

Parental Migration and Education of Left-Behind Children: A Comparison of Two Settings

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The out-migration of parents has become a common childhood experience worldwide. It can confer both economic benefits and social costs on children. Despite a growing literature, the circumstances under which children benefit or suffer from parental out-migration are not well understood. The present study examined how the relationship between parental out-migration and children's education varies across migration streams (internal vs. international) and across 2 societies. Data are from the Mexican Family Life Survey (N = 5,719) and the Indonesian Family Life Survey (N = 2,938). The results showed that children left behind by international migrant parents are worse off in educational attainment than those living with both parents. Internal migration of parents plays a negative role in some cases, though often to a lesser degree than international migration. In addition, how the overall relationship between parental migration and education balances out varies by context: It is negative in Mexico but generally small in Indonesia.

Recent estimates have indicated that approximately 214 million people in developing nations now live outside their home country (United Nations, 2009). Internal (within-country) migration occurs at even higher rates, although the scale is difficult to accurately determine (International Organization for Migration, 2005). Large-scale migration has both economic and social implications, because it often leads to major transformations in family life and dynamics. As a result, children in developing countries have been increasingly affected by migration (UNICEF, 2007). Whereas some children migrate with their parents, the associated costs and risks of migration necessitate that many be left behind by one or both parents, who go out for work hoping to improve their children's standard of living.

As a consequence, in developing countries today an increasing number of children grow up with one or no parents (UNICEF, 2007). Unlike in developed societies, such situations largely

arise from labor out-migration of parents. Parental migration constitutes a distinct form of parent–child separation in that it simultaneously generates economic benefits and associated social costs (Dreby, 2010; McKenzie, 2005). A close investigation of the role of parental migration for children’s education will contribute to our understanding of how varied family structures in developing countries can be and how new forms of family shape children’s well-being.

The importance of this topic has generated much debate on the overall net effect of parental migration on children in a wide variety of national contexts. Previous research, mostly based on a single setting, has reported a positive, negative, or neutral relationship between migration and children’s education (Adams, Cuecuecha, & Page, 2008; Arguillas & Williams, 2010; McKenzie & Rapoport, 2006). Such discrepancies underscore the importance of developing a contextualized understanding and point researchers to a direction for identifying the conditions under which children benefit or suffer from parental out-migration. A comparative perspective is particularly helpful in these respects because it specifies different conditions in which to examine the role of migration. To the extent that the role of parental migration plays out similarly across context, the comparisons facilitate the development of generalizations that can help us more broadly interpret the consequences of out-migration for children. Also important is that a comparative study allows for the identification of differences in the role of parental migration across settings and the development of a better understanding of how the relative balance of the positive and negative processes associated with migration may shift depending on context.

To this end, in this study I first compared children left behind by internal migrants and international migrants and examined how each group fared relative to children not left behind in

each study setting. Previous studies have suggested that internal and international migration are alternative strategies in response to broad social and economic forces and can be studied under a unified framework (Pryor, 1981). Despite some broad similarities, they entail different levels of family disruption and economic return. This may lead to different ramifications for children.

This study also provides a cross-country comparison of Mexico and Indonesia. These two countries were selected for several reasons. They share broad similarities as developing countries, and both experience large-scale internal and international migration (Hugo, 2005; Mishra, 2007), which yielded sufficient numbers of left-behind children for the analysis. The two countries differ in potentially important ways, however—for example, in terms of the level of socioeconomic development and the availability of educational resources (World Bank, 2005)—that could affect the link between parental migration and children’s education. Earlier comparative family research suggests that family resources are more important for education in resource-poor settings or settings where public educational resources are more limited (Lloyd, 1994; Lockheed, Vail, & Fuller, 1986; Post & Pong, 1998). Following this proposition, one may expect the differences between the two study settings to shape the relative balance of the costs and benefits of out-migration. For example, the economic benefits accrued from migration may be more important in poorer settings with more limited public educational spending. This could shift the net association between parental migration and children. This two-country comparison also permits an examination of whether the similarities or differences of the role of internal and international parental migration are consistent across contexts.

This comparative study was facilitated by comparable longitudinal data (the Indonesian Family Life Survey [IFLS; www.rand.org/labor/FLS/IFLS.html] and the Mexican Family Life Survey [MxFLS; www.ennvih-mxfls.org/en/mxfls.php?seccion=1&subseccion=1&session=1]),

which allow for meaningful comparisons. The study distinguishes three groups of children—children of internal migrants, children of international migrants, and children of non-migrants—in each of the two countries. Fixed effects models were used to adjust for some sources of potential bias to obtain more robust results.

BACKGROUND

Migration, Parent–Child Separation, and Children’s Education

The present research was informed by an extensive literature recognizing the central role of family in child development, especially the impact of family disruption (Garfinkel & McLanahan, 1986; McLanahan & Sandefur, 1994), as well as by a growing literature on the impact of migration on various aspects of family life (Dreby, 2010; Parreñas, 2005). With respect to the first body of literature, research has indicated the critical consequences of parental presence or absence for a range of child outcomes. Parental availability and engagement in children’s lives improves children’s educational outcomes, even after ability and family background are taken into account (Epstein, 2001). By contrast, parent–child separation has substantial adverse effects on children’s education, cognitive development, and psychological well-being (Amato & Cheadle, 2005; McLanahan & Sandefur, 1994). In Western societies, such separation is often the result of marital dissolution (Amato & Cheadle, 2005; Potter, 2010). In the developing world it was thought to largely result from parental death (Beegle, Filmer, Stokes, & Tiererova, 2008). Only recently has attention been paid to separation due to migration.

