The effect of community migration on women's marriage and fertility in high migrant sending states in Mexico

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Abstract

Objective: To determine the effect of increasing levels of community migration on marriage and women's fertility in traditional migrant sending states in Mexico. **Methodology:** We used individual- and household-level data from the 2000 Mexican census in the traditional sending states of Colima, Guanjuato, Jalisco, Michoacan, Nayarit, San Luis Potosi and Zacatecas. 239,726 reproductive aged women (15-49) from 314 municipalities with population sizes less than 15,000 were included in the analysis. Age-specific fertility rates were computed. Age-stratified logistic regression models for conjugal union controlled for community-level variables (proportion of adult males and economic development indicators) and individual characteristics (age and education). **Results:** Age-specific fertility rates for all reproductive aged women demonstrated that women in high migrant sending communities had lower total fertility than women where out-migration was not as prevalent. After controlling for community-level and individual characteristics, women ages 15 to 34 from municipalities with higher levels of out-migration to the United States had decreased odds of being ever married. The effect of migration on marriage and fertility was most pronounced in the 20-24 and 25-29 age groups. **Conclusions:** Higher levels of municipal migration affect marriage and fertility primarily by impacting the proportion of males in the community. In communities with increasing levels of migration and greater gender imbalances, younger women are less likely to form marital unions, thereby impacting fertility throughout their reproductive years.

Introduction

Much of the literature investigating the relationship between migration and fertility has focused on the ways in which the migratory behavior of male partners or, more commonly, women impacts individual fertility behavior. Analyses of community migration and fertility patterns in sending regions have been noticeably absent. Understanding the relationship between migration and fertility in sending communities is important as it may indicate changing social structures and social norms (e.g. marriage, family building and contraception) which may also provide a more nuanced perspective of changing fertility patterns within migrant sending countries. Furthermore, gaining a better understanding of migration's impact on sending communities will help to generate and test new hypotheses that may be more adequate in explaining observed fertility patterns in these areas as compared to those used in the individual-focused fertility and migration literature.

The case of the United States and Mexico provides is an ideal one for the study of the relationship between migration and fertility. The migration stream between the US and Mexico is one of the largest migratory systems in the world (Zlotnik 1998). A large portion of migrants in this system are seasonal and temporary (male) laborers; however in the last several decades, the number of women migrating to the US has increased (Massey, Durand & Malone 2002). In addition, Mexico has undergone a fertility transition. A significant body of literature explored the determinants of changing fertility among Mexican women in the early stages of the transition up through the 1980's (Gobalet 1980; Rubin-Kurtzman 1987; Wong & Levine 1992). However, now that Mexico's fertility rate hovers near replacement level (2.4 births per woman as of 2000; Frank & Heuveline 2005), little attention has been paid to how migration might be impacting Mexican women's fertility. This is in spite of the fact that extensive hypothesizing on the fertility patterns and attitudes of Mexican migrants has been used as causal explanations of presumably higher fertility rates among Mexican-origin women in the United States (Carter 2000; Gurak 1980; Fischer & Marcum, 1984).

Theoretical Background and Previous Findings

Researchers examining the impact of migration on fertility have relied on four main theoretical explanations for the fertility patterns observed: assimilation, adaptation, disruption/separation, and selection. Although presented as distinct mechanisms that influence fertility, these explanations are not mutually exclusive.

Assimilation

According to the assimilation argument, migrants eventually adopt the fertility norms of the majority population at destination (Jensen & Ahlburg 2004; Kulu 2005; Lee & Pol 1993). This may occur due to increased knowledge or use of contraception as well as changing ideas about reproduction. Assimilation is seen as a gradual process, and thus fertility change may not be immediately identified among first generation migrants.

Adaptation

Along with assimilation, adaptation is one of the most common explanations offered for the different fertility rates observed between migrants and non-migrants in the community of origin. Unlike assimilation, adaptation is a deliberate attempt by the migrants to change their fertility behavior in order to adjust to a new environment. For example, a migrant couple may decide to postpone child bearing given the change in actual and opportunity costs of maintaining a particular family size (Kulu 2005). However, these changes may not have long-term impacts on fertility as overall family size preferences may remain unaltered.

Disruption/Separation

The disruption/separation explanation argues that migration will have a negative impact on fertility by interrupting normal childbearing patterns (Brockerhoff 1995; Chattopadhyay, White and Debpuur 2006; Kulu 2005). This may be due to spousal separation or decisions to delay childbearing until the family is more socially and economically established. Most authors discussing disruption and separation conclude that interrupted childbearing is only a temporary phenomenon. Women will eventually "catch-up" to their desired family size either through more closely spaced births or by extending childbearing later into their reproductive years.

