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The Migration of Children from Mexico to the United States in the early 2000's

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Abstract

Children comprise a significant share of immigrants around the world, yet scholarship has largely treated children as adult-like or adult-following actors in migration. We explore how the early life course and parents' migration structured children's migration from Mexico to the United States from 2002 to 2005, using the Mexican Family Life Survey, national survey data from Mexico that tracked 854 migrants, including 375 children, to the United States. We find that while parents' migration decisions matter at all ages, young children who migrate are nearly always accompanied by their parents, whereas the minority of adolescents are. Primary school-aged children and accompanied adolescents migrate in response to community violence and barriers to education, suggesting that their migration reflects concerns about where it is best to raise children. Adolescents who migrate without their parents do so in response to economic factors, much like adults; however, adolescents also respond to youth community migration prevalence, suggesting that youth-specific norms of migration frame their decision-making. The results show how the early life course structures three distinct profiles of child migration: complete dependents, children whose location choices reflect concerns about schools and safety, and near independents. More generally, the determinants and process of migration shift as parental oversight declines and social structures beyond the family—community violence, access to education, youth norms, gender, and labor markets—emerge as important.

Keywords

children; migration; Mexico; U.S.; education; violence; migrant networks

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Introduction

In recent years, children accounted for fifteen percent of international migrants worldwide (UN Population Division 2015). Yet, most research on international migration has focused on adults. As several critics have noted, the literature has tended to depict child migrants in one of two ways, as dependents who have little input in the migration process or as autonomous economic actors (White et al. 2011). In the first instance, children are portrayed as “things transported by adults” (Dobson 2009: 356) or “burdens weighing down otherwise mobile adults” (Orellana et al. 2001: 578). In the second instance, older children are grouped with adults or analyzed according to a similar logic as adults. In both instances, the research has subsumed children’s migration under adults’: either children follow adults or they act like adults.

A number of scholars have criticized the literature for its incomplete and inadequate portrayal of child migrants (Clark et al. 2009; Dobson 2009; Huijismans 2011; Gardner 2012; White et al. 2011). There is now a growing qualitative literature on children’s mobility, which has highlighted children’s agency and the important role that children play within family migration decisions (e.g. Allerton 2018; Azaola 2012; Coe 2012; Zúñiga and Hamann 2015). Quantitative studies find that children migrate in response to forces that are distinct from those motivating the migration of adults, even when children are migrating with an adult or to join an adult (e.g. Donato and Perez 2017; Donato and Sisk 2015; Gonzalez-Ferrer et al. 2012; Heckert 2015; Tucker et al. 2012; Zenteno et al. 2013).

An additional insight emerging from existing research is that there is heterogeneity in migration among children by age (Yaqub 2009). Childhood is structured by growing independence from parents, culminating with the transition to adulthood, a process that arguably generates distinct patterns of migration among children across the early life course. Indeed, research has documented age differences in rates of child migration (Donato and Perez 2017), in parents’ considerations of whether to migrate with their children (Ryan and Sales 2013), and in children’s reasons for migration (López Castro 2007). Beyond this, we might expect other patterns of migration to change across childhood, too, including whether parents accompany children and in the relevance of structural forces that lead to migration.

In this paper, we investigate how the rate of migration, parents’ involvement in children’s migration, and the correlates of migration vary among children across three distinct stages of childhood: early childhood, middle childhood, and adolescence. In doing so, we discover that age and the inter-dependency of parents and children generate three distinct profiles of child migrants: complete dependents who migrate entirely in response to parental decisions; dependents in middle childhood and adolescence whose migration decisions reflect considerations about where it is best for children to grow up; and near independents - adolescents who migrate much like adults but with considerations specific to the transition to adulthood in mind. In other words, prior characterizations of child migrants are correct for some groups of children but not others. Specifying these differences allows for the full spectrum of migration across the early life course to come into view.

We use nationally representative, household survey data that tracked Mexican households whose members migrated to the United States between 2002 and 2005, a period of some of the highest levels of immigration from Mexico to the United States ever seen (CONAPO 2015). The Great Recession and demographic change in Mexico led to a waning and eventual reversal in the flow of migration from Mexico to the United States after 2007 (Massey, Durand, and Pren 2016; Villarreal 2014). After 2007, North-South migration, from the United States to Mexico, has included hundreds of thousands of children (Masferrer, Hamilton, and Denier 2019). While many of those children are U.S.-born, some migrated to the United States in the early 2000s and later returned to Mexico (Giorguli-Suacedo, García-Guerrero, and Masferrer 2016). Understanding why these children migrated from Mexico to the United States in the first place is important for understanding their later lives—in the United States or Mexico.

Literature review

Two inter-related factors are relevant to understanding how the migration process may vary across childhood: 1) the capacity that children have to make choices, or child agency (Huijsmans 2011); and 2) the centrality of families, particularly parents, in shaping the behavior of children (Hutchins 2011). As children age, both “parents and children face the task of changing their relationships in ways that reflect increasing symmetry in their contributions to it” (Grotevant and Cooper 1986: 82). On average, child agency grows and parent oversight declines as children age, even as the specific nature and timing of these processes are culturally determined and heterogeneous across families (Helwig 2006; Wray-Lake et al. 2010). Migration scholars have observed these dynamics among children “left behind” (Dreby 2007) and children within migrating families (Bushin 2009).

As agency expands and parent oversight declines, child-specific concerns that affect migration decisions will also change. Two bodies of literature inform our understanding of the specific and unique concerns that influence child migration: the mostly qualitative literature on parents’ motives for their children’s migration and research on the role of migration in the transition to adulthood.

In the narratives of migrant parents, concerns about children are paramount. Migration is a sacrifice for the children, often made with investments in their futures in mind (Boehm 2008; Orellana et al. 2001). Parents may migrate for the children or with their children in order to provide a better environment in which to raise their children (Boehm 2008; Dobson 2009; Dreby and Stutz 2012; Hutchins 2011; Lindstrom and Giorguli 2007; Orellana et al. 2001; Ryan and Sales 2013). Three central considerations regarding children in the migration process emerge from this research: family unity, education, and safety.

A key consideration parents make regarding their children’s migration is the physical unity of families. In the era of high levels of migration from Mexico to the United States, from 1965 to the early 2000’s, many Mexican families migrated in stages, with one family member migrating first and others following later (Lindstrom and Giorguli 2007). When parents, particularly the parents of young children, decide whether or not to migrate with their children, their decisions reflect the level of interdependency they have with their

children, as well as the social norm that parents are expected to care for their children—care which involves both providing for children financially as well as in-person caretaking (Dreby 2010). When migration offers a means for financial provision, parents can be presented with a life course dilemma: whether it is best for their children to remain at origin or to migrate with them.

