Children’s Schooling, Parental Migration, and Environment in Nepal

Background

Research on the effects of migration for those living in origin communities identifies both benefits and disadvantages for children of migrant parents. Migration from developing settings is often a purposive strategy designed to enhance occupational skills and accrue resources that can then be invested in production or assets in the origin community (Cobo et al., 2010; Lindstrom & Massey, 1994). If successful, migration may produce remittances that family in the community of origin can subsequently invest in children’s schooling. Return migrants may have accrued additional capital and occupational skills during migration that can enhance family well-being upon the migrant’s return (Cobo et al., 2010). This may also increase children’s opportunity to obtain additional schooling and enhance their own earning potential in rapidly developing economies.

Both routes to improved economic conditions—remittances during migration and enhanced capital among return migrants—may improve children’s educational outcomes. However, there may also be differential impacts of parental migration on children’s schooling depending on whether the migrant has returned as well as the timing of migration in the life course of the parent and child (Antman, 2012). For example, some migrants will leave the sending community and return before they begin their own family formation. Others migrate after family formation has begun. In addition to the timing of the return in the life course, return migrants may be selective of those who are successful (i.e., those who accrue more resources) or from those who are less economically successful during migration and return without acquiring significantly improved occupational skills or capital (Antman, 2012; Lindstrom & Massey, 1994; Thomas, 2012; Van Hook & Zhang, 2011). If returnees are less successful than non-returnees, children of current migrants may have better school outcomes than children of migrants who have already returned.

In addition to variations in timing, migration is also contingent on conditions in the sending community. In the case of agricultural sending areas, important factors likely include environmental characteristics: households with lower agricultural productivity and availability of natural resources would be more likely to send labor migrants (Bhandari 2004; Shrestha and Bhandari 2007). Yet few studies can consider how children’s schooling is influenced by the full range of migration including the timing, duration and return, as well as how environmental conditions moderate impacts of migration.

This paper builds upon previous research on migration and well-being in origin communities by incorporating the timing and duration of parental migration across the family life course. The life course approach is a broad framework whose key contribution is to force research to consider the timing of when events occur in individuals’ lives—and the consequences of variations in this timing. Here we consider the timing of migration during the life course of parents vis-à-vis their own family formation experiences. In addition to the important role of parental migration (duration and timing) on investments in children’s schooling, we also attend to the importance of variations in the context of the origin community, specifically the local environmental context.

Hypotheses

Consistent with the prior literature, we expect that parental migration will have an overall net benefit the schooling outcomes of children who remain in the sending context. By taking a life course approach to parental migration, however, we propose additional hypotheses. First, the benefits of migration may accumulate over time as a migrant builds up labor market experience in the receiving context, and the accumulated benefits may persist with the migrant even after he or she returns home. Thus we hypothesize that cumulative migration experience, rather than current migration status, will have stronger associations
with children’s schooling. Second, we ask whether migration and return prior to marriage and parenthood has an impact on children’s schooling or whether the effect of migration on children’s schooling is confined to migration events that occur after family formation has occurred in the origin community. When individuals are not yet married, we predict that the benefits of migration experience will be aimed at finding a spouse and securing marriage. It is in later stages—married or married with children—that we expect that the benefits of migration will be more closely tied to children’s schooling. Thus we hypothesize that the association between cumulative migration experience and children’s schooling will be stronger for post-marriage migration experience.

It is important to consider local environmental contexts because these may affect how migration impacts children’s schooling. When children are relied on to collect natural resources, they are less likely to attend school (Nankhuni and Findeis 2004; Ndiritu and Nyangena 2011). A study from Chile found that children whose parents’ livelihoods depended on agriculture, forestry, fishing, or mining were less likely to be enrolled in school (Jensen et al. 2012). If migration reduces households’ reliance on farm and other natural resource-related income in origin communities, however, it may free time and investment for children’s schooling (Pfeiffer et al. 2009). Perceived environmental scarcity and degradation may cause the benefits of migration to be directed to non-farm investments that lead to higher school enrollment of children. In other words, in sending areas of depressed environmental conditions, we expect that parent migration experience will have the strongest effects on enhancing children’s school enrollment.

