The Contribution of Migration to Children’s Family Contexts

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INTRODUCTION

Researchers concerned with child well-being increasingly emphasize the role of family structure. A large body of work suggests that the benefits to children of growing up in a stable household consisting of two biological parents are substantial. Much of this work contrasts children in two-parent households with children living with a single parent following nonmarital fertility, divorce, or death. In many developing societies, however, a common source of family disruption arises when one parent leaves the household to work elsewhere for an extended period of time. In this study I characterize children’s family experiences in a setting where labor migration is often a defining feature of family life.

A growing body of research assesses children’s outcomes associated with the migration of a parent. While migration may have considerable substantive differences from parental absence following nonunion fertility or union dissolution, one of the key mechanisms through which migration may affect child well-being remains the same: the duration of time spent apart from parents. Yet, we do not currently have much descriptive evidence at the population level about how children experience parents’ migration. If we believe that parental absence may have a nontrivial relationship with children’s outcomes, it seems valuable to assess how migration shapes children’s family context over the course of their childhoods.

I develop multistate life tables for use with the Mexican Family Life Survey (MxFLS) data to examine the roles that nonmarital fertility, union disruption and death play with respect children’s experience of parental presence in the household, and add the important element of migration to these estimates.

Period life tables are a tool used to succinctly describe how a population experiences a particular phenomenon at the aggregate level and to understand some of the mechanisms which shape this experience. This analysis capitalizes on the ability of life tables to capture children’s life course experience of household structure while using cross-sectional data. This is particularly valuable when considering a phenomenon like temporary migration, for which extended-period longitudinal data on individuals do not typically exist.

Using life table analysis provides evidence to answer the following types of questions:

1) What proportion of Mexican children are expected to live in a household with an absent parent for some part of their childhood?
2) How much time does parental migration contribute to the overall duration of time in childhood spent away from either parent? How does parental migration compare to separation and divorce in contribution to child experience of household structure?

3) Of those children born with a migrating father, what is the probability of his return at some point during childhood?

The rich migration and union data in the MxFLS data allow me to address these questions within the multistate framework. This study informs two growing literatures. First, the findings will help characterize the experience of labor migration from the perspective of sending households. Much of current migration research assesses the life-course experiences of migrant children who move with their families or children born to recently-migrated parents; we know much less about the development experiences of children who remain behind while parents seek employment opportunities elsewhere. Second, the research helps build upon existing family literature by considering the role of labor migration as a nontrivial contributor to parents’ time away from children.

PARENTAL PRESENCE AND CHILD DEVELOPMENT

The extensive literature on nonresident parents suggests that parental presence in the household provides a number of key inputs to child welfare (Amato and Gilbreth 1999; Daniels 1998; Demuth and Brown 2004; McLanahan and Sandefur 1994). Studies in this area conclude that children in households with absent parents, and in particular absent fathers, are less economically well-off and more likely to be residentially mobile than children who live with both parents. The decreased access to physical and social capital is thought to contribute to observed detriments to educational and health outcomes (McLanahan and Sandefur 1994). Additionally, stress associated with separation of a parent from the household may be associated with poorer mental health and educational outcomes of children (McLoyd 1990; Strohschein 2005).

The child development literature argues that there are a number of key ways parents contribute to child welfare simply by being in the household. When one parent is absent from the household, the other parent may have considerable added responsibilities. The jobs of child care, home maintenance, and emotional support are no longer shared, lessening the time and
energy the present parent has for the children (Lamb and Tamis-Lemonda 2004). Similarly, some research finds that one of the important ways parents may influence their children’s future welfare is through day-to-day authoritative parenting, helping children to understand boundaries and to manage the navigation of appropriate social interaction (Amato and Gilbreth 1999; Seltzer 1994).

Traditionally, most of this literature documents the difference in child outcomes between children living in a single parent home and those living with two biological parents. The most consistent findings about child well-being emerge from this distinction. However, more recent work focuses on a number of alternative living strategies, such as cohabiting parents, extended households, and stepfamilies (e.g., Pebley and Rudkin 1999; Seltzer 2000). To date, this research suggests mixed evidence of how these structures translate into differences in child well-being. A closely related line of research examines whether nonresident parental involvement in the lives of children can mitigate the disadvantage associated with living in a single parent home. This research focuses on nonresident father involvement and also finds mixed evidence about its influence on children (Amato and Gilbreth 1999; Carlson 2006; Florsheim 2000).

Given the apparent increase in alternative family structures in many settings and the nontrivial association between household structure and child outcomes, a number of researchers have used demographic tools to describe the extent to which children experience various family contexts. For example, Bumpass and Lu (2000) underscored the value of considering cohabitation in U.S. research by showing that children in the United States spend, on average, 9 percent of childhood in cohabiting unions, and that percentage has increased over time. Heuveline, Timberlake and Furstenberg (2003) emphasize the impact of divorce rates on the substantial proportion of children’s time in single parent homes in the United States and Europe. Landale and Hauan (1992) document how period changes in union dissolution have dramatic implications for the proportion of Puerto Rican children spending lengthy segments of childhood in poverty. These tools are valuable aids to understanding what the prevalence in phenomena like union dissolution and cohabitation mean from the perspective of children. In this analysis, I take a similar approach to identify how children experience labor migration by capturing its contribution to time away from fathers.
Migration as a Form of Parental Absence