The resolution of the question of whether to migrate with children may reflect other considerations, such as where it is best for children to grow up. Migrant parents frequently invoke investments in their children's education when making decisions about migration (Boehm 2008; Hutchins 2011; Ryan and Sales 2013). In studies of parents separated from their children, the sacrifice is justified on these terms—as an investment in their children's educational futures (Boehm 2008). Limited access to secondary schools in Mexican communities may be a motivation for children to migrate to the United States, a motivation that may be especially relevant to pre-adolescent children, whose transition to adulthood has yet to begin (Fussell 2005), and rural communities, where post-primary schools are more likely to be absent (SEP 2012).

Safety is another key consideration parents make about whether to migrate with children. One reason immigrant mothers give for leaving children behind is that their communities of origin provide a safer environment for children than U.S. destinations (Hutchins 2011). On the other hand, gang recruitment and violence are a central cause of the migration of unaccompanied child migrants from Mexico, most of whom are adolescents (Chavez and Menjivar 2010), and a study of high school students in Guanajuato, Mexico found that experiences of violence were associated with greater odds of planning to migrate (Nieri et al. 2012). In the strongest evidence of this association, Donato and Perez (2017) found that violence was a key predictor of children's migration from Mexico to the United States between 1972 and 2010.

Research on the transition to adulthood in Mexico also informs our understanding of child migration. This work has argued that youth use migration to achieve adult goals, such as consumption and household formation, especially in rural communities lacking opportunities for upward mobility (Azaola 2012; Giorguli and Serratos 2009; Meza and Pederzini 2009; Myroniuk et al. 2018; Tucker et al. 2012). It also finds that children in communities with well-entrenched (adult) systems of migration in rural areas of Mexico alter their perceptions of the most feasible route to adulthood away from school and towards labor migration to *el norte* (Kandel and Massey 2002; Tucker et al. 2012). This research suggests that the social-structural determinants of migration, especially community economic conditions and migration prevalence, are similar for adolescents and adults, although the meanings of their migration in response to those determinants differ.

Studies also find that once migration becomes normative in a community, it serves symbolic as well as instrumental purposes, especially for youth. In places where migration is very common, migrating north becomes a rite of passage into adulthood, a marker of adult-like independence (Azaola 2012; Kandel and Massey 2002). If this is the case, then adolescents would respond not just to community migration prevalence—the extent of migration among all people in a place—but specifically to the extent of youth participation in community

migration. If youth migrate because migration has become a rite of passage into adulthood, then youth-specific migration networks may matter in addition to, or perhaps even more, than adult migration networks.

As Zenteno, Giorguli, and Gutierrez (2013) have argued, the role of migration in the transition to adulthood in Mexico is gendered. Adult men are more likely than adult women to migrate from Mexico to the United States, a pattern that reflects the complex ways that gender structures and interacts with spatial and social mobility (Donato and Gabaccia 2015). This process arguably unfolds across the early life course: gendered expectations and norms of behavior are enforced and enacted as children become adolescents and then adults. Ruehs (2016) and other scholars have shown that migration as a rite of passage into adulthood takes a particularly masculine form; it is a way of demonstrating both one's adulthood and one's masculinity (Boehm 2008; Broughton 2008). Prior quantitative research finds that the gender gap in migration emerges in adolescence and widens across young adulthood (Cerrutti and Massey 2001; Zenteno, Giorguli, and Gutierrez 2013). We consider this pattern from birth.

Research expectations

Taken together, this discussion leads us to expect that the circumstances under which children migrate vary according to their stage in childhood and their corresponding interdependency with adults, primarily parents. We test these ideas in our analysis by considering how the patterns of child migration and parents' involvement in child migration vary across three stages of the child life course. To identify these stages, we draw from research on the early life course and transition to adulthood in Mexico (Coubes and Zenteno 2005; Fussell 2005). Using an entropy index measuring the complexity in adult statuses by age, Fussell (2005: 107) determined that prior to age 12, childhood in Mexico is "structured quite rigidly." After age 12, heterogeneity in status combinations increases. The reasons children give for migration also change around age 12, from family reunification to work (López Castro 2007), and many institutions involved in the migration of children differentiate between children under age 12 and adolescents between 12–17 (Chavez and Menjivar 2007). Based on this research, we group children into very young children (ages 0–5), primary-school-aged children (ages 6–11), and adolescents (12–17).

Our review of the literature leads us to expect that determinants of migration external to the child's family will emerge across the life course as children gain independence from parents. We expect that very young children—those under age 5—will be full dependents on their parents. We expect relatively low migration rates among this group, very high rates of accompaniment by migrant parents, and that relatively little else will matter for their migration, net of their parents' migration status—in other words, little will differentiate very young migrants from very young non-migrants other than their parents' migration status. Second, we expect that primary school-aged children will not be full dependents but, rather, what Dobson (2009: 357) called "sources of anxiety" for their caretakers, who make decisions with children's futures and wellbeing in mind. Thus, for these children, we expect low migration rates, high rates of accompaniment by parents, and that considerations regarding where it is best for children to grow up—access to education and safety—will be

paramount in determining their migration. Third, we expect that adolescent migration will reflect considerations relevant to the transition to adulthood. Adolescents will have higher rates of migration than the two younger groups, their migration will be largely independent of their parents, and their migration will reflect economic considerations. When they are accompanied by parents, suggesting greater interdependency with parents, we expect adolescent migrants to follow patterns more similar to their younger counterparts, that is, to migrate when it is in the child's best interest, given access to schools and safety. Finally, we expect gender differences in the rate of migration to emerge and grow across childhood.

Methods of analysis

The analysis has two main steps. First, we examine age differences among children in two characteristics of migration: the rate of migration and the degree of parent involvement in children's migration. Second, we estimate regression models analyzing how migration among all children and migration among children with migrant parents, i.e. accompaniment, relate to the individual, household, and community characteristics of Mexican children in different age groups. Among adolescents, we also analyze "independent" migration, or migration without parent involvement.

Data.

The data are from the Mexican Family Life Survey (MxFLS), a national sample of 35,677 individuals in 8,440 Mexican households originally interviewed in 2002 and re-interviewed in 2005 (Rubalcava and Teruel 2007).¹ Our analysis focuses on the sample of children in the MxFLS, defined as individuals under age 18 at Wave 1 in 2002. The Mexican National Institute of Statistics and Geography (INEGI) guided the MxFLS sample design, which was probabilistic, multi-staged, and clustered. We use survey weights to adjust for the design. The data are publically available at <http://www.ennvih-mxfls.org/>.

