

Transnational migration, gender and educational development of children in Tajikistan

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Abstract *In Tajikistan, a Central Asian country with high rates of emigration, there is little systematic empirical research on the education of children in transnational households. In this study, I use national representative data from 2011 to examine the number of years lag in education of boys (N=1110) and girls (N=1140) aged 7 to 17 who live in different transnational care arrangements compared with those living in non-migrant households. I demonstrate that being in a transnational household reduces the risk of an educational lag, although there are gender differences when measuring this relationship. In particular, girls are less likely to have an educational lag if the mother or both parents migrate, if the duration of parental absence is shorter rather than longer, and if migrants send remittances home. The legal status of parents abroad and maternal migration are advantageous for boys' education. These findings highlight the importance of looking at complex transnational forms of living and at gender when assessing the educational outcomes of children in migrant sending contexts.*

Keywords CHILD EDUCATION, CHILD WELL-BEING, GENDER, CHILDREN LEFT-BEHIND, TAJIKISTAN, TRANSNATIONAL FAMILIES, TRANSNATIONAL MIGRATION

Since its independence from the Soviet Union in 1991, Tajikistan has become a major exporter of labour migrants, chiefly to the Russian Federation. By 2009, up to 12 per cent of the total Tajik population had emigrated and approximatively one-third of all households with children had at least one member living abroad (UNICEF 2011). Tajik workers usually migrate alone to take on seasonal or informal work, for they tend to prefer not to uproot their family at home. However, this process creates transnational families, in which the basic function of care within family takes place across borders. To find out how families do this and how it affects individual family members has been the aim of transnational family research since the turn of the century.

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Transnational family scholarship has looked specifically at migrant parents in the country of destination (Dito et al. 2017; Parreñas 2005) and at the children who stay behind in the country of origin (Bennett et al. 2013; Cebotari and Mazzucato 2016; Dreby 2007; Jordan and Graham 2012; Nobles 2011). While in-depth case studies have revealed that families can operate successfully at a distance, they also highlight that family members find it difficult to keep relationships active during prolonged periods of separation. Specifically, there is often an implicit assumption that the need to ensure better schooling for children is the main reason behind parental decision to migrate (McKenzie and Rapoport 2011). Indeed, the monetary and other remittances that migrants send home have positive effects on the household's expenditure and on improving children's educational outcomes (Bredl 2010; Kandel and Kao 2001). At the same time, the absence of family members may disrupt children's education by leaving them without proper supervision, help and emotional support (Cortes 2015; Edwards and Ureta 2003; Hu 2012). All in all, the studies suggest that the consequences of migration are complex and bring both benefits and costs to children's educational development. There is a need to acquire a holistic understanding of what living arrangements are most likely to benefit or harm the educational outcomes of children in transnational families.

The aim of this study is to understand the broader implications of labour migration on children's schooling. In other words, to what extent do different characteristics of transnational families shape the educational lag of children who stay behind in Tajikistan? The contribution of this study to the literature on transnational families is twofold. First, it addresses what Mazzucato and Schans (2011) identify as a need to consider the full array of transnational family characteristics in any systematic investigation into how various transnational care arrangements affect a child's educational development. In this study, to add precision to the analysis of transnational families, I look at different transnational family characteristics such as the migration of parents and other household members, the duration of the absence, remittances, and the legal status of migrants abroad. It is important to measure the intricacies of migration in relation to the children's school progress because a timely education is a meaningful predictor of later-life success (Nobles 2011). Second, by looking at the education of boys and girls in transnational care, this study adds a gender perspective to the analysis of child well-being. Authors of recent studies, in different geographical contexts, emphasize the need to consider child's gender when measuring educational outcomes (Antman 2012; Cebotari et al. 2017a; Cortes 2015; McKenzie and Rapoport 2011). To date, we know little about the discrepancies in the education of boys and girls when household members migrate.

I use nationally representative household data collected in Tajikistan in 2011 to analyse these issues and to establish whether the patterns of school progress of children living in migrant households differ significantly from those of children living in non-migrant households. This comparison is valuable because it allows one to observe from academic and policy perspectives if variations in children's education are indeed due to migration (Cebotari et al. 2017a). By engaging in this area of research, I also address the discourse of child vulnerability, which is pervasive in the academic and policy narratives surrounding migration in the context of Tajikistan.

Background

The context of Tajikistan

Families split by migration is a relatively new phenomenon in Tajikistan. For many households, labour migration emerged as a livelihood strategy shortly after the country became independent in 1991, the year that marked the start of a difficult and ongoing transition to a market economy. The decades following independence saw a steady decline in both the economy and living standards and, by 2009, Tajikistan had become the poorest of the former states of the Soviet Union, with more than 47 per cent of its population living below the poverty line (World Bank 2015). Several factors contributed to the decline, but the most notable were the loss of Soviet subsidies and markets followed by a period of civil war between 1992 and 1997. In addition, the country's mountainous terrain, fragile institutions and poor infrastructure hindered its development (Bennett et al. 2013).

Because of the lack of systematic data collection and the illegal and irregular status of migrants abroad, there are no accurate figures on the number of Tajik labour migrants. In 2013, data on legally registered Tajik migrants show that 451,778 nationals were working in Russia, 37,614 in Kazakhstan and 30,954 in Ukraine (UNDESA 2014). Estimates suggest that for each legally registered Tajik migrant, there is another at the destination with an unregulated status (ILO 2010). In Russia, the main destination country for Tajik nationals, only migrants who successfully register with the local immigration office upon arrival are considered legal residents. The registration office does not register the Tajik migrants who cannot afford to pay rent and who live in unsuitable accommodation or at their work premises (Olimova and Bosc 2003). This situation results in illegal payoffs to avoid police detention and informal work arrangements that deprive many migrants of legal protection abroad (Olimova 2010). The women among the migrant Tajik workers tend to legalize their status more frequently than their male counterparts (ILO 2010).

Labour migration from Tajikistan is mostly circular, with many individuals engaged in seasonal migration as workers in construction, agriculture or trade (Olimova and Bosc 2003). There are, however, workers on longer-term contracts who migrate for years at a time. This is particularly common among Tajiks from high-altitude areas such as the Gorno-Badakhshan Autonomous Province (hereafter GBAO), where the terrain is difficult and winters are exceptionally long (Olimova and Olimov 2007). Most Tajik nationals who migrate are male, although estimates for 2011 suggested that 10 per cent of all Tajik migrants were female (Gatskova et al. 2017). Family norms in Tajikistan tend to be highly gendered, with mothers expected to stay at home to assume the role of children's primary caregiver (Bennett et al. 2013). However, children often live in multigenerational households, with mothers, grandmothers and other females in the household generally sharing the day-to-day childcare (UNICEF 2011).

Many Tajik nationals see education as key to a successful migration, although many young and unskilled workers also migrate (Olimova and Bosc 2003). While abroad, migrants are expected to provide financial support for those remaining behind. In 2013, the inflow of remittances reached US\$ 4.2 billion, or 49 per cent of Tajikistan's GDP

(World Bank 2015). However, not all migrants send remittances (Bennett et al. 2013) and, among those who do, it is unclear whether the recipients invest these resources in children and their education (UNICEF 2011).

The education system in Tajikistan is relatively good – a residue from former times when the Soviet Union saw education as vital for industrialization and poverty reduction. The gross enrolment rates for primary school (ages 7–11, grades 1–4) are 98 per cent for girls and 99 per cent for boys, while those for basic secondary school (ages 11–16, grades 5–9) are 83 per cent for girls and 92 per cent for boys (UNESCO 2013). Up to 69 per cent of children of upper secondary school age (ages 16–18, grades 10–11) attend school (Bennett et al. 2013). Primary and basic secondary school are mandatory and free, and the authorities generally enforce enrolment (UNICEF 2011).

