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Who Goes, Who Stays, and Who Studies? Gender, Migration, and Educational Decisions among Rural Youth in China

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Who Goes, Who Stays, and Who Studies?

Gender, Migration, and Educational Decisions among Rural Youth in China

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Little is known about what affects the decision to migrate in China, despite the estimated 145 million rural migrants that reside in urban areas as of 2009. Drawing on a survey of youth from 100 villages in Gansu Province, we analyze migration and education decisions, with a focus on disparities associated with gender, sibship structure, and academic performance. Results show modest gender differences favoring boys in educational migration, but no gender differences in the overall likelihood of labor migration. Youth with older sisters are less likely to migrate, while youth with younger brothers are more likely to migrate. For girls, having older sisters is also negatively related to being a local or a migrant student, and better early academic performance is related to educational migration. For boys, labor migration may serve as a backup plan in the event of failing the high school entrance examination. Overall, results shed more light on the factors shaping educational migration than labor migration.

Who Goes, Who Stays, and Who Studies?

Gender, Migration, and Educational Decisions among Rural Youth in China

Introduction

The scale of rural-urban migration in China is immense. China's National Bureau of Statistics (2011) estimates that by the end of 2009, a total of 145 million migrant workers resided in urban areas. Among them, over half are youth born after 1980 and over 70 percent have less than a high school level of educational attainment (National Bureau of Statistics of China, 2011). For many rural youth, and especially those for whom the cost burden of education is high or the likelihood of scoring well on the college entrance examination is low, the prospect of migration may represent an appealing alternative to staying in school. Migrant work, compared to school persistence, is likely to have drastically different implications for youth's subsequent life-course trajectories.

Yet, we know little about factors that shape decisions about this important crossroad in rural youth's lives. Educational research suggests that many factors influence family investments in children's education, including the gender of child (Brown and Park, 2002), family size (Li et al., 2008), family income (Adams and Hannum, 2005; de Brauw and Giles,

2008), and academic aptitude (Hannum et al., 2009). Research on migration indicates that gender (He and Gober, 2003), sibship structure (Ma and Jacobs, 2010), and economic status (Zhao, 1999) may also shape migration decisions. Nonetheless, only a few studies have investigated important links between migration and education. In their analysis of migration opportunity and educational attainment using survey data from Shanxi, Jiangsu, Anhui, and Henan, de Brauw and Giles (2008) find that youth in high-migration villages tended to have lower levels of high school enrollment. In addition, the authors also find that, unsurprisingly, wealthier families clearly favor more schooling as opposed to work migration. Using data gathered in Hebei and Liaoning, Karpestam (2011) finds that rural households reap higher returns from investing in children's education than sending children as migrant workers, and families that not only send out migrant workers but also keep the better-educated children at home are actually better-off than others. Outside of China, Kandel and Kao (2001), using data collected in Mexico, found that students from areas with more past migration to the U.S. had lower academic aspirations.

Building on earlier work, we suggest that the migration context affects calculations about education, and vice versa. Thus, families and children adopt strategies that consider children's potential as migrants and as students. This paper analyzes migration and education decisions of rural youth, and conceptualizes migration for work and persistence in school as competing choices. Our approach is novel in three ways. First, we emphasize whether and how the choice

between school and migration may differ for young men and women. Second, we consider how sibship structure—itself a reflection of gender preferences and also an important determinant of family obligations for girls and boys—might matter for the decision to migrate or stay in school for boys and girls. Finally, we investigate the role of academic aptitude in the migration and education outcomes for girls and boys. To undertake these tasks, we analyze data from a longitudinal panel survey of rural youth in Gansu, the Gansu Survey of Children and Families (GSCF).

The paper is structured as follows. First, we briefly discuss research on internal migration and education in China, with a particular focus on gender issues relevant to the proposed analysis. Next, we introduce the GSCF and discuss the variables employed in this analysis. We then present an analysis of gender differences in the likelihood of school persistence and work migration, with attention to the role of sibship structure and academic aptitude. We close with a discussion of results and implications.