According to one strand of the migration literature, migration is a household strategy for diversifying risks and improving the household economic welfare (Stark & Bloom, 1985). This view necessitates the importance of family in fully understanding the decisions to migrate and the consequences of migration. Scholars have begun to examine the impact of out-migration on

the microworlds of families left behind. On the one hand, a large fraction of migrants' incomes are devoted to remittances, which reduce the economic vulnerability of the original families (Azam & Gubert, 2006; Semyonov & Gorodzeisky, 2008). On the other hand, the family separation as a result of out-migration has inevitably led to changes in family life and could put strains on family relationships (Dreby, 2010; Parreñas, 2005).

A synthesis of these bodies of literature suggests that the impact of parental out-migration is complex. First, the adverse impact of family separation noted in the broader family literature is likely to arise in the context of migration. Parent migration leads to a reduction in the parental support and supervision essential for child development (Parreñas, 2005). It also causes strains and conflict within families, most importantly in the relationship between parents and their children (Dreby, 2010). The remaining parent or caregiver may face additional household responsibilities and obligations, thus further occasioning a decline in the quantity and quality of care provided to children (McKenzie, 2005). Children themselves may also endure increased household obligations (Jones, Sharpe, & Sogren, 2004). Moreover, out-migration leads to the absence of an authority figure and traditional disciplinarian in the family (Dreby, 2010). The parent or caregiver left behind may encounter emotional distress (Lu, 2012). Such distress not only aggravates parenting deficits but may also be inadvertently transferred to children and weaken their overall well-being. Ethnographic work has demonstrated that children left behind often feel a lack of affection and attention and develop resentment toward their parents (Nazario, 2007). These negative feelings and experiences likely result in emotional and behavioral repercussions that are not easily reparable (Lahaie, Hayes, Piper, & Heymann, 2009). All of these negative experiences can cause problems in school, leading to poor school performance, school interruption, and even dropout.

How the role of parental migration differs by parent's gender is a crucial part of the picture (Dreby, 2010). Although family practices have been changing in many parts of the developing world, motherhood and fatherhood are generally perceived in distinct ways (Chant, 1992). Mothers are charged with being the main caregivers of their children, and fatherhood is linked with authority and protection. In the context of migration, these differences may mean that whereas the out-migration of fathers leads to the lack of a male role model and disciplinarian figure, the absence of mothers tends to incur substantial disruptions in everyday life and may be more detrimental for children (Parreñas, 2005).

One important yet understudied question is how the level of family disruption may vary by the migrant parents' destinations. In particular, cross-country (international) and within-country (internal) migration can incur different degrees of disruption for children. International migration may imply a longer duration of separation and less frequent contact between parents and children than internal migration. Although many international migrant parents expect separations to be brief, they typically drag out for years (Nazario, 2007). Such prolonged separation may result in substantial reductions in parental support that can eventually affect a child's educational progress. By contrast, internal migration can be quite circular and usually generates shorter episodes of separation.

Second, it should be noted that parental out-migration is distinct from many other types of family disruption (e.g., divorce, parent death), which are commonly accompanied by declines in economic well-being (Garfinkel & McLanahan, 1986). Households with migrants often receive substantial remittances (Semyonov & Gorodzeisky, 2008). These resources serve as a critical means for enhancing family income and standards of living. Such remittances might improve children's educational prospects insofar as they allow more resources to be allocated

toward education (e.g., covering school expenses and reducing economic pressure to leave school) or are used to mitigate the time and energy constraints of the caregiver or the demand for child labor (Brown & Poirine, 2005). Although some scholars suggest that a large share of remitted earnings are used for recurrent expenses and consumer goods (Canales, 2007), others contend that remittances enable parents to invest more freely and more heavily in their children's education (Lu & Treiman, 2011).

The economic benefits of migration, however, may be constrained, especially in the early stage of migration, when left-behind households receive limited or no remittances in tandem with reduced household labor. Kandel (2003) showed a time lag between migration and receipt of remittances and improvement in household welfare. One immediate aftermath of out-migration may be financial hardship, which could push caregivers to shift their time further away from child care and to reduce education expenses. If out-migration creates an unmet need within the household for domestic duties, children may shift their time into home production, resulting in schooling interruptions. Beyond this initial stage, earlier research also has found considerable fluctuations in remittance flows, with some households receiving remittances only irregularly (Amuedo-Dorantes & Pozo, 2010).

The time lag, initial economic difficulties, and fluctuations of remittances that left-behind families face tend to be greater for families of international migrants because such a move often entails a longer period of adjustment than internal migration (Kandel, 2003). These constraints may be intensified for families of undocumented immigrants as a result of rising costs of illegal immigration and the precarious conditions illegal immigrants face (Durand & Massey, 2006). Therefore, it is worth noting that although international migration can generate a higher level of

remuneration than internal migration due to differences in wage rates between sending and receiving nations, it is not always the case.

Another potential consequence of out-migration is the reduction in educational aspirations. Migration may provide an alternative route to economic mobility and reduce the motivation to invest in additional years of schooling (Kandel & Kao, 2001). As a result, migration of family members may increase the likelihood that children will forgo school and migrate in search of employment. In anticipation of migration to obtain low-skilled work in the future, children may also decrease the effort they invest in school (Kandel, 2003). This possibility is likely to occur in the cases of both internal and international migration.

The aforementioned countervailing forces suggest that the overall effect of parental out-migration on children's education is not clear cut. Indeed, the growing body of scholarship has found mixed effects. Some studies have found that out-migration positively affects children's schooling and improves academic performance (Adams et al., 2008; Curran, Cadge, Varangrat, & Chung, 2004; Hanson & Woodruff, 2003; Lu & Treiman, 2011; Macours & Vakis, 2010). Others contradict this view and have demonstrated either a deleterious impact (Creighton, Park, & Teruel, 2009; Halpern-Manners, 2011; Lahaie et al., 2009; Lopez-Cordoba, 2005; McKenzie & Rapoport, 2006; Nobles, 2011) or a neutral impact of parental migration on children's school enrollment and completion (Arguillas & Williams, 2010; Borraz, 2005).