Labor migration takes parents away from their spouses and children in a number of developing settings. In some cases, durations of absence can be substantial and may even result in less parent-child contact than what may follow a union dissolution. In these cases, children are certainly missing out on the perceived benefits of daily interaction with parents and the stable presence of role models and authority figures in the household. However, empirical evidence suggests that in other ways migration is a distinct form of parental absence. In particular, many of the other mechanisms which are thought to link household structure to child well-being are not applicable to the case of migration. Migrating parents often make substantial economic contributions to their sending households and communities. In poorer communities, households with migrants may actually be relatively advantaged with respect to physical capital. Additionally, the presence of extended households in settings with relatively frequent labor migration may mitigate the time and energy constraints of a single parent. I explore these issues in more detail as they play out in the setting of Mexico.

MARRIAGE, MIGRATION, AND HOUSEHOLD STRUCTURE IN MEXICO

MxFLS data reveal that nearly a quarter of children in Mexico under the age of 15 live in households with at least one absent biological parent. The vast majority of these children are living apart from their fathers.

Although an increasing number of women migrate internally in Mexico as well as to the United States, female migration typically happens before entering a union or later in the life course, when children are grown. Male migration still accounts for more than 80 percent of Mexican trips to the United States, and accounts for a still higher percentage of emigration to the U.S. earlier in the life course, when children are still in the household (Cerruti and Massey 2001; De Vos 1987; Kanaiaupuni 2000a).

A number of factors reinforce the divided household strategy frequently seen in Mexico. In Mexican culture, norms about women traveling alone and female responsibilities to children make migration less feasible. Raising and educating children make a more mobile lifestyle difficult. Additionally, raising children is cheaper in Mexico than in the United States. For these reasons, a number of families employ such a strategy. While some families are separated for
shorter periods (e.g., 6-8 months at a time), many fathers leave the homes for several years at a
time (Frank and Wildsmith 2005; Kanaiaupuni 2000a; Kanaiaupuni 2000b).

Common-law marriages/consensual unions are both legal and commonly found in rural
and poorer communities in Mexico (De Vos 1995; Pebble and Goldman 1986). The percentage
of births outside of unions is relatively small compared to countries like the United States, and
even other countries in Latin America. Divorce is also less common in Mexico than other Latin
American countries (De Vos 1987). Recent estimates put the divorce rate near 6 percent (Frank
and Wildsmith 2005). Because divorce is relatively difficult to obtain, second and higher unions
are often consensual.

Extended family households and the active involvement of Godparents are not
uncommon in Mexico (Kanaiaupuni et al. 2005; Van Hook and Glick 2005). Children who spend
time away from parents following migration, separation, divorce, or death are not necessarily
subsequently living in a single adult household and do necessarily have limited access to adult
role models and authority figures (De Vos 1995; Richter 1988). A single parent may have help
with household responsibilities, child care, and even economic resources. For this reason, I will
use MxFLS data to assess whether children in single parent homes live with multiple adults.

The role of urbanicity and socioeconomic status

In Mexico, both union formation and migration exhibit some clear differences by both
urbanicity and socioeconomic status. In many cases, these two distinctions are closely related.
For example, some evidence suggests that Mexican women with relatively low socioeconomic
status are more likely to marry early and less likely to exit out of unions because of economic
constraints than women from wealthier backgrounds (de Oliveira 2000). MxFLS data reveal that
women with socioeconomic disadvantage are also more likely to live in rural areas than urban
ones. Similarly, research suggests that increases in men’s educational attainment in Mexico are
associated with delayed marriage. However, Mexican men with more secure economic
resources marry earlier (Parrado 2004).

Because temporary, circular migrants often travel to the major urban centers in Mexico as
well as to the United States, this type of migration is more likely to occur from rural areas than
from urban areas. Households in developing settings with migrating members are often
attempting to overcome underdeveloped insurance markets or poor employment and educational
opportunities (Durand et al. 1996); these types of conditions are more prevalent in the more rural areas of Mexico (McKinley and Alarcon 1995).

There may also be some important differences in migration patterns by socioeconomic status, though evidence for this remains mixed. Some research suggests that somewhat disadvantaged households may select into having members migrate. Households may employ migration as a means of survival if household members are unable to be employed in local markets, or if the household has already experienced agricultural failure and perceives future failure (Massey et al. 1998). Other research observes that internal migrants and documented international migrants are positively selected with respect to educational attainment, while undocumented international migrants are negatively selected on educational attainment (Borjas 1996; Boucher, Stark and Taylor 2005; Massey and Espinosa 1997).

I incorporate both urbanicity and socioeconomic status distinctions into my estimates of children’s experience of household disruption. In particular, I expect children from rural areas to have a higher probability of fathers’ migration during childhood. This research also suggests that children born to socioeconomic advantage will be more likely to experience divorce and separation over the course of childhood than children born into less advantaged households.

DATA

I use data from the 2002 wave of the Mexican Family Life Survey (MxFLS). MxFLS is a longitudinal, nationally-representative household survey collected in Mexico. 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 original households, as well as new households formed by members of the original MxFLS households.