The key advantage of the MxFLS is that the survey tracked migrants from Mexico to the United States between 2002 and 2005 (Rubalcava and Teruel 2007). To locate migrants in the United States at Wave 2, survey takers asked remaining household members to provide the absent member's contact information. In cases where remaining household members did not provide contact information, kin in the United States who were listed in the Wave 1 survey (in a "re-contact directory") were contacted. When entire households were no longer at the original address, fieldworkers inquired with neighbors and/or used the re-contact directory to determine the household's new location.

The MxFLS provides a unique opportunity to study child migration in national data. Child migration is relatively rare and thus difficult to observe and study. The early 2000s was a period of heightened migration from Mexico to the United States; because a relatively high level of child migration occurred during this period, a national probability sample collected during that period will capture child migration with sufficient frequency for statistical

¹Although the third wave of the MxFLS, collected between 2009–2015, is publicly available, data on U.S. migrants - those in the United States at the time of the third wave interview - had not yet been released at the time of this writing, so we could not analyze U.S. migration through 2015 in the MxFLS.

analysis (CONAPO 2015; Passel et al. 2012). Furthermore, because of its tracking method, the MxFLS is the only existing, national data source that provides an unbiased sample of child migrants from Mexico. Other Mexican data sources observe migration with retrospective or proxy reports by remaining householders or returned migrants.

Retrospective and proxy reports present two problems for the study of child migration: sampling and reporting error. Children are more likely than adults to migrate with their whole households, exiting the sampling universe, and when child migrants do leave behind remaining household members, those householders frequently neglect to report them (Hamilton and Savinar 2015). Because the MxFLS tracked all migrants to their new destinations, households that migrate as a unit are included, and migrants whose location was not reported (or not accurately reported) on initial visits were located through the tracking procedure.

Our analytic sample includes the 14,244 MxFLS respondents ages 17 and under who had municipal identifiers. We dropped from the analysis seven children with missing municipal identifiers (0.04% of children) and seventeen people who were missing data on age. Sixteen respondents missing data on age were household heads or spouses of heads and one was the child of the head, so we lost at most one child due to missingness on age. Due to the tracking procedure, we had complete data on the dependent variable, migration between 2002–2005. We recovered children with missing data on covariates using dummy categories for missing.

Measuring the rate of child migration.

Our first analytical step is to describe age differences in the rate of migration and in parents' involvement in child migration. We begin by examining how the **rate of migration** varies among children by age. The rate of migration is equal to the weighted percent of children in 2002 who were longer-term migrants to the United States between 2002 and 2005. We relied on the MxFLS tracking of migrants to identify migrants. Through this process, the MxFLS re-interviewed 90% of the original household members in Wave 2, including 91% of U.S. migrants. When original household members were not re-interviewed (either in Mexico or the U.S.), U.S. migrants were still identified in the survey based on reports by neighbors and friends and relatives listed in a re-contact directory collected in 2002. In tracking U.S. migrants, the MxFLS limited their search to migrants who had been in the U.S. for at least one year, or who planned to remain in the U.S. for at least one year, at Wave 2 (Teruel et al. 2012). This definition restricts our analysis to longer-term migrants. By this definition, 854 individuals (2.4% of the MxFLS sample), including 375 children under 18 (2.6% of children) were U.S. migrants between 2002 and 2005.² The 375 child migrants lived in 257 households. In all analyses we adjusted standard errors for clustering at the household level. We also estimated all models on a sub-sample restricted to one randomly sampled child per household, and the results (available upon request) were similar to what we present.

²We do not know what specific age individuals in the MxFLS migrated, only whether or not they migrated between 2002 and 2005, meaning that children who were 15–17 in 2002 may have aged into adulthood by the time of migration. We conducted all analyses on the sample of children who were under 18 in 2002 and those who were under 15 in 2002. Further, we estimated models controlling for marriage, cohabitation, and parenthood among adolescents. The results were consistent with those presented.

Measuring parent involvement in child migration.

To describe the extent of observed parent involvement in child migration, we considered parent migrant status in 2002 and between 2002 and 2005, that is, *before and during* the period over which we observe children's migration. In 2002, parents were either (both) in Mexico, one in Mexico and one in the United States, or both absent from the household. The first group includes children whose parents were both co-resident in 2002 *and* children who lived with only one parent, so long as that parent did not report that their spouse was in the United States at the time. If the child's co-resident parent reported a spouse in the United States in 2002, we coded the child as having one migrant parent in 2002. We do not observe the location of children whose both parents were absent from the household in 2002, so we code these children as a separate category of "both parents absent." Next, we observe parents' migration between 2002–2005 if parents were co-resident with their children in 2002. We use migration status as determined through the MxFLS tracking procedure, described above for children.

Using these two sources of information, we group migrant child into four categories related to their **parents' observed involvement in the migration process**:

1. *the child followed one or both parent(s)*: this includes children with one parent who was in the United States in 2002 and the other who did not migrate between 2002–2005, and children whose both parents were absent from the household in 2002;
2. *the child was accompanied by one or both parents*: this includes children with no parents in the United States in 2002, and one or both parent(s) migrated between 2002–2005;
3. *the child followed one parent and was accompanied by the other*: this includes children with one parent in the United States in 2002, and the other parent migrated between 2002–2005;
4. *the child migrated without parents*: this includes children whose both parents were in Mexico in 2002 and 2005.

To be clear, we do not directly observe following or accompaniment. A child may have migrated between 2002–2005 with a parent in the United States in 2002 (here referred to as "followed") but never reunified. Similarly, a child may have migrated over the same three-year period as a parent (here referred to as "accompanied") but not actually migrated together.³

Modeling migration.

Our second analytical step involves estimating a series of regression models that incorporate measures of both standard (i.e., adult) and child-specific determinants of migration. We use a

³We examined the timing of migration of Mexican children and parents who migrated to the United States between 2002 and 2005 using the 2002–2014 American Communities Survey (Ruggles et al. 2015). Among Mexican-born respondents who migrated to the United States prior to age 18 between 2002–2005, 87% migrated in the same year as their mother and 75% migrated in the same year as their father, suggesting a high rate of accompaniment if we assume that children and parents who migrated in the same year migrated together.

standard model of the individual, household, and community factors that research has shown to predict adult migration from Mexico (for examples, please see Massey and Espinosa 1997; Zenteno et al. 2016). We summarize and define the measurement of all factors in the standard model in Table 1.

To this standard model, we add four “child-specific factors” drawn from our review of the literature on family and child migration: parents’ migration status in 2002, access to education in the community of origin, violence in the community of origin, and peer norms of migration in the community of origin.

