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## Husbands' Labour Migration and Wives' Autonomy

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### Abstract

Labour migration leads to significant changes in origin areas. The separation of migrants from the family unit, whether it is nuclear or extended, has profound implications for family organization and for individual family members. We examined the relationship between men's labour migration and the decision-making autonomy of women who stay behind. The data for our analyses came from a 2006 survey of 1680 married women from 56 rural villages in southern Mozambique. We find that both men's cumulative migration history and current migration status are positively associated with women's autonomy. The results suggest that the impact of men's labour migration on women's autonomy may persist even after the man's return. Three intervening factors — women's employment outside the home, lower fertility, and residential independence from extended family members—did not fully mediate the effects of men's labour migration. This is consistent with a “direct” impact of men's absence on women's autonomy.

### Keywords

migration; women's autonomy; employment; labour migration; sub-Saharan Africa

### Introduction

The relationship between economic change and family change is one of the most studied topics in the social sciences. Scholars as early as Marx commented on the change brought about by changes in the mode of production, especially the changes in the family in the shift to capitalist modes of production. In describing the impact of the Industrial Revolution in the west, Kingsley Davis (1984) wrote that one of the biggest changes for gender roles resulted from the “shift of the locus of work from the home to somewhere else.” As men, and later women, moved their productive activities from the home to the factory, they experienced more freedom in their daily lives, and less control by family. This shift in the locale of production has the potential to alter women's autonomy.

Growing international labour migration, in both the less developed and more developed world, also leads to dramatic family changes, and the mechanisms of these changes show striking parallels to the changes discussed by Davis. Instead of men leaving the home for the workplace and returning each day, men's labour migration, especially when it involves crossing international borders, often leads men to leave their wives, children, and extended families for long periods of time—months and even years. In the absence of their husbands, women may take on very different roles with regards to household budgeting. These new roles may be accompanied by increased authority in spending, decision-making in economic matters, and freedom of movement—dimensions that have typically been used to define women's autonomy (Ghuman 2003; Jejeebhoy and Sathar 2001; Bloom, Wypij, and Das Gupta 2001).

In this paper, we examined the relationship between Mozambican men's labour migration and the autonomy of women who stay behind. Although previous studies have examined the associations between men's labour migration and non-migrating women's autonomy in diverse contexts, we went beyond prior research by testing multiple mechanisms by which men's migration leads to higher autonomy of their wives. Men's migration may stimulate women to seek employment outside the home. As suggested by a proximate determinants framework, men's absence is likely to lead to lower fertility. The financial benefits of men's labour migration may allow a husband and wife to live independently from extended family member. As we describe, each of these potential consequences of men's labour migration may be mechanism that result in greater autonomy for women.

The data for our analyses came from a survey of 1680 married women conducted in 56 villages in southern Mozambique in 2006. The study area comprised rural parts of four districts of Gaza province characterized by a patrilineal kinship system and a low-yield subsistence agricultural economy. Men's labour migration from rural areas to the mines and other destinations in South Africa has been a defining feature of rural economy in Mozambique's south since the colonial times (CEA/UEM 1997; Crush and McDonald 2001; Crush et al. 1991; First 1983; de Vletter 1998; Harries 1994). The post-colonial era has also seen a rapid increase in labour migration to Mozambique's urban areas. Limited and controlled by the colonial regime, internal rural-urban migration, especially to Maputo, Mozambique's capital, increased with Mozambique's independence and the civil war that soon followed (Dow 1989; Jenkins 1993; Knauder 2000). After the war ended in 1992, the structural adjustment policies, which further undermined the already precarious traditional subsistence agriculture, magnified socioeconomic imbalances, and regional economic and political integration have amplified both international and domestic migration flows (Knauder 2000; Wenzel & Bannerman 1995). Importantly, the economic returns to both international and internal migration are becoming increasingly unpredictable as more migrants have to content themselves with low-paying irregular and often illegal employment in an ever more hostile context of destination areas (De Vletter 2000). Yet as rural economies continue to stagnate, the high levels of migration flows continue.

## Theoretical Perspectives

The issue of men's labour migration and the impact on their non-migrating wives has received a growing amount of research attention. This research literature comes from diverse settings, including Africa, Latin America, Europe, and Asia. It is notable, however, that, despite the geographic and cultural diversity, several common themes and findings emerge.

A repeated finding is a link between men's labour migration and women's autonomy. Women who remain in the sending community while their husbands are away report higher autonomy, independence, and decision-making authority. Abadan-Unat (1977), in a study of Turkish women, found that the women who remain behind have greater decision-making power in the home, especially when these women are living in nuclear families. As part of their expanded duties, women left behind start to interact with organizations and institutions that they might not have used before, such as banks and government agencies (Abadan-Unat 1977). In rural settings, women begin to take a primary role in important agricultural decisions (Gordon 1981; Boehm 2008). Results from studies in diverse settings, such as Mexico (De Snyder 1993; Radel and Schmook 2009), Morocco (Sadiqi and Ennaji 2004), Armenia and Guatemala (Menjívar and Agadjanian 2007), and Bangladesh (Hadi 2001), point to greater decision-making, management duties, and autonomy in women partnered with male labour migrants.

The autonomy and greater decision-making created by men's absence, however, may be buffered by substitute authority from different sources, such as other community members (McEvoy 2008), or different male figures or relatives. In extended families, another family

member may have considerable influence in the absence of the migrant husband (Abadan-Unat 1977; De Haan 1997; Desai and Banerji 2008). This is more likely to occur in cultures where women are not usually given much freedom or mobility (De Haan 1997). However, studies tend to agree that the potential substitute influence of husbands' male or female relatives is not fully equivalent to that of husbands'. Therefore, women typically see their autonomy increase when their husbands leave for migration.

While greater autonomy for women is overall a beneficial outcome, there have also been documented several negative impacts of men's labour migration on the women who remain behind (Yay and Nangia 2005; Gordon 1981). In the absence of men, women are responsible for both their own and their husbands' tasks, duties, and roles (Khaled 1995; Boehm 2008; Grawert 1992). In a study of men's labour migration in Lesotho, some women who remained behind reported higher strain and stress due to increased management responsibilities (Gordon 1981). Strain was greatest for women whose husbands who had been away the longest. In some cases, these strains were so great that Gordon (p. 72) writes, "It is difficult, therefore, to see the assumption of increased responsibility as being a positive force in these women's' lives." Economic difficulties may also arise when husbands are away. Labour migration, when successful, is an economic benefit to families, but families can experience greater economic hardship if migrant men cannot secure good employment (Sadiqi and Ennaji 2004). Therefore, the appropriate groups for comparison should not be only women married to non-migrants and women married to migrants. It is important to differentiate this latter group into women married to successful migrants and women married to unsuccessful migrants. Women married to unsuccessful migrants may experience the greatest economic strain due to increased financial responsibilities—additional responsibilities that at the same time might be associated with greater increases in autonomy.

