

Parental Migration and Child Health in Mexico

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The relationship between migration and outcomes in sending communities has assumed a central place in social science debates. In particular, the increasingly large size of remittances migrants return to sending communities highlights the possibility for migration to serve as a key pathway to development in resource-constrained settings. One of the focal questions in these debates is whether adult migration improves the well-being of children in the next generation. Traditionally, remittances are considered an important mechanism for improvements in children's access to education, nutrition, and health care. However, migration introduces other constraints to households by allocating most other household responsibilities, including child care and home maintenance, to the remaining parent. For this reason, it is not *a priori* clear that parental migration should improve child well-being. I address this question in the setting of Mexico by focusing on the health outcomes of children who stay behind when parents migrate.

Mexico is an important setting in which to answer this question. The proportion of children affected by parental migration is substantial. Previous research suggests that 17 percent of Mexican children are expected to experience the migration of a father by the age of 14 (Nobles 2006). Because female migration is becoming more common in Mexico, it is likely that the proportion of children experiencing household migration is actually even larger. Similarly, the size of the remittance flow to communities in Mexico is also large. Annually, more than 2 billion dollars enter Mexico from international migrants. Internal migrants often remit sums to families as well, though the overall magnitude of these transfers is much smaller (Boucher, Stark, and Taylor 2005).

In light of these dramatic figures, several studies have investigated the educational and health outcomes of children in sending communities (e.g., Frank and Hummer 2002, Hildebrandt and McKenzie 2005, Kanaiaupuni and Donato 1999). Each of these studies takes different approaches to face a common methodological obstacle: migration is a choice made by individuals or families, and it is possible that parents who migrate are different from parents who do not on a number of characteristics that also affect child well-being.

This is particularly problematic for studies set in Mexico. A large literature documents the phenomenon typically referred to as the "healthy migrant paradox" in the United States. Evidence suggests that this paradox, the surprisingly good health of Mexican immigrants given socioeconomic status, is driven by the selective nature of migration; migrants are healthier than non-migrants in Mexico (e.g., Palloni and Morenoff 2001). If children of migrants are in relatively better health than children of non-migrants, then the "effect" of migration on child health estimated through an ordinary least squares regression will be upwardly biased.

I build on previous work by explicitly attempting to address this type of bias through comparisons of children over time and within households, a comparison which sweeps out the fixed inputs to child health at the household level. The approach is commonly used in literature evaluating public health and welfare interventions at the community-level. However, by applying it to families, I can estimate the effect of parental migration on child health, net of fixed characteristics associated with a parent's choice to migrate.

I focus on children's stature, a long term measure of health that is particularly responsive to nutrition and illness during the first few years of life. The physiology of child height, and numerous nutrition interventions, demonstrate that stature is largely determined by the age of 3 or 4 (Pinstrip-Andersen et al. 1995, Schroeder et al. 1995). The age-dependent aspect of this health measure facilitates my comparison of children within households. Specifically, children

who are exposed to migration at older ages effectively serve as a “control” group, while children exposed to migration at younger ages will have heights that incorporate the effect of being exposed to parental migration. Child height is also a useful health outcome to explore given previous findings that it predicts later life advantage on a number of measures.

As mentioned, the mechanisms through which migration may affect child health are not limited to remittances. Accordingly, my discussion of these mechanisms draws on the large literature connecting household structure, family transitions, and child well-being as well as literature examining development in the sending regions of migration flows.

DATA

This study uses data from two waves of the Mexican Family Life Survey (MxFLS). MxFLS is a longitudinal, nationally-representative household survey collected in Mexico that follows migrants into the United States. The first wave was collected in 2002 and interviewed over 8,300 households in 150 communities across Mexico (Rubalcava and Teruel 2004). The second wave was fielded in 2005, with the intention of reinterviewing all members of the original households. Reinterview involves tracking adult movers to their new locations, including those moving to the United States and those splitting off from their original household and forming new households.

MxFLS data include migration histories on both domestic and international migration for all adults. “Permanent” migration histories (moves of more than one year in duration) are collected beginning at age 12. “Temporary” migrations (moves that last more than one month but less than a year) are collected for the two years prior to both survey dates: 2000-2002, 2003-2005. MxFLS data also include a number of objective health measures, including height, which is measured directly by trained anthropometrists for all household members. As is custom when using height data, I create height-for-age values by standardizing children’s measures against the age/sex-specific height medians from the well-nourished population of the United States. This is done to address the systematic relationship between child age and height.

MIGRATION, FAMILY DISRUPTION, AND CHILD WELL-BEING

Labor movement, both within Mexico and to other countries, has a long and well-established history. While a large literature is devoted to understanding the causes and broad economic consequences of Mexican migration, it is much less frequently characterized as a form of family disruption. Yet, Mexican migration produces periods of spousal and parent-child separation that are often considerable in both frequency and duration (Kanaiaupuni 2000). To understand how migration may affect child health, then, it is important to consider migration from the perspective of household disruption and child well-being, as well from the perspective of financial transfers and economic development.