Costs and benefits of migration for children's education

The literature on transnational families suggests that money and time are two crucial resources that family members can provide to children (Edwards and Ureta 2003; Wen and Lin 2012). Along these lines, there are costs and benefits of migration to children's education. Stark and Bloom (1985) approach migration primarily from the viewpoint of a tactic that, through remittances, brings economic benefits to children and other household members who remain behind. Indeed, studies show that remittances make an important financial contribution to children's education. In fact, Nakamuro (2010) found a positive link in Tajikistan between children's school attendance and living in a household that regularly receives remittances. The positive effects of remittances are particularly noticeable when the family invests them in children or uses them to mitigate the constraints on the household budget that keep children away from school (McKenzie and Rapoport 2011; UNICEF 2011). More specifically, remittances spent on education generally have positive effects on children's school enrolment (Bennett et al. 2013; Jampaklay 2006), school attendance (Antman 2012; Edwards and Ureta 2003; Hu 2012), and school performance (Cebotari et al. 2016; Kandel and Kao 2001). Although tuition in primary and secondary schools in Tajikistan is generally free, the families still need to pay for transport, clothing, various school materials, private tutoring and other educational requirements (UNICEF 2011). Therefore, the level of association is likely to vary according to whether migrants can send sufficient amounts and on a regular basis (Bennett et al. 2013). Attitudes to education also influence migrant decisions to keep children in school. Migrants who recognize the importance of education for later life success may be keener to invest in it (Stark et al. 1997). Conversely, migrants will be less likely to invest in children's education if they sense that the returns from education are low (McKenzie and Rapoport 2011). In Tajikistan, people see education as a key determinant of a successful migration (Olimova and Bosc 2003), but because many children think of migrating themselves once they reach adulthood (UNICEF 2011), this does not always motivate children to stay in school. Several studies (Kroeger and Anderson 2014; McKenzie and Rapoport 2011) suggest that this process is typical of countries in which out-migration is male dominated.

Meanwhile, a consequence of migration is the absence of parents and other household members, which often come at a considerable social and psychological cost to children. The absence of family members, which inevitably means less family control, supervision and guidance, can be injurious to children's education. Indeed, much of the transnational family literature focuses on the harmful effects of migration on children, although the magnitude of child vulnerability often varies by the form and the measurement of the transnational care arrangement (Mazzucato and Schans 2011). For example, scholars studying the link between parental migration and child well-being emphasized the negative consequences of maternal migration on children's school attainment (Lu 2014), school engagement (Wen and Lin 2012), school performance (Dreby 2010), and educational lag (Cortes 2015). Attachment theory (Bowlby 1958), which posits that for meaningful development children need proximity, stability and long-term care from their primary caregivers, explains the vulnerability of children to parental absence. It implies that children living in societies where mothers are the primary caregivers are more vulnerable to maternal migration. Although family practices are changing in the developing world (Nobles 2011), in Tajikistan motherhood and fatherhood are generally attached to specific caregiving obligations: mothers are mostly the children's primary caregivers and fathers are the breadwinners responsible for authority and protection (Olimova 2010; UNICEF 2011). For children of migrants, these differences mean that whereas paternal migration may result in the absence of the disciplinary figure in the family, the absence of mothers may incur more severe disruptions in a child's daily life. Parents often factor their children's ability to cope with migration (Cebotari et al. 2017b) into their decision to migrate, so they may decide to go abroad only if proper care arrangements are available for children who stay behind. Recent transnational family studies have found that parental migration, including that of mothers, may not necessarily result in negative educational outcomes for children in transnational care in Tajikistan (Bennett et al. 2013) or, for that matter, elsewhere (Cebotari et al. 2017a; Cebotari and Mazzucato 2016; Jordan and Graham 2012). More evidence is needed from large-scale empirical analyses to assess the role of parental migration in relation to children's education, as this association has yet to provide fully explored answers in the context of Tajikistan.

From the viewpoint of the human ecology model, a dominant theoretical framework for studying child development, it is important to consider the family environment and interactions within the family in relation to child well-being (Bronfenbrenner 1979). The literature has identified relationships between children and influential others such as parents and other household members, and the stability of care and supervision, as pivotal factors in child development (Bennett et al. 2013; Cebotari et al. 2017a; Mazzucato and Schans 2011; Parreñas 2005). A child's developmental trajectory originates within the family in that it is from family members that children acquire the fundamental skills, values, networks and knowledge that allow them to compete at school and have a satisfactory transition to adulthood (Wen and Lin 2012). However, since transnational family studies focus predominately on parental migration, they rarely observe the forms of separation that include other household members. In Tajikistan, as in other developing countries, children often live in multigenerational

households and the migration of siblings, grandparents and other members is likely to affect their life chances (Bennett et al. 2013; Olimova 2010; UNICEF 2011). For example, the social and economic norms that siblings, parents and other family members bring back from abroad and the potential benefits these may exert on children are among the indirect effects of Tajik migration (Olimova and Bosc 2003). However, a direct effect is that fewer adults share more responsibilities and, hence, children may have to take on additional workloads and obligations. This implies that children of migrants may have to carry out chores and be active in the labour market instead of being at school. Indeed, in Tajikistan, Olimova and Olimov (2007) show that children routinely take on heavier workloads when household members migrate for extended periods and when they live at high altitudes where work is more demanding. Similarly, Akilova (2017) reports that the Tajikistan labour market routinely uses child labour because the mass emigration of productive adults leaves many communities struggling.

The research designs of existing studies tend also to be somewhat ambiguous about what constitutes a long absence and how it may affect a child's well-being. To date, despite growing concerns that a longer absence might reduce parental input and supervision, and, hence, have a negative effect on children (Jordan and Graham 2012), scholars have paid little attention to the duration of absence in relation to children's education. Looking at the length of separation is important because it tells us something about the migration process. In Tajikistan, shorter periods of absence are often indicative of seasonal migration, whereas longer ones may suggest a stable work contract abroad (Olimova and Bosc 2003). Evidence from Tajikistan suggests that the longer-term migration of either the mother or father has a positive effect on children's school enrolment, but that the long absence of siblings and other household members has a more negative effect (Bennett et al. 2013). In Thailand, Jampaklay (2006) found that a longer absence of mothers appears to affect children's school enrolment negatively, whereas these effects were not significant when the migrant was the father. While a prolonged separation may result in less parental input and supervision, this type of absence may also indicate a successful migration and the ability to send remittances, in which case the economic benefits may outweigh the social cost of separation in relation to children's education (Bennett et al. 2013).

The ability of Tajik migrants to acquire a legal status at destination may, however, constrain the economic benefits of migration. Legal residency is important because it determines the behaviour, income, mobility and overall well-being of both the migrants and the family members who stay behind (Olimova 2010). An illegal status at destination may disrupt the prospect of family visits and reunification and may put migrants at risk of abuse, discrimination and exploitation (Dito et al. 2017; UNICEF 2011). These factors, in turn, might affect the ability of migrants to send remittances and to keep active relationships with children and other family members back home. According to Kandel and Kao (2001), the hardship, risks, low standing and unpleasantness of an illegal status are strong disincentives for investing in children's education. With respect to Mexican migration to the USA, McKenzie and Rapoport (2011) show that illegal migrants are often employed in jobs with low formal educational requirements, which may directly affect children because that kind of work

gives migrants fewer incentives to keep their children at school. Therefore, it is worth noting that although migration can generate economic resources for children, the limitations associated with an illegal status abroad may have deleterious effects on children's school prospects.

Furthermore, specific gender norms that often disadvantage girls may interfere with the willingness to invest in children's education (Lo and Maclean 2015; Olimova 2010). In Tajikistan, the traditional gender norms favour boys and, therefore, many families pay less attention to girls' education, mainly because they expect the girls to leave the family at early ages as wives and not to make a career from working (Harris 2011; Olimova 2010). Household decision-making theory (Becker 1965) holds that household members support children's schooling if they perceive education as maximizing the household's utility. This paradigm has implications for children's education, in that girls are more likely than boys to leave school for marriage or to compensate for shortages in household labour when members migrate (Akilova 2017; Harris 2011; UNICEF 2011). Indeed, there is some evidence (Lo and Maclean 2015) to suggest that the proportion of girls enrolled in upper-secondary schools in Tajikistan is less than half that of boys. However, studies in Tajikistan and Mexico show that girls' school attendance and attainment improve when parents and other household members migrate (Antman 2012; Gatskova et al. 2017; UNICEF 2011). In Ghana, there is also evidence that girls in transnational care, compared with the boys, are more likely to enjoy school when their parents migrate internationally (Cebotari et al. 2017a). This evidence suggests that the net effects of migration on girls' education may vary, depending on the observed characteristics of the transnational family life. For instance, remittances appear to relax the constraints on household budgets and enable families to educate their daughters further (Antman 2012) but this depends on the context, the girl's age, which family member migrates and who makes the decision (Antman 2011; Gatskova et al. 2017; Olimova 2010).