Selection

Unlike the other three explanations which state that migration has a direct effect on a woman's fertility, selection argues that characteristics inherent among individuals who migrate may predispose them to different fertility patterns. The most commonly cited characteristic is that individuals migrate to areas where fertility norms more closely correspond to their own and choose destinations where they can economically support their desired family size (Chattopadhyay, White & Debpuur 2006; Kulu 2005). However other migrant characteristics such as the availability of greater economic resources to relocate or a desire for social mobility, which may in turn contribute to lower fertility, have also been noted (Singley & Landale 1998).

Although these explanations are grounded in research on women migrants' fertility in destination areas, they have also been incorporated in and adapted to the limited literature on the impact of migration on women's fertility in sending communities. Several of these studies have investigated the relationship between migration and fertility levels within individual households in Mexican migrant sending communities. Using cross-sectional data on households in a high sending community in Michoacán, Massey and Mullan (1984) found that male migration did impact fertility, and noted some differences in fertility by migrants' documentation status. Households where husbands legally migrated to the United States had significantly lower fertility rates than households where neither partner migrated (4.7 vs 10.7 births). Wives of undocumented migrants and households where both husband and wife migrated also demonstrated lower fertility than non-migrants, but the difference was not as pronounced. Wives of migrating spouses, documented and undocumented, had lower fertility during their main childbearing years (25-34) but had higher fertility rates later in their reproductive lives. According to the authors, these results indicate that seasonal migration tends to temporarily disrupt fertility patterns as demonstrated by the later age at which spouses of male migrants discontinued childbearing.

In a more recent investigation of the impact of migration on Mexican women's fertility, Lindstrom and Giorguli Saucedo (2002) used retrospective life history data from 43 sending communities in Mexico and found that male migration was associated with *increased* fertility, particularly in households where the most recent male migration period lasted one to seven months. The authors attributed this phenomenon to multiple factors. First, spousal separation can not reduce the total number of births because the separation pattern is not intense enough to disrupt fertility.

Additionally the authors suggest migrants are selected for higher fertility as migration provides couples the possibility of supporting larger-sized families through higher wages earned in the US while preserving low-level maintenance costs with the wife and children remaining in

Mexico. Temporary migration allows for the preservation of patriarchal values (defined as the desire for large families), which are more easily imposed due to the power and prestige garnered by higher wages earned abroad. In fact, the authors state that Mexican men may react *against* the low fertility norms to which they are exposed in the United States and are motivated to preserve large family size and their patriarchal dominance (Lindstrom and Giorguli Saucedo 2002; Lindstrom 1995).

However, adaptation and assimilation may operate differently for women, as female migration was shown to reduce fertility. The authors argue this pattern is due to women's exposure to low fertility behavior in the United States, adoption of US contracepting norms, and potentially the dissemination of contraceptive knowledge when returning to their communities.

The explanations offered by these adaptations of the migration-fertility relationship may not be appropriate to the sending community context for several reasons. First, assimilation may not accurately reflect the experience of temporary migrants in the United States, thereby limiting the potential impact of reactions against US norms or the transmissibility of these norms back to the community or origin. For example, networks play a large role in the Mexican migrant stream, channeling migrants from the home community into specific destinations (Massey, Alarcón, Durand & Gonzalez 1987). Often these destination communities are somewhat segregated from the larger society, as is the labor market in which these migrants work. This relative isolation on arrival to the US would, therefore, keep Mexican migrants in a social sphere where fertility norms would reflect those of the immigrant community rather than those of non-Hispanic whites. In addition, analyses of contraceptive practices in the United States have shown that Latina women are less likely to access family planning services and less likely to practice contraception than non-Hispanic whites (Asamoa et al 2004; Sangi-Haghpeykar, Ali, Posner, & Poindexter 2006). Therefore, assimilation may not have a large role in impacting fertility rates in migrant sending communities.

Although disruption may be a plausible explanation for fertility patterns observed, the effect of disruption may be more complex when looking at rates of migration at the community level. For example, high migrant-sending communities may demonstrate lower fertility due to delayed age at marriage given limited partner availability (out-migration) and women's own intensions to migrate prior to beginning a family. In addition, fertility may decline in these communities as couples delay childbearing with the expectation that the family unit will eventually migrate and therefore try to limit the cost of relocation by having smaller families.