The discrepancies in earlier work seem to suggest that the way the positive and negative aspects of parental migration balance out is conditional on the specific circumstances under study. Nevertheless, until now, the circumstances under which children benefit or suffer from parental migration have not been well understood. A comparison would be particularly useful in this respect in that it can offer a closer examination of how the balance between the economic

benefits and social costs of migration for children, and thus the overall net impact, plays out under various contexts. To this end, the current study provides two types of comparison that are relevant, namely, between internal and international migration as well as across settings.

The vast majority of earlier work on migration and left-behind children has focused on a single setting, with some recent exceptions. Jordan and Graham (2012) examined the well-being of children left behind by overseas migrant parents in three southeast Asian countries (Indonesia, Philippines, and Vietnam). They found that children left behind reported less happiness, but there was no difference in school performance between children of migrant parents and non-migrant parents. They did not find general patterns across the three settings. This may be due in part to the considerable similarities across the three settings. An enhanced design would use countries with differences in dimensions that could have implications for the effect of family migration on children.

The comparative family research sheds some light on the contextual factors that shape the importance of family resources for children's development. Lockheed et al. (1986) found that basic material inputs were most important for children's well-being in resource-poor settings with inadequate or highly variable resources but were less so in contexts that have achieved a certain minimum level of basic resources. Furthermore, research in developed societies has shown that family economic resources have a relatively small effect on children's outcomes, which is partially attributed to the public spending and welfare that help provide for families' basic needs (Aughinbaugh & Gittleman, 2003). Similarly, in developing societies, government educational spending may reduce the direct costs of schooling, thereby reducing the importance of family resource constraints for investment in children (Lloyd, 1994; Post & Pong, 1998).

By reformulating these findings to the context of parental out-migration, one may expect that remittances from migrant parents have a greater impact on children's education in settings with limited public educational spending than in settings with more generous public educational resources. This is because in more resource-constrained settings, these material resources can tip the balance regarding how much the family can invest in children's education. In other words, a low level of economic development and public educational spending may increase the potential benefits of migration for children.

Study Settings: Comparing Mexico and Indonesia

To conduct the two types of comparison outlined above it is important to identify settings with both large internal and international migration, that are situated at different levels of development and public educational resources and that have comparable data available for a meaningful investigation. These criteria led me to choose Mexico and Indonesia.

The two countries both experience large-scale migration, both overseas and within the country. Mexican overseas migrants now represent about 15% of the Mexican working-age population (Mishra, 2007). The vast majority of these immigrants go to the United States, and many of them are undocumented. The dynamics of Mexico–United States migration have shifted since the mid-1990s, reflected in the sharply decreased rate of circular migration because of the tightening militarization of the border. The average duration of each trip has increased from 38 to 72 months (Mendoza, 2008). Also, Mexican migrants rely increasingly on clandestine channels. The rising demand for smuggling services and the growing risks of border crossing have raised the smuggling fees from a few hundred dollars to several thousand dollars (Durand & Massey, 2006). Internal migration within Mexico has also been voluminous, though it is steadily being

replaced by U.S. migration (Boucher, Stark, & Taylor, 2005). Between 1990 and 2002, the share of Mexican migrants at domestic destinations rose from 11% to 15% (Mora & Taylor, 2006).

Indonesia also has experienced large-scale internal and international migration, though to a lesser extent than Mexico. Since the late 1970s the country has been a primary source of unskilled migrant workers to Southeast Asian countries and the Middle East, especially to Malaysia and Singapore. It is one of the largest female-migrant-sending countries in Asia. By the early 2000s, the country had sent approximately 2.5 million immigrants (Hugo, 2005). About 70% of them are women working in the informal sector, mostly as domestic helpers. Individuals generally contract to migrate for a fixed period of time (e.g., 2 years) through official or private recruiting agencies (Shah & Menon, 1999). Some migrants are temporary and circular, but many renew short-term contracts (again, usually 2 years) to stay longer in destinations (Wu, 2008). The scale of undocumented immigrants in Indonesia is smaller than that in Mexico but has increased over time as a means of avoiding the exit tax and bureaucratic delays (Rogers, Muhidin, Jordan, & Lea, 2004). Internal migration is more substantial than international migration in Indonesia (Hugo, 2005). Because of the country's high economic growth, domestic destinations have been popular, especially large cities such as Jakarta and Surabaya. Indeed, the pace of urbanization in Indonesia has exceeded that of many other developing countries (United Nations, 2002). The proportion of domestic and international migrants combined is estimated to be around 15% (Rogers et al., 2004).

Second, although it is classified as a developing country, Mexico has experienced relatively high levels of economic development compared to many other developing settings (the country's gross domestic product [GDP] per capita is \$14,183; World Bank, 2005). Moreover, Mexico has made important progress in educational expansion in the past few decades, resulting

in increased school enrollment (primary school and secondary school enrollment rates are 98% and 67%; World Bank, 2005). Despite these advances in education, high rates of grade retention and school interruption persist, especially in rural areas (Kandel, 2003).

By contrast, Indonesia remains a poor country (its GDP per capita is \$3,730; World Bank, 2005). The country has made remarkable progress in raising educational attainment (Morrisson, 2002). Primary school and secondary school enrollment rates are 92% and 56%, respectively (World Bank, 2005). Nevertheless, compared to Mexico, Indonesia has lagged in both educational outcomes and spending. For example, the mean number of years of schooling is 5 in Indonesia and over 7.2 in Mexico (as a result, Mexico ranks 53rd and Indonesia ranks 111st, in the Human Development Index; World Bank, 2005). In Mexico, educational spending accounts for 11.7% and 13.8% of per capita GDP at the primary and secondary school levels, respectively. In Indonesia, it accounts for only 3.2% and 8.7%, respectively (UNESCO, 2008).

