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 young lives.

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).

This literature emphasizes that children who live in single-parent households characterized by low socioeconomic status are particularly vulnerable. The disadvantage in development associated with living in poverty as a child is well-documented (Duncan et al. 1998). However, children are particularly at risk when a parent leaves a poor household because the remaining parent has fewer options to navigate both the financial and time constraints of being a single parent.

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. To date, this research suggests mixed evidence of how these structures translate into differences in child well-being. Children in stepfamilies do not fare much better than children in single-mother homes. Some research argues that cohabitation is not associated with disadvantage relative to children with married parents. Others argue that children with non-married parents perform have worse behavioral and educational outcomes (Brown 2004). 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. Sheer quantity of contact is not consistently associated with well-being. Instead, certain types of activities and specifically supportive, non-violent interaction are associated with benefits to 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 has 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 often takes parents away from their spouses and children in a number of developing settings. In some cases, durations of this 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; Pebley and Goldman 1986). Perhaps due to the accepted nature of consensual unions, 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 and was experienced by 6-8 percent of individuals in the late 1970's (De Vos 1987). However, using the same late 1970's data in life tables, Richter (1988) finds that about one-fifth of children experience a union disruption before the age of 15. More 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.

Fathers' involvement with children appears to be changing in slow but important ways. More traditionally, males in Mexico have been primarily responsible with providing for children's economic and educational needs. Some evidence suggests that new generations of fathers are becoming more involved with the daily emotional needs of their children and less focused on their economic roles. However, these changes are small and appear more in urban areas and for fathers with higher levels of education (Garcia and de Oliveira 2005).

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 explore the extent to which children in "single" parent homes live with other adults using the MxFLS data.

Some recent research provides evidence about the impact of migration on children's outcomes. For example, several studies find that migration is associated with positive health outcomes for children in sending households and communities, though these effects appear to differ over time horizons (Frank and Hummer 2002; Hildebrandt and McKenzie 2005; Kanaiaupuni and Donato 1999). Other research find evidence that the migration of household and community members provides the resources that support educational gains of children remaining in Mexico (Boucher, Stark and Taylor 2005). This literature is still relatively small and the net effects of parental migration on several aspects of child well-being remain to be investigated. Yet, we can consider evidence from related empirical work that speaks to the presence of the *mechanisms* which are traditionally thought to connect household structure to child outcomes.

For example, two of the detriments associated with absent parents are thought to be the loss of one source of income and the emotional trauma of abandonment by a parent. Previous research suggests that these may have less of an impact on children whose parents are absent due to migration, as opposed to children who have an absent parent from divorce, death, or non-union fertility. In Mexico, having one migrating parent may produce substantial increases in income. A number of studies document the enormous stream of remittances from migrants to Mexican communities (Cordova 2005; Durand, Parrado and Massey 1996). While some work argues that familial separation during migration can prove traumatic and stressful for remaining family members (Frank and Wildsmith 2005; Garcia Coll and Magnuson 1997; Salgado de Snyder 1993), other work contends that mothers go to considerable lengths to mitigate the feeling of abandonment for their children. Kanaiapuni (2000b) studies the role of mothers who remain in Mexico and assume the head of household position in their husband's absence. Through a series of interviews and participant observation studies, she finds that mothers often

introduce their husbands into conversations with children, to help reinforce the presence of the father in the household.

Two other mechanisms may also tie migration to improvements in children's outcomes. Because some research argues that mothers are in a better position to meet the nutritional needs of their children than fathers (Thomas 1994), it is possible that in patriarchal societies, children are provided better nutrition when their fathers migrate and their mothers take control of household allocation in the fathers' absence. Fernandez (1998) tests this theory in Mexico using data from five Mexican communities in 1995. She estimates the effect of the number of months of a child's life the father lived in the household on various indicators of access to health, but finds little evidence from Mexican households that paternal presence alters child access to health related inputs. An additional mechanism applies in particular to poorer households in Mexico. While most household benefits are thought to come directly through remittances, some evidence suggests that the possibility of future earnings alone provides additional food security for the family. Using in-depth interviews to study the family's role in migration processes, Fernandez (1998) finds that women in Mexican communities are commonly afforded credit by local stores if they have a husband working in the United States. Husbands pay the debt upon returning to Mexico.

This evidence suggests that migration appears to potentially provide some benefits for children in sending homes. However, these benefits come at the cost of time apart from parents, and particularly fathers. Currently, we do not have much descriptive evidence about the extent of this time apart at the population level. In this analysis, I employ demographic techniques to help provide a fuller understanding of how Mexican migration is experienced by children over the entire course of their childhoods.