Current study

The purpose of this study is to examine the similarities and differences in school progress between boys and girls in migrant and non-migrant households in Tajikistan. I explore children's education in terms of different transnational characteristics – the migration of parents and other household members, the duration of absence, remittances, and the legal status of the migrants living abroad. To examine these factors, I draw on the household strategy model, attachment theory, a human ecology perspective, and the household decision-making paradigm. The relative lack of studies exploring different transnational characteristics in relation to children's education within a single analytical framework impedes our understanding of how the intertwined processes characterizing each context contribute to the educational development of children in transnational families.

Scholars have looked at relations between migration and the education of children and found a varied range of results. The diversity of findings may reflect the focus on different educational outcomes, or on different countries and regions in which

transnational forms of living, household structures and gender norms differ. Therefore, one can assume that features of migration, gender and family life may affect the well-being of children differently in each country of origin. Mixed evidence and unique features of migration make it difficult to come to any a priori assumptions of how different transnational characteristics in Tajikistan might affect the educational development of children. Nonetheless, there is theoretical and empirical evidence on child well-being to suggest that transnational forms of living may associate with children's education in certain ways.

For instance, the migration of a child's primary caregiver, the mother, or the absence of both parents, is likely to result in less parental input and supervision and hence, may disrupt the child's normal school progress. Similarly, the migration of other household members often adds to children's workload and responsibilities, which may disrupt their educational development. In addition, the effect of having household members migrate for lengthy periods, thus implying less supervision and reduced interaction between children and their influential others, is likely to be negative. The effects of remittances on children's education is likely to be positive because of the extra financial resources that may ease the household's liquidity constraints that keep children away from school. In addition, the illegal migration of household members may hinder the education of children because this type of separation incurs risks for those abroad and disruptions in the size and flow of resources to those remaining behind. Gender differences in all these associations may also exist. Because traditional gender norms favour boys and because girls generally carry out more chores, and are expected to marry, have children and leave the household at an earlier age than the boys, the migration of household members may have a stronger negative effect on the girls' schooling. This study is, as far as one can tell, among the first to examine the complexity of transnational family migration, from a gendered perspective, in relation to children's educational progress in Tajikistan.

Method

Data and sample

For this study, I used nationally representative household data collected in Tajikistan in 2011. The survey was initiated by the Leibniz Institute for East and Southeast European Studies in Regensburg, Germany to explore associations between migration and well-being outcomes in Tajikistan. Data collection took place in the months of November and December to account for the seasonal work in agriculture and the annual cycle of migration of Tajik workers abroad. The survey samples were drawn from the Tajikistan Living Standards Measurement Survey (TLSS) and followed a representative probability sampling procedure to encompass the urban, rural and regional distribution of the population in Tajikistan. In total, the sample included 1503 households. Of these, 1018 households had at least one child of primary or secondary school age, that is between the ages of 7 and 17, totalling 2250 observations (girls, N=1140 and boys, N=1110). These samples excluded children who were orphans of both parents at the start of the survey and those with neither parent as part of the household.

The data focused on collecting information specifically on migration and the well-being of household members who stay behind in Tajikistan. The survey instruments included a household questionnaire that targeted the responsible adult in the household and an individual questionnaire addressing the most knowledgeable person in the household (in some households this is the same person). The child's primary caregiver – usually one of the two adults – provided data about children. All respondents gave their informed consent to participate and the questionnaires were administered in the respondent's language of choice (Tajik or Russian).

Measures

In this study, the outcome variable for assessing the progress of children in the school system is *the number of years lag in education*, a modification of Psacharopoulos and Yang (1991)'s schooling-for-age (SAGE) measurement. A child beginning school in Tajikistan needs to be seven years old at the start of the school year in September. Under normal progress, a nine-year-old child is in the third grade of primary school (that is starting the first grade at the age of seven, the second grade at eight and the third grade at nine). By documenting information on whether children attend school, the reason for not attending, the grade level, the age in full years, and the official age of children's school enrolment in Tajikistan, it is possible to establish if a child makes normal school progress (reference category), has a one-year lag, or has a lag of two or more years. Educational lags indicate either a repeated grade or a temporary withdrawal from school. Some children enrol in a higher grade than their default age (N=118) (for example, a seven-year-old might be in the second rather than the first grade), in which case I include them in the category of children who make normal school progress.

I constructed four primary predictor variables pertaining to different transnational household configurations. One measure, based on the question 'Does the mother/father of the [child] live in the household now? [Yes; No]' was to establish the identity of the migrant parent. I linked the answers to these questions to the current international migration history as stated in the household roster by using individual member ID codes to confirm the migration status of the parent. I then used this information to assign children to any one of the following categories – 'living with both parents', 'father a migrant', 'mother a migrant', or 'both parents migrants'.

A further indicator looks at *the migration and duration of absence* of household members as follows – 'parent migrant/short stay abroad', 'parent migrant/long stay abroad', 'other household member migrant/short stay abroad', 'other household member migrant/long stay abroad' – with children in non-migrant households as the reference category. The household roster recorded the duration of a current household member's migration. In this study, short-term migrants are those who, at the time of the survey, were working abroad for less than a year and long-term ones were those who were working abroad for a year or more. Because of the small number of children with migrant mothers, I included maternal and paternal migration as one category when modelling the duration of absence. Similarly, other household migrants are predominantly children's siblings, with only 76 cases of non-siblings having migrated.

To obtain more stable regression results, I collapsed the siblings and other non-parental household members into one category when measuring the duration of migration.

Another indicator captures the flow of *remittances* from household members abroad, based on the question ‘Did [Name] remit to this household, in cash or in kind, at any point during the last 12 months? [Yes; No].’ The constructed measure has three categories – ‘non-migrant’, ‘migrant household receiving remittances’, and ‘migrant household with no remittances’. In the sampled population, there were only 70 cases of household members failing to send remittances. Therefore, I did not distinguish between which household member had migrated when looking at the flow of remittances.

Finally, based on the question ‘Does [Name] work abroad legally or illegally?’, I measured the *migration and legal status* of household members abroad. In combination with the migrant status of household members, I constructed the following categories – ‘non-migrant’, ‘migrant parent/legal status’, ‘migrant parent/illegal status’, ‘other household member migrant/legal status’, and ‘other household member migrant/illegal status’.

The purpose of the four transnational household configurations is to capture the effects of international migration. Therefore, in cases of one household member being away internally and another internationally, I counted the status of the member abroad. Similarly, where a parent and another household member were currently international migrants, I incorporated the characteristic of the parent. I based the rationale for these choices on the evidence in the literature that children experience greater difficulties when a parent migrates (Cortes 2015; Wen and Lin 2012) and when the separation occurs over large distances (Cebotari et al. 2017a; Lu 2014; Parreñas 2005).

I included additional indicators in the analysis to control for characteristics at the child, parental, and household levels. Child-level characteristics include the child’s *age* (7–10, 11–15, or 16–17 years), *ethnicity* (majority or minority), the presence of any *chronic or acute health condition*, and existence of *younger siblings at home*. Parental-level controls include *education of mother and father* (none, basic primary, secondary, or further) and whether *divorced/separated*. Recent transnational family studies have stressed the negative effects of marital discord on the education of children in migrant families (Cebotari and Mazzucato 2016; Nobles 2011). Household-level measurements incorporate four controls – continuous measures of *household size* and *monthly household income net of remittances* (in Somoni), a binary indicator of whether a *grandparent resides in the household*, and the level of *financial satisfaction* of the responsible adult in the household on a five-point Likert scale, in which higher scores denote more satisfaction. Finally, the analyses include controls for *urban/rural location* and a *region* variable to account for possible geographical differences in children’s education within Tajikistan.