The Present Research

The first question I examined was “How do children left behind by internal and international migrant parents fare in education?” As discussed above, international migration implies a longer duration of parent–child separation than internal migration, which tends to result in more deficits in parenting that can ensue over the course of a child’s education and perhaps hinder his or her educational progress. In the meantime, although international migration can generate a higher level of remittances, families left behind by international migrants may face fluctuations in remittances. Taken together, the net effect of international out-migration on children’s education may be similar to, or even more detrimental than, that of internal migration.

The second question I addressed was “How do left-behind children in Mexico fare relative to those in Indonesia?” Although the two countries share broad similarities as developing

societies with large-scale migration, they display important differences in the level of socioeconomic development and public educational resources. On the basis of early comparative research on the effect of family resources on children, it is plausible that the positive aspect of migration due to improved economic resources is greater in poorer settings with limited public educational spending (e.g., Indonesia). This positive effect could counteract much of the disruptive effect of parental out-migration. But in relatively more developed settings with more generous public educational investments (e.g., Mexico), improved material resources from migration may be less important for schooling, which could yield an overall more detrimental impact of parental migration.

In addition to the two main questions outlined above, I distinguished different types of parental migration (father, mother, or both parents) and assessed how a child's educational outcome differs between when the father migrates and when the mother or both parents migrate. Also, although I did not have an adequate amount of information to examine the underlying economic and social mechanisms associated with migration, I sought to provide some analysis related to the economic process of migration by studying the role of parental migration as it relates to children's educational expenditures.

METHOD

Data

The present research was facilitated by comparable longitudinal data (the IFLS and the MxFLS). Both are large-scale representative surveys at the national, urban, and rural levels. To obtain the sample, a stratified multistage procedure was used in which the primary sampling units were selected to ensure accurate representation on national, rural, and urban key demographic and socioeconomic variables. The two data sets have good comparability with respect to study

design, content, and specific measures (Rubalcava & Teruel, 2006; Strauss, Witoelar, Sikoki, & Wattie, 2009).

Two waves of the MxFLS data are available. MxFLS1 was conducted in 2002, and 35,677 individuals in 8,440 households were interviewed (Rubalcava & Teruel, 2006). One-on-one interviews were conducted with all household members age 12 and above. For children younger than 12, fieldwork personnel interviewed a parent or caretaker. The MxFLS2 was conducted in 2005–2006 to reinterview all members of the original households, including individuals who migrated both within Mexico and to the United States. It achieved a high follow-up rate of 91%. The final sample of MxFLS2 consists of 35,089 individuals.

Four waves of the IFLS are available. The first wave was conducted in 13 out of 27 provinces in Indonesia in 1993 and included interviews of 7,224 households and 22,347 individuals. In 1997, IFLS2 was conducted to reinterview all IFLS1 households and respondents. IFLS3 and IFLS4 were conducted in 2000 and 2007, respectively, and included interviews with over 80% of all households and individuals in previous waves (Strauss et al., 2009). The final sample of the IFLS included more than 50,000 individuals across all waves. For the present study, IFLS3 and IFLS4 were used because they allowed me to distinguish internal and international out-migration of parents. Note that IFLS3 and IFLS4 are 7 years apart, longer than the time interval across waves of MxFLS. A sensitivity analysis was conducted to evaluate the potential implications of different time intervals, which showed that the different interval is not a main explanation for the cross-country difference.

Variables

The variables used in the analysis were constructed very similarly using the MxFLS and IFLS data. The dependent variable was a continuous measure of the child's highest grade completed,

ranging from 0 (*no education*) to 12 (*third year of high school*). This education measure was more sensitive to problems due to family disruption than measures that evaluate current school enrollment or completed years of schooling because it allows one to better capture school progress as well as deviation from expected completed schooling for reasons such as grade retention (i.e., being held back a year) and school interruption. In developing settings, progression through school is often interrupted. At any given age, children tend to complete very different levels of schooling. In regard to educational expenditures, both surveys collected information on children's educational expenditures, which included school fees (e.g., enrollment, registration) and materials fees (e.g., books, school utilities, uniforms). These items were summed and logged to be included in the analysis.

The main predictor was parental out-migration status. The surveys included a detailed household roster with information linking a child with his or her father and mother as well as information on the parents' status (i.e., whether they were alive; whether they were married; whether they currently lived in the household; and, if not, the current place of residence [domestic or international]). In cases where one parent's information was missing, information on the spouse's status was used to determine the parent's status. Using these procedures, I created a measure of parental migration status at each wave of the two surveys, distinguishing children in families where both parents were present (= 1), one or both parents migrated internally (= 2), and one or both parents migrated internationally (= 3). A very small number of children with one internal and one international migrant parent (< 3%) were treated as children left behind by international migrants because international migration entails greater changes than internal migration. Dropping these cases or treating them as children left behind by internal-migrant parents did not change the substantive results. I further disaggregated this measure by

mother's and father's migration status.

Other covariates included children's sex and age and the highest educational level of adults in the households (1 = primary school or no education, 2 = junior high school education, 3 = high school education or above). I controlled for age both as linear and quadratic terms to capture potential nonlinear trajectories of schooling. The analysis also controlled for the number of children age 6–18 (i.e., school age) in the household, an indicator of competition for household educational resources and parental input, and whether children lived in extended families (1 = grandparents or other relatives were present in the households, 0 = otherwise). I also adjusted for household monthly per capita expenditures (logged) as a measure of household economic resources. Household expenditures are thought to better capture household economic resources than income, which fluctuates considerably and does not reflect financial transfers from household members living away. A sensitivity analysis without controlling for household expenditures yielded highly consistent results with respect to the role of parental migration.