Finally, the deterministic nature of the selection effect argued by Lindstrom and Giorguli Saucedo (2002) is difficult to support. Large-scale community migration may alter fertility patterns, possibly leading to changing social norms regarding family size. Given the continual causation mechanism of migration, individuals may continue to migrate, despite a shift in norms favoring smaller family size.

The inadequacies of traditional explanations of the migration-fertility relationship to the sending community context, requires additional exploration of how levels of community migration and other contextual factors, in additional to individual-level differences, impact fertility in migrant sending communities. However, very few studies have undertaken this kind of investigation. Two studies (Massey et al 1987; Moreno 1992) using data from the 1982-1983 Mexico Migration Survey found that communities experiencing the highest levels of migration were among those with the lowest fertility rates. This difference was attributed to the fact that higher migration may change individual, family and community norms about marriage and reproduction. However, no further detailed theoretical arguments were made.

In addition to the theoretical challenges, the conclusions that can be drawn from these studies regarding migration's impact on fertility are limited. The sample sizes are relatively small, and the majority of data used in the analyses were collected before Mexico had achieved near replacement-level fertility. Even when the differential effect of the magnitude of community migration was investigated, analyses did not control for demographic variables or

socioeconomic differences between the communities, leading to inconclusive findings (limitations noted by the authors).

The purpose of this analysis is to further the explore the relationship between migration and fertility in sending communities using the 2000 Mexican Census, which allows for the inclusion of a wider range of cases than has been used previously. Census data from the traditional migrant sending states will enable us to see how fertility varies across communities in relation to different levels of migration and other variables. In addition, we will be able to look at factors that might influence fertility differences.

Methods

Data Sources

This analysis uses data from the 2000 Mexican Census long form for the traditional migrant sending states of Colima, Guanjuato, Jalisco, Michoacán, Nayarit, San Luis Potosí and Zacatecas. Using a single cluster sampling frame, the census collected data on 10 percent of households in February 2000. Household characteristics gathered by the census included the number of household members, materials of household construction, access to public utilities, and whether any member of the household had migrated in the last five years. Information on individual household members included age, educational attainment, marital status, current employment, and – among women aged 15 and older – total number of births and date of last live birth. The census also included an international migration module that recorded the gender, age and years of departure and return for migrating household members.

Community-level characteristics used in this analysis were obtained by grouping household- and individual-level variables by municipality in individual states and calculating weighted means. Household variables included electrification, access to piped water and sewerage, proportion of male adult household members in the prime martial age group (ages 15-30), employment for adults age 15 to 64, educational attainment for adults 25 to 64, household income, and international migration since 1995.

The proportion of adult males in the municipalities was stratified into categories to reflect the marriage market for specific age groups; this categorization was based on the construction of age-specific marriage markets from analyses using the 2000 Mexican Retrospective Demographic Survey (Encuesta Demográfica Retrospectiva, EDER) where data demonstrated that the majority of individuals married people within 10 years of their own age (Parrado & Zenteno 2002). For example, the proportion of adult males in a marriage market for women age 20 to 24 would be males age 18 to 27. For women in the 15 to 19 age group, there is a more limited age range for available partners, and thus the age categorization for adult males in this group was truncated to ages 15 to 22; this follows the analysis used by Parrado and Zenteno (2002).

Quartiles for household income and level of community migration were also constructed. Annual household income was divided into the following four categories: less than 21,199 pesos, 21,200 to 34,099 pesos, 34,100 to 47,599 pesos, and greater than 47,500 pesos. Level of community migration was categorized into quartiles as follows: lowest quartile (less than 10% of households with migrating family members), second quartile (10 – 15.9% of households with migrants), third quartile (16 – 21.9% of households experiencing migration), highest quartile (22% or more of households with migrating family members).

Characteristics of reproductive aged women used in this analysis included age, educational attainment, current employment, municipality resident in 1995, marital status, birth in the last year and total number of children. Highest level of education was grouped into the following categories: incomplete primary (0 to 5 years), complete primary (6 years of education), incomplete secondary (7 to 8 years), complete secondary (9 years of education) and higher education for individuals with 10 or more years of schooling. Marital status was categorized as single, married and previously married. Married women were defined as those women who reported having been married by civil and/or religious ceremony as well as those who were living in consensual unions. Prior research has demonstrated that consensual unions in Mexico

are not markedly different in nature than marriage (Parrado & Zenteno 2002; Pebley & Goldman 1986). Previously married women were those women who reported being divorced, separated or widowed. Incidence of birth in the last year was determined using the month and year of last live birth. Births occurring after February 1999 were categorized as "birth in the last year."

