men could be classified as corrective under this definition.[11] This could be a problem if partners' preferences are correlated (as we have shown they are) and changes appear to be moves toward a partner's preference when they are really just corrective (back toward the original "underlying"

preference). To control for this, we run models that include the change in preference at previous wave as a control (Models 2 and 4 in Tables 4 and 5).[12] As we would expect given the prevalence of corrective change, both men and women are considerably (five to six times) more likely to make an upward adjustment in their ideal family-size preference if they had made a downward adjustment at the previous wave and vice versa. In these models, the relationship between partners' preference and the direction of change somewhat weaken but do not change substantively.

DISCUSSION

This study draws upon data from southern Malawi to examine the relationship between partners' family-size preferences at the beginning of and during the course of their relationships. We find evidence that both selection and influence mechanisms contribute to the interdependence of partners' preferences in the Malawian context. In terms of selection, new romantic partners are more similar in their family-size preferences than would be expected by chance, although we do not find strong preference homogamy in our sample.[13] The relationship between new partners' preferences persists after controlling for basic sociodemographic characteristics of both partners, which suggests that their proximity regarding family-size goals was not simply explained by structural similarities. The persistence of a strong relationship between partners' preferences net of these traits may mean that partners are drawn toward each other because of shared beliefs about family building, which may include family-size goals. We remain cautious in our interpretation, however, because of the relatively small sample of new relationships and the possibility of other unmeasured traits that could help explain the relationship.

Our longitudinal models find that changes in family-size preferences are more closely associated with men's and women's own traits, such as education and existing children, than with those of their partner. The relative position of a partner's preference, however, is a consistently strong predictor of changes in a respondent's own preferences. This is equally true for men as it is for women. If the respondent's partner has a higher family-size preference than the respondent's own, the respondent is more likely to change his/her preference upward. If the respondent's partner has a lower family-size preference, the respondent is more likely to revise his/her preference downward. Both men and women are also less likely to change their preferences in a direction that would diverge from those of their partner.

This is not a story of perfect convergence, however. Indeed, 44 percent of couples had matched preferences at their first interview and 44 percent had matched preferences at their last interview (only one additional couple). One complicating factor is the challenge of measuring ideal family size. Considerable noise surrounding the measurement of ideal family size exists in this population, as does a substantial amount of measurement error,

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[11]These figures were calculated only for changes captured at the third interview and beyond (i.e., the earliest stage at which a change could be considered corrective based on reports from the two previous interviews).
[12]To keep the sample size consistent across nested models, we make the simplifying assumption that no change occurred before enrollment, allowing us to retain data from the second interview. We also ran the models excluding the second wave of data, and substantive results did not change.
[13]These findings are similar to those of Coombs and Fernandez (1978) using data from married Malaysian couples.

particularly among the younger, less educated, and lower parity respondents (Yeatman, Sennott, and Culpepper 2013). This complicates our understanding of the relationships between partners' preferences, because some changes in preferences reflect statistical noise rather than genuine revisions. Nonetheless, our findings are robust to controls for corrective change, which increases our confidence in the conclusion that when partners' preferences do not align they are more likely to make moves toward than away from one another.

In contrast to other studies of partners' fertility preferences in sub-Saharan Africa that find that men's influence dominates (Ezeh 1993; Dodoo 1998; DeRose, Dodoo, and Patil 2002; DeRose and Ezeh 2005), we find that the women in our sample also shape their partners' preferences. This suggests that women in Balaka have greater relational power with regard to fertility preferences than has been found elsewhere in the region (and more similar to the equal influence found by Thomson [1997] in the United States). One reason for this may be that women in our sample had slightly more years of education than their partners had. Additionally, this part of Malawi is characterized by matrilineage rather than patrilineage. Thus, women in this context may be able to exert influence over their partners' preferences because children "belong" to the women's rather than to the men's families. Matrilineal societies may provide women greater status in relationships—especially concerning fertility — than may be so in patrilineal societies. This supports the finding of Takyi and Dodoo (2005) that women have more say in converting their preferences into behavior in such contexts. Additional data are needed to test this hypothesis, and we urge researchers to try to replicate these findings in patrilineal communities.