Setting, Data, and Methods

The setting for our hypothesis tests is the Chitwan Valley of Nepal, a rural area about 100 miles southwest of Kathmandu, the capital city of Nepal. Data for our analyses is provided by the Chitwan Valley Family Study (CVFS), which beginning in 1996 has extensively measured social change and family behaviors in the western Chitwan Valley of Nepal through 2008. Chitwan is located in the Terai, a region of low-lying plains along the southern borders of the country. After development in the 1950s, the Chitwan Valley soon became a major farming region, and services and infrastructure expanded across the area (Axinn and Yabiku 2001). Non-family organizations and services across the valley include schools and health clinics, employers, markets, banks, and movie theaters. While the Chitwan Valley as a whole is still largely rural and agricultural, there is a growing urban center in the Narayanghat area at the intersection of two major highways, with an estimated population over 100,000 residents.

Dependent variable: Our outcome of interest is children’s schooling attrition before 10 years of education. In contemporary Nepal, a School Leaving Certificate (SLC) is given upon successful completion of an exam given in 10th grade (Chauhan, 2008). Further study in grades 11 and 12, as well as university education is possible beyond that, but the 10th grade SLC represents an important credential in educational achievement. Data on children’s schooling come from the 2008 individual interview with mothers, who reported on the retrospective schooling histories of all their children. Children who attended school for 10 years and children still in school are censored at the time of the survey. Children who are reported to leave school before 10 years’ experience schooling attrition.

Primary independent variables: To test our primary hypotheses, we focus on parental international migration experience and environmental perceptions. Note that our present analyses examine only fathers’ migration experiences, but we plan to include mothers’ experiences in our full paper. We use data from the 2008 survey interviews that relied on a life history calendar approach to record where individuals were living for each year of their lives (Axinn, Pearce, and Ghimire 1999). Although there is internal labor migration in Nepal, our analyses thus far consider international migration. A year of residence outside Nepal is conceptualized as exposure to international migration. Because we limit our measure to adult exposures (to
not conflate those who are dependents at the time of their own parents’ migration), we consider time spent outside Nepal at age 12 and after. We create multiple measures of parental international migration experience, all of which are time-varying: 1) a dichotomous measure of whether or not the parent is outside Nepal, 2) a cumulative count of years spent outside Nepal, 3) a cumulative count of years spent outside Nepal before marriage, and 4) a cumulative count of years spent outside Nepal during the year of marriage and after.

Environmental perceptions: Environmental conditions typically extend beyond the single household level: i.e., the water clarity, soil productivity, or the level of the water table affects entire neighborhoods, and are not household specific. Thus we aggregate our environmental measures to the neighborhood level and assign the neighborhood mean to each household. We use three measures of environmental perceptions: 1) if more fertilizer must be used to achieve the same level of agricultural productivity, 2) if drinking water has become less clear, and 3) if the water level in wells has decreased.

Controls: We control for education and caste/ethnicity—two important markers of status, wealth, and privilege in Chitwan. Education is simply mother’s years of reported education. Caste is measures with a series of dummy variables representing 5 categories: Upper caste Hindu, Lower caste Hindu, Newar, Hill Tibetoburmese, and Terai Tibetoburmese. Caste and ethnicity in Chitwan is complex and cannot be richly described here, but in brief, Upper caste Hindus tend to be most well-off economically, although Newars are often a close second. Lower caste Hindu, Hill Tibetoburmese, and Terai Tibetoburmese are the most disadvantaged. As an additional control that is specific to the circumstances surrounding the child’s birth, we also control for whether or not the child was born in a hospital. Finally, we control for the child’s gender.