Preliminary analyses demonstrated a significant degree of variation in community size between the levels of municipal migration. Residents from high sending communities were significantly more likely to live in smaller communities (i.e. less than 15,000 residents) than individuals in low migration areas. In order to control for this effect, the following analyses are restricted to municipalities with communities of less than 15,000 inhabitants (n=314). This represents 73% of municipalities in the seven states.

Statistical Methods

The census data was imported into Stata version 8.2 (College Station, Texas) for analysis. Means for community and individual variables were calculated for continuous variables and percentages for categorical variables by community migration level. The statistical significance of linear trends in continuous and categorical characteristics across quartile of migration, modeled as the median level, was determined using linear and logistic regression, respectively.

Age-specific and total fertility rates were calculated across quartiles of community migration for reproductive aged and married women separately. The standard seven age categorizations were used for these calculations. Women aged 15 to 19 were omitted from marital fertility rates as fertility rates within this population are not considered to be reliable.

In order to assess migration's impact on fertility through the formation of conjugal unions, age-stratified logistic regression for conjugal union was modeled. Standard errors were adjusted by clustering on municipality, due to the non-independence of observations at this level. Analyses were restricted to women 15 to 39, given that community migration patterns may have been quite different for women 40 and older. Community-level variables in the

multivariate models included migration, proportion of adult males relevant to the age strata, and socioeconomic development indicators such as the proportion of homes with electricity, means for household income, educational level in the community, and level of female employment. Access to piped water and sewerage and adult employment levels were excluded due to colinearity. Variables for migration, proportion of adult males, homes with electricity, and female employment were calibrated so that odds ratios represented a one standard deviation unit increase. Among individual-level variables included in the multivariate model were age and educational attainment. Categories for complete secondary and higher education were combined for women age 15 to 19 to address the fact that women in this age group may not have yet entered the 10^{th} grade.

Results

The distribution of municipalities by percentage of community migration is presented in Figure 1. Level of migration within municipalities ranged from less than one percent to 42.6%. This is a wide range, and the distribution seems to follow a fairly normal pattern, with a modal level between 15 and 20 percent. Undoubtedly, there is variation across places (localidades) within each municipality, and a distribution using that level of aggregation would show an even wider distribution.

Municipal characteristics by level of migration are presented in Table 1 Panel A. In 69 municipalities less than 10% of households had a family member who migrated between 1995 and 2000. The secondary and tertiary quartiles were classified as having moderate levels of migration, and represented 84 and 85 municipalities, respectively. Seventy five municipalities were characterized by high migration, where 22% or more of households had a migrating family member. Communities with higher levels of migration demonstrated significantly greater levels of economic development indicators such as household electrification, internal plumbing, access to sewerage systems and household income at the lower and upper quartiles. However, other markers of socioeconomic development such as adult educational attainment and labor force

participation declined as the rate of migration increased. Of note, the proportion of adult men ages 15 to 30 was significantly lower in areas with higher levels of migration.

Characteristics of reproductive aged women are presented in Table 1 Panel B. Women in higher migration areas had significantly lower levels of education and employment than women in municipalities with lower levels of migration. There was a significant difference in marital status between communities, with higher percentages of single women and lower levels of marriage in high migration areas. Both the incidence of birth in the last year and overall parity were significantly higher in areas with lower levels of migration.

Age-specific fertility rates were notably different across quartiles of community migration (Table 2). As the percent of community migration increased total fertility rates were lower for both married women and among all women of reproductive age. Two distinct trends are noted here. First, increasing levels of migration were consistently associated with lower fertility rates among both reproductive aged and married women during the primary childbearing years, 25 to 34 years of age. Secondly, the total fertility of reproductive aged women was substantially lower than that of married women. This suggests that migration may influence fertility by affecting the formation of conjugal unions.

Results presented in Table 3 show the odds of being in a conjugal union, stratified by age group. In the unadjusted model (Model 1), increasing levels of community migration were significantly associated with reduced odds of being in a conjugal union for women in all categories. After controlling for the relevant proportion of adult men in each age strata (Model 2), increasing migration continued to decrease the odds of being in a conjugal union for all women. Additionally, for women 20 to 39, an increase in the proportion of adult men in the municipality significantly raised the odds of living in a marital union.