Even if labour migration is successful, women still have increased dependence on remittances that may be irregular and limited (Kothari 2003). Other negative effects of labour migration on the family left behind include higher probability of divorce (Sadiqi and Ennaji 2004), family disintegration and lowered ability to monitor children (De Snyder 1993), more physical labour (Engel 1986), loneliness (Zachariah, Mathew, and Rajan 2001), decreased social support and networks (Roy and Nangia 2005; Kothari 2003), and higher reproductive morbidity for women (Roy and Nangia 2005). Menjívar and Agadjanian (2007) in their comparative analysis of the effect of men's labour migration on women left behind in Armenia and Guatemala conclude that in both settings such migration tends to reinforce gender inequality within the household. Thus while women may take on additional responsibilities, "neither the nature nor the scope of these tasks challenge the deeply entrenched gender inequality" (Menjívar and Agadjanian, 2007, p. 1260). Similarly, Radel and Schmook (2009, p. 160) argue that increased household responsibilities do not equate with more egalitarian gender ideologies. In other words, women may experience increased autonomy, yet even with these increases they still face large gender inequalities at the household and societal level due to the sheer magnitude of these disparities.

Yet despite the potential negative consequences, women and families usually view men's labour migration as overall beneficial. In many settings, men's labour migration is a purposeful family strategy (De Haan 1997; Gordon 1981), although some work (Chant 1998; Posel 2001) has questioned whether the sending of remittances is completely altruistic. Migrants may be sending remittances as a way to maintain ties to and claims on rural assets (Posel 2001). In some areas, migration is customary and normative, and men who migrate or who have plans to migrate are preferred as mates (Engel 1986). In settings like rural southern Mozambique, men's labour migration is frequent, customary, and desirable (Agadjanian, Yabiku, and Cau forthcoming).

While the rise of women's autonomy following their husbands' migration has been widely documented, the mechanisms linking men's labour migration and increased women's autonomy have not received as much attention. The examination of possible pathways through which husband's migration affects wife's autonomy and empirical tests of these pathways is the main focus and contribution of our paper. In addition to a "direct" impact of husband's absence, we investigate three mechanisms through which labour migration may lead to more women's autonomy: women's employment outside the home, lower fertility, and residential independence from extended family members.

### **Women's employment outside the home**

Women's employment outside the home has been shown to be associated with more egalitarianism, independence, and autonomy. Some prior research suggests that men's labour migration leads to more women's employment. This link has been found in diverse contexts of migration. With respect to Mexican migration (Aysa and Massey 2004), Durand and Massey (2004, p. 8) write that men's migration "increases female autonomy by promoting the wife's labour force participation." Khaled (1995) compared the labour force participation rates across wives of migrants and wives of non-migrants in Jordan. Women of migrants had higher labour force participation than non-migrant wives, even after controlling for education. Khaled (1995) reported that these women took outside employment out of financial need due to insufficient remittances, rather than out of aspirations for employment. In Chench Woreda, Ethiopia, Geberu (2006) reported that more than two-third of women with migrant husbands sought off-farm labour in response to men's absence. This labour, however, was usually not sufficient to compensate for the loss of their husband's productive activities in farm production, even when the husbands sent remittances. Other work, however, does not find links between labour migration and women's employment. Agadjanian, Sevoyan, and Menjivar (2007) did not observe difference in employment between women who were married to migrant and non-migrant men in Armenia. In sum, there is mixed evidence on the role of women's employment as a mediator between men's labour migration and increases in women's autonomy. This pathway is likely to be context specific. It could be that men's labour migration may lead to women's employment only when such employment activities are available, when women have skills to meet these opportunities, as well as when women's employment is normative or tolerated.

### **Lower fertility**

Childbearing can result in a decrease in women's autonomy and independence (McDonald 1997; Steinberg 1996). Infants and young children require large amounts of care within the home. Because of the gendered division of labour, this care is usually given by mothers, and thus their mobility is decreased and they become more tied to the home and housework (Sanchez and Thomson 1997). Labour migration of men, however, leads to a decrease in fertility because men's absence greatly reduces the frequency of sexual intercourse within marriage—a key proximate determinant of fertility (Bongaarts, Frank, and Lesthaeghe 1984; Lindstrom and Giorguli Saucedo 2002; Menken 1979; Bongaarts and Potter 1979; Timaeus and Graham 1989). For example, Lindstrom and Saucedo (2002) reported that Mexican men's temporary migration to the US reduced fertility rates in the short term. Although in the long term couples adjusted fertility upwards and had similar levels of completed fertility, this temporary reduction in fertility is potentially important: it is a window of time in which women's autonomy may be able to increase. In a setting such as rural Mozambique, where the total fertility rate is estimated to be about 6.1 births per woman (National Statistical Institute 2005: 53), even a slight decrease in childbearing could lead to significant changes in women's daily lives. Specifically, less childbearing and reduced responsibility for caring for young children may result in increases in women's independence and autonomy. Although it is difficult to establish causal ordering, studies frequently find significant associations between

increased fertility and lower autonomy for women (Hindin 2000; Morgan and Niraula 1995; Mason 1987).

### **Residential independence from extended family members**

Prior literature shows that, in some settings, extended family members may have greater control over resident wives upon their husbands' migration (Abadan-Unat 1977; De Haan 1997). This control may be exercised by other males or a mother-in-law (Brink 1991; Desai and Banerji 2008). In the long term, however, men's labour migration may lead to residential independence from these extended family members, and thus greater autonomy and freedom for the wife. The financial benefits of labour migration, if such benefits do materialize, can lead to big improvements in families' lives, especially with regard to housing (Gulati 1986). A husband's successful labour migration may allow his family a greater chance of residential independence by establishing a household separate from in-laws and relatives. Although non-resident in-laws may still hold considerable sway, women generally have more autonomy when they live separately from their in-laws. Several empirical studies support a link between migration and residential independence. In a study of wives married to migration husbands in Egypt, Louhichi (1997) observed that after a husband's migration, the per cent of women living in nuclear families, as opposed to extended families, rose from 37 per cent to 59 per cent. The mechanism behind a shift to nuclear from extended families may be migration success. With respect to Mexican migrants, Kanaiaupuni (2000) writes that, "with migrant earnings, they can more quickly amass the capital necessary to achieve financial and residential independence." Lastly, Desai and Banerji (2008) point to residential independence as the key factor in linking men's absence to increased women's autonomy. Using data from the 2005 India Human Development Survey, they conclude that "whether the husband is living with the woman or living in another state, women do not gain more freedom and autonomy as long as they are living in an extended family."