Statistical Method. Our analytic method is discrete-time event history. As is standard in this approach, we create a child-year file in which there is a separate observation for each year of life in which the child is at risk of schooling attrition before grade 10. Risk begins when the child enters school, and the dependent variable is coded 0 in every year, except the year of attrition, in which case it is coded 1. The baseline hazard in a discrete-time analysis must be specified, unlike a Cox model. We parameterize the baseline hazard with a quadratic function of time since child’s enrollment in school. We estimate the model using logistic regression.

One complication to our analysis is missing data for parents who are away in migration. Chitwan is characterized by substantial labor migration. At the time of survey, approximately 30% of spouses were away and were not interviewed. The consequence is that although the child schooling and mother’s background characteristics are measured, the father’s migration experience are not. Rather than omit these cases, which could lead to substantial biases, we instead use categorical measures for father’s migration experiences, leaving one category as missing.

A second issue is that we examine time period of risks only in 1996 and later. 1996 is a key date because it is the first wave of this panel survey, and we take the environmental perception measures from the 1996 survey. Therefore, for proper time ordering, we do not examine risk before 1996. Although this is only a 12 year period (1996-2008), it includes a diverse set of children who can be born and enter school before 1996. For example, a child who entered school in 1990 does not enter our analysis until 1996, and then remains at risk until he or she leaves school, or achieves 10 years of schooling in 2000.

Preliminary Results

We briefly describe a few key descriptive statistics for the 5,789 children in our analysis. First, about 11% of children leave school before the SLC grade (grade 10). There were 34% of fathers who were not able to be interviewed (many of whom were away). Among those who were interviewed, fathers had spent an
average of 3.25 years outside Nepal. Broken down by life course stage, 1.08 of those years were previous to marriage, and 2.17 were during the year of marriage and after.

Our preliminary multivariate results suggest support for our hypotheses. When parental migration experience is operationalized as whether or not the father was outside Nepal in the prior year, there is no association with school leaving before 10 years of schooling. We then allow father’s migration experience to accumulate over the parent’s life course. We conclude that when fathers have lived more years outside Nepal, children have lower rates of school leaving compared to children whose fathers have never been outside Nepal. These results generally confirm the beneficial effects of parental migration for children’s schooling, as reported in prior studies.

We then divide these international migration experiences by life course stage: before or after marriage. These results showed that father’s years spent outside Nepal before marriage had no significant associations with children’s schooling. On the other hand, father’s years spent outside Nepal after marriage were associated with significantly lower rates of school leaving.

Finally, we interacted measures of environmental perceptions with parental migration experience to test if migration had greater impacts on schooling in sending areas with worse perceived environmental context. We focus on the models of father’s migration experience after marriage. When there was a perceived need to use more fertilizer, the effects of migration for fathers who were currently away were even more protective against school leaving. Similarly, when the perceived water table was lower, the effects of migration for fathers currently away were stronger. There were no significant interactions between perceived water clarity and migration experience.

**Discussion/Future**

While the literature generally reports that labor migration of a parent has beneficial consequences for children’s schooling in the sending context, there has been less research considering how these migration experiences vary across the parent’s own life course. Our results suggest that simple dichotomies of current migration status do not capture the benefits of international labor migration that might accrue over time. The additional models also suggest that the timing of these accruals within the parental life course matter. Fathers’ pre-marital migration experience appears to have minimal impact on children’s schooling, whereas paternal post-marital experience significantly decreases children’s school exit, compared to children of fathers who never migrated outside Nepal. We also tested the role of environmental conditions in the origin community. Worsened environmental perceptions increase the protective effect of migration on children’s school enrollment for fathers who were currently away.

We plan numerous enrichments to our analysis for our final presentations. First we have measured parental migration simply as father’s migration in this analysis. We have complete migration information for the mothers, as well. Thus we will construct parallel measures of international migration experience for women as well as men. Second, to address the clustering in the data, we will estimate random effects models that recognize the multi-level nature of these data. Multiple children are clustered in mothers, and mothers are clustered by neighborhood. A random effects model with a random intercept can guard against biased hypothesis tests that can occur when the structure of the data is ignored.
References