Parents’ migration status in 2002 measures the possibility of reunification. We differentiate between children whose both parents were in Mexico in 2002 (or one was in Mexico and did not report the absent parent as in the United States), children who had one parent in the United States in 2002, and children whose both parents were absent from the household in 2002. We do not incorporate parents’ migration between 2002–2005 to the models because it is contemporaneous to child migration and therefore endogenous to the other factors in the model. Assuming children and parents who migrate at the same time migrate for similar reasons, controlling for parents’ coterminous migration would suppress the measurement of the forces related to child migration. Instead, in a second set of models of migration for each group of children, we condition on parents’ coterminous migration to estimate the unique forces leading to accompaniment (described further below).

We measure **access to education** by whether the child lives in a locality with no post-primary school, i.e. no junior high school (*secundaria*) or high school (*preparatoria*), as reported in the community-level files of the MxFLS.

We measure **community violence** in two ways. First, we measure whether the household respondent reported that there is current gang activity in the community or that they feel unsafe or very unsafe in their community. Second, we incorporate the municipal homicide rate, which is equal to the number of deaths by homicide in 2000, as reported in vital statistics obtained from the Mexican National Institute of Statistics and Geography (INEGI) and expressed per 100,000 people.

We measure **peer norms of migration** with youth-specific migration prevalence, which is equal to the share of children (ages 0–18) among all municipal migrants to the United States between 1995 and 2000. Municipal migration is reported in the 2000 Mexican Census international migration supplement, which collected data on the age of all household migrants from 1995–2000, including those in the U.S. in 2000.

The models control for the factors listed in Table 1. We estimated logistic regression models of the log odds of migration separately for each of the three age groups. As a robustness check, we also estimated linear probability models; the results (available upon request) were consistent with those presented here. As previously mentioned, all models adjust the standard errors for clustering within households and are weighted with MxFLS survey weights.

We begin with models of migration among all children. These models answer the question: “which children migrate, and what standard and child-specific factors are associated with their migration?” The first set of models controls for parents’ migration status in 2002 and therefore give an estimate of the arguably unique (or independent) forces associated with children’s migration, net of parents’ earlier migration. However, parents could have also migrated between 2002 and 2005. Therefore, in a second set of models, we condition on coterminous migration of parents; that is, we limit to children whose parents migrated and predict children’s migration among that group. This second set of models predicts accompaniment and answers a distinct question: “among children whose parents migrate, which children accompany their parents, and what standard and child-specific factors are associated with their migration?” Among adolescents only, we estimated a third model limited to adolescents whose parents were neither migrants in 2002 nor between 2002–2005 in order to understand the unique forces that relate to independent migration. This model answers the question: “among adolescents whose parents do not migrate, which adolescents migrate, and what standard and child-specific factors are associated with their migration?”

Results

Descriptive analysis

Table 2 shows results of the first step of our analysis. The table shows age differences in the rate of migration among all children and among children whose parents migrated over the same three-year period. It also shows age differences in parent involvement in child migration among child migrants.

As expected, very young and primary school-aged children are less likely to migrate than are adolescents. The rate of adolescent migration is three times greater than the rate of migration among younger children: 1.5% of very young and primary-school-aged children migrated from Mexico to the United States between 2002 and 2005, compared to 4.7% of adolescents. However, the rate of migration among children whose parents also migrated over the same period does not vary by children’s age. About one third of all children whose parents migrated between 2002 and 2005 also migrated.

Although two-thirds of migrant parents do not migrate with their children, almost all young children who migrate are accompanied by their parents. Parents accompanied 86% of very young children who migrated; another eight percent of child migrants followed parents. Parents accompanied 77% of primary school-aged children who migrated, and another 20% of child migrants followed parents. Only 6.7% of very young children migrated without a parent (these four very young children all migrated with aunts). Only 2.4% of preschool-aged children migrated without parents (these two children were the only members of their households to migrate, and we do not observe whether they migrated with adults outside their household).

In contrast to young children, the one third of adolescent children of migrating parents who also migrated represent the minority of migrating adolescents. The majority (61.8%) of adolescents who migrated did so without observed parent involvement. About one fifth of migrating adolescents followed their parents, and parents accompanied another fifth.

Regression analysis

A series of tables and figures shows the findings from our second analytical step, the regression analysis of migration by age group. Table 3 presents results from logistic regression models of migration among very young (<5) and primary school-aged (6–11) children. We present two sets of regression results for each group of children: models predicting migration among all children in the age group and models predicting migration among children of parents who also migrated, or accompaniment. We highlight child-specific factors in grey.

We expected that very young children would respond primarily to the migrant status of their parents, and that primary school-aged children would respond to community conditions related to child wellbeing, including access to schools and violence. Comparing the first and third set of results, this is what we find. For very young children, parents' migration status—having one parent in the United States prior to 2002—increases the log odds of migration, suggesting the importance of reunification. Very little else differentiates very young migrants from non-migrants in the same age group. For primary school-aged children, parents' migration status in 2002 also increases the log odds of migration, but so do access to schools and perceptions of violence. Primary-school aged children have much greater odds of migrating from communities with no secondary or preparatory school and from communities where adults in their households report concerns about violence, suggesting that these children and their parents make migration decisions with concerns for their wellbeing and safety in mind. In analyses not shown, we investigated whether the association between access to schools and violence varied by level of urbanization. We found that limited access to post-primary schools characterizes rural places and is associated with primary school-aged migration from rural places only. Perceptions of violence are more common in urban places but are associated with migration similarly from rural and urban places.

The results for accompaniment suggest that “child specific concerns” such as schools and safety matter for the migration of primary-school aged children with their parents, but wealth is the more important determinant of accompaniment of very young children. Accompaniment among very young children selects on wealthier households but more marginal communities, and it is more common in the border region of Mexico and in places where child migration is common. These results suggest that when parents of very young children migrate, they bring their children with them when the financial, social, and geographic conditions enable them to do so. When the parents of primary school-aged children migrate, they consider other factors as well—schools and safety—in deciding whether to bring children with them.

A more complex profile emerges for adolescents, shown in Table 4. The first, second, and third columns of Table 4 show results for all adolescents, adolescents with migrant parents (i.e., accompaniment), and adolescents without migrant parents (i.e., independent migration), respectively. Because independent migrants are the majority of adolescent migrants, the results for all adolescents (the first model) look more like the results for independent migrants (the third model) than the results for accompanied migrants (in the middle); we therefore focus on the middle and third columns of results. Among adolescents,

migrants who are accompanied by their parents are the minority (about one fifth of adolescent migrants; refer back to Table 2), and their profile is distinct from independent adolescent migrants. Due to the small sample of adolescents with migrant parents, we see large standard errors. Adolescent migrants whose parents accompany them primarily reside in the border region, and they leave communities where violence is a concern; they are similar in this way to primary school-aged migrants. By contrast, adolescent migrants who migrate independently look more like adult migrants (e.g. see Massey and Espinosa 1997). The log odds of independent adolescent migration increase with age and respond to levels of household and community economic, human, and social capital. Adolescents are more likely to migrate independently out of communities with lower wages, higher marginality, and from the historic migrant-sending region in the center-west of Mexico. Independent adolescent migrants follow parents and migrant relatives, and they migrate from communities where other youth are migrating. As with younger children, we examine whether these associations varied by level of urbanization, and we found that youth migration prevalence was significantly associated with adolescent independent migration out of rural but not urban places.