### **"Direct" impact of husband's absence**

Lastly, another explanation is that the relationship between men's labour migration and women's autonomy is "directly" due to men's absence. Husbands exercise their authority over their wives in the small yet numerous details of daily decisions and activities: spending money, visiting friends, visiting parents, going shopping. Any single one of these daily events is perhaps inconsequential, but when amassed together, having to ask a husband's permission to do them could impact a wife's autonomy. Thus, in contrast to the previously described mechanisms, which represent substantial shifts in social organization of the household (e.g., work outside the home, childbearing, and residential independence), this "direct" influence is infused into the tiny events that as a whole compose the flow of daily life. Unfortunately, we could not test this mechanism directly, because we did not have the retrospective in-depth, qualitative, microinteractional data needed for such a test. Yet if other mechanisms do not mediate the relationship between labour migration and autonomy, it may be suggestive of a "direct" impact of spouses' separation. By "direct," we mean a mechanism that we are unable to measure.

### **Permanency of increased autonomy**

In addition to the exploration of mechanisms through which husbands' migration may increase wives' autonomy, another issue that needs investigation is the permanency of women's increased autonomy due to men's labour migration. Although it is well-established that women's autonomy increases upon her husband's absence, what happens upon his return has not been extensively investigated. Some studies suggest that this greater independence is most likely temporary (Hadi 2001; Brink 1991). Other research argues that labour migration, on the contrary, results in lasting changes in family and gender relations. In the case of Mexican

migration, Boehm (2008) reports that after men migrate to the US from Mexico, they may feel disempowered due to their lower status in the US and loss of autonomy in their work. Their wives in sending communities, however, may experience profound changes in their broadened exposure to new institutions, roles, and responsibilities—changes that are not easily undone once men return (Boehm 2008). Although a very different setting, some parallels can be seen in the rise of women’s employment in the US during World War II, which occurred due to a shortage of men. Some scholars argue that many women who had entered employment during the war years did not want to give up these new roles after the war ended (Goldin 1991; O’Blood 1965). In sum, it is likely that events and processes that reorganize and restructure the family, such as men’s labour migration, can have long-lasting effects, even if the duration of these events and processes is short or temporary.

## Data and Methods

We used data from a survey conducted in southern Mozambique in 2006. The survey was carried out as part of a collaborative project with the Centre for Population Studies of Eduardo Mondlane University (Mozambique). The sample for the individual survey was drawn from the population of married women aged 18–40 residing in 56 villages of four districts in southern Mozambique. In each district, 14 villages were selected with the probability proportional to size. In each selected village (or in a randomly picked section thereof if a village was big), all households with at least one married woman were canvassed and separated into two lists: those with at least one woman married to migrant and those with no such women. These two lists were used as sampling frames: from each of them 15 households were randomly selected. In each selected household a woman was interviewed (in households classified as migrant, a woman married to a migrant was interviewed). The procedure resulted in a total sample of 1680 women (420 per district, 30 per village), more or less evenly split between women married to migrants and women married to non-migrants. The survey collected detailed demographic and socioeconomic information, including pregnancy histories, women’s employment, husband’s migration history (starting in 2000, the year of particularly devastating floods in southern Mozambique), and household material status, as well as information on HIV/AIDS awareness and prevention, women’s social networks, and their gender attitudes.

### Dependent variable: Women’s Autonomy

Women’s autonomy is a complex notion, and compromises must be made when attempting to measure it with a structured survey instrument. Women’s autonomy is context-specific and is multidimensional. Our measurement was derived from a series of seven questions answered with a 3 point Likert scale. The questions were prefaced with the following: “Now I would like to ask you about things that you sometimes many want or need to do. About every one of these things tell me whether you would (1) need to ask your husband’s or his family’s permission to do them, (2) would just need to inform them, or (3) whether even informing them would not be necessary.” The seven questions were:

1. To visit your parents or other relatives who live outside of this community.
2. To visit a friend or neighbour who lives in this community.
3. To go to the city or a district capital to buy or sell something or to take care of some other business.
4. To spend money on family needs (such as food, school materials, clothes for children).
5. To spend money on your personal needs (such as *capulanas* [clothing fabric], clothes, shoes, or earrings for you).
6. To get a job or to engage in commerce.

### 7. To do an HIV test.

While this is an admittedly crude measurement of a nuanced concept, it did represent multiple dimensions of independence across different domains: mobility, consumption, production, and health. Furthermore, to the degree that this measurement is crude and imprecise, this shortcoming was likely to introduce measurement error. This made it harder to find statistical associations between variables, causing our hypothesis tests of significance to be conservative.

The scale of women's autonomy was the rounded average of the answers to these seven questions, each of which was measured from 0 (low autonomy—have to ask permission) to 1 (medium autonomy—have to inform) to 2 (high autonomy—do not even have to inform). We investigated our decision to treat the seven items as a single scale, given the diverse dimensions of autonomy it measured. A reliability analysis showed that the Cronbach's alpha for this scale was .78, which suggests good internal consistency: the scale items measured the same underlying construct. A Cronbach's alpha of .70 is the most commonly acceptable minimum coefficient (Gaur and Gaur 2006).

### Men's labour migration

Because we are interested in the potential permanency of the impact of men's absence, we measured both the woman's cumulative and current experience with men's labour migration. Cumulative men's labour migration was the number of years, in the period from 2000 to 2006 (the six years before the survey), that the man has been away for employment. This measure varies from a minimum of 0 to a maximum of 6. In addition, we transformed this variable with a log function. The impact of men's migration is likely to be non-linear, in which increases at the low end (from 0 to 1 years, for example) are more important than increases at the higher end (from 5 to 6 years, for example). Current men's labour migration was a dichotomous variable that is coded 1 if the woman's husband was currently a labour migrant, and 0 otherwise. Note that some husbands may not have been labour migrants at the time of the survey, but may have had prior experience working away in the past 6 years.