The community-level variables included urban and rural residence and the state/province of residence. In Indonesia, information on rural and urban residence was directly available. In Mexico, the standard classification based on population size was adopted, with rural communities defined as those with 2,500 or fewer inhabitants. Two aggregated community-level variables were also included: (a) the logarithm of average household per capita monthly expenditures as an indicator of the level of local socioeconomic development and (b) the proportion of households with school-age children (6–18) of migrant parents (internal and international). The latter reflected the institutionalization and norm of parental migration in the community. I also included interactions between survey wave and province of residence to account for some macroeconomic shocks and province-level contextual effects.

Analytic Strategy

The analytic sample comprised children between the ages of 6 and 18 across the waves of each survey. Age 6–18 was the typical school age in both countries, where students progressed through 3 years of primary school, 6 years of middle school, and 3 years of high school. The analysis was performed on children age 6–15 in MxFLS1 and children age 6–11 in IFLS3 (who were age 18 or under by MxFLS2 and IFLS4). To focus on parental migration, children whose parents were divorced or dead were not considered in the analysis. The attrition rate for eligible children in IFLS was 29.2% between 2000 and 2007; the rate in MxFLS between 2002 and 2005 was 15.1%. The amount of missing information in the surveys was very small, below 3%. The numbers of children included for the final analysis in Indonesia and Mexico were, respectively, 2,938 and 5,719. Sensitivity analyses were conducted to evaluate the implications of sample attrition and missing data for the results. These analyses showed consistent results with respect to the role of parental migration.

Estimates of the consequences of out-migration for children may be confounded by potential endogeneity bias. Migrants may be positively selected in many ways (e.g., abilities) that cannot be directly accounted for, and children left behind could share with their parents a latent disposition for better cognitive development and academic performance. Other aspects of shared unobserved factors may both select parents into migration and predispose children to better or worse schooling (e.g., family background) or drive caregivers toward good or poor parenting practices (e.g., motivation). For instance, if households with poor socioeconomic conditions tend to motivate parents to migrate, and such conditions also have a negative effect on children's schooling, one would overestimate the negative effect of migration if household premigration conditions are not adequately controlled. The degree of selectivity may also differ

for internal and international migration given the different resources, economic needs, and motivations involved. Many of the aforementioned factors are unmeasured in the surveys or missing for absent parents. In the absence of experimental designs, I could not completely adjust for these factors and ascertain the causal effect of migration on children. Second-best strategies have been developed. One widely used strategy is to exploit longitudinal data to take into account some of the latent individual and familial characteristics via fixed effects (FE) models, as formulated in the following equation:

$$E_{it} = \mu_t + \beta PM_{it} + \gamma X_{it} + \alpha_i + \varepsilon_{it} \quad ,$$

where E_{it} is the continuous indicator of highest grade level for child i at year t ; PM_{it} is parental migration status; X_{it} is a vector of other covariates at the child, family, and community level; μ_t is the intercept; ε_{it} is the error term; and α_i represents the unobserved factors specific to each child and constant over time that may affect both parental migration and children's growth. Linear FE models can be estimated by pooling the two waves of each survey and purging out α_i by subtracting the equation across waves of each survey. The FE approach relies on the assumption that unobserved heterogeneity is time invariant. Although I could not rule out time-varying selection factors, this assumption may not be seriously violated because many endogenous factors were likely attributable to family background or were highly heritable (e.g., premigration conditions, abilities).

As an additional analysis, I examined, using the FE models, how parental migration was associated with a child's educational expenditures in the past month and how educational expenditures were associated with children's schooling. This analysis provided some insights into the relationship between migration and household educational resources that could help explain the net effect of parental migration across the two study settings.

Results

Descriptive Statistics

Descriptive statistics on parental out-migration status are shown in Table 1. In Mexico, 12.8% (6.7% + 6.1%) of children were left behind by one or both parents in 2002, compared to 8.9% (6.6% + 2.3%) of children in Indonesia in 2000. Over time, the percentage of left-behind children increased to 15.5% and 11.5%, respectively in Mexico and Indonesia. Much of the increase was attributed to growing international migration. At the individual level, the proportion of children who experienced changes among three categories of parental migration status was 10.5% in Mexico and 9.7% in Indonesia.

<Table 1 about here>

Several other observations can be made. International migration was more common than internal migration in Mexico, but this pattern was the opposite in Indonesia, which had a shorter history of international migration. This was consistent with Bryant's (2005) results showing that, in Indonesia, children were more often left behind by internal than international migrant parents. These observations largely held when the mother's and father's migration statuses were examined separately. I also noted that migration of mothers alone was generally rare, with the exception of Indonesian female migrant workers overseas. For example, among children with one or both parents as internal migrants, 4.1% and 3.2% of children, respectively, had migrant fathers only in 2002 in Mexico and 2000 in Indonesia. By contrast, only 0.2% and 0.3% had migrant mothers only. Another 2.3% and 3.2% had both parents away. The over-time differences in each country, as well as the cross-country differences in each year, were statistically significant. To obtain more stable results in the regression analysis, I combined mother's migration with both parents' migration.

The descriptive statistics for variables used in the analysis are presented in Table 2. Note that the highest grade level was similar in both countries, but there was greater variation in Indonesia. The educational expenditures were also lower in Indonesia than in Mexico. The demographic profiles (age, sex, family size) and levels of education were similar in the two settings, although the Indonesian sample was slightly older and more likely to be male. As is typical in developing economies, the household education level and expenditures were low in both settings. Extended family arrangements were more prevalent in Indonesia. Mexico was more urbanized and had high levels of community economic development and prevalence of migration. Except for grade level, the cross-country differences in the variables were statistically significant.