These same trends between union status, migration and proportion of adult males were observed following adjustments for additional community-level variables (Model 3) and individual characteristics (Model 4). Furthermore, among women 20 to 34 years of age,

increasing levels of female employment in the municipality decreased the odds of a woman's living in a conjugal union. Women across all age strata with secondary or higher levels of education were significantly less likely to live in a marital union.

Discussion

In Mexico's traditional sending states, fertility is affected by increasing levels of migration, and this is most likely due to migration's impact on the local marriage market in communities. Fertility rates in higher out-migration communities were lower than those in communities with less out-migration. This is particularly true among reproductive aged women, where fertility rates were lower than for those of married women by approximately one birth.

There is some evidence supporting the disruption argument as married women in high sending communities had somewhat lower fertility rates than women living in areas with smaller degrees of household migration. However, these findings do not suggest that this disruption is only temporary and ideal family size will be achieved later in the reproductive cycle (Massey & Mullan 1984; Lindstrom & Giorguli Saucedo 2002, Chattopadhyay, White & Debpurr 2006). Women in communities with greater degrees of migration had lower fertility both throughout the life course and at the end of their childbearing years.

These findings also do not support the conclusion reached by other authors who have suggested that Mexican migrants from high sending communities are positively selected for higher fertility relative to those who do not migrate (Lindstrom & Giorguli Saucedo 2002). Although the reproductive patterns of individual migrants were not analyzed here, one might argue that migrants in high sending communities are selected for smaller, rather than large family size. Individuals from high migration communities (and therefore likely to make up the majority of migrants in destination areas) come from areas where reproductive age women have lower fertility than women where migration is not as prevalent. In fact in high migration areas reproductive age women - the eligible local pool of male migrant spouses –seem to be on the path to lower fertility rates from early on. Thus it would seem that it is not the migrants

themselves but perhaps other factors that influence fertility from the beginning of a woman's reproductive years.

Results from the regression model in this analysis reveal that the lower rates of fertility observed is likely due in part to the proportion of men available. The proportion of age-appropriate males in the communities was significantly associated with the likelihood of living in a union for women ages 15 to 39. As previously noted, Mexican migration is dominated by male laborers. High levels of migration affect the marriage market by reducing the pool of men of marriageable age. This in turn makes it more difficult for women to marry. Subsequently, women will spend less time in a sexual union, reducing their overall fertility.

Although lower rates of fertility in higher migration contexts can be attributed to the reduced likelihood of living in a conjugal union, increasing levels of migration seem to have an independent effect on union formation. Migration had a significant inverse association with the odds of living in a union after adjusting for other contextual and individual variables. The economic indicators in this model, which also point to the capital available to male partners, were not significant. In this case union formation may not necessarily be tied to men's economic resources within the community, as has been suggested elsewhere (Parrado 2004).

Only the level of female employment in the municipality was associated with living in a marital union. However, this is an inverse relationship; the greater the percentage of female labor force participation in the community, the less likely a woman is to live in a conjugal union. This could be due to women's need to work in the absence of financial support provided by men. Alternatively, single women may be working in order to help support their own international migratory trip in the future (Cerrutti & Massey 2001).

Given these results it is possible to conclude that women may be delaying union formation, and thereby changing their fertility patterns, for one of several reasons. In high migration sending communities, women may postpone marriage in order to find a partner with a stable migratory pattern and more certain future (Parrado 2004). Additionally, women may not

enter into conjugal unions as they themselves intend to migrate out of Mexico. Furthermore, with a substantial portion of marriageable aged men living abroad, women may look to international migration as a means by which form unions outside of their community of origin (Edmeades 2006; Singley & Landale 1998). The fact that there were no differences between communities on the percentage of women who *immigrated* to the municipality lends further support to the idea that migration may be shaping norms regarding union formation and fertility. Women who have recently immigrated would not necessarily be subject to the norms regarding marriage and childbearing. Given the lack of difference in internal migration, large-scale international migration may be altering social norms regarding family formation.

In the sending community context, traditional theoretical explanations for the relationship between migration and fertility should be reconsidered in favor of those that look at community fertility patterns within the context of the life course and ideas regarding family formation – as has been done in the migration literature (Edmeades 2006; Singley & Landale 1998). Massey and colleagues (1987) have argued that as migration networks become more established in communities, rates of migration increase and migration comes to be seen as a right of passage for community members. In so doing, norms about individual and household goals begin to change. This would also include norms regarding reproductive behavior.