For example, the large literature on household structure, family transitions and child well-being contends that one of the reasons “single-parenting” is thought to produce disadvantage for children is through the time constraints and responsibilities a single parent shoulders. In Mexico, migration certainly constitutes an important shift of household responsibilities, including child care, finances, and home maintenance for the parent remaining at home. Previous research suggests that women in Mexico typically take charge of household decision-making in their husband’s absence while he works in other communities or in the United States (Fernandez 1998, Kanaiaupuni 2000). This transfer of responsibility and burden may translate directly into the level of health inputs provided for children; empirical evidence demonstrates that parental migration predicts a smaller probability of children being breast-fed and receiving immunizations (McKenzie 2005).

Alternatively, research on migration and sending community development underscores the massive amount of remittances that flow to sending households in Mexico (Boucher, Stark, and Taylor 2005, Massey and Parrado 1994). These flows not only increase the level of income

to the household, but can provide a source of income that does not fluctuate with the local market in which the household resides. This may be particularly important in periods of hardship. Although it is not necessarily clear how remittances are allocated among household members, additional resources could theoretically provide better nutrition, access to education, and access to health care for children.

It is not clear, then, whether we should expect Mexican migration to improve or worsen children's health. This study will answer this question using the estimation benefits provided by rich longitudinal data including objective measures of children's health at two points in time.

ANALYSIS

Previous research and basic intuition suggests that migration strategies are not random across households, but are instead related to a number of household characteristics, like socioeconomic status, and community characteristics, such as infrastructure and investment opportunities. Of particular concern are the findings of earlier studies, which demonstrate significant differences between migrants and non-migrants on health measures. Because all of these characteristics are connected to children's health, simply comparing children in migrating households with those in non-migrating households will likely produce upwardly biased estimates. In a regression framework, a number of characteristics that are associated with both migration and children's health, such as parental education and income, can be controlled. Yet, those characteristics which are unobservable, such as parental preferences for investing in children or changes in the local economy, are more difficult to control.

I address this issue by exploiting the physiology of child growth. As previously mentioned, child height is largely determined in the first few years of life. For this reason, children who experience parent migration at younger ages should have height values which reflect the effect of this migration, whereas children who are older when they experience parent migration should have height values that do not reflect the effects of the migration.

To facilitate the comparison of children who experience migration at a young age with those who do not, I restrict the sample to children who have parents that did not migrate between 1995 and 2002, regardless of whether the child was alive during that period. This removes families in which older children were exposed to migration during the critical young ages. Children's exposure to migration is then measured with a dichotomous variable capturing whether either of the child's parents migrate outside of the community, without the child, for at least one month between 2002 and 2005.

By comparing the difference between younger and older children within households, I am able to hold constant time-invariant inputs which may affect both the decision to migrate and children's health. This is true whether or not these inputs can be measured. To achieve this comparison, I include household fixed effects into the regressions predicting child height-for-age. Including household fixed effects is conceptually equivalent to including a dummy indicator for each household in the regression.

I face an additional source of bias if all younger children have height-for-age values that are greater than older children. Similarly, comparing children's height-for-age values between 2002 and 2005 will be biased if all children have experienced improvements in nutrition over the period. Making comparisons between younger and older children over two points in time facilitates addressing this type of bias. Specifically, the difference between the height-for-age values of older children between 2002 and 2005 should capture a period effect net of a migration effect, since older children should have height-for-age values that were largely determined before the migration occurred. Likewise, the difference between the height-for-age values of younger and older children in 2002 should capture an age effect net of a migration effect, since it is measured before the migration occurs. By taking account of these differences, I can obtain the full effect of parental migration on child health net of confounding period and age variation.

To make these comparisons, I pool children's observations from 2002 and 2005, and estimate a fully-interacted model predicting child height-for-age (θ_{ihtc}) using dichotomous indicators of birth cohort by time point – 2002 or 2005 (CT_{ct}), whether a child's parents migrated between 2002 and 2005 (M_h), and a household-level fixed effect (μ_h). I use the estimated coefficients to calculate the difference between height-for-age between birth-cohorts and over time.

$$1. \quad \theta_{ihtc} = \alpha_{ct} + \delta_{ct}CT + \beta_{ct}M_h * CT_{ct} + \mu_h + \varepsilon_{iht}$$

The results from my initial analysis using a subset of the MxFLS data demonstrates that parental migration causes a substantial detriment to children's health in the short run. However, it will be important to re-estimate new results when data entry on the second wave of MxFLS is completed. The larger sample size will also facilitate several additional comparisons. Specifically, I will be able to distinguish between internal and international migrations, whether the migrant is the child's mother or father, and whether the migrating parent returns remittances. The results will shed light not only on how migration affects well-being in Mexico, but will also advance the existing literature on the importance of household structure for child attainment.

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