Figure 1 illustrates age group differences in the relationship between children's migration and three of the key child-specific determinants of migration—parents' migration status in 2002, access to education, and community violence. The figure shows the predicted probability of migration from the first model of migration, migration among all children, within each age group. The figure highlights two important findings of the regression analysis. First, parents' migration status is important for all three age groups, but especially so for very young and primary-school aged children. The black-checked bars, representing the probability of migration among children with migrant parents, are high for each age group. In spite of large error bands, the probability of migrating if parents are migrants is statistically greater than the probability of migrating among similarly-aged children without migrant parents (in solid black). The probability of migration is .04 for very young children with migrant parents, .06 for primary school-aged children with migrant parents, and .05 for adolescents with migrant parents, compared to .01, .01, and .04 for children without migrant parents in each age group. Second, parents' migration status is the only factor that differentiates the probability of migration for very young children, but other factors matter for primary-school aged children and adolescents. Among primary school-aged children, the probability of migration rises with concerns about violence (from .01 to .02) and the absence of a post-primary school (from .01 to .04). For adolescents, the probability of migration also rises with community violence (from .04 to .06).

Figure 2 shows age differences in the relationship between peer norms of migration—measured by the child migration prevalence, or the share of community migrants under age 18—and the probability of migration across age groups. Peer norms of migration clearly matter for the migration of adolescents but not for younger children. The probability of migration rises from .02 to .13 across communities with increasing prevalence of child migration. The lines for very young and primary school-aged children are also positively sloping but the incline is more gradual.

Across Tables 3 and 4, we see widening gendered disparities in migration as children age. There is no difference in the odds of migration among very young children, but by primary school, girls have 50% lower odds ($= (\exp^{-0.7} - 1) * 100$) of migrating than boys. By adolescence, girls have 70% lower odds ($= (\exp^{-1.20} - 1) * 100$) of migrating than boys. Figure 3 illustrates the predicted probability of migration by age and gender from regression models of migration for children of all ages that included an interaction between age in years and gender.⁴ The figure shows that probability of migration grows much faster for boys than it does for girls. In other words, the gender gap in migration emerges and widens with age.

Discussion

Our study reveals that the period of high rates of migration from Mexico to the United States in the early 2000s was characterized by three distinct patterns of child migration. Whereas the youngest children were dependents who nearly always migrated with their parents and only in response to parents' location, most adolescents were near independents who migrated in ways similar to adults. As the degree of child versus parent involvement changes, so do the considerations that matter for whether or not children migrate: at the youngest ages, parents' location was central; at the oldest ages, economic considerations, violence, and youth-specific norms guide the transition to adulthood. In between, children of primary school ages, and some adolescents, are "sources of anxiety" as they and their families make migration decisions considering where it is best for children to grow up (Dobson 2009: 357). In other words, patterns of migration evolve as children age and their interdependency with parents declines. As autonomy from parents increases, other social sources emerge as central: the education system, peer networks, community violence, and labor markets.

The changing role of migrant parents for children's migration across the life course is consistent with changing inter-dependency between children and parents as children age. Among both very young and primary school-aged children, having one or more migrant parent was the most significant predictor of child migration. In fact, almost no very young or primary school-aged children migrated without a migrant parent. As expected, parent migration mattered far less for adolescents. However, when parents were involved with adolescent migration, we observe a distinct pattern of adolescent migration: adolescents who migrated with their parents look a lot more like very young and primary school-aged migrants than they do like adolescents who migrate without parents. The importance of parents for children's migration is consistent with a large body of existing research on the role of social networks for adult migration. This research interprets the effects of family migrants as evidence of social capital theory; migrant networks reduce the costs and increase the benefits of migration, making migration more likely for other adults (e.g., Massey and Espinosa 1997). We suspect that family migration status has a different meaning for children who migrate to accompany or follow their parents: migrant parents motivate young

⁴We did not find other significant interactions between gender and other covariates in the model. We cannot determine if gender does not differentiate the forces generating migration of children or if we do not have power to detect those effects given the number of female child migrants in our data is small.

children's migration for the more fundamental reason of maintaining or achieving the physical unity of the family.

Among primary school-aged students in Mexico in the early 2000s, barriers to education, as measured by communities lacking a secondary school, were strongly associated with migration from rural places in Mexico. Primary school-aged children in rural Mexico were more likely to migrate to the United States if their community did not have a junior high school or high school. This result is not direct evidence of a causal relationship between access to schools and migration because there could be unmeasured characteristics of communities lacking post-primary schools that account for the correlation. Yet, qualitative work in Mexico and elsewhere (Boehm 2008; Hashim 2007) and by quantitative research on adults in Mexico (Martinez et al. 2013) and youth in Haiti (Heckert 2015) also find that educational opportunities, or lack thereof, are a motivation for child migration.

A second child-specific factor associated with the migration of children is violence in the community of origin (Donato and Perez 2017). In the early 2000s, primary school-aged children were more likely to migrate from communities where the survey respondent in their household reported concerns about safety and/or gang activity. Parents of primary school-aged children and adolescents were more likely to take their children with them when they migrated if their origin communities were unsafe. Given that violence in Mexico increased since the early 2000s (Aburto et al. 2016), even in the context of low rates of (economic) migration today, we might expect some Mexican youth to migrate today for reasons of safety.

We found that the share of children in migration flows was strongly associated with rural adolescent migration, more so than the general migration prevalence. As with migrant family members, social capital is thought to explain why the general migration prevalence raises the odds of adult migration out of Mexico, by reducing the costs and increasing the benefits of migration. Something different may be at play with youth-specific migration and adolescents. If the social capital that migrant networks provide were the primary reason why community migration prevalence raised the odds of adolescent migration, then we might expect the general migration prevalence to matter more than youth migration prevalence, as adult migrants presumably have more information and greater ability to facilitate the migration of adolescents than adolescent migrants do. Rather, as research on the culture of migration in Mexico (Kandel and Massey 2002) as well as elsewhere (Ali 2007; Bylander 2015) has argued, when migration becomes normative in a community, it becomes a rite of passage into adulthood, a socially significant indicator of becoming an adult. This may especially be the case in rural Mexico, where alternative routes to adulthood are more limited. We suspect that our findings regarding the youth specific migration prevalence captures this symbolic meaning of youth migration.