<Table 2 about here>

I also examined how these characteristics differed by parental migration status (results not shown). Some interesting observations are worth noting. In both countries, children with migrant parents were more likely to originate from families worse off in terms of socioeconomic status than children living with both parents. In Indonesia, international migrant families were more deprived than internal migrant families. This pattern was reversed in Mexico, presumably because the high costs of international (illegal) migration from Mexico to the United States precluded very poor families from participating in cross-border migration, whereas international migration from Indonesia was largely organized under the guest worker programs and incurred much lower costs.

Return visits of migrant parents in the past year in the IFLS are depicted in Figure 1. The results were consistent with the speculation that immigrant parents generally made less frequent return visits than internal migrant parents. This difference was significant at the .05 level. There

is an interesting contrast between migrant fathers and mothers. Migrant mothers, on average, returned more often than migrant fathers. For example, about 8% of immigrant mothers returned at least once a month compared to less than 1% of immigrant fathers. The difference between fathers and mothers was significant at the .05 level. However, a significant fraction of immigrant mothers, even more than immigrant fathers, were unable pay a visit to their children in the past year. This might be explained by Indonesian female immigrants' job characteristics, because many of them were contracted to work in domestic service several years at a time. I carried out a similar analysis using data from the MxFLS (results not shown), which provided information only on absent fathers in the MxFLS2. The general patterns indicated that immigrant fathers were less likely to return than internal-migrant fathers.

<Figure 1 about here>

Regression Results

Results from the FE regressions of children's highest grade level are presented in Table 3. The data point to both similarities and differences between settings. In Mexico, children left behind by international migrant parents seemed to be worse off in terms of educational attainment than children of non-migrant parents. Similarly, in Indonesia, children left behind by international migrant parents appeared to fare worse than children living with both parents, but the difference was only marginally significant. In both countries, children of internal migrant parents did not seem to fare significantly worse in schooling than children of non-migrants. They also appeared to do slightly better than children of international migrant parents; however, the difference between the children of internal and international migrant parents lacked statistical significance.

<Table 3 about here>

There was some degree of cross-country difference in the net relationship between

parental migration and children's grade level, with the relationship more evident for children in Mexico. This difference was marginally significant. For example, in Mexico, compared to children living with both parents, children left behind by international migrant parents completed, on average, a significantly lower grade level, by over one-fifth of a grade. In Indonesia, the comparative disadvantage for children left behind by immigrant parents relative to those living with both parents was smaller in magnitude compared to Mexico and only marginally significant.

To assess whether the cross-country difference was largely due to the different durations of survey panels (i.e., the longer duration between IFLS3 and 4 and the possibility that the costs of migration diminish with time), I studied variations by the duration of parental migration in Indonesia. This analysis was conducted specifically for children living with both parents in the first wave, for whom there was information regarding when parents moved out. I distinguished between children who experienced parental out-migration within 3 years (corresponding to the MxFLS time interval) and those who experienced it for more than 3 years. The coefficients were insignificant regardless of the duration of migration. This provides some evidence that the less clear association between parental migration and children's education in Indonesia was not completely an artifact of the different time intervals between the two surveys.

Coefficients of other covariates were generally as expected. Educational attainment increased with age, but the increase leveled off with increasing age, pointing to higher risks of school interruptions for older children. The number of children in the household was not significantly associated with children's education, nor was the presence of extended family arrangements. Household human capital and economic resources played a positive role in children's education in Indonesia, but their role was limited in Mexico. Average community

expenditures were a strong predictor of children's education. It is interesting that the prevalence of community out-migration was negatively related to children's education in Mexico but positively related to it in Indonesia. This might be partially explained by the long history of international migration in Mexico, which transformed the local norms of investing in education and dampened educational aspirations.

Results from additional analyses are presented in Table 4. In Section A of the table I provide data on a more detailed parental migration status measure. In Mexico, the deleterious association was mostly evident in families in which either the mother or both parents migrated internationally and, to a lesser extent, in families in which only fathers migrated internationally to work. Because in Mexico very few mothers migrated alone (see Table 1), this large coefficient was mainly driven by children whose parents both migrated. Moreover, it turned out that children also suffered when both parents migrated to work in domestic destinations, and there was a significant difference between them and children with only internal migrant fathers. In Indonesia, although the overall relationship between parental migration and children's grade level was quite small, children faced a significant disadvantage when mothers or both parents migrated internationally for work.

<Table 4 about here>

In Section B of Table 4 I report the results of the role of parental migration in children's educational expenditures. There was no clear link between migration and spending in children's education in Mexico. In Indonesia, there was a positive relationship between migration and educational spending. Although the coefficients were only marginally significant, the effect size was nontrivial, with children of migrant parents enjoying 35% to 49% of more spending on education. In Section C of Table 4 are displayed results from models regressing children's grade

level onto educational expenditures. Note that educational expenditures were positively associated with children's education in both study settings. The role was especially large in Indonesia. This result provides some support for the greater role of familial educational resources in children's schooling in Indonesia. Taken together, the results in Sections B and C seem to suggest that the economic benefits of migration on education tend to be greater in relatively more resource-constrained settings such as Indonesia.

To evaluate the robustness of the results to various model specifications and missing data, I carried out a series of sensitivity analyses, which led to largely consistent results. They are reported in Supplementary Appendix A on the *Journal of Marriage and Family* website ([http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1741-3737](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1741-3737)).

DISCUSSION

Parent-child separation due to out-migration has become increasingly prominent in developing countries. Parental migration is a distinct form of family separation because it often generates considerable economic benefits from remittances. For this reason, the overall net relationship between migration and children's well-being is not straightforward. Previous research, mostly based on a single setting, displays considerable discrepancies, which suggests that this relationship may vary by contexts that affect the relative importance of the underlying psychosocial and economic processes. This study provides a comparative analysis of the relationship between parental migration and children's education to better understand the circumstances under which children suffer because of or benefit from parental migration.