Our study is subject to a number of limitations. First, our dependent variable does not adjust for the children that respondents may have already had with other partners. We chose this dependent variable because a higher degree of agreement existed between partners using this measure than with a related variable we created: additional desired children. This may be because, when imagining their ideal family size, respondents—particularly men (in this matrilineal region)—may not factor in children they had in other relationships or children fostered with another household, which is common in Malawi (Grant and Yeatman 2014). Nonetheless, this limitation will introduce a degree of measurement error into our estimates of partner concordance and the relationship between partners' preferences. Our controls for the number of living children of both partners and our focus on change over time in the panel models should help minimize, but will not nullify, this problem.

Additionally, although we examined evidence regarding selection and influence, we lack data concerning the mechanisms through which selection into a relationship characterized by shared preferences or influence over a partner's preferences might occur. In particular, data concerning communication between couples about family-size preferences would help us to better understand whether the associations we identified occur through direct or indirect processes. Nonetheless, our study is the first in any setting (of which we are aware) to compare family-size preferences within dating relationships at a point before the partners are likely to have already influenced each other's preferences.

Fertility preferences are important—if insufficient—predictors of fertility and contraceptive use. A sizable body of demographic literature has demonstrated that the family-size

preference of one partner cannot be assumed to serve as a proxy for the other partner's preference (Ezeh 1993; Dodoo 1998; DeRose, Dodoo, and Patil 2002). Research has also shown that both partners' preferences have an effect upon couples' reproductive behavior, as does the concordance or discordance of those preferences (Thomson, McDonald, and Bumpass 1990; Bankole 1995; Thomson 1997; Dodoo 1998). This research, however, tends to narrowly conceptualize partners' influence as only that which is captured at the time the reproductive behaviors or attitudes are measured. Our study contributes to this body of literature by showing that members of a couple can shape their shared reproductive behavior not just in the fulfillment of family-size preference but also by influencing their partner's preference. This could also implicitly occur via selecting a partner with a similar family-size ideal. These mechanisms of selection and influence may represent subtle forms of agency in which partners can work to achieve their own family-size goals by shaping those of their partner. Although considerable disparity between actual and desired family size remains in much of sub-Saharan Africa, the interdependence of partners' preferences has likely reduced this gap. Without knowing how partners' preferences change prospectively in relation to one another, studies of the relative influence of partners' preferences on behavior may be mis-specified. Although perfect preference convergence may not exist within relationships, one's partner's family-size preference should not be treated as an unrelated or fixed individual characteristic.

ACKNOWLEDGMENTS

REFERENCES

Bankole, Akinrinola. Desired fertility and fertility behaviour among the Yoruba of Nigeria: A study of couple preferences and subsequent fertility. Population Studies. 1995; 49(2):317–328.

Bankole, Akinrinola; Singh, Susheela. Couples' fertility and contraceptive decision-making in developing countries: Hearing the man's voice. International Family Planning Perspectives. 1998; 24(1):15–24.

Becker, Stan. Couples and reproductive health: A review of couple studies. Studies in Family Planning. 1996; 27(6):291–306. [PubMed: 8986028]

Caldwell, John C.; Caldwell, Pat. High fertility in sub-Saharan Africa. Scientific American. 1990; 262(5):118–125. [PubMed: 2333491]

Casterline, John B.; El-Zeini, Laila O. The Estimation of unwanted fertility. Demography. 2007; 44(4): 729–745. [PubMed: 18232208]

Cohen, Jacob. Weighted kappa: Nominal scale agreement with provision for scaled disagreement or partial credit. Psychological Bulletin. 1968; 70(4):213–220. [PubMed: 19673146]

Coombs, Lolagene C.; Chang, Ming-Cheng. Do husbands and wives agree? Fertility attitudes and later behavior. Population and Environment. 1981; 4(2):109–127.