We are also interested in investigating how women's autonomy related to the "success" of men's labour migration. We defined successful male labour migrants from the standpoint of benefits from migration to their household but did so in two alternative ways—objective and subjective. First, successful migrants were defined as those who sent or brought remittances in the past 12 months (objective definition). Those who did not send or bring any remittances were defined as unsuccessful. The second variation was based on the wife's perceptions of outcomes of her husband's migration (subjective definition), regardless of remittances. The wives were asked, "In your opinion, since your husband went to work there, did the living conditions in your household improve, worsen, or remain the same?" Successful migrants were defined as those whose wives said their lives improved. All other migrants were defined as unsuccessful. Each of these two different measures of success was therefore a dichotomous variable (1 if successful, 0 if not). This measurement was limited to those husbands who are currently away, and we could not examine the cumulative effect of successful or unsuccessful men's labour migration. Nevertheless, these measures may provide insight into questions regarding the benefits of increased women's autonomy after men's labour migration. If women's autonomy increases as the result of successful men's migration, this may indicate a desirable outcome in which women have both greater freedom and financial security. On the other hand, if women's autonomy increases as the result of unsuccessful men's labour migration, this could suggest that women's autonomy comes in the form of unwelcomed increased decision making and responsibilities within a context of greater financial strain.

## Resident wives' employment

Greater employment by wives is one of the mechanisms through which men's labour migration may increase women's autonomy. We calculated the number of years, from 2000 to 2006, that the woman was involved in autonomous nonfamily employment, such as commerce, crafts, or salaried work.

## Fertility

A suspension of childbearing is another mechanism that could explain the link between men's migration and women's autonomy. As we discussed earlier, spousal absence decreases coital frequency, which is one of the proximate determinants of fertility. Lower fertility would then result in less childcare for young children, subsequently less gender-bound roles and activities, and potentially greater autonomy for women. The measure of fertility was the number of births the woman had from 2000 to 2006 (the six years before the survey).

## Coresident in-laws

Successful men's migration is financially rewarding, so husbands' labour migration could be associated with less coresidence with in-laws and thus giving wives greater freedom from supervision by the husband's family. Coresident in-laws was coded 1 if the woman currently lived with parents or siblings from her husband's family, and 0 otherwise.

## Controls

To reduce the chance of spurious associations and to properly specify the model, we included several relevant control variables: husband's and wife's age and education, whether or not the woman is the husband's only or first wife (versus a second or higher order wife), and the age the wife started living with the husband (which is usually synonymous with age at marriage). We controlled for the wife's religious affiliation in three groups: none, mainline religion (mostly Catholics and Mainline Protestant), other (primarily Evangelicals and Pentecostals). Another important control was the whether the wife had a say in the decision to marry her current husband.<sup>1</sup> This variable was important because it partially controlled for the woman's autonomy at a time that was causally before marriage and her husband's migration. For example, an alternative hypothesis could be that men are more likely to engage in labour migration if they have autonomous wives who they trust to maintain a functioning household in the absence. Our control for women's early autonomy partially addressed this endogeneity concern. We note a limitation in that we were unable to control for household income. Household income was measured in the survey in 2006. Income in 2006, however, is likely endogenous to migration behaviours in the prior 6 years, and thus we were unable to include this measure in our models.

In our models, we predicted the women's autonomy scores using ordered logistic regression. We used ordered logistic regression because it does not assume that the levels on the autonomy scale are equidistant. Because the sampling design was clustered, standard techniques will not yield unbiased estimates due to the non-independence of women in the same village. We used multilevel modelling techniques (mixed models with random intercepts) to model this non-independence and generate proper significance tests. We used the GLIMMIX procedure in SAS 9.2. To collapse our scale into integer categories so that it could be analyzed with ordered logistic regression, we rounded the autonomy scale to the nearest integer. Alternate models that treated our scale as continuous and used linear regression gave similar results, but we

<sup>1</sup>The wife's marital autonomy measure is derived from the following question: "When your husband came to ask for you to be his wife, who mainly made the decision: your parents, other relatives, or you?" We treat this as a simple 1 to 3 scale, with higher values representing greater say in the marital decision. 1 = Mainly parents and/or other relatives, 2 = Both parents/relatives and she, and 3 = Mainly she.



present the more conservative ordered logistic regression results that do not assume the scale is continuous.

Another concern was missing data. Overall, rates of missing data were low. The two highest levels of missing data were for husband's age (26 per cent) and husband's education (18 per cent). Most encouraging, missing data for the autonomy scale were very low: the average missing data rate across the 7 autonomy items was 2 per cent. Although listwise deletion of missing cases is often used, it may lead to biased samples if the missing data is not random. As an alternative, we used multiple imputation. In this approach, multiple (in our case, five) datasets are created with imputed values, but the values slightly differ because they are random draws from a distribution of likely values. The five datasets are analyzed separately and the results are combined into a single estimate that recognizes the uncertainty in the imputed values. The critical assumption for multiple imputation is that the values are missing at random, conditional on the non-missing information. Although this assumption cannot be tested, it is strengthened by including in the imputation model the variables that are likely to be related to the missingness mechanism.

Our modelling strategy had several steps. We first examined the relationship between women's autonomy and husband's cumulative and current labour migration. We then investigated several factors that were expected to mediate these relationships: women's employment outside the home, lower fertility, residential independence from in-laws. Finally, we examined the success of husband's current labour migration (whether it was successful or not) and how it was related to women's autonomy.

## Results

Descriptive statistics are displayed in Table 1 and are separated by the labour migration status of their husbands: ever versus never migrants. Categorical variables are presented with frequency distributions, and continuous variables are presented with means and standard deviations. The measure of women's autonomy is higher in the ever migrant sample: the women whose husbands had labour migration experience tend towards higher levels of autonomy. Husband's migration is a common experience in the sample: 1088 of 1678, or 65 per cent of the sample, are married to husbands with current or former labour migration experience at the time of the survey. Among these men, the average years spent away in labour migration from 2000 to 2006 is 4.5 years. Among the ever migrant group, 79 per cent of the husbands are currently away. Depending on how migration success is defined, about one-half to two-thirds of these men could be described as successful migrants. Overall, wives married to ever and never migrants have little experience with non-family employment from 2000 to 2006, averaging less than 1 year of outside-the-home work. Wives of ever migrants average fewer births over that time period (1.6) compared to wives of never migrants (1.8). Coresidential living with in-laws is more common among wives of ever migrants than wives of never migrants.