The findings of this study should be interpreted within the context of its limitations. As these data come from the national household census, fertility indicators and marital status were only collected for women currently living in the household at the time of the census. Therefore, the fertility and union formation patterns of women who had migrated from the household and not returned are excluded and may be different than those of women who were living in the home. In addition, these are cross-sectional data, and, therefore, it is difficult to interpret the relationship between the level of migration and observed fertility. Municipalities currently experiencing high levels of migration may have begun using migration as coping strategy for higher fertility in the context of lower economic development; with the institutionalization of

migration and disruption of union formation and childbearing, these communities may have eventually achieved lower fertility rates. Analyses using longitudinal data are necessary to determine the temporal association between migration, union formation and fertility. These longitudinal data should also evaluate desired family size and marital intensions to further address issues regarding changing social norms.

Conclusion

The scale of community migration has a significant impact on women's fertility. A woman's fertility throughout her childbearing years, as well as at the end of her reproductive life cycle, is notably lower as levels of community migration increase. The effect of migration on fertility likely operates through the availability of potential marriage partners in the community as well as norms regarding family formation, as evidenced by the likelihood of union formation for women in their prime childbearing years.

The standard migration-fertility explanations do not provide a sufficient support for these observed fertility patterns. The relationship between migration and fertility is better conceptualized by viewing both of these behaviors in context of the life course. Changing community norms regarding migration may impact not only how women view their own migratory behavior in terms of achieving life goals but also the way in which they envision family formation as it relates to migration.

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Figure 1. Number of Municipalities by Percent of Community Migration