MxFLS data are extraordinarily rich and multi-leveled. In this paper, I focus largely on data from the individual marriage, fertility, and migration histories. The permanent migration histories (moves lasting for more than 12 months) include internal migration as well as international migration, and include entire life histories for both men and women. Additionally, recent histories (from 2000 forward) of temporary migration (migrations that last more than one month but less than a year) are also recorded. The marital histories include periods of nonmarital unions as well as traditional marriages.
Selecting children with nonmissing information on mothers creates a sample of 10,362 children aged 0 to 13 in 2001 (1-14 in 2002). About 4.5 percent of children in this age range have mothers who failed to answer the history sections of the survey and cannot be used in this analysis. I use this data to calculate the observed transition rates used in the multistate life table estimations. To estimate the distributions of children at birth, I restrict the data to children aged 0 in 2001. These distributions are used to begin the multistate table calculations. For the descriptive data presented in Tables 1 and 2, I use a sample of 0-14 year olds in 2002, which includes 10,836 children. This sample facilitates comparisons between the picture of Mexican household structure created by prevalence estimates using cross-sectional tabulations, and incidence estimates calculated using life tables.

METHODS

I develop a series of period multistate life tables to estimate the duration that children in Mexico spend time in various family structures. In particular, I emphasize the role that migration plays in the duration of time children spend away from their fathers.

Period life tables are often used when longitudinal data is not available to calculate “life expectancy” or expected durations in a given state. The life table approach uses available data on transition rates to estimate what a hypothetical, or synthetic, cohort would experience if it were subjected to observed age-specific “death” rates at each year of life.

The multistate life table builds upon the traditional life table approach by allowing individuals to move between a number of states as opposed to just two. In addition, individuals may leave a state after entering it. In other words, the multistate approach allows for competing destinations from any given state and reverse flows between states (Palloni 2001). To fit the life table approach to something as complex and evolving as household structure, these two additions are particularly important.

The “states”, then, in this analysis are the different forms of household composition in which children live. To facilitate the distribution of children among states, I use a series of sorting questions depicted in Figure 1. Children who are living without their mother are grouped together. Because only one fourth of these children live with their fathers (less than 2 percent of the whole sample), I chose not to further divide this group. Children are then sorted according to whether their mother has a partner and whether this partner is their biological father. Children
living apart from their biological father are divided into two groups by whether their mother was ever in a union with their father. This division provides the relative contribution of nonunion fertility and union dissolution to children’s time apart from their fathers. I describe the assignment of paternity and nonunion fertility using household data below. Children with biological parents in a union are then classified according to whether their fathers are migrating.

It is important to note that I do not differentiate between marital and consensual unions, but that MxFLS data allow me to include maternal consensual unions. I do not make the distinction for the multistate tables because the marriage histories do not differentiate between marriage and cohabitation; instead respondents are asked about the beginning and ending dates of all coresident unions. Therefore, when this discussion refers to children in a two-parent household, I refer to children with parents in both marital and nonmarital unions. The same caveat applies to “stepfamily” unions.

Multistate life tables can be calculated based on transition rates or transition probabilities (see Heuveline and Timberlake 2003). Given the set up of these data, I take the more traditional approach and calculate transition rates. I begin by sorting children into states at the date of interview and exactly one year prior to the date of interview. I briefly address a few necessary details of the sorting process in the next section.

The two observations will be termed \( t_1 \): one year prior to interview, 2001, and \( t_2 \): date of interview, 2002. Accordingly, I use one year age-intervals and round children’s ages to the nearest year in both periods.\(^1\) Weighted age-specific transition rates, \( nM_{x}^{ij} \), are estimated as the observed exits of weighted children from state \( i \) to state \( j \) during the interval \( x \) to \( x+n \) divided by the number of person years spent in state \( i \) in the interval \( x \) to \( x+n \), as shown in Equation 1.

I allow children to make most logical state transitions (e.g., children cannot move from “parents separated” to “nonunion birth” states), which I depict in Figure 2. As is customary when using short age-intervals, I assume that exits are linear throughout the period (Heuveline, Timberlake and Furstenberg Jr. 2003; Palloni 2001). Because I use intervals of one year, the number of person years spent in state \( i \), \( nL_x^i \), is calculated by averaging the number of individuals in state \( i \) at \( t_1 \): \( l(x) \) and at \( t_2 \): \( l(x+1) \), as shown in Equation 2.

\(^1\) Children born between \( t_1 \) and \( t_2 \), though they may round to age 1 at \( t_2 \), are not included.
1. 
\[ iM_x^{|ij} = i d_x^{|ij} / iL_x^j \]

2. 
\[ iL_x^j = .5 \cdot [ i\ell(x) + i\ell(x+1)] \]

I then apply the age-specific matrices of transition rates to a synthetic birth cohort to simulate the childhood experience of household structure in Mexico. To make this simulation as accurate as possible, it is necessary to distribute the synthetic birth cohort across states as closely as possible to the actual distribution of children at birth. I distribute the synthetic cohort at birth using the distribution of 0 year olds across states in t1. Using this approach, 82.18 percent of the synthetic cohort begins life with both parents, 5.99 percent begin with a migrating father, and 11.82 percent begin with single mothers and are considered nonunion births.