Table 2 presents the multivariate analyses. These are ordered logistic regression coefficients from multilevel models with random intercepts to adjust for clustering of respondent at the village level. Positive coefficients mean that the variables are associated with greater log odds of being in a higher category of women's autonomy, while negative coefficients means that the variables are associated with being in lower categories of women's autonomy. The models in Table 2 first examine the impact of cumulative (model 1) and current (model 2) men's labour migration, followed by the simultaneous consideration of both cumulative and current migration (model 3). Model 1 shows a significant positive relationship between women's autonomy and the number of years, from 2000 to 2006, a husband spent away in labour migration. Model 2 also shows a significant association: if a husband is currently away due to

labour migration in 2006, his wife's autonomy in 2006 is significantly higher than that of women whose husbands are present. Models 1 and 2 therefore confirm prior findings from diverse settings that men's labour migration and women's autonomy are linked. We also briefly note the random effects. Although not a focus of our analysis, the village-level variance is significant in all the models, indicating that there is unexplained variation between villages in the intercept level of autonomy.

Model 3 estimates the relationship between women's autonomy and both cumulative and current men's labour migration. Both measures--cumulative and current--have statistically significant associations with women's autonomy. The coefficients of the two measures in model 3 are reduced in magnitude compared to their size when estimated individually in models 1 and 2, yet they both remain significantly different from 0. If the impact of men's migration were temporary, then the measure of men's cumulative years away would no longer be significant in the presence of the variable for men's current absence. The fact that both are significant is noteworthy. This is consistent with the interpretation that impacts of men's labour migration persist even after a husband returns home.

Model 4 investigates potential mechanisms linking men's labour migration to women's autonomy. We include measures for three intervening mechanisms: wife's employment, fertility, and coresidential living. Wife's cumulative years of work is significantly associated with autonomy in the expected direction: women who worked more in the 2000 to 2006 time period have significantly greater autonomy. Coresidential status also shares an expected association with autonomy. Wives who are coresident with in-laws have significantly lower autonomy. Fertility in the period from 2000 to 2006 is not associated with autonomy. Despite the significant coefficients for wife's employment and in-law coresidence, however, these measures fail to mediate the overall association between men's labour migration and women's autonomy. The coefficients for husband's cumulative years away and current migration status are virtually unchanged in model 4 compared to model 3.

The last issue we investigate is how autonomy is related to the economic outcomes of husbands' labour migration. We test if increases in women's autonomy differ depending on the level of "success" of men's labour migration. In the analyses presented in Table 3, we subdivide the current male labour migrants (the "currently away" category in Table 2) into successful and unsuccessful migrants as described in the Data and Methods section. In model 1, successful male labour migrants are those who sent remittances to the wife at least once in the past 12 months. All other male labour migrants are characterized as unsuccessful. Model 1 shows that both successful and unsuccessful men's labour migration is associated with significantly higher women's autonomy. The coefficient for successful migration is greater than the coefficient for unsuccessful migration, but these two coefficients are not significantly different from each other.

In model 2, the success of male labour migrants is based on the perceptions of the wife. This subjective definition of success of men's labour migration has similar results as in model 1, but it produces a sharper difference between the two categories. In model 2, both successful and unsuccessful migration is associated with greater women's autonomy. The coefficient for unsuccessful migration (.985), however, is greater than the coefficient for successful migration (.677); this difference approaches significance ( $p < .15$ ). In alternate models that treat the autonomy scale as continuous and make full use of the scale's variation, the difference is significant at  $p < .01$ . With structured survey data, it is not possible to fully understand the processes behind these differing coefficients, but this difference is suggestive of an explanation in which the greatest increases in women's autonomy happen as the result of failed men's labour migration and potential economic strain.

## Discussion

Although it has been well established in the research literature that men's labour migration is associated with higher autonomy for women, most of this research has been cross-sectional and has not considered the impact of the cumulative history of labour migration. In addition, prior research has not investigated potential mechanisms behind these relationships. Our research contributed to the literature on both these points.

We found that both current and prior cumulative history of men's labour migration had significant, independent relationships with women's autonomy. This suggests that the impact of men's labour migration on women's autonomy may not be temporary but rather may persist even after the man comes back. Although we can only speculate with our structured survey data, it may be that patterns of increased autonomy that women develop in husbands' absence are not easily changed once husbands return.

Because the mechanisms did not fully mediate the effects of men's migration, our results were consistent with the interpretation that men's labour migration has a "direct" effect on women's autonomy. As we argued, it may be that husband's absence from the household impacts the structuring, organization, and very nature of women's lives in ways that are too diffuse to be captured easily in survey data, yet are so permeating that they influence almost every facet of their daily life.

Finally, we explored how increases in autonomy were related to different economic outcomes of husband's migration: successful and unsuccessful migration. It appears that the greatest increases in autonomy may occur to women whose husbands are not successful labour migrants. This could mean that the increased autonomy that these women experience might be forced upon them, with greater responsibilities and duties as a result of their husbands' failed labour migration.

Several aspects of the data limited our ability to make stronger conclusions. First, the autonomy scale used in this survey was not able to capture the fine distinctions as well as breadth involved in the concept of women's autonomy. Second, as with almost all observational social science research, we were hampered by the potential endogeneity of men's labour migration. It remains possible that unmeasured selection factors are influencing both husbands' decisions to migrate and women's autonomy. Our control for women's pre-marital autonomy (the woman's participation in the marriage decision) partially addressed this concern, but there may be other characteristics of the wife and the union that drive the migration decision and are associated with women's autonomy.

Overall, our findings serve as a point of departure for additional research. Further study of these research questions will benefit from longitudinal data and analyses that can fully examine the dynamic nature of both men's labour migration and women's shifting levels of autonomy. In addition, more study is needed on the intriguing finding that unsuccessful men's labour migration leads to the biggest increases in women's autonomy. With the current data, we are unable to examine these associations in more depth. It is likely, however, that the relationship between migration and autonomy has additional contingencies, in which increased autonomy may be accompanied by more stress and financial strain under some circumstances.

The relationship between autonomy and gender inequality also merits additional attention. It may be that financial strain increases women's autonomy (through greater responsibilities) while at the same time increasing household gender inequality (through greater reliance on men's remittances). It has often been accepted as a given that increases in women's autonomy are beneficial, but Mason (1987) makes a critical observation that women's autonomy or status must always be considered "in relation to men" (p. 720). Our research has found that men's

labour migration in rural Mozambique is associated with increased autonomy for women, as measured by their freedoms within the domains of mobility, consumption, production, and health. How these women stand in comparison to men and within larger gender ideologies at the societal level, however, is a complex issue. Investigating these additional issues will provide a fuller picture of the consequences of men's labour migration.