Modelling approach

I fitted ordinal probit regressions to examine the relationship between children’s years lag in education, different transnational household characteristics and selected controls.

A potential endogeneity bias complicates migration estimates in relation to children's education. Many factors drive the decision to migrate and children's progress in school may influence it if the desire to keep children in school motivates the departure of household members. Regression modelling using cross-sectional data fails to account for simultaneous causality. Educational and migration selectivity is influenced by many factors, and children in transnational care may share with their migrant household members a latent predisposition for better cognitive development and a higher likelihood of attending school. Previous studies have used instrumental variables to control for educational and migration selectivity (McKenzie and Rapoport 2011; Nakamuro 2010). The use of instrumental variables to control for migration without affecting the dependent variable is problematic, particularly when using data in developing countries (Bennett et al. 2013). This study employs different transnational household configurations and the analysis distinguishes between children in transnational and non-transnational care. It means that the degree of selectivity may differ for children in different transnational household configurations and for children who live in non-migrant households. Hence, to control effectively for selectivity it would be necessary to exclude children in non-migrant households and to find multiple suitable instruments for each transnational family model, which is particularly difficult.

Propensity score matching (PSM) is another approach used in migration research to deal with endogeneity. Scholars employ this methodology to estimate the probability of children living in a specific migration configuration by using regressions on selected individual and household characteristics when measuring children's educational outcomes (Xu and Xie 2015; Zhou et al. 2014). However, PSM relies on a strong assumption that current observable characteristics in the data can capture all pre-migration differences between children in transnational and non-transnational care. With a limited amount of pre-migration information available, I decided not to use PSM here because it runs the risk of omitting variables that may affect both the probability of living in a migration configuration and the measured outcome. In the absence of PSM and instrumental designs, and considering the data at hand, I employed the second-best strategy, which is to include a variety of parental and household observables, described above, to address partially the selectivity of migration. However, it is difficult to account for all possible conditions that affect the selectivity and, therefore, one must approach the results with caution.

I conducted four different analyses using the four transnational household characteristics described above, with each analysis split by gender to observe potential differences between girls and boys. Within each analysis, I regressed one transnational household indicator on the full set of controls. In each model, I transformed the coefficients into average marginal effects, calculated at the means of each predictor to show how changes in the value of independent variables affect the relative status of children's education. I performed auxiliary analyses (not shown) where I added each transnational family measurement and cluster of controls in sequential steps. I found the results for the main predictors and the model fit specifications to be stable after the inclusion of each cluster of variables.

I did not include the different transnational characteristics in one model for two reasons: (1) in this study I intend to capture the specific effect of each transnational household setting without the confounding effects of other transnational characteristics; and (2) each transnational household configuration compares children in transnational and non-transnational care and this setting makes the primary predictors collinear because they each contain a sample of children in non-migrant households. I consistently include children in non-migrant households as the reference category because I want to capture the schooling effects in a wider population than solely transnational children (Cebotari and Mazzucato 2016).

I tested interactions between variables of substantive interest but found no significant effects. I initially considered a multilevel modelling approach but did not adopt it because of low intraclass correlation (ICC) estimates when I included regions at the second level of analysis. However, I included indicators pertaining to regions and the urban–rural location in all models as fixed effects to control for unobserved geographical differences in the country.

Results

Table 1 shows the descriptive statistics of dependent and independent variables. For brevity, in this section I present only findings pertaining to the dependent variable and the key transnational household predictors. Based on the crude statistics without controlling for other factors, girls are not very different from boys in making normal school progress; however, in the long term, children differ by gender, with the girls more disadvantaged (lags in education of two or more years). Furthermore, within the sampled population, 19.37 per cent of boys and 18.95 per cent of girls had their father abroad. Only 1.98 per cent of boys and 1.67 per cent of girls had their mothers abroad. The small incidence of maternal migration is interesting but perhaps not surprising considering that family norms in Tajikistan favour male out-migration. Overall, the migration of both parents was more common among boys (3.69 per cent) than among girls (1.49 per cent).

It is possible to make several other observations. In general, slightly more children in the sampled population had parents and other household members migrating for longer rather than shorter periods. It is notable that almost all migrant households with schoolchildren received remittances from abroad, with only 3.64 per cent of boys and 2.61 per cent of girls living in non-remitting migrant households. Many Tajik migrants were legal, although a noticeable number of children had parents (4.98 per cent of boys and 4.26 per cent of girls respectively) and other household members (5.87 per cent of boys and 4.52 per cent of girls respectively) residing abroad illegally. The descriptive differences in the legal status, remittances and the duration of absence in relation to gender were not statistically significant.

The bivariate results highlighted some interesting differences between boys and girls living in different types of transnational household in Tajikistan. However, I applied multivariate models to analyse the combined effects of the main variables of interest and controls on children's educational development. Tables 2–5 show the marginal effects

Table 1: Proportions and means (standard deviations) of dependent and independent variables by gender

Boys, N = 1110 Girls, N = 1140	Boys	Girls	Test statistic
	Percentage /mean (SD)	Percentage /mean (SD)	
Years lag in education	100	100	26.98***
None: normal school progress	70.98	68.49	
One-year lag	23.93	20.63	
Two-or-more-year lag	5.09	10.88	
The migrant parent	100	100	14.76**
Live with both parents	74.95	77.89	
Father migrant	19.37	18.95	
Mother migrant	1.98	1.67	
Both migrant	3.69	1.49	
Migration and the duration of absence (ref. non-migrant)	100	100	3.93
Non-migrant	72.09	75.13	
Parent migrant: short period	6.58	5.91	
Parent migrant: long period	7.56	6.78	
Other household member absent: short period	5.42	5.57	
Other household member absent: long period	8.36	6.61	
Migration of household members and remittances	100	100	3.78
Non-migrant	72.09	75.13	
Household member absent: yes remittances	24.27	22.26	
Household member absent: no remittances	3.64	2.61	
Migration of household members and the legal status abroad	100	100	
Non-migrant	72.09	75.13	3.64
Parent migrant: legal status abroad	9.33	8.52	
Parent migrant: illegal status abroad	4.98	4.26	
Other household member absent: legal status abroad	7.73	7.57	
Other household member absent: illegal status abroad	5.87	4.52	
Age	100	100	3.42
7–10	29.78	33.13	
11–15	47.56	46.35	
16–17	22.67	20.52	
Child is ethnic minority	21.33	20.21	0.43
Child has a chronic or acute health condition	8.36	6.09	4.37*
Child lives with younger siblings	77.07	79.74	2.39

Table 1 (continued)

	Boys	Girls	Test statistic
	Percentage /mean (SD)	Percentage /mean (SD)	
Boys, N = 1110			
Girls, N = 1140			
Education mother	100	100	3.84
None	31.19	34.90	
Basic	63.99	60.05	
Secondary or more	4.81	5.05	
Education father	100	100	8.03*
None	25.02	30.28	
Basic	53.78	49.30	
Secondary or more	21.19	20.42	
Parents divorced/separated	2.23	3.31	2.43
Household size	7.49 (3.25)	7.75 (3.45)	3.47*
Monthly household income net of remittances	847.75	834.68	0.76
Resident grandparent	31.89	30.09	0.85
Financial satisfaction	2.58 (0.85)	2.54 (0.88)	0.89
Child lives in rural area	71.11	68.17	2.31
Region	100	100	5.0
Dushanbe	15.38	18.09	
Sughd	21.96	21.48	
Khatlon	29.16	29.22	
Region of Republican Subordination	25.87	22.87	
Gorno-Badakhshan Autonomous Province	7.64	8.35	

Note: chi-squared tests were used for all comparisons except for household size and the financial satisfaction caregiver, which used analysis of variance (ANOVA).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

from the ordinal probit regressions. The first analysis differentiated between the status of migrant parents in relation to children's years lag in education (Table 2). The findings show that boys and girls whose mother migrated were less likely to lag in school than boys and girls living with both parents. The magnitude of these effects was higher for the one-year lag compared with the two-or-more-year lag in education. In addition, girls with both parents abroad were less likely to have a two-or-more-year lag in school than girls living with both parents in Tajikistan. Notably, I observed no significant effects on education among children whose father migrated compared with those living with both parents.