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).

Given this research, 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 migration histories are particularly rich because they include internal migration as well as international migration, and include histories for both men and women. 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 as well as non-absorbing states, or reverse flows (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 to which children are exposed through their young life course. 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 **t1**: one year prior to interview, 2001, and **t2**: 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* : ${}_nd_x^{ij}$

[1] Children born between t1 and t2, though they may round to age 1 at t2, are not included.

divided by the number of person years spent in state *i* in the interval *x* to *x*+*n* : ${}_nL_x^i$, as shown in Equation 1.

I allow children to make 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*, ${}_1L_x^i$, is calculated by averaging the number of individuals in state *i* at t1: $l(x)$ and at t2: $l(x+1)$, as shown in Equation 2.

1. $$ {}_1M_x^{ij} = {}_1d_x^{ij} / {}_1L^i_x $$

2. $$ {}_1L^i_x = .5 * [\, l^i(x) + l^i(x+1)] $$

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.[2] 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. $$ \mathbf{M}(x) = \begin{matrix} \sum_j {}_1M_x^{1j} & -{}_1M_x^{12} & -{}_1M_x^{13} & \dots & -{}_1M_x^{1k} \\ -{}_1M_x^{21} & \sum_j {}_1M_x^{2j} & -{}_1M_x^{23} & \dots & -{}_1M_x^{2k} \\ \dots & \dots & \dots & \dots & \dots \\ -{}_1M_x^{k1} & -{}_1M_x^{k2} & -{}_1M_x^{k3} & \dots & \sum_j {}_1M_x^{kj} \end{matrix} $$

[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.

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

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

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*.

5. $$\mathbf{D}(x) = \mathbf{l}(x) - \mathbf{l}(x+1)$$

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 **l**(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. $$p^i(x) = l^i(x) / \sum_i l^i(0)$$

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. $$_1q^{ij}_x = {}_1d^{ij}_x / \ l^i(x)$$

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. $$e^i(0) = \sum_x {}_1L^i_x \; / \; \sum_i l^i(0)$$

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 **l**(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.[3]

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 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.

While extended households certainly exist in the United States and Western Europe, they are more prevalent in Mexico. Children are often living with grandparents, aunts and uncles, or

[3] About 40 percent of unions with data on the year of union beginnings and just under 50 percent of unions with data on year of union endings are missing data on the month of occurrence. For these events, I only have data on the year in which the event occurred. When this created ambiguity as to whether or not children were born within unions given the assignment process described, I coded the child as being born within a union. However, the missing data creates ambiguity with regard to nonunion birth for less than 1% of children in the sample. When I reverse this assumption and code these children as born outside of unions, the results are nearly identical.

older siblings. In addition to those adults within the household, children may also have close relationships with Godparents, who contribute time and child care to the household. MxFLS data do not allow me to assess the role of Godparents in these children's lives.[4] However, the complete household data provide helpful description about children's living arrangements beyond parental presence.

Table 2 presents the weighted percentages of children living with adults other than their biological parents by state in 2002.[5] "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 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

[4] However, the MxFLS does include rich data on non-resident kin. This analysis could be developed further by using information about the proximity of non-resident grandparents and non-resident aunts and uncles.
[5] 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.

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. This could suggest that women without a partner during a birth are more likely to move in with parents than women who establish a separate home with a partner before they become single.

Some single parenting literature argues that children are at a disadvantage when living apart from a male authority figure. To help characterize the extent to which different states translate into differences in absence of male authority figures, I calculate the percentage of children for whom their mother is the head of the household by state. Given emphasis on male authority over household affairs in Mexico, adult males are more likely to be considered heads of households when living with women of the same or younger generation. Note, for example, that only 1 percent of children living with both parents have mothers who are the heads of their households. The majority of children who have migrating fathers have mothers who are declared the household head. This appears to support other empirical evidence that many Mexican mothers take over household responsibilities and decision-making upon the migration of a spouse (Fernandez 1998; Kanaiaupuni 2000b). Interestingly, however, children in stepfamilies are more likely to have mothers as household heads than children living with both parents, even though the mother has a male partner. This may reflect the entrance of a new partner into an already functioning household.

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 (see, for example, literature on children in stepfamilies), yet it is important to remember that "single" mother in Mexico does not 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. To better capture these trends visually, Figure 2 displays the probabilities of being in any given state for the whole sample at each given age. At age 1, the probability of being with two parents remains stable, while the probability of being with a single mother following separation increases. This is possible because of the downtick in probability of living with a single mother following a nonunion birth between ages 0 and 1; this is representative of the mothers who marry their children's fathers shortly after a nonunion birth.