The results highlight both similarities and differences in the comparison. One general finding is that, regardless of the migrant stream or setting, the overall relationship between migration and children's education is negative or neutral. These results suggest that the potential

beneficial impact of migration is largely overshadowed by the social costs of family separation. Such social costs are evidently reflected in educational outcomes because education is closely linked to parental nonmaterial resources. Children with migrant parents receive less adequate supervision and academic assistance and live in a home environment that is less conducive to learning. These children also might develop emotional and behavioral problems. All of these could manifest in school-related problems and hinder children's school progress, which are not easily compensated for by improved economic resources from remittances.

However, the relationship varies across migration streams and context. International migration seems to have an especially deleterious association with children's education. Internal migration can also play a negative role in certain scenarios, such as when either the mother or both parents migrate. Although the difference between the two streams of migration sometimes lacked statistical significance, children of international migrant parents, compared to children living with both parents, fared significantly worse in both countries. Such a difference may be due to the greater disruption of family life and fluctuations in remittances in international migrant families.

How various underlying processes of parental out-migration balance out, and thus the size of the net relationship, is contingent on context. Migration seems to be more detrimental for children's education in Mexico than in Indonesia. One plausible explanation hinges on the different levels of development and public educational spending. In the more resource-constrained Indonesia, where educational resources and opportunities are limited, additional economic resources from remittances can provide necessary educational resources for children. This economic benefit may offset much of the disruptive consequences of parent-child separation. The potential benefits conferred by remittances are constrained in Mexico, which has

achieved a moderate level of economic development and better educational provisions. This results in a net negative relationship between parental migration and education.

Although the data lacked adequate information on remittances from migrant parents, I conducted several analyses, which provided some support for the greater role of the resource dimension of migration in children's education in more resource-poor contexts. In addition, I evaluated other possibilities for explaining the cross-setting difference but found them less plausible. For example, it is probable that the more negative coefficient in Mexico may be partly due to the larger scale undocumented immigration from Mexico. However, even when comparing children left behind by internal migrants in the two countries (where the legality of migration is not an issue), the coefficients still seem to be more negative in Mexico.

This study contributes to our understanding of how varied family structure can be in developing countries and how a new form of family structure resulting from migration shapes child well-being. The findings suggest that researchers cannot draw sweeping conclusions about whether the role of parental migration for children is beneficial or harmful; instead, its role should be understood within the specific context in which migration occurs. These findings resonate with the existing comparative family research that demonstrates how contextual factors shape the importance of family resources and processes for children's development (Lloyd, 1994; Lockheed et al., 1986; Post & Pong, 1998).

The findings also help reconcile the findings of previous studies of children left behind that depict a positive, neutral, or negative relationship between parental migration and children's education. Earlier research has often demonstrated a negative outcome of parental migration in Mexico and in the context of international migration (Creighton et al., 2009; Halpern-Manners, 2011; McKenzie & Rapoport, 2006; Nobles, 2011), whereas the association tends to be less

adverse and may even turn positive in more resource-constrained settings such as Africa as well as in cases of internal migration (Adams et al. 2008; Curran et al., 2004; Lu & Treiman, 2011; Macours & Vakis, 2010). Results from these earlier studies seem to support the main findings of a difference between internal and international out-migration and across different contexts underlying migration.

Several limitations warrant discussion. The data lacked adequate information on important process measures of migration, especially parental input and remittances. I thus could not explicitly examine the underlying mechanisms through which migration affects children's education and had to resort to indirect reference to reach some of the conclusions. The data also lacked important educational measures that reflect school performance, which are linked with the distress experienced by children and are thus likely to be affected by parental migration. In addition, with data from two countries, I could not definitively pin down the factors underlying the observed cross-country variation. Larger scale cross-national comparisons, especially those with rich information on family psychosocial and economic processes as well as on a wide array of child outcomes, would be especially useful in advancing scholars' understanding of the mechanisms underpinning the effect of parental migration and in establishing commonalities or identifying factors that account for the cross-setting differences. Moreover, despite the fact that the FE regressions and various sensitivity analyses seem to point in the same direction, I cannot completely rule out all potential biases. For example, parents' concern about children's education might have motivated them to migrate to raise money for children's schooling, leading to reverse causality. This, however, is unlikely a primary explanation for the results because, if present, it would indicate that the negative effect of parental migration is even larger.

The findings of a negative or a null relationship suggest that parental migration has not granted left-behind children significant comparative advantages in educational attainment. This is disheartening because the sheer number of children affected by parental out-migration is growing worldwide, and one of the primary reasons for migration is to improve children's life chances. Unfortunately, the success of this strategy is limited, because few families left behind are prepared for the consequences of the resultant family disruptions. The findings also demonstrate that international migration is equally and sometimes even more detrimental than internal migration for children's education. These findings highlight a need to rethink the strategies of leaving children behind for labor migration and, when family separation due to migration cannot be avoided, a need to devise migration strategies that could mitigate the negative impact on children (i.e., shorter distance domestic migration instead of cross-country migration).

Many of the insights gained from this study would not be possible without a comparative lens. Instead of viewing parental migration as having a homogeneous influence on children, the comparisons I made in this study help provide an understanding that the impact of parental migration should be interpreted within the specific context that surrounds the process of migration. Future research that is based on different types of comparisons pertinent to migration will be especially useful in advancing this line of inquiry.