The age-specific observed transition rates are put into matrix form:

3. 
\[
M(x) = \sum_j iM_x^{|ij} - iM_x^{12} - iM_x^{13} \ldots - iM_x^{1k} \\
- iM_x^{21} \sum_j iM_x^{|2j} - iM_x^{23} \ldots - iM_x^{2k} \\
\ldots \ldots \ldots \ldots \ldots \ldots \\
- iM_x^{k1} - iM_x^{k2} - iM_x^{k3} \ldots \sum_j iM_x^{kj}
\]

The number of individuals in state \( i \) at age \( x+1 \): \( I(x+1) \) is calculated using the distribution of individuals in state \( i \) at age \( x \): \( I(x) \); \( k \times k \) identity matrices: \( I \); and the transition matrices: \( M(x) \).

4. 
\[
I(x+1) = I(x) * [I - .5 * M(x)] [I + .5 * M(x)]^{-1}
\]

The number of decrements from state \( i \) to state \( j \) during the interval \( x \) to \( x+1 \) is calculated by subtracting the increment/decrement matrix at age \( x+1 \) from the distribution of individuals across states at age \( x \).

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2 I make two changes to this distribution because “0” year olds at t1 include infants up to age 6 months due to rounding. A small percentage of these children have transitioned to states since their births that would seem inappropriate to assign children at birth. I adjust for this as follows: 1) Aged “0” children whose mothers have separated from their fathers since their birth are considered to have been born with both parents in the household and 2) Aged “0” children who no longer live with their mothers are coded as having been born into a household with both parents if they were with their fathers in t1, and are coded to have been born into a household with just their mothers (single, nonunion) if their fathers were absent at time 1.
5. \[ D(x) = I(x) - I(x+1) \]

Equation 2, which was first used to calculate the observed number of person years spent in state \( i \) during the interval \( x \) to \( x+1 \), is used again to make the same estimates for the synthetic cohort, captured this time in matrix form, \( L(x) \).

I use the values in the \( I(x) \), \( D(x) \), and \( L(x) \) matrices to estimate the unconditional probability of being in state \( i \) at age \( x \), the expected duration spent in state \( i \), both conditional and unconditional on the state of birth, and the cumulative conditional probabilities of moving between states within age-intervals. These estimates provide evidence to answer the questions about child household structure driving this analysis.

The unconditional probability of being in state \( i \) at age \( x \) for all children is equal to the number of individuals in state \( i \) at age \( x \) divided by the total number of individuals in the cohort:

6. \[ p_i^0(x) = \frac{\ell_i(x)}{\sum_i \ell_i(0)} \]

The conditional probability of moving from state \( i \) to state \( j \) during the interval \( x \) to \( x+1 \) is equal to the number of decrements from state \( i \) to state \( j \) divided by the total number of person years lived in state \( i \) during the interval \( x \) to \( x+1 \):

7. \[ q_{ij}^x = \frac{d_{ij}^x}{\ell_i(x)} \]

The expected duration in state \( i \) at birth for all children during ages 0 to 14, unconditional on their state of birth is calculated using the number of person years spent in state \( i \) for the entire cohort.

8. \[ e_i^0 = \frac{\sum_x L_x^i}{\sum_i \ell_i(0)} \]

The expected duration in state \( i \) at birth for all children during ages 0 to 14 conditional on their state of birth requires calculations of a new set of life tables in which the only transitions
estimated are those made by the individuals born in state \( i \). Using these new birth-state specific \( I(x) \), \( D(x) \), and \( L(x) \) matrices, I calculate the conditional expected durations using equation 8.

To investigate differences in these estimates by relevant household characteristics, I stratify the sample first on urbanicity and then by socioeconomic status and re-estimate each of the steps described above. Both measures are fixed at birth, urban status at birth and mother’s education. The urbanicity measure is a dummy for urban regions at birth (33 percent of the sample) versus nonurban regions (67 percent). Mother’s education is dichotomized into completed primary education or less (45 percent of the sample) versus some secondary education or more (55 percent). Because both of these measures require data on mothers, the 4 percent of children living apart from their mothers are excluded from this analysis. While more educated women are more likely to live in urban areas, the measures are far from perfectly correlated, making it valuable to consider both distinctions.

Additional notes on sorting children

Reconstructing children’s experience of household structure one year prior to interview is done using mothers’ union histories and fathers’ migration histories. One benefit of using household data is the presence of children’s parental link identifies in the survey roster. However, for children whose fathers are not in the household, using these identifiers is not possible. Therefore, I assign paternity to all children using data on children’s birth dates and mothers’ marital histories. I then confirm the assignment for children whose fathers are still in the household using the link identifiers.

If a mother’s only union began before (and did not end before) the birth of the child, the mothers’ partner/spouse is coded as the child’s father. I follow Heuveline, Timberlake, and Furstenberg (2003) with regard to children’s paternity assignment with less straightforward cases. Children born more than six months before a union began are considered to born out of union. Children born within six months are considered within union births and their fathers are coded as the partner/spouse of that union.