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 appear to be somewhat state-dependent. 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.

In Table 5, I present the same results for the sample stratified first by mothers' education and secondly, by urban status at birth. Calculations are presented first for the entire subgroup. The second, third, and fourth row of each subgroup presents estimates from new sets of life tables conditional on state at birth. The most notable discrepancy in findings occurs between the children of less educated mothers and children of more educated mothers. Children with more educated mothers are expected to spend less time apart from their fathers due to migration than children with better educated mothers. Additionally, children with less-educated mothers who are born with migrating fathers will spend nearly three-fourths of their childhoods apart from those fathers, whereas children of more educated mothers who are born with migrating fathers will spend less than half of their childhoods with absent fathers. This same discrepancy can be found by region of birth. Children born in more rural regions are much more state-dependent.

The conditional expected durations shown in Table 5 speak indirectly to the probabilities of transitioning between states. For a clearer picture of state-dependence, 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 (${}_1q^{ij}_x$) obtained using Equation 7. For example, the probability of remaining with both parents by age 14 for children born into two parent homes is:

9. $$\prod_{0}^{13} {}_1q^{11}_x$$

These probabilities are presented for the whole sample in the first row of Table 6. Because children are not born begin 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 6 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. $$1 - \left[\prod_{0}^{13} \left(\left(\Sigma_j {}_1q^{1j}_x \right) - {}_1q^{12}_x \right) \right]$$

where ${}_1q^{1j}{}_x$ are the age-specific transition probabilities from state 1 (two parents at home) to state j and ${}_1q^{12}{}_x$ 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 6 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 6 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 6) 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 6).

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. It is likely that we would see a reduction of time spent apart from fathers in the absence of migration, but it is not clear what this figure would be. This is true because migration may be one solution to maintaining unhappy unions. Relationships which are more prone to dissolution may be the same relationships in which partners adopt a divided household strategy. If this were the case, the absence of migration would reveal an increase in union separation. While this likely does not characterize all unions experiencing migration of a member, unless we believe it characterizes *no* unions experiencing migration, it is not possible to pinpoint the exact number of additional years children would spend in dual parent homes in the absence of migration.

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.

The next phase of this research will exploit the longitudinal nature of MxFLS data. The second wave of MxFLS data, fielded in 2005, will provide several critical extensions of this analysis. This includes a re-estimate of the results using children's information in 2002 and 2005 as t1 and t2. Restructuring the analysis to use observed data on children's living arrangements in two points in time, as opposed to reconstructed data using the histories, will reduce the small, remaining ambiguity when sorting children.

Secondly, using the 2005 data will allow me to differentiate between consensual unions and marital unions. The current analysis does not make this differentiation because it is not

possible to reconstruct whether or not a mother was in a consensual union at t1 in 2001. However, the longitudinal data will make this distinction possible at both points in time.

Using longitudinal data will also provide an assessment of a potential source of bias to the current estimates. 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 at younger ages. The longitudinal data will help assess to what extent this may bias results. The second wave of MxFLS follows households into the United States. Therefore, 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.

A few additions to this analysis do not require the longitudinal data but are also worth exploring. The current analysis does not include children who died between t1 and t2, and may be underestimating the number of person-years lived in the various states. However, mothers provide complete birth histories, including the date of death for children who are no longer alive. Though I imagine the number of child deaths between t1 and t2 to be small, an extra absorbing state for child death could be built into the analysis without a great deal of complication.

The analysis could be made more complicated by adding additional states or stratifying the sample along additional lines. I could delineate between children living in an extended household with those who are not. For children with a "single" mother, this difference may translate into considerably different substantive upbringings and may be worth capturing. The entire sample may be stratified on other characteristics than urbanicity and socioeconomic status. Because Mexican migration has distinct regional patterns, region of the country at birth may also be a useful distinction to make.

While all of these extensions may refine the descriptive power of multistate life tables, they may do so at the cost of precision. Additional distinctions decrease the denominators of the observed transition rates. Because the method relies almost solely on the estimation of these rates, there is value in maintaining confidence in their construction.

References

Amato, Paul R., and Joan G. Gilbreth. 1999. "Nonresident Fathers and Children's Well-Being: A Meta-Analysis." *Journal of Marriage and the Family* 61:557-573.

Borjas, George J. 1996. "The Earnings of Mexican Immigrants in the United States." *Journal of Development Economics* 51:69-98.

Boucher, Stephen R., Oded Stark, and J. Edward Taylor. 2005. "A Gain with a Drain? Evidence from Rural Mexico on the New Economics of the Brain Drain." in *ARE Working Papers*: University of California, Davis.