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Table 1. *Parental Out-Migration Status (Percentage), Mexican Family Life Survey 1 and 2 and Indonesian Family Life Survey 3 and 4*

Parental migration status	Mexico 2002 (<i>N</i> = 5,719)	Mexico 2005 (<i>N</i> = 5,719)	Indonesia 2000 (<i>N</i> = 2,938)	Indonesia 2007 (<i>N</i> = 2,938)
Both parents not migrants ^{a,b}	87.2	84.5	91.0	88.5
One or both parents internal migrants	6.7	7.1	6.6	7.6
Father internal migrant	4.1	3.8	3.2	3.7
Mother internal migrant	0.3	0.2	0.2	0.4
Both parents internal migrants	2.3	3.1	3.2	3.5
One or both parents international migrants	6.1	8.4	2.3	3.9
Father international migrant	3.6	4.8	1.3	1.9
Mother international migrant	0.1	0.2	0.8	1.6
Both parents international migrants	2.4	3.4	0.2	0.4

^aThe over-time differences in Mexico and Indonesia are significant at least at $p < .01$. ^bThe cross-country differences (in 2002 or 2005) are significant at $p < .001$.

Table 2. *Percentages and Means of Variables Used in Analysis, Mexican Family Life Survey 1 and 2 and Indonesian Family Life Survey 3 and 4*

Variable	Mexico (<i>N</i> = 11,438)	Indonesia (<i>N</i> = 5,876)
Highest grade level	5.0 (3.1)	5.0 (3.6)
Monthly educational expenditure	774 (815)	346,046 (463,674)
Age ^a	11.6 (3.0)	11.8 (4.0)
Male ^a	49.1	53.1
Household human capital		
Primary school and no education	47.9	49.3
Junior high education	27.9	26.8
High school education or above	24.2	23.9
Household per capita monthly expenditure ^a	1,659 (941)	656,034 (504,077)
Extended family arrangement ^a	21.9	29.6
Number of children (age 6–18) in household ^a	2.6 (1.3)	2.3 (1.1)
Rural residence ^a	48.4	53.9
Community average household per capita monthly expenditures ^a	1,865 (821)	544,390 (481,291)
Community proportion of households with children of emigrant parents ^a	0.18 (0.11)	0.15 (0.14)

Note: Numbers in parentheses are standard deviations for continuous variables. Percentages are shown for categorical variables. Currencies for expenditure data are pesos in Mexico and rupiahs in Indonesia. In 2005, 1 rupiah \approx 0.0015 peso.

^aThe cross-country differences are significant at $p < .001$.

Table 3. *Fixed Effects Regressions Predicting Children's Current Grade Level, Children Ages 6–18, Mexican Family Life Survey 1 and 2 and Indonesian Family Life Survey 3 and 4*

Predictor	Mexico	Indonesia
Age	0.57*** (0.04)	0.43*** (0.06)
Age squared	–0.01*** (0.00)	–0.01*** (0.00)
Parental migration status ^a (ref.: Parents not migrants)		
Parents internal migrants	–0.15 (0.10)	0.06 (0.20)
Parents international migrants	–0.25** (0.09)	–0.19† (0.11)
Household human capital (ref.: primary school and no education)		
Junior high education	0.08 (0.06)	0.01 (0.10)
High school education or above	0.07 (0.08)	0.17* (0.09)
Household per capita monthly expenditures (logged)	0.01 (0.03)	0.04† (0.02)
Number of children (age 6–18) in household	0.02 (0.02)	–0.00 (0.02)
Extended family arrangement	0.17 (0.23)	0.14 (0.12)
Rural residence	–0.17 (0.11)	–0.05 (0.13)
Community average household per capita monthly expenditures (logged)	0.22* (0.10)	0.07† (0.04)
Community proportion of households with children of emigrant parents	–0.55* (0.28)	0.39† (0.22)
Intercept	0.23 (0.55)	0.23 (0.73)
<i>N</i> (no. children × 2)	11,438	5,876
<i>R</i> ²	.58	.66

Note: Numbers in parentheses are standard errors. Year and province variables and interactions are not shown. Other variables, such as gender, are omitted in the fixed effects models. Ref. = reference.

^aThe cross-country difference of the coefficients of parental migration status is jointly significant at $p < .10$.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. *Fixed Effects Regressions Predicting Children's Current Grade Level and Educational Expenditures, Children Ages 6–18, Mexican Family Life Survey 1 and 2 and Indonesian Family Life Survey 3 and 4*

Predictor	Mexico	Indonesia
A. Detailed parental migration status ^a (ref.: Both parents not migrants)		
Father internal migrant	–0.07 (0.11)	–0.05 (0.29)
Mother or both parents internal migrants	–0.41* (0.16)	–0.09 (0.26)
Father international migrant	–0.19* (0.09)	–0.07 (0.27)
Mother or both parents international migrants	–0.45** (0.15)	–0.25* (0.12)
B. Educational expenditures in the past month (logged) ^b		
Parental migration status (ref.: Parents not migrants)		
Parents internal migrants	–0.10 (0.19)	0.34† (0.19)
Parents international migrants	0.23 (0.16)	0.49† (0.28)
C. Role of educational expenditure on grade level ^c		
Educational expenditure in past month (logged)	0.028*** (0.004)	0.129*** (0.008)
<i>N</i> (no. of children × 2)	11,438	5,876

Note: Numbers in parentheses are standard errors. Other variables are omitted, which are the same as in Table 3. Ref. = reference.

^aThe cross-country difference of the coefficients of parental migration status is jointly significant at $p < .05$. ^bThe cross-country difference of the coefficients of parental migration status is jointly significant at $p < .10$. ^cThe model controls for a similar set of covariates as in Table 3, with the exception of parental migration status.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

FIGURE 1. FREQUENCY OF RETURN VISIT BY MIGRATION STATUS AND GENDER, INDONESIAN FAMILY LIFE SURVEYS 3 AND 4.