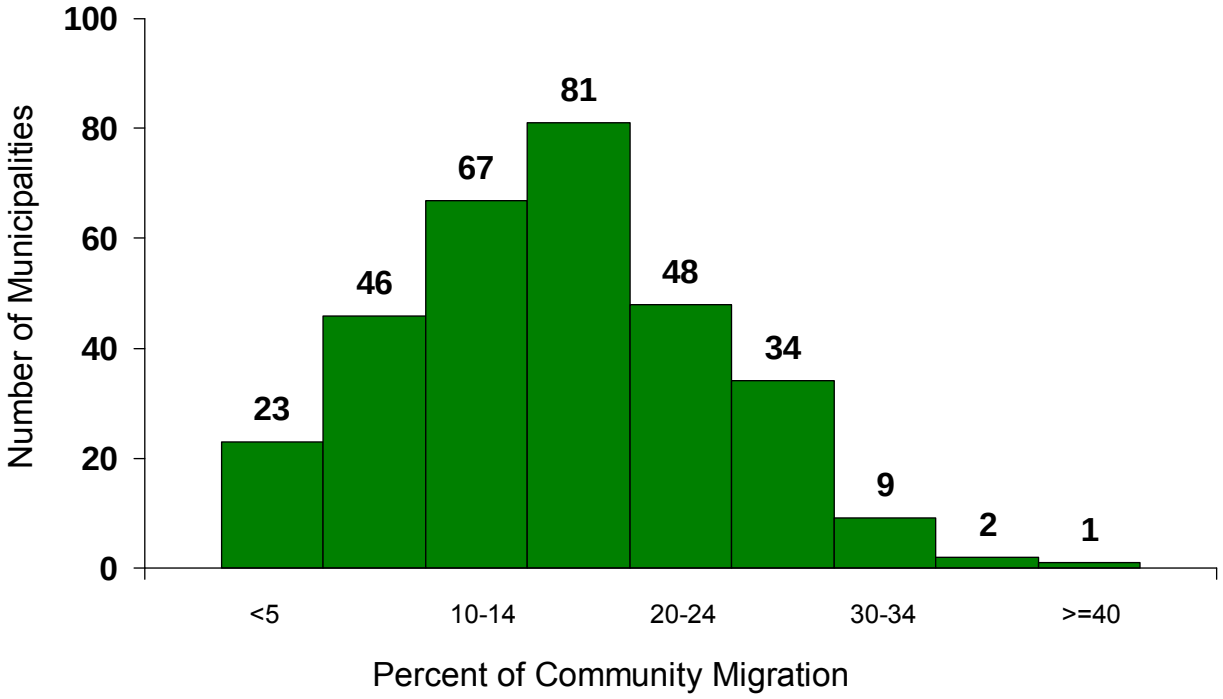

Table 1. Characteristics of Municipalities by Level of Migration

	Level of Community Migration				
	Lowest Quartile (<10.0%)	**Second Quartile (10.0-15.9%)**	**Third Quartile (16.0-21.9%)**	**Highest Quartile (≥22.0%)**	**P-trend**
Panel A: Municipalities	(n=69)	(n=84)	(n=85)	(n=76)	
Community Population Size, %					
Less than 2500	68.4	55.4	67.6	63.8	0.925
Economic Development, %					
Electrified households	80.8	90.9	92.3	93.9	<0.001
Piped water	35.2	54.4	57.1	55.8	<0.001
Sewerage connection	38.5	56.5	54.9	53.9	0.001
Adult Males, %	42.7	41.3	38.9	36.9	<0.001
Adult Employment, %	43.0	44.4	41.1	37.1	<0.001
Female Employment, %	6.0	7.0	6.6	6.0	0.349
Mean Household Income in pesos, %					
Less than 21,199	43.5	25.5	14.3	17.4	0.001
21,200 – 34,099	17.7	27.5	27.4	27.4	0.219
34,100 – 47,599	25.5	23.6	23.8	27.1	0.287
Greater than 47,600	13.4	23.4	34.5	28.1	0.022
Adult Educational Level in years, mean	5.0	5.1	4.8	4.6	0.005
Panel B: Reproductive Age Women	(n=55,177)	(n-62,791)	(n=62,086)	(n=59,672)	
Age in years, mean	28.7	28.5	28.5	28.6	0.725
Educational Level, %					
Incomplete Primary	35.6	33.0	34.3	36.2	0.387
Primary	26.4	29.7	31.8	31.9	<0.001
Incomplete Secondary	6.2	6.1	5.7	5.2	<0.001
Secondary	18.1	18.6	17.3	16.4	0.035
Higher Education	13.6	12.7	10.8	10.4	0.001
Currently Employed, %	23.7	24.9	22.7	20.7	0.005
Lived in Community 1995, %	94.9	93.2	94.3	94.7	0.503
Marital Status, %					
Single	32.9	34.8	38.2	38.7	<0.001
Married	62.8	61.2	58.2	57.9	<0.001
Previously Married	4.3	4.0	3.6	3.4	<0.001
Birth in last year, %	12.3	11.3	10.6	10.2	<0.001
Parity, mean	2.6	2.5	2.4	2.4	<0.001

Table 2. Age-specific Fertility Rates by Community Migration Level (per 1000 women)

Level of Community Migration	Age							TFR
	15-19	20-24	25-29	30-34	35-39	40-45	45-49	
Reproductive Aged Women								
Lowest (<10.0%)	75	186	204	160	110	45	10	3.95
Second (10.0-15.9%)	66	183	182	150	94	37	10	3.61
Third (16.0-21.9%)	55	161	175	141	107	50	8	3.49
Highest (≥22.0%)	50	156	173	144	102	45	10	3.40
Married Women								
Lowest	-	308	247	181	123	50	11	4.60
Second	-	311	230	172	105	42	11	4.36
Third	-	306	232	170	124	58	8	4.49
Highest	-	306	237	172	120	51	11	4.49