Brown, Susan L. 2004. "Family Structure and Child Well-Being: The Significance of Parental Cohabitation." *Journal of Marriage and Family* 66:351-367.

Bumpass, Larry, and Hsien-Hen Lu. 2000. "Trends in Cohabitation and Implications for Children's Family Contexts in the United States." *Population Studies* 54:29-41.

Carlson, Marcia. 2006. "Family Structure, Father Involvement, and Adolescent Behavioral Outcomes." *Journal of Marriage and Family* 68:137-154.

Cerruti, Marcela, and Douglas S. Massey. 2001. "On the Auspices of Female Migration from Mexico to the United States." *Demography* 38:187-200.

Cordova, Ernesto Lopez. 2005. "Globalization, Migration and Development: The Role of Mexican Migrant Remittances." Inter-American Development Bank.

Daniels, Cynthia (Ed.). 1998. *Lost Fathers*.

de Oliveira, Orlandina. 2000. "Quality of Life and Marital Experiences in Mexico." Pp. 77-94 in *Women, Poverty, and Demographic Change*, edited by Brigida Garcia. Oxford: Oxford University Press.

De Vos, Susan. 1987. "Latin American Households in Comparative Perspective." *Population Studies* 41:501-517.

De Vos, Susan M. 1995. *Household Composition in Latin America*. New York: Plenum Press.

Demuth, Stephen, and Susan L. Brown. 2004. "Family Structure, Family Processes, and Adolescent Delinquency: The Significance of Parental Absence Versus Parental Gender." *Journal of Research in Crime and Delinquency* 41:58-81.

Duncan, Greg J., W. Jean Yeung, Jeanne Brooks-Gunn, and Judith R. Smith. 1998. "How Much Does Childhood Poverty Affect the Life Chances of Children?" *American Sociological Review* 63:406-423.

Durand, Jorge, William Kandel, Emilio A. Parrado, and Douglas S. Massey. 1996. "International Migration and Development in Mexican Communities." *Demography* 33:249-264.

Durand, Jorge, Emilio A. Parrado, and Douglas S. Massey. 1996. "Migradollars and Development: A Reconsideration of the Mexican Case." *International Migration Review* 30:423-444.

Fernandez, Leticia. 1998. "Do Fathers Influence Their Children's Health by Migrating? Evidence from Rural Mexico." *Unpublished Manuscript*.

Florsheim, Paul. 2000. "The Economic and Psychological Dynamics of Nonresident Paternal Involvement." Pp. 55-87 in *Resilience Across Contexts*, edited by Ronald D. Taylor and Margaret C. Wang. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Frank, Reanne, and Robert A. Hummer. 2002. "The Other Side of the Paradox: The Risk of Low Birth Weight Among Infants of Migrant and Nonmigrant Households within Mexico." *International Migration Review* 36:746-765.