Coombs, Lolagene C.; Fernandez, Dorothy. Husband-wife agreement about reproductive goals. Demography. 1978; 15(1):57–73. [PubMed: 631399]

DeRose, Laurie F.; Dodoo, F. Nii-Amoo; Patil, Vrushali. Fertility desires and perceptions of power in reproductive conflict in Ghana. Gender & Society. 2002; 16(1):53–73.

DeRose, Laurie F.; Ezeh, Alex C. Men's influence on the onset and progress of fertility decline in Ghana, 1988–98. Population Studies. 2005; 59(2):197–210. [PubMed: 16096198]

Dodoo, F. Nii-Amoo A couple analysis of micro-level supply/demand factors in fertility regulation. Population Research and Policy Review. 1993; 12(2):93–101.

— — — . Men matter: Additive and interactive gendered preferences and reproductive behavior in Kenya. Demography. 1998; 35(2):229–242. [PubMed: 9622784]

Dodoo, F. Nii-Amoo; Tempenis, Maria. Gender, power, and reproduction: Rural-urban differences in the relationship between fertility goals and contraceptive use in Kenya. Rural Sociology. 2002; 67(1):46–70.

Dodoo, F. Nii-Amoo; van Landewijk, Poem. Men, women, and the fertility question in sub-Saharan Africa: An example from Ghana. African Studies Review. 1996; 39(3):29–41.

Ezeh, Alex Chika. The influence of spouses over each other's contraceptive attitudes in Ghana. Studies in Family Planning. 1993; 24(3):163–174. [PubMed: 8351697]

Grant, Monica; Yeatman, Sara. The impact of family transitions on child fostering in rural Malawi. Demography. 2014; 51(1):205–228. [PubMed: 24019099]

Greene, Margaret E.; Biddlecom, Ann E. Absent and problematic men: Demographic accounts of male reproductive roles. Population and Development Review. 2000; 26(1):81–115.

Heiland, Frank; Prskawetz, Alexia; Sanderson, Warren C. Are individuals' desired family sizes stable? Evidence from West German panel data. European Journal of Population. 2008; 24(2):129–156.

Iacovou, Maria; Tavares, Lara Patricio. Yearning, learning, and conceding: Reasons men and women change their childbearing intentions. Population and Development Review. 2011; 37(1):89–123. [PubMed: 21735613]

Kaler, Amy. 'Many divorces and many spinsters': Marriage as an invented tradition in southern Malawi, 1946-1999. Journal of Family History. 2001; 26(4):529–556. [PubMed: 19317026]

Lee RD. Aiming at a moving target: Period fertility and changing reproductive goals. Population Studies. 1980; 34(2):205–226. [PubMed: 22077121]

Lightbourne, RE. Individual preferences and fertility behaviour. In: Cleland, John; Hobcraft, J., editors. Reproductive Change in Developing Countries: Insights from the World Fertility Survey. Oxford University Press; Oxford: 1985. p. 165-198.

Maharaj, Pranitha; Cleland, John. Women on top: The relative influence of wives and husbands on contraceptive use in KwaZulu-Natal. Women & Health. 2005; 41(2):31–41. [PubMed: 16219586]

Mahmood, Naushin; Ringheim, Karin. Knowledge, approval and communication about family planning as correlates of desired fertility among spouses in Pakistan. International Family Planning Perspectives. 1997; 23(3):122–129. 145.

Mason, Karen Oppenheim; Taj, Anju Malhotra. Differences between women's and men's reproductive goals in developing countries. Population and Development Review. 1987; 13(4):611–638.