As labor markets and youth norms of migration begin to differentiate the migration of adolescents, so does another structure: gender. It is well known that Mexican migration is gendered, reflecting greater constraints on women's mobility (Donato and Gabaccia 2015). Among children, we found no difference in whether boys and girls under age 5 migrated. However, gender difference in migration emerges among primary school aged children, even

those who migrate to accompany parents. By adolescence, boys were 70% more likely to migrate than girls were, even accounting for measured differences between them. Zenteno et al. (2013) showed that this pattern of emerging gender differences extends into young adulthood. These findings reveal how gender interacts with other social identifiers, such as age, to inform the relative participation of men and women, girls and boys, in migration between Mexico and the United States (see also Hamilton 2015).

The data we use predate substantial changes in migration between Mexico and the United States (Villarreal 2014). Between 2005 and 2015, hundreds of thousands of children—U.S. and Mexican-born—migrated from the United States to Mexico (Masferrer et al. 2019; Giorguli Saucedo et al. 2016). Research has documented the substantial barriers these children face to integration in Mexico, particularly in schools (Baca Tavira, Bautista León, and Román Reyes 2019; Glick and Yabiku 2016; Jacobo-Suárez 2017; Medina and Menjívar 2015; Román González and Zúñiga 2014; Vargas Valle 2015; Zúñiga 2013; Zúñiga and Hamann 2015). Life course theory would argue that the early life experiences—including of migration from Mexico to the United States—is crucial to understanding later life experiences, including of return. And while little is known about the causes of this recent migration of children from the United States to Mexico beyond speculation regarding the roles of the Great Recession and immigration enforcement (Masferrer et al. 2019), the framework that emerges here could surely apply: younger children migrating to Mexico likely do so to accompany or reunite with parents, while considerations specific to older children—their schooling, safety, and transition to adulthood—animate their and their parents' migration decisions (Zayas 2015).

A number of additional questions are raised by this analysis. Our analysis of potential parent involvement is limited by the information available in the public data files of the MxFLS. Yet it suggests that a large portion of adolescents were unaccompanied by others from their household when they migrated in the early 2000s. Were they also migrating with adults from outside their household? What portion of them was truly unaccompanied? With more data, we could explore how the determinants of migration varied between children who were accompanied versus those who were not, a question of importance to current debates over the definition and legal treatment of unaccompanied migrant children (see also Donato and Perez 2017). We also have no information about the legal context of migration: were children migrating with temporary or permanent visas or without documents? The age pattern in our data suggests that a substantial portion of children migrating between Mexico and the United States from 2002–2005 were undocumented, as there is no age variation in migration with documents, but substantial age variation in migration without documents (Donato and Perez 2017).

We used survey data that allowed us to observe an unbiased sample of migrating children in national data from Mexico. Because the MxFLS tracked households over time, children who migrated with their whole households did not leave the sampling universe, and among split-households, we did not miss children whose migration was not reported by household members left behind. Data like these are costly and therefore rare, but we do not believe that scholars of child migration are unable to use other data sources to make general theoretical and empirical claims about this important topic. Our research was strongly informed by and

consistent with the body of qualitative work on child migration, which analyzes the complex considerations and processes that migrant children and their families undergo. Our work was also informed by quantitative research using other innovative data sources and approaches, most notably research using retrospective life histories of migrant households from the Mexican Migration Project (Donato and Sisk 2015; Donato and Perez 2017; Zenteno et al. 2015). The great degree of consistency between these studies of children's migration from Mexico to the United States suggests that the next step of scholarship on this topic should involve reconsidering migration theory to incorporate the youngest migrants and the unique and important forces that determine when, why, and how they migrate.

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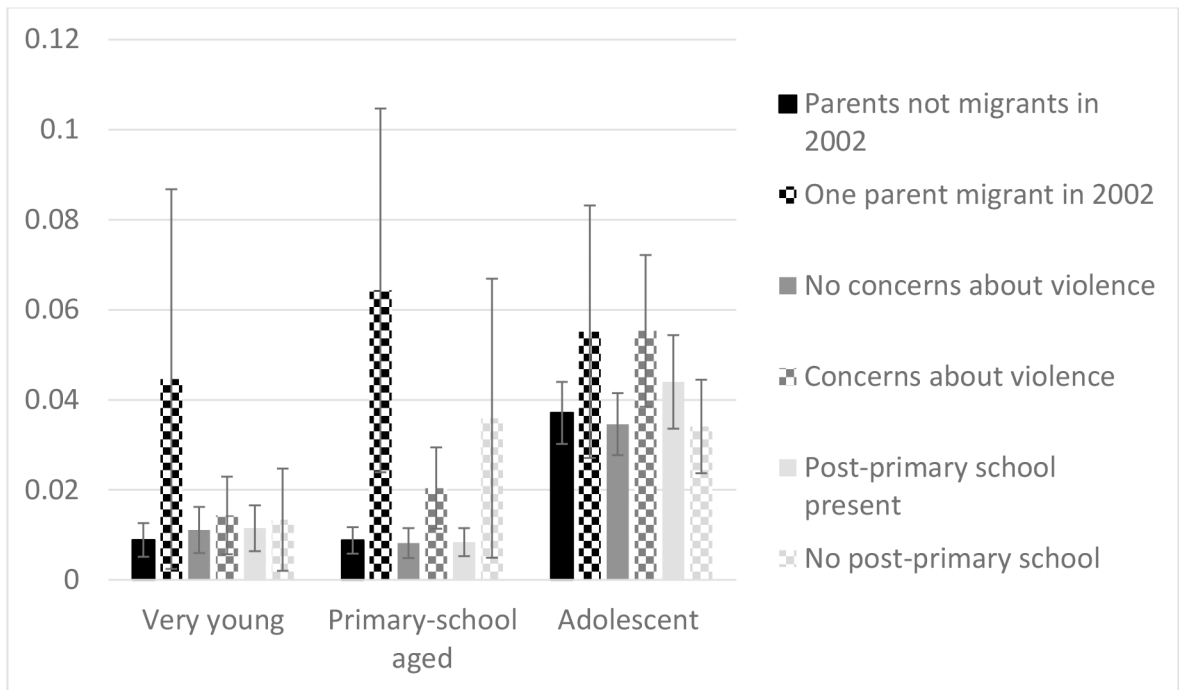


Figure 1. Predicted probability of Mexican child migration to the United States from 2002–2005, by age group and key child-specific determinants of migration
 Source: Mexican Family Life Survey 2002–2005