Frank, Reanne, and Elizabeth Wildsmith. 2005. "The Grass Widows of Mexico: Migration and Union Dissolution in a Binational Context." *Social Forces* 83:919-948.
Garcia, Brigida, and Orlandina de Oliveira. 2005. "Fatherhood in Urban Mexico." *Journal of Comparative Family Studies* 36:306-327.
Garcia Coll, Cynthia, and Katherine Magnuson. 1997. "The Psychological Experience of Immigration: A Developmental Perspective." Pp. 91-131 in *Immigration and the Family*, edited by Alan Booth, Ann C. Crouter, and Nancy Landale. Mahwah, New Jersey: Lawrence Erlbaum Associates.
Heuveline, Patrick, and Jeffrey M. Timberlake. 2003. "Cohabitation and Family Formation Across Western Nations."
Heuveline, Patrick, Jeffrey M. Timberlake, and Frank F. Furstenberg Jr. 2003. "Shifting Childrearing to Single Mothers: Results from 17 Western Countries." *Population and Development Review* 29:47-71.
Hildebrandt, Nicole, and David J. McKenzie. 2005. "The Effects of Migration on Child Health in Mexico." in *Policy Research Wroking Paper*, edited by World Bank: World Bank.
Kanaiaupuni, Shawn Malia. 2000a. "Reframing the Migration Question: An Analysis of Men, Women, and Gender in Mexico." *Social Forces* 78:1311-1348.
—. 2000b. "Sustaining Families and Communities: Nonmigrant Women and Mexico-U.S. Migration." in *CDE Working Paper*.
Kanaiaupuni, Shawn Malia, and Katharine M. Donato. 1999. "Migradollars and Mortality: The Effects of Migration on Infant Survival in Mexico." *Demography* 36:339-53.
Kanaiaupuni, Shawn Malia, Katharine M. Donato, Theresa Thompson-Colon, and Melissa Stainback. 2005. "Counting on Kin: Social Networks, Social Support, and Child Health Status." *Social Forces* 83:1137-1164.
Lamb, Michael E., and Catherine S. Tamis-Lemonda. 2004. "The Role of the Father." Pp. 1-31 in *The Role of the Father in Child Development*, edited by Michael E. Lamb. Hoboken, New Jersey: John Wiley & Sons.
Landale, Nancy S., and Susan M. Hauan. 1992. "The Family Life Course of Puerto Rican Children." *Journal of Marriage and the Family* 54:912-924.
Massey, Douglas S., Joaquin Arango, Graeme Hugo, Ali Kouaouchi, Adela Pellegrino, and J. Edward Taylor. 1998. *Worlds In Motion*. Oxford: Clarendon Press.
Massey, Douglas S., and Kristin E. Espinosa. 1997. "What's Driving Mexico-U.S. Migration? A Theoretical, Empirical, and Policy Analysis." *American Journal of Sociology* 102:939-999.
McKinley, Terry, and Diana Alarcon. 1995. "The Prevalence of Rural Poverty in Mexico." *World Development* 23:1575-1585.
McLanahan, Sara, and Gary Sandefur. 1994. *Growing Up with a Single Parent*. Cambridge, Massachusetts: Harvard University Press.
McLoyd. 1990. "The Impact of Economic Hardship on Black Families and Children: Psychological Distress, Parenting, and Socioeconomic Development." *Child Development* 61:311-346.
Palloni, Alberto. 2001. "Increment-Decrement Life Tables." Pp. 256-283 in *Demography*, edited by Samuel H. Preston, Patrick Heuveline, and Michel Guillot. UK: Blackwell Publishers.
Parrado, Emilio A. 2004. "International Migration and Men's Marriage in Western Mexico." *Journal of Comparative Family Studies* 35:51-71.

Pebley, Anne R., and Noreen Goldman. 1986. "Legalization of Consensual Unions in Mexico." *Social Biology* 33:199-213.
Richter, Kerry. 1988. "Union Patterns and Children's Living Arrangements in Latin America." *Demography* 25:553-566.
Salgado de Snyder, V. Nelly. 1993. "Family Life Across the Border: Mexican Wives Left Behind." *Hispanic Journal of Behavioral Sciences* 15:391-401.
Seltzer, Judith A. 1994. "Consequences of Marital Dissolution for Children." *Annual Review of Sociology* 20:235-266.
Strohschein, Lisa. 2005. "Parental Divorce and Child Mental Health Trajectories." *Journal of Marriage and Family* 67:1286-1300.
Thomas, Duncan. 1994. "Like Father, like Son; Like Mother, Like Daughter: Parental Resources and Child Height." *Journal of Human Resources* 29:950-989.
Van Hook, Jennifer, and Jennifer Glick. 2005. "Mexican Migration to the United States and Extended Family Living Arrangements." *Unpublished manuscript*.