The second analysis looked at the duration of migration in relation to children's school progress (Table 3). The results indicate that girls were less likely to lag in school

when parents were abroad for shorter periods and when other household members migrated for longer periods. The magnitude of the effects was higher for the one-year lag than for a two-or-more-year lag in education, which may suggest greater short-term educational benefits for girls living in these transnational care arrangements. The duration of absence did not correspond to significant differences in the educational lag of boys.

The third analysis compared children in non-migrant households with those living in migrant households who did or did not receive remittances (Table 4). There were no significant differences in the school progress of boys, but girls in migrant remitting households were four percentage points less likely to lag in school by one year and three percentage points less likely to lag by two or more years compared with girls in non-migrant households. It is interesting, however, that the absence of remittances did not show significant patterns of association with children's educational lag. It suggests that the educational vulnerabilities of children in migrant households are not always associated with the absence of financial resources from remittances.

The final analysis regressed children's educational outcome on the measure of household members' legal status abroad (Table 5). The findings show that boys whose parents work abroad legally are less likely to lag in school compared with boys in non-migrant families. Although the marginal effects were narrowly significant, the magnitude in the effect size was substantial; boys of legally residing migrant parents, compared with those of non-migrants, were nine percentage-points less likely to lag in school by one year and two percentage-points less likely to lag by two or more years. This result may reflect decisions to invest primarily in boys' education in the short term because many youths in Tajikistan may themselves plan to migrate in the long run and join their legally residing parents abroad. There was no clear link between the legal status of members abroad and girls' school progress.

One should also understand the education of children in the context of other measurements. Few controls were statistically significant in all models. Age was a significant predictor and consistently revealed that older children are more likely to have an educational lag of one or more years. The education of mothers, however, corresponded to significantly lower probabilities of both boys and girls lagging in school. Notably, the household income net of remittances was a significant predictor for children's normal school progress. Other findings suggest that girls living in rural areas are less likely to lag in school than those living in urban areas. In Tajikistan, urban areas provide more opportunities for paid labour and many girls work instead of being at school (Akilova 2017). Work in rural areas, by comparison, is mainly agricultural, so male dominated and seasonal. The gender division of labour, coupled with the seasonality of agricultural work may explain why girls benefit educationally in rural settings. There was also a positive association between household size and years lag in education among girls. Similarly, girls living in Sughd and RRS are more likely to be educationally disadvantaged, for these are regions from where many irregular and seasonal labour migrants originate (Olimova and Bosc 2003).

Table 2: The migrant parent and children's years lag in education

	Boys		Girls	
	One-year lag dy/dx	Two-or-more-year lag dy/dx	One-year lag dy/dx	Two-or-more-year lag dy/dx
Boys, N = 1110				
Girls, N = 1140				
Migrant parent (ref. live with both parents)				
Father migrant	0.11 (0.07)	0.04 (0.03)	0.07 (0.05)	0.05 (0.05)
Mother migrant	-0.16* (0.07)	-0.03*** (0.01)	-0.16** (0.05)	-0.07*** (0.01)
Both migrant	-0.01 (0.10)	-0.00 (0.03)	-0.09 (0.08)	-0.04** (0.02)
Age (ref. 7–10)				
11–15	0.32*** (0.03)	0.12*** (0.02)	0.23*** (0.03)	0.21*** (0.03)
16–17	0.31*** (0.02)	0.26*** (0.05)	0.17*** (0.02)	0.46*** (0.07)
Child is ethnic minority	0.01 (0.01)	0.00 (0.01)	0.02 (0.02)	0.02 (0.01)
Child has a chronic or acute health condition	0.02 (0.04)	0.01 (0.01)	0.06* (0.03)	0.05 (0.03)
Child lives with younger siblings	-0.03 (0.03)	-0.01 (0.01)	-0.01 (0.02)	-0.01 (0.02)
Education mother (ref. none)				
Basic	-0.25*** (0.05)	-0.11*** (0.03)	-0.17*** (0.04)	-0.15*** (0.04)
Secondary or more	-0.05 (0.10)	-0.01 (0.02)	0.08 (0.06)	0.08 (0.08)
Education father (ref. none)				
Basic	-0.09 (0.05)	-0.03 (0.02)	-0.08 (0.04)	-0.05 (0.03)
Secondary or more	-0.16* (0.07)	-0.04** (0.01)	-0.11 (0.06)	-0.06* (0.03)
Parents divorced/separated	0.02 (0.07)	0.00 (0.02)	0.01 (0.05)	0.00 (0.03)
Household size	-0.00 (0.00)	-0.00 (0.00)	0.01** (0.00)	0.01** (0.00)
Monthly household income net of remittances	-0.09** (0.02)	-0.08* (0.01)	-0.07*** (0.02)	-0.09* (0.02)
Resident grandparent	-0.03 (0.03)	-0.01 (0.00)	-0.02 (0.02)	-0.02 (0.01)
Financial satisfaction	-0.03* (0.01)	-0.01* (0.01)	-0.00 (0.01)	-0.00 (0.01)
Child lives in rural area	-0.02 (0.03)	-0.01 (0.02)	-0.08*** (0.02)	-0.06*** (0.02)
Region (ref. Dushanbe)				
Sughd	0.07 (0.04)	0.02 (0.02)	0.08** (0.03)	0.06* (0.03)
Khatlon	-0.03 (0.04)	-0.01 (0.01)	0.05 (0.03)	0.03 (0.03)
Region of Republican Subordination	0.06 (0.04)	0.02 (0.01)	0.12*** (0.03)	0.12*** (0.04)
Gorno-Badakhshan Autonomous Province	-0.07 (0.05)	-0.02 (0.01)	0.05 (0.04)	0.04 (0.04)
Prob. > χ^2	0.000	0.000	0.000	0.000
Pseudo R ²	0.09	0.10	0.10	0.11

Notes: reported results are average marginal effects (dy/dx); robust standard errors adjusted for household clusters reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: The duration of migration and children's years lag in education

	Boys		Girls	
	One-year lag dy/dx	Two-or-more-year lag dy/dx	One-year lag dy/dx	Two-or-more-year lag dy/dx
Boys, N = 1110				
Girls, N = 1140				
SE				
Migration and the duration of absence (ref. non-migrant)				
Parent migrant: short period	-0.07	-0.02	-0.09*	-0.05**
Parent migrant: long period	-0.06	-0.01	-0.02	-0.01
Other household member absent: short period	0.03	0.01	0.04	0.03
Other household member absent: long period	0.00	0.00	-0.10**	-0.05***
SE				
Age (ref. 7–10)				
11–15	0.32***	0.13***	0.23***	0.21***
16–17	0.31***	0.27***	0.17***	0.48***
SE				
Child is ethnic minority	0.01	0.00	0.02	0.02
Child has a chronic or acute health condition	0.01	0.00	0.05	0.04
Child lives with younger siblings	-0.02	-0.01	-0.01	-0.01
SE				
Education mother (ref. none)				
Basic	-0.28***	-0.13***	-0.18***	-0.16***
Secondary or more	-0.17***	-0.03***	-0.05	-0.03
SE				
Education father (ref. none)				
Basic	-0.06	-0.02	-0.07	-0.05
Secondary or more	-0.00	-0.00	-0.00	-0.00
Parents divorced/separated	-0.01	-0.00	-0.01	-0.01
SE				
Household size	-0.00	-0.00	0.01**	0.01**
Monthly household income net of remittances	-0.07**	-0.09*	-0.10**	-0.08**
SE				
Resident grandparent	-0.03	-0.01	-0.02	-0.02
Financial satisfaction	-0.03*	-0.01*	-0.00	-0.00
Child lives in rural area	-0.02	-0.01	-0.08**	-0.05**
SE				
Region (ref. Dushanbe)				
Sughd	0.06	0.02	0.07*	0.06*
Khatlon	-0.03	-0.01	0.04	0.03
Region of Republican Subordination	0.06	0.02	0.12***	0.12**
Gorno-Badakhshan Autonomous Province	-0.07	-0.02	0.05	0.04
Prob. > χ^2	0.000	0.000	0.000	0.000
Pseudo R ²	0.09	0.10	0.13	0.13