When assigning children born outside of unions to states, I assume that unions occurring more than 6 months after the child is born are unions to a man that is not the child’s father. This assumption may bias estimates of the children’s time in stepfamilies upwards slightly. About 1.7 percent of children have mothers that marry within two years, but more than 6 months, after the
child’s birth, suggesting that the potential error from this assignment is small. When using this rule, I still observe a transition (see Figure 2) from being with a single mother due to a nonunion birth in t1 to being with both parents in t2 because of very young children at t1 whose mothers marry within 6 months of the child’s birth but between t1 and t2.

RESULTS

Children’s Experience of Extended Households

To this point, I have classified children according to parental presence and maternal union status. However, it is also important to pay attention to extended household composition in Mexico. The “absent father” and “single mother” literature in the United States and Europe traditionally emphasize on the detriments of growing up with a single adult in the household, or the absence of an adult male figure in the household. Yet, the presence of extended households in Mexico complicates this type of classification. Children apart from either (or both) of their parents may not be lacking access to other adults. In addition, a woman living without a partner may have other adults with whom to share household responsibilities.

Table 2 presents the weighted percentages of children living with adults other than their biological parents by state in 2002. “Adults” refers to all individuals 15 or more years old and includes older siblings and step-parents as well as other family members. While literature on extended families often uses a different type of classification (e.g., Van Hook and Glick 2005), the current work is focused on the implications of household structure for children. From the perspective of child development, all adults may help with household responsibilities and child care and are therefore included. Children from the same household contribute multiple observations for that household structure; Table 2, like the other results in this analysis, is presented from the point of view of children, and not households, in Mexico.

About half of all children in Mexico live with an adult other than a biological parent in the household. Interestingly, the majority of children with a migrating father and with a single mother (states 2, 3, and 4) have an additional adult living in the household. The second and third rows of Table 2 display the percentage of children in each state living with additional adult men.

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3 Table 2 is estimated with a slightly different sample than that used to calculate estimates from the multistate life tables. The multistate estimates use data for 1-14 year olds in 2002; Table 2 also includes data on children less than one year of age in 2002.
and adult women. While children in single mother homes are often living with other adults, these children are more likely to be living with other adult women. Nearly half of children with single mothers (columns 3 and 4 combined) do not reside with any adult men. The high proportion of children in stepfamilies living with additional adult men is expected; these men are their mothers’ new partners. Because of migration, not all children are in stepfamilies reside with these new partners. In most cases, children live with a single additional adult.

To investigate these results further, I estimate the percentage of children living with additional adults by the relationship of the child to the adult. “Other” adults include relatives with more complicated relationships to the child than a sibling or parent of one of the child’s parents. Children living with both parents are more likely to be living with an adult sibling than with other relatives. On average, children with single mothers are more likely to live with grandparents than children whose mothers are in a union. Interestingly, children with single mothers are much more likely to be living with grandparents if their mother was not in a union during their birth than if their mother separated after their birth.

It is important to keep in mind the information from Table 2 when considering the results from the multistate estimates. Many Mexican children living outside of two biological parent homes live with other adults. These other adults may not compensate for parental absence with regard to child well-being, yet it is important to remember that “single” mother in Mexico does not necessarily capture the same concept for which it is used in other settings.

Child Exposure to Household Disruptions

The multistate life tables provide the expected distribution across states at each age. This number, divided by the total number of people in the hypothetical cohort, provides the unconditional probability of being in each state at any given age (Equation 6). Table 3 displays these probabilities for selected ages for the whole sample and for the sample stratified by mothers’ education, and by urbanicity at birth. The probabilities in age 0 reflect the observed distribution of children across states at age 0. These distributions are used to begin the multistate calculations. The observed distributions reveal some noticeable differences by mother’s education and region at birth. Children with less educated mothers are more likely to be born with both parents in the household than children with more educated mothers. Children born in
urban areas are more likely be born with both parents and much less likely to be born out of union than children in more rural areas.

Each subgroup reveals similar trends as the hypothetical children age. Note here that trends need not be monotonically increasing or decreasing because multistate life tables allow for both increments and decrements to and from states during intervals. The probability of living with two parents generally declines from age 0 to age 14 for the combined and stratified samples. The probability of living with single mother following births declines, whereas the probability of being in a stepfamily increases as children age. The probability of living with a single mother following her separation from the child’s father also increases as children age.

Table 3 does reveal some noteworthy distinctions by mothers’ education and region of birth. Young children with less educated mothers and those born in urban regions are more likely to have a father migrating at younger ages. In the early teens, children born in urban regions are less likely than children born in rural regions to have a migrating father. The discrepancy in the probability of having a currently migrating father by mothers’ education holds at older ages.

Next, I use estimates of the number of person-years spent in each state to calculate the expected duration spent in each state (Equation 8). These durations are estimated using pooled person-years for all children. Therefore, these durations capture an aggregate population dynamic and should not be thought of as the modal trajectory for any one child. The expected durations are presented for the entire sample in the first row of Table 4. Thirty percent of childhood years in Mexico are expected to be spent outside of a two parent home. The population of Mexican children is currently expected to spend almost as much time apart from fathers because of migration (column 2) as they are because of union dissolution (column 3). The population is also expected to spend about 14 percent of childhood living with a “single” mother (column 3 + column 4) and about 5 percent of time in a stepfamily (column 5 + column 6).