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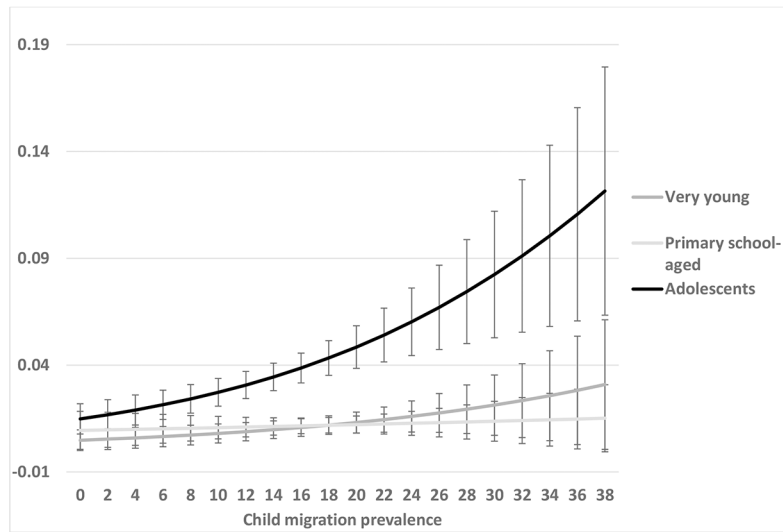


Figure 2. Predicted probability of Mexican child migration to the United States from 2002–2005, by age group, across levels of community child migration prevalence, by age group*
 *Child migration prevalence is measured by the percent of Mexico-US migrants from 1995–2000 in the community of origin who were under age 18 at the time of migration *Source: Mexican Family Life Survey 2002–2005, 2000 Census*

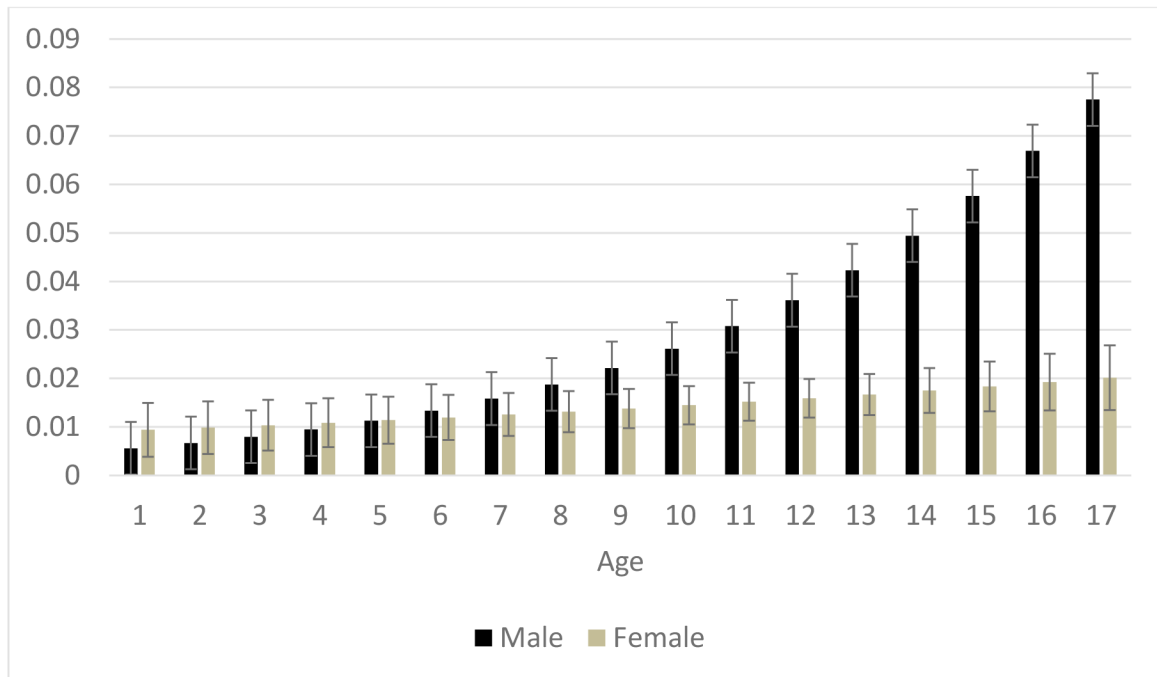


Figure 3. Predicted probability of migration to the United States from Mexico from 2002 to 2005 among boys and girls, by age

Note: Probabilities derived from a model interacting age in years with gender. *Source: Mexican Family Life Survey 2002–2005*

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Table 1.

Definitions used for variables in standard model of Mexico-U.S. migration in the Mexican Family Life Survey

Variable name	Concept measuring	Measurement
<i>Individual</i>		
Age	Life course	Years
Female	Gender	Self- or respondent-reported male/female
Attended school	Human capital	No vs. yes attended in past year
<i>Household</i>		
Education of head	Human capital	Less than primary, primary, junior high school, some high school or more
Migrant relatives	Social capital/ migrant networks	Number of relatives in the US in 2002, other than child's parents, reported by household members
Household marginality	Financial capital	Index summing whether the household head has not completed primary, the head is illiterate, and the head is paid a low wage, and the household lacks running water, lacks toilet/sewage, lacks electricity, has a dirt floor, and is crowded *
Owens agricultural land	Financial capital	Householder reports owning at least one parcel of land that is worked on by household members
Owens business	Financial capital	Householder reports that any household member owns a non-agricultural business in year prior to survey
<i>Community</i>		
Region in Mexico	Geography	Historic (including Guanajuato, Jalisco, Michoacán), Border (Baja California Sur, Sinaloa, Sonora), Center (DF, México, Morelos, Oaxaca, Puebla), South/Southeast (Veracruz, Yucatan)
Level of urbanization	Geography	Locality is rural (<2,500 people), small (2500–14,999), mid-sized (15,000–99,999), or urban (>=100,000)
Wages **	Economic context	Mean hourly wages reported by municipal workers
Economic activity **	Economic context	Percent of 15–64-year-olds in municipality who are economically active
Marginality **	Economic context	Index of the following municipal characteristics: the percent of the population ages 15+ who have not completed primary school and who are illiterate; the percent of workers earning <2 minimum wages; the percent of the population living in places of 5,000 or fewer people; the percent of households without piped water, without toilet/sewage, without electricity, with dirt floors, and with crowding *.
General migration prevalence **	Social capital/ migrant networks	The percent of municipal households who reported in 2000 at least one U.S. migrant between 1995–2000

* The minimum wage is defined according to three wage zones defined by distinct costs of living; crowding is defined as 2 or more people per room in the house.

** Variables measured using the 2000 Census long-form data; all others are measured using or by the 2002 MxFLS

Table 2.