Notes: reported results are average marginal effects (dy/dx); robust standard errors adjusted for household clusters reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Remittances and children's years lag in education

	Boys		Girls	
	One-year lag dy/dx	Two-or-more-year lag SE	One-year lag dy/dx	Two-or-more-year lag SE
Boys, N = 1110				
Girls, N = 1140				
Migration of household members and remittances (ref. non-migrant)				
Household member absent: yes remittances	-0.01 (0.03)	-0.00 (0.01)	-0.04* (0.01)	-0.03* (0.01)
Household member absent: no remittances	-0.03 (0.06)	-0.01 (0.01)	-0.01 (0.05)	-0.00 (0.03)
Age (ref. 7–10)				
11–15	0.32*** (0.03)	0.13*** (0.02)	0.23*** (0.03)	0.22*** (0.03)
16–17	0.31*** (0.02)	0.28*** (0.05)	0.16*** (0.02)	0.49*** (0.07)
Child is ethnic minority	0.01 (0.03)	0.00 (0.01)	0.02 (0.02)	0.02 (0.01)
Child has a chronic or acute health condition	0.01 (0.04)	0.00 (0.01)	0.04 (0.03)	0.04 (0.03)
Child lives with younger siblings	-0.02 (0.03)	-0.01 (0.01)	-0.01 (0.02)	-0.01 (0.02)
Education mother (ref. none)				
Basic	-0.27*** (0.04)	-0.12*** (0.03)	-0.18*** (0.04)	-0.17*** (0.04)
Secondary or more	-0.16*** (0.04)	-0.03*** (0.01)	-0.05 (0.05)	-0.03 (0.03)
Education father (ref. none)				
Basic	-0.07 (0.05)	-0.02 (0.02)	-0.07 (0.04)	-0.05 (0.03)
Secondary or more	-0.05 (0.05)	-0.01 (0.01)	-0.01 (0.04)	-0.01 (0.02)
Parents divorced/separated	0.00 (0.07)	0.00 (0.02)	-0.00 (0.05)	-0.00 (0.03)
Household size	-0.00 (0.00)	-0.00 (0.00)	0.01** (0.00)	0.01** (0.00)
Monthly household income net of remittances	-0.08* (0.03)	-0.09*** (0.03)	-0.10*** (0.03)	-0.11** (0.03)
Resident grandparent	-0.03 (0.03)	-0.01 (0.01)	-0.03 (0.02)	-0.02 (0.01)
Financial satisfaction	-0.03* (0.01)	-0.01* (0.00)	-0.00 (0.01)	-0.00 (0.01)
Child lives in rural area	-0.02 (0.03)	-0.01 (0.01)	-0.07** (0.02)	-0.05** (0.02)
Region (ref. Dushanbe)				
Sughd	0.07 (0.04)	0.02 (0.01)	0.07* (0.03)	0.06 (0.03)
Khatlon	-0.03 (0.04)	-0.01 (0.01)	0.04 (0.03)	0.03 (0.03)
Region of Republican Subordination	0.05 (0.04)	0.02 (0.01)	0.11*** (0.03)	0.11** (0.04)
Gorno-Badakhshan Autonomous Province	-0.07 (0.05)	-0.02 (0.01)	0.04 (0.04)	0.04 (0.04)
Prob. > χ^2	0.000	0.000	0.000	0.000
Pseudo R ²	0.11	0.10	0.12	0.13

Notes: reported results are average marginal effects (dy/dx); robust standard errors adjusted for household clusters reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: The legal status abroad and children's years lag in education

	Boys			Girls		
	One-year lag		Two-or-more-year lag	One-year lag		Two-or-more-year lag
	dy/dx	SE		dy/dx	SE	
Boys, N = 1110						
Girls, N = 1140						
Migration and the legal status abroad (ref. non-migrant)						
Parent migrant: legal status abroad	-0.09*	(0.05)	-0.02*	(0.01)	-0.03	(0.04)
Parent migrant: illegal status abroad	-0.01	(0.06)	-0.00	(0.02)	-0.09	(0.05)
Other household member absent: legal status abroad	0.04	(0.04)	0.01	(0.01)	-0.04	(0.03)
Other household member absent: illegal status abroad	-0.02	(0.04)	-0.01	(0.01)	-0.02	(0.03)
Age (ref. 7–10)						
11–15	0.32***	(0.03)	0.13***	(0.02)	0.23***	(0.03)
16–17	0.31***	(0.02)	0.27***	(0.05)	0.16***	(0.02)
Child is ethnic minority	0.01	(0.03)	0.00	(0.01)	0.03	(0.02)
Child has a chronic or acute health condition	0.01	(0.04)	0.00	(0.01)	0.05	(0.03)
Child lives with younger siblings	-0.02	(0.03)	-0.01	(0.01)	-0.01	(0.02)
Education mother (ref. none)						
Basic	-0.29***	(0.04)	-0.14***	(0.04)	-0.18***	(0.04)
Secondary or more	-0.17***	(0.04)	-0.03***	(0.01)	-0.05	(0.05)
Education father (ref. none)						
Basic	-0.05	(0.05)	-0.01	(0.02)	-0.07	(0.04)
Secondary or more	-0.00	(0.06)	-0.00	(0.02)	-0.01	(0.04)
Parents divorced/separated	-0.01	(0.07)	-0.00	(0.02)	-0.00	(0.05)
Household size	-0.00	(0.00)	-0.00	(0.00)	0.01**	(0.00)
Monthly household income net of remittances	-0.10**	(0.02)	-0.08**	(0.02)	-0.07***	(0.01)
Resident grandparent	-0.03	(0.03)	-0.01	(0.01)	-0.03	(0.02)
Financial satisfaction	-0.03*	(0.01)	-0.01*	(0.00)	-0.00	(0.01)
Child lives in rural area	-0.02	(0.03)	-0.01	(0.01)	-0.08**	(0.02)
Region (ref. Dushanbe)						
Sughd	0.06	(0.04)	0.02	(0.01)	0.07*	(0.03)
Khatlon	-0.03	(0.04)	-0.01	(0.01)	0.04	(0.03)
Region of Republican Subordination	0.05	(0.04)	0.02	(0.01)	0.11***	(0.03)
Gorno-Badakhshan Autonomous Province	-0.08	(0.05)	-0.02	(0.01)	0.04	(0.04)
Prob. > χ^2	0.000		0.000		0.000	
Pseudo R ²	0.09		0.10		0.11	

Notes: reported results are average marginal effects (dy/dx); robust standard errors adjusted for household clusters reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussion

In recent decades, it has become increasingly common for Tajik household members to migrate and several studies point to the costs and benefits of migration to the education of children in this specific context (Bennett et al. 2013; Gatskova et al. 2017; Nakamuro 2010; Olimova 2010; UNICEF 2011). In this study, I use data from a nationally representative sample of migrant and non-migrant households to look at different transnational characteristics in relation to children's educational lag to ascertain more accurately the effects from previously tested studies on children in Tajikistan. Two findings warrant discussion because they add new insights to our current knowledge. First, different transnational characteristics are important factors in determining whether the migration of household members benefits children's education. Second, gender is not a risk factor in relation to children's normal school progress, despite the dominant narrative found in previous exploratory research in Tajikistan. I discuss these findings in greater detail below.