Miller, Warren B.; Pasta, David J. Couple disagreement: Effects on the formation and implementation of fertility decisions. Personal Relationships. 1996; 3(3):307–336. [PubMed: 12320602]

Miller, Warren B.; Severy, Lawrence J.; Pasta, David J. A framework for modeling fertility motivation in couples. Population Studies. 2004; 58(2):193–205. [PubMed: 15204253]

Mott, Frank L.; Mott, Susan H. Household fertility decisions in West Africa: A comparison of male and female survey results. Studies in Family Planning. 1985; 16(2):88–99. [PubMed: 3992613]

Peters, Pauline E. Against the odds: Matriliny, land and gender in the Shire Highlands of Malawi. Critique of Anthropology. 1997; 17(2):189–210.

Pullum, TW. Adjusting stated fertility preferences for the effect of actual family size, with application to world fertility survey data. In: Hendershot, GE.; Placek, PJ., editors. Predicting Fertility: Demographic Studies of Birth Expectations. Lexington Books; Lexington, MA: 1981. p. 129-149.

Reniers, Georges. Divorce and remarriage in rural Malawi. Demographic Research Special Collection. 2003; 1(Article 6):175–206.

Ryder, Norman B. A critique of the National Fertility Study. Demography. 1973; 10(4):495–506. [PubMed: 4804732]

Ryder, Norman B.; Westoff, Charles F. The trend of expected parity in the United States: 1955, 1960, 1965. Population Index. 1967; 33(2):153–168.

Takyi, Baffour K.; Dodoo, F. Nii-Amoo Gender, lineage, and fertility-related outcomes in Ghana. Journal of Marriage and Family. 2005; 67(1):251–257.

Testa, Maria Rita. Couple disagreement about short-term fertility desires in Austria: Effects on intentions and contraceptive behavior. Demographic Research. 2012; 26(Article 3):63–98.

Thomson, Elizabeth. Marital agreement in fertility goals. Center for Demography and Ecology, University of Wisconsin; Madison: 1986. Working paper

— — — . Couple childbearing desires, intentions, and births. Demography. 1997; 34(3):343–354. [PubMed: 9275244]

Thomson, Elizabeth; Hoem, Jan M. Couple childbearing plans and births in Sweden. Demography. 1998; 35(3):315–322. [PubMed: 9749323]

Thomson, Elizabeth; McDonald, Elaine; Bumpass, Larry L. Fertility desires and fertility: Hers, his, and theirs. Demography. 1990; 27(4):579–588. [PubMed: 2249746]

Udry, J. Richard Do couples make fertility plans one birth at a time? Demography. 1983; 20(2):117–128. [PubMed: 6862057]

Viera, Anthony J.; Garrett, Joanne M. Understanding interobserver agreement: The kappa statistic. Family Medicine. 2005; 37(5):360–363. [PubMed: 15883903]

Voas, David. Conflicting preferences: A reason fertility tends to be too high or too low. Population and Development Review. 2003; 29(4):627–646.

Westoff, Charles F.; Potter, Robert G.; Sagi, Philip C.; Mishler, Elliot G. Family Growth in Metropolitan America. Princeton University Press; Princeton, NJ: 1961.

Wolff, Brent; Blanc, Ann K.; Ssekamatte-Ssebuliba, John. The role of couple negotiation in unmet need for contraception and the decision to stop childbearing in Uganda. Studies in Family Planning. 2000; 31(2):124–137. [PubMed: 10907278]

Yeatman, Sara; Sennott, Christie; Culpepper, Steven. Young women's dynamic family size preferences in the context of transitioning fertility. Demography. 2013; 50(5):1715–1737. [PubMed: 23619999]

Zulu, Eliya Msiyaphazi. Doctoral dissertation. Population Studies Center, University of Pennsylvania; 1996. Sociocultural factors affecting reproductive behavior in Malawi.