Estimating new sets of life tables to calculate the person years spent in each state conditional on being born in a given state provides the calculations in rows 2, 3, and 4. Children who are born with both parents in the household are expected to spend more time in a two parent state that those born with an absent father due to migration. The small percentage of Mexican children born with a migrating father will spend two-thirds of their childhoods apart from their
fathers. Children born outside of a union, on average, spend just over a third of their childhoods with single mothers, but nearly 30 percent of their childhoods in a stepfamily.

The conditional expected durations shown in Table 4 speak indirectly to the probabilities of transitioning between states. To make these transitions clearer, I estimate the cumulative probabilities of remaining in a state, conditional on being in that state at birth. These estimates are calculated by taking the products of the single-year transition probabilities \((1 - q_{ij,x})\) obtained using Equation 7. For example, the probability of remaining with both parents by age 14 for children born into two parent homes is:

\[
\prod_{x=0}^{13} \left(1 - q_{11,x}\right)
\]

These probabilities are presented for the whole sample in the first row of Table 5. Because children are not born into some of the states (3, 5, 6), I calculate these probabilities as conditional on being in that state at age 3, as opposed to conditional on being in the state at birth.

A Mexican child born to two parents and experiencing current age-specific transition rates over the course of his or her childhood has a .64 probability of staying with both parents through age 14. At the population level then, only about 64 percent of children born to two parent homes are expected to have childhoods without disruption to life with both parents. The cumulative probability is lower for children with less educated mothers and children in urban regions. The cumulative probability of spending the entire childhood apart from migrating fathers who were absent at birth is substantial for children with less educated mothers and those living in rural regions. Interestingly, children born in urban regions with a migrating father have a high probability of his return at some point in their childhoods.

The second section of Table 5 presents estimates of the cumulative probability of transitioning to state \(j\) conditional on being at state \(i\) at birth. These probabilities could be estimated for each possible transition. However, I focus here on transitions between two parent homes, absent fathers due to migration, and absent fathers due to union dissolution. These probabilities are calculated by considering competing exit probabilities. For example, the probability of experiencing a father leave the household to migrate by the age of 14, conditional on being born in a two parent home is:
10. \[ 1 - \left[ \prod_{0}^{13} \left( \left( \sum_{j} q_{1j}^{x} \right) - q_{12}^{x} \right) \right] \]

where \( q_{1j}^{x} \) are the age-specific transition probabilities from state 1 (two parents at home) to state \( j \) and \( q_{12}^{x} \) is the age-specific transition probability from state 1 to state 2 (father migrating).

These results reveal that children born to a two parent home have a 0.17 probability of a father migrating at some point during their childhoods. This probability is higher for children born to less educated mothers than those born to more educated mothers. Children born with a migrating father and a more educated mother are also more likely to experience his return at some point during childhood than children born to less educated mothers. The probability of having a father migrate during childhood does not appear to vary substantially by urbanicity at birth. However, the probability of having a father leave the household following divorce or separation is higher for children born in urban regions than for children born in rural regions.

Finally, comparing the results in Table 5 to the distributions in Table 1 helps to illustrate the value of considering children’s experience of household structure over the entire period of childhood. Because Table 5 includes information over the life course, it would be best to compare it to the percentages of children experiencing events by age 14, as opposed to the cross-sectional data used to create Table 1. However, without complete retrospective histories of temporary migration on children’s parents, we are typically limited to cross-sectional assessments like those shown in Table 1. In the cross-section (Table 1), we observe that 7 percent of children have migrating fathers. Yet, the multistate estimates (Table 5) suggest that 17 percent of children born to two parent homes are expected to experience a migrating father at least once during their childhood. Similarly, cross sectional estimates reveal that 8 percent of children are living with a single mother following divorce or separation (state 3 + state 5 in Table 1), though 20 percent of children born to two parent homes are expected to have a father exit the household following union dissolution by the age of 14 (Table 5).

DISCUSSION

The results from this analysis suggest that migration contributes substantially to time away from parents during childhood in Mexico. The average child born to two parents in Mexico is expected to spend nearly as much time apart from his or her father because the parent is migrating as he or she is because of parental union dissolution.
Not taking into consideration migration significantly underestimates the extent to which children in Mexico spend time in single parent homes. Not taking a life course approach to understand migration underestimates this time as well.

The results do not, however, suggest that in the absence of migration, the average child would spend 1.4 additional years (9 percent of 14 years) living in households with their fathers. Instead, migration and union dissolution may be related. For example, relationships which are more prone to dissolution may be the same relationships in which partners adopt a divided household strategy. If this is the case, the absence of migration would actually reveal an increase in union separation.

Instead, the results underscore the importance of considering migration as a substantial contributor to time away from parents in settings where labor migration is not uncommon. From the perspective of child development and well-being in later life, it is critical to consider not only those children in “broken” union homes, but also children who spend a nontrivial percentage of their early years with fathers working and living in other communities.

Given evidence that migration of a parent may have some benefits and some negative consequences for children, the net effect on children’s well-being is not a priori evident. However, if paternal migration does have negative effects for children, these may be exacerbated at the population level by the evidence shown here that children in less educated homes are more likely to experience the absence of a migrating father.