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## References

- Abadan-Unat N. Implications of migration on emancipation and pseudo-emancipation of Turkish women. *International Migration Review* 1977;11(1):31–51.
- Adepoju A. Continuity and changing configurations of migration to and from the Republic of South Africa. *International Migration* 2003;41(1):3–28.
- Agadjanian, V.; Menjivar, C.; Sevoyan, A. Reshaping the post-Soviet periphery: the impact of men's labor migration on women's lives and aspirations in rural Armenia. Presented at the 2007 Annual meeting of Population Association of America; March 29–31; 2007.
- Agadjanian V, Yabiku S, Cau B. Men's migration and women's fertility in rural Mozambique. *Demography*. Forthcoming
- Aysa, M.; Massey, D. Wives left behind: the labor market behavior of women in migrant communities. In: Durand, Jorge; Massey, Douglas S., editors. *Crossing the Border. Research from the Mexican Migration Project*. New York: Russell Sage Foundation; 2004. p. 172-190.
- Blood RO. Long-range causes and consequences of the employment of married women. *Journal of Marriage and Family* 1965;27(1):43–47.
- Bloom S, Wypij D, Das Gupsa M. Dimensions of women's autonomy and the influence on maternal health care utilization in a North Indian city. *Demography* 2001;38:67–78. [PubMed: 11227846]
- Boehm DA. "Now I am a man and a woman!": gendered moves and migrations in a transnational Mexican community. *Latin American Perspectives* 2008;35 (1):16–30.
- Bongaarts J, Potter RG. Fertility effect of seasonal migration and seasonal variation in fecundability: test of a useful approximation under more general conditions. *Demography* 1979;16(3):475–9. [PubMed: 510640]
- Bongaarts J, Frank O, Lesthaeghe R. The proximate determinants of fertility in sub-Saharan Africa. *Population and Development Review* 1984;10(3):511–537.
- Brink JH. The effect of emigration of husbands on the status of their wives: an Egyptian case. *International Journal of Middle East Studies* 1991;23(2):201–211.
- CEA/UEM. *The Mozambican Miner: A Study of the Export of Labor*. Maputo, Mozambique: Center for African Studies (CEA), Eduardo Mondlane University (in Portuguese); 1997.
- Chant S. Households, gender and rural-urban migration: reflections on linkages and considerations for policy. *Environment and Urbanization* 1998;10(1):5–22. [PubMed: 12294514]
- Crush, J. *Covert Operations: Clandestine Migration, Temporary Work and Immigration Policy in South Africa*. Cape Town: Idasa; 1997.
- Crush J, McDonald DA. Introduction to special issue: evaluating South African immigration policy after apartheid. *Africa Today* 2001;48(3):1–13.
- Crush, J.; Jeeves, A.; Yudelman, D. *South Africa's Labor Empire: A History of Black Migrancy to the Gold Mines*. Boulder, CO: Westview; 1991.
- Davis K. Wives and work: the sex role revolution and its consequences. *Population and Development Review* 1984;10(3):397–417.
- De Haan A. Rural-urban migration and poverty: the case of India. *IDS Bulletin* 1997;28(2):35–47.
- De Snyder V. Family life across the border: Mexican wives left behind. *Hispanic Journal of Behavioral Sciences* 1993;15(3):391–401.

- De Vletter, F. *Sons of Mozambique: Mozambican Miners and Post-apartheid South Africa*. Cape Town, South Africa: South African Migration Project; 1998.
- De Vletter, F. Labour migration to South Africa: the lifeblood for southern Mozambique. In: McDonald, David A., editor. *On Borders: Perspectives on International Migration in Southern Africa*. Ontario: Southern African Migration Project; New York: St Martin's Press; 2000. p. 46-70.
- Desai S, Banerji M. Negotiated identities: male migration and left-behind wives in India. *Journal of Population Research* 2008;25(3):337–355. [PubMed: 20694050]
- Dow, S. *Urban Settlement Strategies in Mozambique—A Case Study of Maputo*. School of Social Sciences, Flinders University of South Australia; 1989.
- Durand, J.; Massey, D. What we learned from the Mexican Migration Project. In: Durand, Jorge; Massey, Douglas S., editors. *Crossing the Border. Research from the Mexican Migration Project*. New York: Russell Sage Foundation; 2004. p. 1-14.
- Engel BA. The woman's side: male out-migration and the family economy in Kostroma province. *Slavic Review* 1986;45(2):257–71.
- Ennaji M, Sadiqi F. The impact of male migration from Morocco to Europe on women: a gender approach. *Finisterra: Revista Portuguesa De Geografia* 2004;39(77):59–76.
- First, R. *Black Gold: The Mozambican Miner, Proletarian and Peasant*. New York: St. Martin's Press; 1983.
- Gaur, S.; Gaur, A. *Statistical Methods for Practice and Research*. Thousand Oaks, CA: Sage; 2006.
- Geberu, B. Master's Thesis. Addis Ababa University; 2006. *Impact Of Male Out-Migration on Rural Women's Livelihood: The Case of Chench Woreda, South Ethiopia*.
- Ghuman S. Women's autonomy and child survival: a comparison of Muslims and non-Muslims in four Asian countries. *Demography* 2003;40:419–436. [PubMed: 12962056]
- Goldin C. The role of World War II in the rise of women's employment. *The American Economic Review* 1991;81(4):741–756.
- Gordon E. An analysis of the impact of labor migration on the lives of women in Lesotho. *Journal of Development Studies* 1981;17(3):59–76.
- Grawert E. Impacts of male outmigration on women: a case study of Kutum/Northern Darfur/Sudan. *The Ahfad Journal* 1992;9:37–60. [PubMed: 12319274]
- Gulati, L. The impact on the family of male migration to the Middle East: some evidence from Kerala, India. In: Arnold, Fred; Shah, Nasra M., editors. *Asian Labor Migration: Pipeline to the Middle East*. Boulder, Colorado: Westview Press; 1986. p. 194-212.
- Hadi A. International migration and the change of women's position among the left-behind in rural Bangladesh. *International Journal of Population Geography* 2001;7:53–61.
- Harries, P. *Work, Culture and Identity: Migrant Labourers in Mozambique and South Africa, c. 1860–1910*. Johannesburg: Witwatersrand University Press; 1994.
- Hindin M. Women's autonomy, women's status and fertility-related behavior in Zimbabwe. *Population Research and Policy Review* 2000;19(3):255–282.
- Jejeebhoy S, Sathar Z. Women's autonomy in India and Pakistan: the influence of religion and region. *Population and Development Review* 2001;27:687–712.
- Jenkins, P. *Urban development and housing in Mozambique: A current analysis and bibliography*. Edinburgh College of Art, Heriot-Watt University, Centre for Environment and Human Settlement; 1993. Research Paper No.50
- Kanaiaupuni S. Reframing the migration question: men, women, and gender in Mexico. *Social Forces* 2000;78(4):1311–1348.
- Khaled L. Migration and women's status: the Jordan case. *International Migration* 1995;33(2):235–250. [PubMed: 12290689]
- Knauder, S. *Globalization, Urban Progress, Urban Problems, Rural Disadvantages: Evidence from Mozambique*. Sydney: Ashgate; 2000.
- Kothari U. Policy arena: migration, staying put and livelihoods. *Journal of International Development* 2003;15(5):645–657.
- Lindstrom DP, Saucedo SG. Short-and long-term effects of US migration experience on Mexican women's fertility. *Social Forces* 2002;80(4):1341–68.