In this study, I include different transnational household characteristics to reflect more accurately the multifaceted nature of how children experience living with migration. Which parent has migrated does make a difference in that children, especially girls, are less likely to lag in school when their mothers or both parents migrate. This finding is important, especially in relation to maternal migration, since earlier studies emphasized the negative effects of maternal absence on the educational development of children (Cortes 2015; Wen and Lin 2012). The results of this study contradict the dominant narrative that maternal migration is harmful for children and instead align closely with recent empirical studies that emphasize the resilience of children to negative educational outcomes when parents migrate (Antman 2012; Cebotari and Mazzucato 2016; Cebotari et al. 2016; Jordan and Graham 2012). Evidence from Tajikistan shows that more migrant mothers than fathers reside abroad legally and that they maintain active contact with their children back home (ILO 2010). Tajik mothers also tend to migrate when their children are older and to engage predominantly in seasonal work, so they can regularly return to be with their children at home (Olimova and Bosc 2003). Transnational family studies have also shown that migrant mothers tend to remit more money more regularly, and that children are more likely to benefit from what they send (Pfeiffer and Taylor 2008). Exposure to migration is also an empowering experience for Tajik women and their children. Indeed, recent evidence shows improved school attendance rates among Tajik girls in households with more female migrants (Gatskova et al. 2017). However, one must keep in mind that the absence of negative effects of parental migration on children does not necessarily mean that the departure of their mothers and fathers does not affect children, but rather that parental migration does not interfere with their educational development.

In the same vein, I also found that the duration of migration, remittances, and legal status abroad are important factors in relation to children's education. Girls in transnational care whose parents or other household members have migrated for shorter or longer periods respectively, and who live in households receiving remittances, are

generally less likely to have an educational lag than girls in non-migrant households. I found more positive effects for boys' education when migrant parents resided abroad legally. However, since there are few comparative studies based on these characteristics, the discussion of these effects in Tajikistan is at best marginal. In theory, duration and legal status abroad may represent a successful migration. Similarly, remittances provide additional resources for children in the country of origin and ease the household labour constraints that may keep children away from school (Antman 2011; McKenzie and Rapoport 2011). These findings may best reflect those children living in the households of successful migrants, in that they are more likely to develop resilience and adapt to the changes in household configurations that might otherwise affect their educational progress.

However, the positive findings presented above do not necessarily negate the vulnerability of children in transnational care stemming from past research. Rather, advances in communication technologies have made the transnational lives of migrants and children significantly easier (Baldassar et al. 2016). The availability and use of cheap communication channels may well improve transnational derivatives such as supervision, bonding, counselling and a timely response to various needs that children in transnational care may have. Indeed, auxiliary analyses (not shown) revealed that all but four boys and girls, with a mother or both parents abroad, resided in households equipped with mobile phones or landlines. The same children made more use of internet services compared with children of non-migrants. The use of cheap communication technologies may increase the likelihood of parents and other household members remaining engaged with decisions concerning children, including those that may affect their education. Future research to investigate the effects of transnational family members using different communication technologies in relation to child well-being would do well to explore this line of enquiry further.

An important feature of this study is that it employs a gender perspective to measure the school progress of children in Tajikistan. Guided by the rationale that educational opportunities in Tajikistan may involve a gender bias (Bascieri and Falkingham 2009; Lo and Maclean 2015; Olimova 2010; UNICEF 2011), I found that girls in migrant households, compared with girls in non-migrant households, are least at risk of an educational lag across a range of transnational care arrangements. Girls of migrants are more advantaged if their mothers, or both parents, migrate for shorter periods and when they live in households that receive remittances. These results are encouraging and merit special attention. The gender findings may capture a change in socio-cultural norms of care in the context of migration. Male-dominated migration in Tajikistan has its own advantages in that it presents an opportunity to acquire values and norms that may help empower women. Empirical evidence in Tajikistan and elsewhere shows that fathers who have experienced migration are generally more inclined to invest in their children's education, particularly that of girls (Antman 2012; Nobles 2011; UNICEF 2011). Education is highly prized among Tajik migrants because they see skills as vital for securing better jobs in the country or abroad (Olimova 2010). Therefore, the gender-related findings of this study may add to research on the culture of migration (McKenzie and Rapoport 2011; Punch 2002), in that investments in children's education may

facilitate a successful career in the country or open a path to future migration. The gender results may also reflect a preferential investment in girls because females need to be more resourceful to secure future opportunities. The rapid feminization of migration flows in Tajikistan, such as those involving short-term ‘shuttle’ migration (Olimova and Bosc 2003), gives additional support to this explanation. Although a culture of migration undoubtedly exists in Tajikistan, to explore the gender differences of this paradigm would require more research.

This study also has limitations. First and foremost, its cross-sectional design does not reflect causal relations. Research in this field will benefit from studies using longitudinal data. Another limitation relates to the highly-selective process of migration. Potential migrants tend to have certain characteristics that make them prone to migrate. I included some observable factors that may influence this selection, such as parental education and household economic status, but there may be unobservable factors for which I could not account given the data at hand. A final limitation relates to the small sample sizes of some of the migration indicators. This trade-off comes with the benefit of using gender-split analyses on a nationally representative sample and is common in studies of children living transnationally (Kandel and Kao 2001; Nobles 2011).

Despite these shortcomings, this study contributes to the transnational family literature by employing population-representative data to look at different transnational forms of living in relation to children’s school progress in Tajikistan. Although earlier research identified both migration and a child’s gender as meaningful risk factors for children’s education, the evidence I presented in this study contradicts these negative associations. That children, particularly girls, benefit from migration is encouraging and can inform better targeting of policy interventions. In and of itself, the migration of household members does not adversely affect children’s educational development in Tajikistan – a finding that future studies may help test in other contexts.

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References

- Akilova, M. (2017) ‘Pathways to child work in Tajikistan: narratives of child workers and their parents’, *Central Asian Survey*, 36 (2), 231–46, doi:10.1080/02634937.2017.1281791.
- Antman, F. M. (2011) ‘International migration and gender discrimination among children left behind’, *American Economic Review*, 101 (3), 645–49, doi:10.1257/aer.101.3.645.
- Antman, F. M. (2012) ‘Gender, educational attainment and the impact of parental migration on children left behind’, *Journal of Population Economics*, 25 (4), 1187–214, doi: 10.1007/s00148-012-0423-y.
- Baldassar, L., M. Nedelcu, L. Merla and R. Wilding (2016) ‘ICT-based co-presence in transnational families and communities: challenging the premise of face-to-face proximity in sustaining relationships’, *Global Networks*, 16 (2), 133–44, doi: 10.1111/glob.12108.