A possible source of bias to these estimates remains. Suppose that children whose parents migrate most frequently are more likely to move out of the country by the age of 14 than children whose parents migrate less frequently. If this is the case, and it certainly seems possible, I am currently underestimating the person years spent with a father out of the household. Using the future waves of MxFLS data will help assess to what extent this may bias results. The second wave of MxFLS follows households into the United States; it will be possible to compare children’s previous experiences of family structure between households that remain in Mexico between waves and households that move out of Mexico between waves.
References


Figure 1. Sorting Children into 7 States

1. Both parents in the household
2. Parents in a union, father migrating
3. “Single” mother, father is divorced/separated/dead
4. “Single” mother, child born out of union
5. Stepfamily, father is divorced/separated/dead
6. Stepfamily, child born out of union
7. Mother absent
Figure 2. Possible Transitions Between States in the Interval from Time 1 to Time 2

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>(1) Both parents in household</td>
<td>X</td>
</tr>
<tr>
<td>(2) Father migrating</td>
<td>0</td>
</tr>
<tr>
<td>(3) Single mother, parents separated</td>
<td>0</td>
</tr>
<tr>
<td>(4) Single mother, nonunion birth</td>
<td>T</td>
</tr>
<tr>
<td>(5) Stepfamily, parents separated</td>
<td>0</td>
</tr>
<tr>
<td>(6) Stepfamily, nonunion birth</td>
<td>0</td>
</tr>
<tr>
<td>(7) Mother not in HH</td>
<td>0</td>
</tr>
</tbody>
</table>

X = transition possible
0 = no transition possible
T = transitions possible only in the first year of life
Table 1. Weighted observed distribution of 0-14 year old Mexican children across states, 2002

<table>
<thead>
<tr>
<th></th>
<th>Parents in union</th>
<th>Mother single</th>
<th>Stepfamily</th>
<th>Mother not in HH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both in HH</td>
<td>Father migrating</td>
<td></td>
<td>Parents separated</td>
</tr>
<tr>
<td>All</td>
<td>75% 7%</td>
<td>6% 5%</td>
<td>2% 2%</td>
<td>4%</td>
</tr>
<tr>
<td>Mother’s Ed &lt;=6</td>
<td>79 9</td>
<td>5 4</td>
<td>2 2</td>
<td>-</td>
</tr>
<tr>
<td>Mother’s Ed &gt; 6</td>
<td>78 4</td>
<td>7 6</td>
<td>2 3</td>
<td>-</td>
</tr>
<tr>
<td>Nonurban birth</td>
<td>80 9</td>
<td>4 3</td>
<td>1 2</td>
<td>-</td>
</tr>
<tr>
<td>Urban birth</td>
<td>76 3</td>
<td>8 6</td>
<td>3 3</td>
<td>-</td>
</tr>
</tbody>
</table>

1Error due to rounding
Table 2. Weighted percentage of children aged 0-14 living with adults other than biological parents, by state in 2002

<table>
<thead>
<tr>
<th>Family Structure</th>
<th>Both in HH</th>
<th>Father migrating</th>
<th>Mother in household</th>
<th>Stepfamily</th>
<th>Mother not in household</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Any additional adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>by gender of adult</td>
<td>Either sex</td>
<td>42%</td>
<td>52%</td>
<td>68%</td>
<td>84%</td>
</tr>
</tbody>
</table>
|                   | Women     | 32              | 43      | 57       | 77          | 24       | 37       | 98                        | 39
|                   | Men       | 28              | 31      | 46       | 67          | 90       | 90       | 88                        | 36
| Median number of additional adults | Either sex | 0               | 1       | 1        | 2           | 1        | 1        | 3                         | 1
| by gender of adult | Women | 0               | 0       | 1        | 1           | 0        | 0        | 1                         | 0
|                   | Men      | 0               | 0       | 0        | 1           | 1        | 1        | 1                         | 0
| Any additional adults | Adult siblings | 29%           | 23%    | 26%      | 18%         | 22%      | 16%      | 6%                        | 27%
| by relationship of Adult | Aunts/Uncles | 3              | 7      | 6        | 6           | 1        | 6        | 14                       | 4
|                     | Grandparents | 12             | 22     | 34       | 57          | 17       | 21       | 68                       | 19
|                     | Other adults | 7              | 22     | 32       | 62          | 88       | 90       | 95                       | 20
| Child's mother HH head |             | 1%             | 67%    | 63%      | 35%         | 14%      | 9%       | 0%                        | 11%
| N (unweighted) | 7,995     | 728            | 626     | 471      | 204         | 248      | 564      | 10,836                     |
Table 3. Probabilities of being in state $i$, by age, mothers’ education, and urbanicity, unconditional on state of birth