TABLE 1

Descriptive statistics (means) for individual and couples at enrollment, by sex, Balaka, Malawi, 2009–11

Characteristic	Men Mean (range)	Women Mean (range)
Age	25.5 (15 – 56)	20.6*** (15 – 25)
Years of education	6.4 (0 – 14)	7.1*** (0 – 12)
Number of living children	1.2 (0 – 9)	1.1 (0 – 4)
Household goods index	2.6 (0 – 8)	2.3** (0 – 7)
Religion (percent)		
Catholic	29.9	31.9
Muslim	22.2	21.1
Mission Protestant	12.9	14.0
Pentecostal	17.4	13.7
New Mission Protestant	13.1	12.7
Other (mostly AIC)	5.2	6.6

	Couple Mean (range)
Age difference (male–female)	4.9 (5 – 32)
Years of education difference (male–female)	−0.8 (−12 – 11)
Average waves both interviewed	5.5 (2 – 8)
Relationship length (months) (percent)	
0–12	29.8
13–24	14.2
25–48	19.5
49–72	15.4
73+	21.0
Married (percent)	72.7
Same religion (percent)	64.5
N (couples)	(758)
N (couple-waves)	(4,173)

** T-test significant at $p < 0.01$;

*** $p < 0.001$.

AIC = African Independent Churches.

TABLE 2

Percentage distribution of respondents' ideal family size at enrollment, Balaka, Malawi, 2009–11

Ideal family size	Men (n = 758)	Women (n = 758)
0	0.1	0.0
1	0.0	0.7
2	18.9	20.3
3	29.3	24.7
4	41.7	43.7
5	7.5	7.0
6	2.1	3.6
7	0.1	0.1
8	0.3	0.0

Absolute difference	Couple (n = 758)
0	43.8
1	39.5
2	14.4
3+	2.4
Men > women	27.3
Women > men	28.9

TABLE 3

Coefficients from OLS regression models examining relationship between new partners' ideal family-size preferences, Balaka, Malawi, 2009–11

Characteristic	Men		Women	
	Model 1 β	Model 2 β	Model 3 β	Model 4 β
Individual				
Years of education		0.02		−0.01
Age		−0.04		−0.03
Number of living children		0.43[*]		−0.04
Partner				
Ideal family size	0.41[**]	0.30[**]	0.34[**]	0.26[**]
Years of education		−0.02		0.01
Age		0.04		0.07[*]
Number of living children		−0.18		−0.07
Couple				
Relationship length		−0.09		−0.02
Married		0.00		0.28
Constant	2.00[**]	2.79[**]	2.15[**]	1.21
N	(116)	(116)	(116)	(116)

[*] Significant at p < 0.05;

[**] p < 0.01.

NOTE: Models also control for both partners' religion and an index of household goods.

TABLE 4

Odds ratios from random-effects logistic regression models predicting changes among men's family-size preferences over time, Balaka, Malawi, 2009–11

Characteristic	Upward movement (versus no change)		Downward movemen (versus no change)	
	Model 1	Model 2	Model 3	Model 4
Individual				
Years of education	0.94**	0.95**	0.96**	0.97*
Age	1.02	1.02	1.01	1.02
Number of living children	1.29**	1.26**	0.89	0.87
Religion				
Catholic (r)	1.00	1.00	1.00	1.00
Muslim	1.43	1.11	1.61	1.62 [a]
Mission Protestant	1.27	1.14	0.88	0.97
Pentecostal	1.03	0.99	1.28	1.26
New Mission Protestant	1.00	0.85	1.68 [b]	1.61 [c]
Other (mostly AIC)	1.38	1.38	1.43	1.18
Household goods	0.94	0.95	0.92	0.93
Partner				
Years of education	1.00	1.00	0.97	0.98
Age	1.01	1.00	1.05	1.02
Number of living children	1.01	1.01	1.06	1.06
Religion				
Catholic (r)	1.00	1.00	1.00	1.00
Muslim	1.32	1.37	1.05	0.94
Mission Protestant	1.17	1.20	1.10	0.98
Pentecostal	1.11	1.08	0.78	0.77
New Mission Protestant	1.23	1.30	1.05	0.94
Other (mostly AIC)	0.97	0.92	1.19	1.18
Household goods	1.05	1.02	1.06	1.06
Couple				
Relationship length in months	0.996 [d]	0.996*	0.996	0.997 [d]
Married	0.74	0.71	0.93	0.93
Relative preference				
Same (r)	1.00	1.00	1.00	1.00
Partner's preferences are lower	0.64*	0.97	3.69**	2.48**
Partner's preferences are higher	3.84**	2.40**	0.44**	0.60**
Change between previous two interviews				
No change (r)		1.00		1.00
Upward		0.47*		4.81**
Downward		6.43**		0.59