- Louhichi, K. The impact of the emigration of the husband on the status of the wife: the case of Egypt. In: Cosio-Zavala, ME., editor. *Women and Families: Evolution of the Status of Women as Factor and Consequence of Changes in Family Dynamics*. Paris: CICRED; 1997. p. 332-339.
- Mason K. The impact of women's social position on fertility in developing countries. *Sociological Forum* 1987;2:718-745.
- McDonald, P. Gender equity, social institutions and the future of fertility. In: Cosio-Zavala, Maria Eugenia, editor. *Women and Families: Evolution of the Status of Women as Factor and Consequence of Changes in Family Dynamics*. Paris: CICRED; 1997. p. 13-33.
- McEvoy, J. Master's thesis. Utah State University; 2008. *Male Out-Migration and the Women Left Behind: A Case Study of a Small Farming Community in Southeastern Mexico*.
- Menjívar C, Agadjanian V. Men's migration and women's lives: views from rural Armenia and Guatemala. *Social Science Quarterly* 2007;88(5):1243-1262.
- Menken J. Seasonal migration and seasonal variation in fecundability: effects on birth rates and birth intervals. *Demography* 1979;16(1):103-119. [PubMed: 428603]
- Morgan SP, Niraula B. Gender inequality and fertility in two Nepal villages. *Population and Development Review* 1995;21:541-561.
- National Statistical Institute. *Mozambique 2003 Demographic and Health Survey, Final Report*. National Statistical Institute, Ministry of Health, and Measure DHS+/ORC Macro; Maputo, Mozambique (in Portuguese): 2005.
- Peat, J.; Barton, B. *Medical Statistics: A Guide to Data Analysis and Critical Appraisal*. Malden, Mass: Blackwell; 2005.
- Posel D. How do households work? migration, the household and remittance behaviour in South Africa. *Social Dynamics* 2001;27(1):165-189.
- Radel C, Schmook B. Migration and gender: the case of a farming ejido in Calakmul, Mexico. *The Yearbook of the Association of Pacific Coast Geographers* 2009;71:144-163.
- Roy, A.; Nangia, P. Impact of male out-migration on health status of left behind wives--a study of Bihar, India. Paper presented at the meeting of the International Union for the Scientific Study of Population; 2005.
- Sanchez L, Thomson E. Becoming mothers and fathers: parenthood, gender, and the division of labor. *Gender and Society* 1997;11(6):747-772.
- Steinberg S. Childbearing research: a transcultural review. *Social Science & Medicine* 1996;43(12):1765-1784. [PubMed: 8961420]
- Timaeus, I.; Graham, W. Labor circulation, marriage and fertility in Southern Africa. In: Lesthaeghe, Ron J., editor. *Reproduction and Social Organization in Sub-Saharan Africa*. Berkeley, California: University of California; 1989. p. 365-400.
- Wenzel, H.; Bannerman, J. *Manica Province, Mozambique: Population Structures and Migration: Modern Development Trends*. Osnabruck, Germany: GTZ Report – Integrated Rural Development Strategy Plan; 1995.
- Zachariah KC, Mathew ET, Rajan SI. Social, economic and demographic consequences of migration on Kerala. *International Migration* 2001;39(2):43-67.

Table 1

Descriptive statistics

|   | Ever migrants |      | Never Migrants |      |
|---|---------------|------|----------------|------|
|   | Mean          | SD   | Mean           | SD   |
| Woman's autonomy scale                          |               |      |                |      |
| Would have to ask permission                    | 16.7          |      | 28.8           |      |
| Would have only to inform                       | 77.5          |      | 69.8           |      |
| Would not have to ask or inform                 | 5.8           |      | 1.5            |      |
| Husband's migration                             |               |      |                |      |
| Cumulative years away between 2000–2006         | 4.5           | 2.4  | 0.0            | 0.0  |
| Currently away                                  |               | 78.9 |                | 0.0  |
| Migration success of husbands currently away    |               |      |                |      |
| Husband is currently remitting funds            |               | 63.6 |                |      |
| Wife believes life has improved since migration |               | 52.4 |                |      |
| Wife's activities                               |               |      |                |      |
| Wife's cumulative years work between 2000–2006  | 0.7           | 1.7  | 0.6            | 1.7  |
| Wife's children born between 2000–2006          | 1.6           | 1.0  | 1.8            | 1.1  |
| Wife co-resides with in-laws                    |               | 55.7 |                | 34.0 |
| Controls  |               |      |                |      |
| Wife's age                                      | 26.2          | 5.7  | 28.8           | 6.3  |
| Wife's education                                |               |      |                |      |
| Wife has 0 years education                      |               | 21.3 |                | 35.8 |
| Wife has 1–4 years education                    |               | 45.6 |                | 45.7 |
| Wife has 5+ years education                     |               | 33.1 |                | 18.5 |
| Wife is husband's only or first spouse          |               | 90.8 |                | 82.8 |
| Wife's marital autonomy at time of marriage     | 2.2           | 0.9  | 2.2            | 0.9  |
| Age wife started living with husband            | 18.8          | 3.2  | 20.2           | 4.4  |
| Wife's religion                                 |               |      |                |      |
| No religion                                     |               | 12.0 |                | 17.5 |
| Mainline religion                               |               | 29.2 |                | 24.1 |
| Other religion                                  |               | 58.8 |                | 58.5 |
| Husband's age                                   | 32.2          | 8.2  | 36.4           | 10.6 |

|                                 | Ever migrants |      | Never Migrants |      |
|---------------------------------|---------------|------|----------------|------|
|                                 | Mean          | SD   | Mean           | SD   |
| Husband's education             |               |      |                |      |
| Husband has 0 years education   |               | 15.2 |                | 21.2 |
| Husband has 1–4 years education |               | 43.6 |                | 45.3 |
| Husband has 5+ years education  |               | 41.2 |                | 33.5 |
| N                               | 1088          |      | 590            |      |