Rate of child migration and parent involvement in child migration, Mexico to the United States from 2002–2005, by age group

	Very young (0–5)	Primary sch. age (6–11)	Adolescent (12–17)
Rate of child migration	1.5	1.5	4.7
Rate of child migration among children whose parent(s) also migrated	33.8	36.0	36.3
Parent involvement, among child migrants			
<i>Child follows parent(s)</i> (One parent in U.S. in 2002 or both parents absent in 2002)	8.3	20.7	18.9
<i>Child accompanied by one or both parents</i> (No parents in U.S. in 2002; at least one migrates 2002–2005)	57.7	54.9	18.9
<i>Child follows one parent, accompanied by the other</i> (One in U.S. in 2002; one migrates 2002–2005)	28.3	22.0	0.4
<i>Child migrates without parents</i> (Both parents were in Mexico in 2002 and 2005)	6.7	2.4	61.8
Sample of children	3938	5330	4960
Sample of child migrants	60	82	233

Source: 2002–2005 Mexican Family Life Survey

Table 3.

Coefficients and standard errors from logistic regression models of very young and primary school-aged Mexican children's migration to the United States from 2002–2005

	Very young				Primary school-aged			
	(1) All children		(2) Children w/ migrant parents		(3) All children		(4) Children w/ migrant parents	
	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Individual								
Age	-.11	.18	-.36	.31	-.5	.07	.13	.17
Female	.11	.40	.24	.82	-.70	.28 *	-1.71	.57 *
Indigenous	-.36	.48	.46	.83	.22	.42	.32	.84
Attends school	.52	.44	.71	1.12	-.45	.44	-.23	1.19
Parents' location in 2002 (ref=both in Mexico)								
One in US	1.71	.60 *			2.33	.47 ***		
Both absent	.36	.86			2.44	.48 ***		
Household								
Education of head (ref = <primary)								
Primary	-.96	.82	-1.44	1.28	-.06	.64	.47	.97
		1.0						
Junior high school	1.15	.8	-2.06	1.73	.05	.69	1.27	1.22
		1.2						
High school +	1.07	1	-2.50	2.09	.01	.85	.18	1.30
Number of migrant relatives								
	.09	.05	.17	.10	.20	.05 ***	.19	.13
								*
Marginality	-.36	.28	-1.59	.52 **	.04	.17	-1.58	.46 *
Owens agricultural land	-.18	.48	-1.72	1.17	-.77	.56	-2.54	.99 *
Owens business	.66	.39	-.20	1.42	.32	.44	-.22	.85 *
Community								
Region (ref = Historic)								
Border	-.19	3.6	-.20	2.42	-.28	.59	1.94	1.49
Center	-.96	.61	-4.49	1.40 **	-.40	.53	-2.28	.90 *
		1.2						
South/Southeast	-2.42	.7			-1.50	.93	-2.14	1.50
Urbanization (ref = urban)								
Mid-sized	-.56	.85	.51	2.00	.70	.70	.82	1.39
Small town	-.27	.91	.13	1.34	.84	.75	.76	1.00
Rural	-.67	.83	-2.13	2.12	-.41	.76	-3.25	1.27 *
Wages	-.06	.05	.03	.11	-.08	.05	-.05	.03
Economic activity	-.03	.03	-.05	.05	.01	.03	.04	.05

	Very young				Primary school-aged			
	(1) All children		(2) Children w/ migrant parents		(3) All children		(4) Children w/ migrant parents	
	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Marginality	-.02	.54	2.38	0.93 *	-1.08	.59	.32	.67
Migration prevalence	.00	.04	-.22	.12	.06	.04	.03	.10
No post-primary school	.17	.58	-.75	1.42	1.69	.60 **	2.50	1.21 *
Child migration prevalence	.05	.03	.30	.10 **	.01	.03	.19	.07 *
Perception of violence	.28	.45	1.70	.97	1.03	.37 **	2.28	.95 *
Municipal homicide rate	-.00	.02	-.11	.04 *	-.01	.02	.00	.03
Sample of children		5938	151		5248		175	
Sample of migrant children		60		51		82		63

Source: Mexican Family Life Survey 2002–2005, 2000 Census

*
p<.05,

**
p<.01,

p<.001

Table 4.

Coefficients and standard errors from logistic regression models of Mexican adolescent migration to the United States from 2002–2005

	(1) All adolescents		(2) W/ migrant parents		(3) No migrant parents	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
Individual						
Age	.32	.08 ***	-.53	.30	.43	.09 ***
Female	-1.20	.20 ***	-.89	.70	-1.42	.25 ***
Indigenous	-.42	.25	1.07	.96	-.41	.31
Attends school	-.01		.08	.66	.05	.24
Parents' location in 2002 (ref= in Mexico)						
One in US	.42	.34				
Both absent	.96	.34 **				
Household						
Education of head (ref = <primary)						
Primary	-.66	.27 *	-.07	1.21	-.56	.31
Junior high school	-.31	.41	2.00	1.13	-.87	.48
High school +	1.82	.54 **	-.58	1.60	-2.14	.64 **
Number of migrant relatives	.07	.03 *	.24	.15	.08	.04 *
Marginality	.11	.11	.50	.54	-.01	.12
Owens agricultural land	.25	.24	-.85	1.01	.25	.26
Owens business	-.48	.30	-1.03	1.26	-.50	.34
Community						
Region (ref = Historic)						
Border	-1.17	.50 *	3.92	1.88 *	-1.50	.64 *
Center	-.46	.30	-.30	1.00	-.47	.37
South/Southeast	-.69	.51			-.46	.54
Level of urbanization (ref = urban)						
Mid-sized	-.07	.56	-2.06	1.54	.03	.64
Small town	.59	.40	-.13	1.69	.70	.46
Rural	-.69	.51	-2.29	1.97	.43	.48
Wages	-.04	.02 **	-.46	.17 **	-.02	.01 *
Economic activity	.00	.01	-1.5	.10	.02	.02
Marginality	.35	.21	-4.35	1.86 *	.62	.24 **
Migration prevalence	.02	.02	.02	.16	.03	.03
No post-primary school	-.31	.27	2.58	1.68	-.51	.31
Child migration prevalence	.07	.02 ***	.19	.10 *	.08	.02 ***
Perception of violence	.58	.24 *	3.26	1.20 **	.49	.28
Municipal homicide rate	-.01	.01	.01	.06	-.01	.01
Sample of children		4960		124		4307

	(1) All adolescents		(2) W/ migrant parents		(3) No migrant parents	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
Sample of migrant children		233		45		171

Source: Mexican Family Life Survey 2002–2005, 2000 Census;

*
p<.05,

**
p<.01,

p<.001

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