- Baschieri, A. and J. Falkingham (2009) 'Staying in school: assessing the role of access, availability, and economic opportunities – the case of Tajikistan', *Population, Space and Place*, 15 (3), 205–24, doi: 10.1002/psp.512.
- Becker, G. (1965) 'A theory of the allocation of time', *Economic Journal*, 75 (299), 493–517, doi: 10.2307/2228949.
- Bennett, R., D. Clifford and J. Falkingham (2013) 'Household members' migration and the education of children "left behind": empirical findings from Tajikistan and reflections for research practice', *Population, Space and Place*, 19 (1), 1–14, doi:10.1002/psp.1698.
- Bowlby, J. (1958) 'The nature of the child's tie to the mother', *International Journal of Psycho-Analysis*, 39 (5), 350–73, available at: <https://goo.gl/uo2w7C>.
- Bredl, S. (2010) 'Migration, remittances and educational outcomes: the case of Haiti', *International Journal of Educational Development*, 31 (2), 162–8, doi: 10.1016/j.ijedudev.2010.02.003.
- Bronfenbrenner, U. (1979) *The ecology of human development: experiments by nature and design*, Cambridge, MA: Harvard University Press.
- Cebotari, V. and V. Mazzucato (2016) 'Educational performance of children of migrant parents in Ghana, Nigeria and Angola', *Journal of Ethnic and Migration Studies*, 42 (5), 834–56, doi: 10.1080/1369183X.2015.1125777.
- Cebotari, V., M. Siegel and V. Mazzucato (2016) 'Migration and the education of children who stay behind in Moldova and Georgia', *International Journal of Educational Development*, 51, 96–107, doi: 10.1016/j.ijedudev.2016.09.002.
- Cebotari, V., V. Mazzucato and E. Appiah (2017a) 'A longitudinal analysis of well-being of Ghanaian children in transnational families', *Child Development*, early view article, doi: 10.1111/cdev.12879.
- Cebotari, V., V. Mazzucato and M. Siegel (2017b) 'Gendered perceptions of migration among Ghanaian children in transnational care', *Child Indicators Research*, 10 (4), 971–93, doi: 10.1007/s12187-016-9407-x.
- Cortes, P. (2015) 'The feminization of international migration and its effects on the children left behind: evidence from the Philippines', *World Development*, 65 (January), 62–78, doi: 10.1016/j.worlddev.2013.10.021.
- Dito, B. B., V. Mazzucato and D. Schans (2017) 'The effects of transnational parenting on the subjective health and well-being of Ghanaian migrants in the Netherlands', *Population, Space and Place*, 23 (3), 1–15, doi: 10.1002/psp.2006.
- Dreby, J. (2007) 'Children and power in Mexican transnational families', *Journal of Marriage and Family*, 69 (4), 1050–64, doi: 10.1111/j.1741-3737.2007.00430.x.
- Dreby, J. (2010) *Divided by borders: Mexican migrants and their children*, Berkeley: University of California Press.
- Edwards, A. and M. Ureta (2003) 'International migration, remittances, and schooling: evidence from El Salvador', *Journal of Development Economics*, 72 (2), 429–61, doi: 10.1016/S0304-3878(03)00115-9.
- Gatskova, K., A. Ivlevs and B. Dietz (2017) 'Does migration affect education of girls and young women in Tajikistan?', WIDER working paper 104, 1–47, available at: <https://goo.gl/GQEvxc>.
- Harris, C. (2011) 'State business: gender, sex and marriage in Tajikistan', *Central Asian Survey*, 30 (1), 97–111, doi: 10.1080/02634937.2011.554057.
- Hu, F. (2012) 'Migration, remittances, and children's high school attendance: the case of rural China', *International Journal of Educational Development*, 32 (2), 401–11, doi: 10.1016/j.ijedudev.2011.08.001.
- ILO (2010) 'Migration and development in Tajikistan: emigration, return and diaspora', International Labour Organization report, available at: <https://goo.gl/WyEfyx>.
- Jampaklay, A. (2006) 'Parental absence and children's school enrolment: evidence from a longitudinal study in Kanchanaburi, Thailand', *Asian Population Studies*, 2 (1), 93–110, doi: 10.1080/17441730600700598.

- Jordan, L. P. and E. Graham (2012) 'Resilience and well-being among children of migrant parents in South-East Asia', *Child Development*, 83 (5), 1672–88, doi:10.1111/j.1467-8624.2012.01810.x.
- Kandel, W. and G. Kao (2001) 'The impact of temporary labor migration on Mexican children's educational aspirations and performance', *International Migration Review*, 35 (4), 1205–31, doi: 10.1111/j.1747-7379.2001.tb00058.x.
- Kroeger, A. and K. H. Anderson (2014) 'Remittances and the human capital of children: new evidence from Kyrgyzstan during revolution and financial crisis, 2005–2009', *Journal of Comparative Economics*, 42 (3), 770–85, doi:10.1016/j.jce.2013.06.001.
- Lo, W. Y. W. and R. Maclean (2015) 'Governance challenges in the initiatives for out-of-school children in Tajikistan', *Educational Research for Policy and Practice*, 14 (2), 139–52, doi: 10.1007/s10671-014-9170-z.
- Lu, Y. (2014) 'Parental migration and education of left-behind children: a comparison of two settings', *Journal of Marriage and Family*, 76 (5), 1082–98, doi:10.1111/jomf.12139.
- McKenzie, D. and H. Rapoport (2011) 'Can migration reduce educational attainment? Evidence from Mexico', *Journal of Population Economics*, 24 (4), 1331–58, doi: 10.1007/s00148-010-0316-x.
- Mazzucato, V. and D. Schans (2011) 'Transnational families and the well-being of children: conceptual and methodological challenges', *Journal of Marriage and Family*, 73 (4), 704–12, doi: 10.1111/j.1741-3737.2011.00840.x.
- Nakamuro, M. (2010) 'School attendance and migrant remittances in transition economies: the case of Albania and Tajikistan', *International Development Planning Review*, 32 (3/4), 333–61, doi: 10.3828/idpr.2010.12.
- Nobles, J. (2011) 'Parenting from abroad: migration, nonresident father involvement, and children's education in Mexico', *Journal of Marriage and Family*, 73 (4), 729–46, doi: 10.1111/j.1741-3737.2011.00842.x.
- Olimova, S. (2010) 'The impact of labour migration on human capital: the case of Tajikistan', *Revue européenne des Migrations internationales*, 26 (3), 181–97, available at: <http://journals.openedition.org/remi/pdf/5239>.
- Olimova, S. and I. Bosc (2003) 'Labour migration from Tajikistan', International Organization for Migration publication, available at: http://publications.iom.int/system/files/pdf/labour_migration_tajikistan.pdf.
- Olimova, S. and M. Olimov (2007) 'Labor migration from mountainous areas in the Central Asian region: good or evil?', *Mountain Research and Development*, 27 (2), 104–08, doi: 10.1659/mrd.0904.
- Parreñas, R. (2005) 'Long distance intimacy: class, gender and intergenerational relations between mothers and children in Filipino transnational families', *Global Networks*, 5 (4), 317–36, doi: 10.1111/j.1471-0374.2005.00122.x.
- Pfeiffer, L. and E. Taylor (2008) 'Gender and the impacts of international migration: evidence from rural Mexico', in A. R. Morrison, M. Schiff and M. Sjöblom (eds) *The international migration of women*, New York: Palgrave Macmillan, 99–125.
- Psacharopoulos, G. and H. Yang (1991) 'Educational attainment among Venezuelan youth: an analysis of its determinants', *International Journal of Educational Development*, 11 (4), 289–94, doi: 10.1016/0738-0593(91)90045-A.
- Punch, S. (2002) 'Youth transitions and interdependent adult–child relations in rural Bolivia', *Journal of Rural Studies*, 18 (2), 123–33, doi: 10.1016/S0743-0167(01)00034-1.
- Stark, O. and D. E. Bloom (1985) 'The new economics of labour migration', *American Economic Review*, 75 (2), 174–178, available at: www.jstor.org/stable/1805591.
- Stark, O., C. Helmenstein and A. Prskawetz (1997) 'A brain gain with a brain drain', *Economics Letters*, 55 (2), 227–34, doi: 10.1016/S0165-1765(97)00085-2.
- UNDESA (2014) 'Migration profile: Tajikistan', UN Department of Economic and Social Affairs, document, available at <http://esa.un.org/migmigprofiles/indicators/files/Tajikistan.pdf>.

- UNESCO (2013) 'Tajikistan: participation in education', UNESCO Institute for Statistics webpage, available at: <http://uis.unesco.org/en/country/TJ>.
- UNICEF (2011) 'Impact of labour migration on "children left behind" in Tajikistan', ref. no. SSA/TADA/2010-00000579-0, available at: www.unicef.org/tajikistan/resources_18660.html.
- Wen, M. and D. Lin (2012) 'Child development in rural China: children left behind by their migrant parents and children of nonmigrant families', *Child Development*, 83 (1), 120–36, doi:10.1111/j.1467-8624.2011.01698.x.
- World Bank (2015) 'World development indicators: 1960–2015', online data resource, available at: <http://data.worldbank.org/data-catalog/world-development-indicators>.
- Xu, H. and Y. Xie (2015) 'The causal effects of rural-to-urban migration on children's well-being in China', *European Sociological Review*, 31 (4), 502–19, doi: 10.1093/esr/jcv009.
- Zhou, M., R. Murphy and R. Tao (2014) 'Effects of parents' migration on the education of children left behind in rural China', *Population and Development Review*, 40 (2), 273–92, doi: 10.1111/j.1728-4457.2014.00673.x.