Table 3. Odds Ratios (95% C.I.) of Martial Union

	Age 15-19	Age 20-24	Age 25-29	Age 30-34	Age 35-39
Model 1					
Municipality Factors					
Total Migration[1]	0.89 (0.85, 0.93)***	0.90 (0.87, 0.94)***	0.88 (0.85, 0.92)***	0.89 (0.86, 0.93)***	0.93 (0.89, 0.97)***
Model 2					
Total Migration[1]	0.92 (0.86, 0.98)**	0.98 (0.93, 1.02)	0.93 (0.87, 0.98)**	0.92 (0.88, 0.96)***	0.96 (0.92, 1.01)
Proportion Adult Males[1]	1.06 (1.00, 1.12)	1.14 (1.09, 1.19)***	1.11 (1.05, 1.18)***	1.07 (1.02, 1.12)**	1.09 (1.04, 1.14)***
Model 3					
Municipality Factors					
Total Migration	0.93 (0.86, 0.99)*	0.97 (0.92, 1.02)	0.94 (0.89, 0.99)*	0.91 (0.87, 0.96)***	0.97 (0.92, 1.02)
Proportion Adult Males	1.07 (1.01, 1.13)*	1.11 (1.05, 1.16)***	1.10 (1.04, 1.16)***	1.06 (1.01, 1.11)*	1.08 (1.03, 1.13)**
Proportion Homes with Electricity[1]	0.98 (0.91, 1.06)	0.97 (0.91, 1.03)	0.97 (0.92, 1.01)	1.01 (0.96, 1.06)	0.98 (0.92, 1.04)
Mean Household Income (Pesos)					
Less than 21,199	1.00	1.00	1.00	1.00	1.00
21,200 – 34,099	1.09 (0.96, 1.23)	1.03 (0.92, 1.16)	1.00 (0.90, 1.12)	1.08 (0.95, 1.23)	1.02 (0.90, 1.17)
34,100 – 47,599	1.03 (0.89, 1.19)	1.00 (0.90, 1.13)	0.89 (0.79, 1.00)*	0.98 (0.87, 1.11)	0.95 (0.85, 1.06)
Greater than 47,600	0.90 (0.78, 1.03)	0.93 (0.83, 1.03)	0.84 (0.76, 0.94)**	0.91 (0.80, 1.03)	0.90 (0.81, 1.01)
Mean Education	0.95 (0.88, 1.03)	1.01 (0.95, 1.08)	1.00 (0.95, 1.05)	1.02 (0.96, 1.08)	1.01 (0.95, 1.07)
Mean Female Employment[1]	1.00 (0.91, 1.08)	0.92 (0.87, 0.97)**	0.93 (0.87, 0.98)*	0.92 (0.87, 0.97)**	0.95 (0.89, 1.00)
Model 4					
Municipality Factors					
Total Migration	0.91 (0.84, 0.98)*	0.96 (0.91, 1.01)	0.94 (0.89, 0.99)*	0.91 (0.87, 0.96)***	0.97 (0.92, 1.02)
Proportion Adult Males	1.07 (1.00, 1.14)*	1.11 (1.06, 1.16)***	1.10 (1.04, 1.16)***	1.06 (1.01, 1.11)*	1.08 (1.03, 1.13)**
Proportion Homes with Electricity	0.98 (0.91, 1.06)	0.97 (0.92, 1.03)	0.96 (0.92, 1.01)	1.00 (0.96, 1.05)	0.97 (0.91, 1.03)
Mean Household Income (Pesos)					
Less than 21,199	1.00	1.00	1.00	1.00	1.00
21,200 – 34,099	1.05 (0.92, 1.20)	1.03 (0.92, 1.15)	0.99 (0.89, 1.10)	1.06 (0.93, 1.21)	1.01 (0.89, 1.15)
34,100 – 47,599	0.99 (0.85, 1.16)	0.98 (0.87, 1.10)	0.88 (0.79, 0.99)*	0.97 (0.86, 1.10)	0.94 (0.84, 1.05)
Greater than 47,600	0.85 (0.73, 0.98)*	0.89 (0.80, 1.00)*	0.83 (0.74, 0.93)***	0.90 (0.79, 1.02)	0.90 (0.80, 1.00)
Mean Education	1.06 (0.98, 1.15)	1.09 (1.03, 1.16)**	1.05 (0.99, 1.11)	1.05 (0.99, 1.11)	1.03 (0.97, 1.10)
Mean Female Employment	0.96 (0.88, 1.04)	0.91 (0.86, 0.96)***	0.93 (0.88, 0.98)**	0.92 (0.87, 0.97)**	0.95 (0.89, 1.00)

Individual Factors					
Age	1.78 (1.74, 1.81)***	1.26 (1.24, 1.27)***	1.17 (1.15, 1.19)***	1.11 (1.09, 1.13)***	1.01 (0.97, 1.03)
Education					
Incomplete Primary	1.00	1.00	1.00	1.00	1.00
Primary	0.72 (0.66, 0.79)***	0.87 (0.82, 0.93)***	1.01 (0.95, 1.09)	1.04 (0.96, 1.12)	1.03 (0.95, 1.12)
Incomplete Secondary	0.64 (0.57, 0.71)***	1.17 (1.06, 1.29)**	1.36 (1.19, 1.56)***	1.20 (1.01, 1.43)*	1.15 (0.91, 1.46)
Secondary	0.29 (0.27, 0.32)***	0.59 (0.54, 0.63)***	0.78 (0.72, 0.84)***	0.82 (0.75, 0.91)***	0.71 (0.64, 0.79)***
Higher education	--	0.30 (0.28, 0.33)***	0.47 (0.42, 0.52)***	0.65 (0.59, 0.72)***	0.68 (0.61, 0.76)***

*p<0.05, ** p<0.01, *** p<0.001

1. Coefficients were calibrated so that odds ratios represent a one standard deviation unit increase for migration (0.078), homes with electricity (0.128), proportion males age 15-22 (0.041), proportion males age 18-27 (0.046), proportion males age 23-32 (0.039), proportion males age 28-37 (0.039), proportion males age 33-52 (0.037), and female employment (0.023).