Figure 1. Sorting Children into 7 States

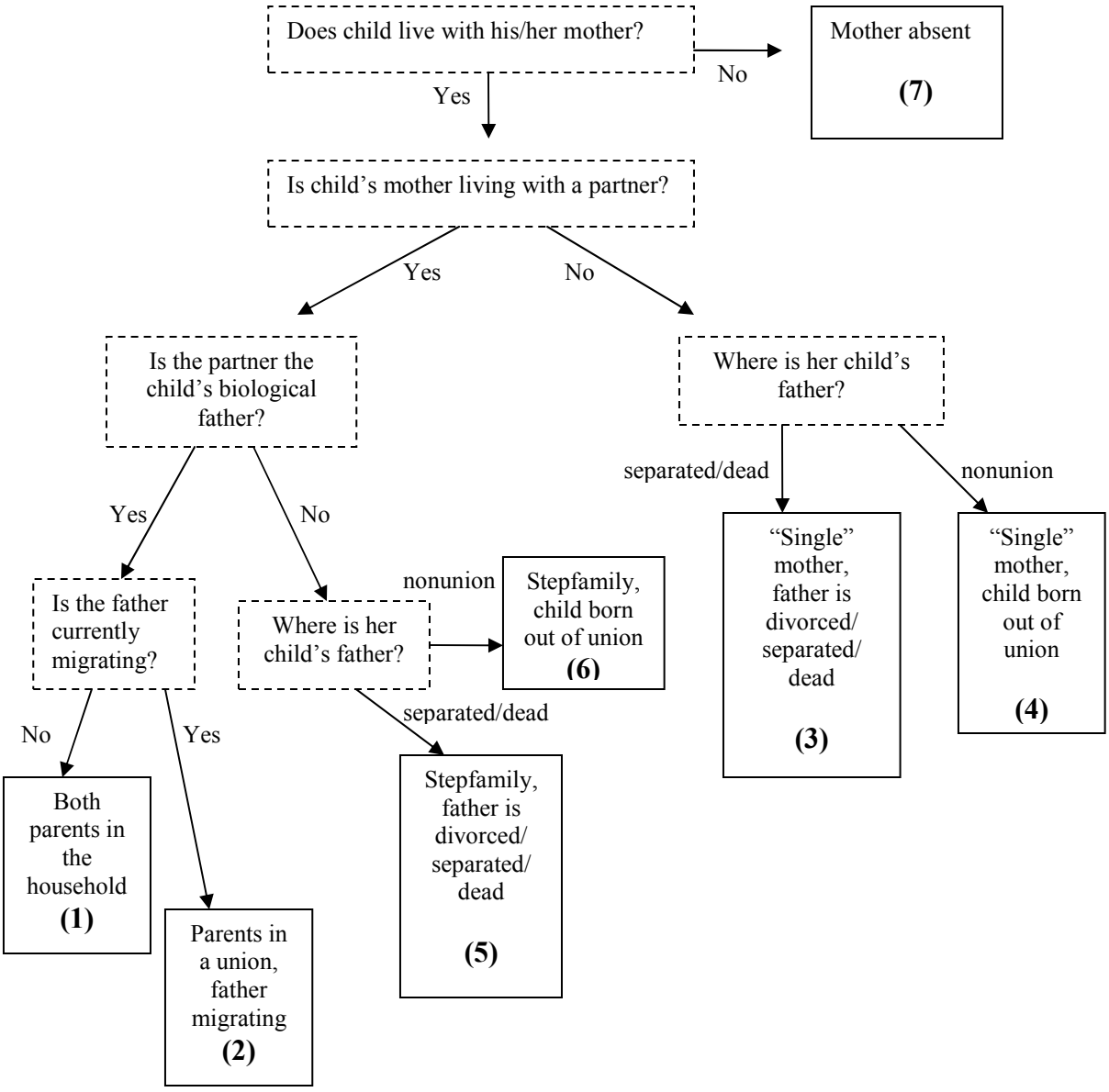

Figure 2. Possible Transitions Between States in the Interval from Time 1 to Time 2

	Time 2 (2002)						
Time 1(2001)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Both parents in household	X	X	X	0	0	0	X
(2) Father migrating	0	X	X	0	0	0	0
(3) Single mother, parents separated	0	0	X	0	X	0	0
(4) Single mother, nonunion birth	X	0	0	X	0	X	0
(5) Stepfamily, parents separated	0	0	X	0	X	0	0
(6) Stepfamily, nonunion birth	0	0	0	X	0	X	0
(7) Mother not in HH	0	0	0	0	0	0	X