<table>
<thead>
<tr>
<th>Age</th>
<th>Mother in household</th>
<th>Mother not in HH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both in HH (1)</td>
<td>Father migrating (2)</td>
</tr>
<tr>
<td>All</td>
<td>0.82 0.06</td>
<td>0.00 0.12</td>
</tr>
<tr>
<td>Mother’s Ed &lt;=6</td>
<td>0.90 0.06</td>
<td>0.00 0.04</td>
</tr>
<tr>
<td>Mother’s Ed &gt; 6</td>
<td>0.79 0.06</td>
<td>0.00 0.16</td>
</tr>
<tr>
<td>Nonurban</td>
<td>0.78 0.05</td>
<td>0.00 0.17</td>
</tr>
<tr>
<td>Urban</td>
<td>0.88 0.08</td>
<td>0.00 0.04</td>
</tr>
<tr>
<td>All</td>
<td>0.72 0.09</td>
<td>0.09 0.04</td>
</tr>
<tr>
<td>Mother’s Ed &lt;=6</td>
<td>0.72 0.14</td>
<td>0.10 0.03</td>
</tr>
<tr>
<td>Mother’s Ed &gt; 6</td>
<td>0.75 0.04</td>
<td>0.09 0.05</td>
</tr>
<tr>
<td>Nonurban</td>
<td>0.74 0.07</td>
<td>0.05 0.07</td>
</tr>
<tr>
<td>Urban</td>
<td>0.71 0.10</td>
<td>0.16 0.02</td>
</tr>
<tr>
<td>All</td>
<td>0.64 0.10</td>
<td>0.13 0.03</td>
</tr>
<tr>
<td>Mother’s Ed &lt;=6</td>
<td>0.66 0.14</td>
<td>0.12 0.02</td>
</tr>
<tr>
<td>Mother’s Ed &gt; 6</td>
<td>0.67 0.06</td>
<td>0.14 0.03</td>
</tr>
<tr>
<td>Nonurban</td>
<td>0.64 0.11</td>
<td>0.10 0.06</td>
</tr>
<tr>
<td>Urban</td>
<td>0.69 0.05</td>
<td>0.19 0.01</td>
</tr>
<tr>
<td>All</td>
<td>0.62 0.11</td>
<td>0.15 0.04</td>
</tr>
<tr>
<td>Mother’s Ed &lt;=6</td>
<td>0.63 0.15</td>
<td>0.15 0.02</td>
</tr>
<tr>
<td>Mother’s Ed &gt; 6</td>
<td>0.67 0.05</td>
<td>0.15 0.04</td>
</tr>
<tr>
<td>Nonurban</td>
<td>0.62 0.11</td>
<td>0.13 0.05</td>
</tr>
<tr>
<td>Urban</td>
<td>0.67 0.04</td>
<td>0.20 0.02</td>
</tr>
</tbody>
</table>
Table 4. Expected percentage of childhood spent in state $i$ during ages 0-14, unconditional and conditional on state of birth

<table>
<thead>
<tr>
<th>State of Origin</th>
<th>Parents in union</th>
<th>Mother in household</th>
<th>Stepfamily</th>
<th>Mother not in HH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both in HH (1)</td>
<td>Father migrating (2)</td>
<td>Parents separated (3)</td>
<td>Nonunion birth (4)</td>
</tr>
<tr>
<td>All</td>
<td>70%</td>
<td>9%</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Both Parents in HH (1)</td>
<td>81</td>
<td>6</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Father Migrating (2)</td>
<td>31</td>
<td>66</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Nonunion birth (4)</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>39</td>
</tr>
</tbody>
</table>

¹Error due to rounding
Table 5. Cumulative conditional probabilities of staying in states and exiting states by age 14, Mexican children aged 0-14

<table>
<thead>
<tr>
<th>Mother in household</th>
<th>Parents in union</th>
<th>Father Migrating</th>
<th>Mother single</th>
<th>Parents separated</th>
<th>Nonunion Birth</th>
<th>Stepfamily</th>
<th>Parents separated</th>
<th>Nonunion birth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both in HH (1)a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>0.64</td>
<td>0.38</td>
<td>0.68</td>
<td>0.21</td>
<td>0.15</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers’ Ed &lt;= 6</td>
<td>0.58</td>
<td>0.44</td>
<td>0.62</td>
<td>0.32</td>
<td>0.46</td>
<td>0.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers’ Ed &gt; 6</td>
<td>0.74</td>
<td>0.26</td>
<td>0.73</td>
<td>0.20</td>
<td>0.06</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-urban region</td>
<td>0.68</td>
<td>0.42</td>
<td>0.65</td>
<td>0.24</td>
<td>0.05</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban region</td>
<td>0.60</td>
<td>0.09</td>
<td>0.66</td>
<td>0.23</td>
<td>0.11</td>
<td>0.54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cumulative probability of staying in state $i$ until age 14

Cumulative probability of transitioning by age 14

- **to state 2**
- **to state 3**
- **to state 1**

<table>
<thead>
<tr>
<th></th>
<th>to state 2</th>
<th>to state 3</th>
<th>to state 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.17</td>
<td>0.20</td>
<td>0.62</td>
</tr>
<tr>
<td>Mothers’ Ed &lt;= 6</td>
<td>0.22</td>
<td>0.21</td>
<td>0.56</td>
</tr>
<tr>
<td>Mothers’ Ed &gt; 6</td>
<td>0.08</td>
<td>0.19</td>
<td>0.74</td>
</tr>
<tr>
<td>Non-urban region</td>
<td>0.17</td>
<td>0.16</td>
<td>0.57</td>
</tr>
<tr>
<td>Urban region</td>
<td>0.15</td>
<td>0.26</td>
<td>0.91</td>
</tr>
</tbody>
</table>

- **a** Conditional on being in state $i$ at birth
- **b** Conditional on being in state $i$ at age 3