Characteristic	Upward movement (versus no change)		Downward movemen (versus no change)	
	Model 1	**Model 2**	**Model 3**	**Model 4**
Rho	0.26	0.06	0.24	0.08
N (couple-waves)	(3,000)	(3,000)	(2,931)	(2,931)
N (couples)	(742)	(742)	(740)	(740)

[*]
Significant at p < 0.05;

[**]
p < 0.01.

(r) = Reference category. AIC = African Independent Churches.

[a]
p = 0.054.

[b]
p = 0.084.

[c]
p = 0.065.

[d]
p = 0.090.

TABLE 5

Odds ratios from random-effects logistic regression models predicting changes among women's family-size preferences over time, Balaka, Malawi 2009–11

Characteristic	Upward movement (versus no change)		Downward movement (versus no change)	
	Model 1	**Model 2**	**Model 3**	**Model 4**
Individual				
Years of education	0.90[**]	0.91[**]	0.93[*]	0.94[*]
Age	0.95	0.96	0.93 [b]	0.95
Number of living children	1.22 [a]	1.15	0.72[**]	0.75[**]
Religion				
Catholic (r)	1.00	1.00	1.00	1.00
Muslim	1.78 [c]	1.42	1.44	1.28
Mission Protestant	1.04	0.96	0.79	0.81
Pentecostal	1.06	0.90	1.34	1.26
New Mission Protestant	1.49	1.25	0.91	0.87
Other (mostly AIC)	1.20	1.02	1.11	1.06
Household goods	0.97	0.98	1.05	1.04
Partner characteristic				
Years of education	1.00	1.00	0.98	0.98
Age	1.02	1.01	1.04	1.03
Number of living children	0.79[*]	0.86 [d]	0.96	0.93
Religion				
Catholic (r)	1.00	1.00	1.00	1.00
Muslim	0.41[**]	0.51[**]	0.81	0.89
Mission Protestant	0.94	0.97	1.29	1.31
Pentecostal	0.97	1.09	0.70	0.73
New Mission Protestant	0.60	0.68	0.88	0.96
Other (mostly AIC)	0.93	0.95	0.76	0.74
Household goods	1.07	1.05	0.96	0.97
Couple characteristic				
Relationship length in months	0.996	0.995[*]	1.001	1.001
Married	0.87	0.76	1.46	1.21
Relative preference				
Same	1.00	1.00	1.00	1.00
Partner's preferences are lower	0.48[**]	0.72 [e]	3.49[**]	2.43[**]
Partner's preferences are higher	5.56[**]	3.45[**]	0.53[**]	0.74
Change between previous two interviews				
No change (r)		1.00		1.00
Upward		0.69		5.34[**]
Downward		5.75[**]		0.70

Characteristic	Upward movement (versus no change)		Downward movement (versus no change)	
	Model 1	Model 2	Model 3	Model 4
Rho	0.30	0.09	0.27	0.06
N (couple-waves)	(3,003)	(3,003)	(2,947)	(2,947)
N (couples)	(740)	(740)	(735)	(735)

*
Significant at p < 0.05;

**
p < 0.01.

(r) = Reference category. AIC = African Independent Churches.

[a]
p = 0.099.

[b]
p = 0.077.

[c]
p = 0.061.

[d]
p = 0.083.

[e]
p = 0.066.