X = transition possible
0 = no transition possible

Figure 2. Unconditional probabilities of being in state *i* by age

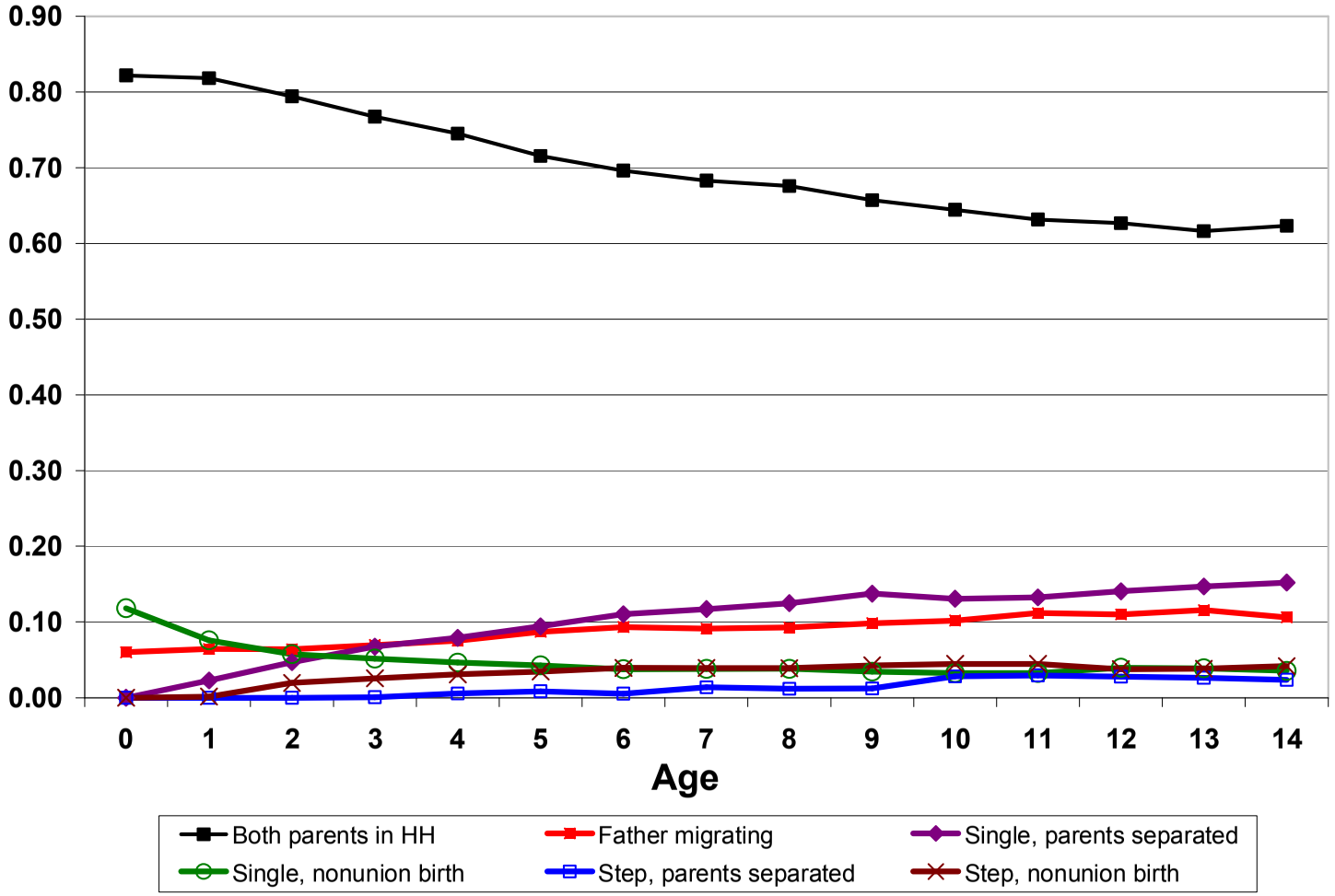

Table 1. Weighted observed distribution of 0-14 year old Mexican children across states, 2002

	Mother in household						Mother not in HH		
	Parents in union		Mother single		Stepfamily				
	Both in HH	Father migrating	Parents separated	Nonunion Birth	Parents separated	Nonunion Birth			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	Total[1]	n
All	75%	7%	6%	5%	2%	2%	4%	100	10,836
Mother's Ed <=6	79	9	5	4	2	2	-	100	5,706
Mother's Ed > 6	78	4	7	6	2	3	-	100	4,566
Nonurban birth	80	9	4	3	1	2	-	100	6,752
Urban birth	76	3	8	6	3	3	-	100	3,338

[1] Error due to rounding

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

		Mother in household						Mother not in household	
		Parents in union		Mother single		Stepfamily			
		Both in HH	Father migrating	Parents separated	Nonunion birth	Parents separated	Nonunion birth		All states combined
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Any additional adults by gender of adult	Either sex	42%	52%	68%	84%	93%	91%	100%	51%
	Women	32	43	57	77	24	37	98	39
	Men	28	31	46	67	90	90	88	36
Median number of additional adults by gender of adult	Either sex	0	1	1	2	1	1	3	1
	Women	0	0	1	1	0	0	1	0
	Men	0	0	0	1	1	1	1	0
Any additional adults by relationship of Adult	Adult siblings	29%	23%	26%	18%	22%	16%	6%	27%
	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