Source: Men's Migration and Women's HIV/AIDS Risks Survey, 2006



Table 2

## Husband's migration and wife's autonomy

|  | 1                  | 2                  | 3                  | 4                  |
|--|--------------------|--------------------|--------------------|--------------------|
| Husband's migration                                |                    |                    |                    |                    |
| Cumulative years away (log)                        | 0.537*** (7.400)   |                    | 0.228* (2.150)     | 0.225* (2.090)     |
| Currently away (ref=non-migrant)                   |                    | 1.029*** (8.150)   | 0.743*** (4.030)   | 0.826*** (4.390)   |
| Wife's activities                                  |                    |                    |                    |                    |
| Wife's cumulative years work (log)                 |                    |                    |                    | 0.347** (3.100)    |
| Wife's children born between 2000–2006             |                    |                    |                    | 0.020 (0.330)      |
| Wife co-resides with in-laws                       |                    |                    |                    | -0.438*** (-3.360) |
| Controls   |                    |                    |                    |                    |
| Wife's age   | 0.049** (3.050)    | 0.064*** (3.860)   | 0.059*** (3.580)   | 0.047*** (2.770)   |
| Wife has 1–4 years education (ref=no education)    | -0.092 (-0.620)    | -0.083 (-0.560)    | -0.102 (-0.690)    | -0.097 (-0.650)    |
| Wife has 5+ years education (ref=no education)     | -0.045 (-0.240)    | -0.089 (-0.480)    | -0.105 (-0.560)    | -0.108 (-0.570)    |
| Wife is husband's only or first spouse             | -0.166 (-0.740)    | -0.211 (-0.930)    | -0.208 (-0.920)    | -0.190 (-0.850)    |
| Wife's marital autonomy at time of marriage        | 0.016 (0.230)      | 0.008 (0.120)      | 0.012 (0.170)      | 0.011 (0.160)      |
| Age wife started living with husband               | -0.004 (-0.190)    | -0.022 (-1.190)    | -0.014 (-0.720)    | -0.011 (-0.590)    |
| Mainline religion (ref=no religion)                | 0.166 (0.790)      | 0.148 (0.700)      | 0.147 (0.700)      | 0.167 (0.790)      |
| Other religion (ref=no religion)                   | 0.206 (1.160)      | 0.205 (1.150)      | 0.204 (1.140)      | 0.222 (1.230)      |
| Husband's age                                      | -0.003 (-0.270)    | -0.005 (-0.360)    | -0.004 (-0.290)    | -0.006 (-0.450)    |
| Husband has 1–4 years education (ref=no education) | 0.014 (0.070)      | 0.014 (0.070)      | 0.007 (0.040)      | 0.026 (0.140)      |
| Husband has 5+ years education (ref=no education)  | 0.013 (0.060)      | -0.028 (-0.140)    | -0.020 (-0.100)    | 0.033 (0.160)      |
| Intercept 1  | -5.065*** (-8.510) | -4.973*** (-8.330) | -5.128*** (-8.570) | -4.824*** (-7.680) |
| Intercept 2  | -0.241 (-0.430)    | -0.114 (-0.200)    | -0.256 (-0.460)    | 0.115 (0.190)      |
| Random effects (Village-level variance)            | .256*              | .266*              | .261*              | .263*              |
| N  | 1678               | 1678               | 1678               | 1678               |

\* p&lt;.05,

\*\* p&lt;.01,

\*\*\* p&lt;.001, two tailed tests.

Numbers in parentheses are significance statistics (z-ratios).

Source: As for Table 1.

**Table 3****Husband's migration and wife's autonomy: examining the success of husband's migration**

|   | 1                  | 2                  |
|---|--------------------|--------------------|
| Husband's migration                                 |                    |                    |
| Cumulative years away (log)                         | 0.220* (2.030)     | 0.231* (2.130)     |
| Current migration status based on remittances       |                    |                    |
| Successful migrant (ref=non-migrant)                | 0.854*** (4.170)   |                    |
| Unsuccessful migrant (ref=non-migrant)              | 0.801*** (3.730)   |                    |
| Current migration status based on wife's perception |                    |                    |
| Successful migrant (ref=non-migrant)                |                    | 0.677** (3.140)    |
| Unsuccessful migrant (ref=non-migrant)              |                    | 0.985*** (4.600)   |
| Wife's activities                                   |                    |                    |
| Wife's cumulative years work (log)                  | 0.349** (3.110)    | 0.343** (3.060)    |
| Wife's children born between 2000–2006              | 0.020 (0.340)      | 0.022 (0.360)      |
| Wife co-resides with in-laws                        | -0.438*** (-3.360) | -0.434*** (-3.340) |
| Controls  |                    |                    |
| Wife's age  | 0.047** (2.760)    | 0.048** (2.800)    |
| Wife has 1–4 years education (ref=no education)     | -0.098 (-0.660)    | -0.082 (-0.550)    |
| Wife has 5+ years education (ref=no education)      | -0.110 (-0.580)    | -0.084 (-0.440)    |
| Wife is husband's only or first spouse              | -0.192 (-0.850)    | -0.181 (-0.800)    |
| Wife's marital autonomy at time of marriage         | 0.012 (0.170)      | 0.007 (0.100)      |
| Age wife started living with husband                | -0.012 (-0.600)    | -0.012 (-0.630)    |
| Mainline religion (ref=no religion)                 | 0.170 (0.810)      | 0.160 (0.750)      |
| Other religion (ref=no religion)                    | 0.223 (1.240)      | 0.216 (1.200)      |
| Husband's age                                       | -0.006 (-0.450)    | -0.006 (-0.440)    |
| Husband has 1–4 years education (ref=no education)  | 0.023 (0.120)      | 0.037 (0.200)      |
| Husband has 5+ years education (ref=no education)   | 0.027 (0.130)      | 0.045 (0.220)      |
| Intercept 1   | -4.813*** (-7.610) | -4.870*** (-7.740) |
| Intercept 2   | 0.127 (0.210)      | 0.085 (0.140)      |
| Random effects (Village-level variance)             | .260*              | .266*              |
| N   | 1678               | 1678               |

\* p&lt;.05,

\*\* p&lt;.01,

\*\*\* p&lt;.001, two tailed tests.

Numbers in parentheses are significance statistics (z-ratios).

Source: As for Table 1