	Mother in household						Mother not in HH
	Parents in union		Mother single		Stepfamily		
	Both in HH (1)	Father migrating (2)	Parents separated (3)	Nonunion birth (4)	Parents Separated (5)	Nonunion birth (6)	(7)
Age 0: observed							
All	0.82	0.06	0.00	0.12	0.00	0.00	0.00
Mother's Ed <=6	0.90	0.06	0.00	0.04	0.00	0.00	-
Mother's Ed > 6	0.79	0.06	0.00	0.16	0.00	0.00	-
Nonurban	0.78	0.05	0.00	0.17	0.00	0.00	-
Urban	0.88	0.08	0.00	0.04	0.00	0.00	-
Age 5							
All	0.72	0.09	0.09	0.04	0.01	0.03	0.02
Mother's Ed <=6	0.72	0.14	0.10	0.03	0.01	0.01	-
Mother's Ed > 6	0.75	0.04	0.09	0.05	0.01	0.06	-
Nonurban	0.74	0.07	0.05	0.07	0.01	0.05	-
Urban	0.71	0.10	0.16	0.02	0.01	0.01	-
Age 10							
All	0.64	0.10	0.13	0.03	0.03	0.04	0.02
Mother's Ed <=6	0.66	0.14	0.12	0.02	0.04	0.01	-
Mother's Ed > 6	0.67	0.06	0.14	0.03	0.03	0.08	-
Nonurban	0.64	0.11	0.10	0.06	0.02	0.07	-
Urban	0.69	0.05	0.19	0.01	0.04	0.02	-
Age 14							
All	0.62	0.11	0.15	0.04	0.02	0.04	0.02
Mother's Ed <=6	0.63	0.15	0.15	0.02	0.04	0.01	-
Mother's Ed > 6	0.67	0.05	0.15	0.04	0.01	0.07	-
Nonurban	0.62	0.11	0.13	0.05	0.01	0.08	-
Urban	0.67	0.04	0.20	0.02	0.05	0.01	-

Table 4. Expected percentage of childhood spent in state *i* during ages 0-14, unconditional and conditional on state of birth

State of Origin	Mother in household						Mother not in HH	Total[1]
	Parents in union		Mother single		Stepfamily			
	Both in HH	Father migrating	Parents separated	Nonunion birth	Parents separated	Nonunion birth		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
All	70%	9%	10%	4%	1%	4%	1%	100%
Both Parents in HH (1)	81	6	12	0	1	0	0	100
Father Migrating (2)	31	66	3	0	0	0	0	100
Nonunion birth (4)	16	1	2	39	0	28	14	100

[1] Error due to rounding

Table 5. Expected percentage of childhood spent in state *i* during childhood, by SES and urbanicity, unconditional and conditional on state of birth

State of Birth	Mother in household					
	Parents in union		Mother single		Stepfamily	
	Both in HH (1)	Father migrating (2)	Parents separated (3)	Nonunion Birth (4)	Parents separated (5)	Nonunion birth (6)
Less Educated Mothers:						
All	71%	13%	10%	3%	2%	1%
Both Parents in HH (1)	78	9	11	0	2	0
Father Migrating (2)	23	75	2	0	0	0
Nonunion birth (4)	15	1	2	63	0	18
More Educated Mothers:						
All	71%	5%	11%	6%	1%	6%
Both Parents in HH (1)	84	3	13	0	1	0
Father Migrating (2)	46	50	4	0	0	0
Nonunion birth (4)	21	1	3	37	0	39
Born in non urban areas:						
All	70%	9%	7%	8%	1%	5%
Both Parents in HH (1)	84	6	9	0	1	0
Father Migrating (2)	29	69	2	0	0	0
Nonunion birth (4)	21	2	2	45	0	31
Born in urban areas:						
All	73%	7%	15%	2%	2%	1%
Both Parents in HH (1)	78	3	16	0	2	0
Father Migrating (2)	44	50	5	0	1	0
Nonunion birth (4)	21	1	4	44	1	30

Table 6. Cumulative conditional probabilities of staying in states and exiting states by age 14, Mexican children aged 0-14

	Mother in household					
	Parents in union		Mother single		Stepfamily	
	Both in HH	Father Migrating	Parents separated	Nonunion Birth	Parents separated	Nonunion birth
	(1)[a]	(2)[a]	(3)[b]	(4)[a]	(5)[b]	(6)[b]
Cumulative probability of staying in state *i* until age 14						
All	0.64	0.38	0.68	0.21	0.15	0.72
Mothers' Ed <= 6	0.58	0.44	0.62	0.32	0.46	0.60
Mothers' Ed > 6	0.74	0.26	0.73	0.20	0.06	0.80
Non-urban region	0.68	0.42	0.65	0.24	0.05	0.83
Urban region	0.60	0.09	0.66	0.23	0.11	0.54

Cumulative probability of transitioning by age 14	to state 2	to state 3	to state1
All	0.17	0.20	0.62
Mothers' Ed <= 6	0.22	0.21	0.56
Mothers' Ed > 6	0.08	0.19	0.74
Non-urban region	0.17	0.16	0.57
Urban region	0.15	0.26	0.91

[a] Conditional on being in state *i* at birth
[b] Conditional on being in state *i* at age 3