Migration and Education Decisions: Considering the Role of Gender

Migration

Recent analyses of the decision to migrate in China have investigated many topics, including the relationship between migration and poverty (e.g., Park and Wang, 2010; Zhu and Luo, 2010) and the well-being of children left in rural areas (e.g., Cong and Silverstein, 2011).

Some studies have suggested that males are more likely to migrate (He and Gober, 2003), but others suggest that among younger cohorts, the migrant population may be more feminized (Liang and Chen, 2004). For example, the National Bureau of Statistics estimates that overall, 35 percent of the migrant worker population in China is female, but among the younger cohorts of migrant workers born after 1980, 41 percent are women (National Bureau of Statistics of China, 2011).[1]

It is likely that similar forces shape migration decisions for youth, but it is also possible that young men and women may migrate for different reasons. Some quantitative studies find that higher percentages of working-age men emphasize the importance of economic incentives as compared to working-age women (He and Gober, 2003; Liang and Chen, 2004). To explain this finding, He and Gober (2003) propose that the gender difference partly comes from women's tendency to downplay the importance of economic gains. However, Liang and Chen (2004) argue that, at least in Shenzhen, younger women are increasingly emphasizing the importance of individual economic benefits.

Other studies indicate that young women are highly motivated by economic incentives. Lee (1998) and Pun (2005) provide examples of women who left home to escape poverty and

[1] Data for these estimates come from a national survey of migrant workers and a telephone survey of 6000 migrant youth in 10 provinces in 2010 (National Bureau of Statistics, 2011). The source is unclear about how the two datasets were combined to calculate these percentages.

unemployment; Jacka (2006) interviewed young women who aspired to start local businesses after earning money from working in Beijing. In addition, using the one-percent sample of China's 1990 Census, Fan and Huang (1998) argue that for women, marriage in order to get away from the village is a type of economic mobility that is often unmeasured, but is a salient factor in the decision to migrate.

Economic incentives may encompass not only concerns with personal economic welfare, but also family economic welfare. In particular, some have suggested that women may be prone to migrate due to family economic obligations. Song et al. (2009) contend that rural women from the Yangtze River Delta are highly motivated to migrate in order to provide better educational opportunities for their school-age children. Interviewing 12 migrant women in four foreign investment companies, Ma and Jacobs quote a migrant woman as saying, "…I had no choice. I had to quit, otherwise, my younger sister or younger brother would have had to quit" (2010: 818). Moreover, five of Ma and Jacobs' (2010) interviewees report that they expected to support younger siblings' education, and this was a reason for their dropping out of school to work away from home. Few studies, however, have probed young men's feelings of obligation to support family members as a motivation for work migration.

Education

Access to education in rural areas has expanded very rapidly in China, and girls have

benefited disproportionately from that expansion (Hannum, 1999; Hannum et al., 2010; Wu and Zhang, 2010). There has been a long-term decline in gender disparities in the primary and secondary education in China (Hannum and Xie, 1994; Hannum, 2005). In some provinces, even in rural areas, there are hints of an emerging gender reversal in years of schooling achieved by youth and young adults, while modest gender differences favoring boys exist in others (Hannum et al., 2010; Cherng and Hannum, 2011). One recent study using national census data suggests a reversal of the gender gap in transitions to tertiary education among those who have attained the high school level of education (Wu and Zhang, 2010).

Research among families of children in rural Gansu Province, one of China's poorest provinces, indicates that while some links can be made between gender bias of mothers and their early educational aspirations for children, parents of students are centrally concerned with academic performance when considering how much to support children's education (Zhang et al., 2007; Hannum and Adams, 2008; Hannum et al., 2009; Kong, 2010). Children themselves are concerned with the economic sacrifices their parents make for them to remain in school (Hannum and Adams, 2008), and thus may be unwilling to inflict this burden on parents if the cost appears too high, or if the investment seems unlikely to pay off. Moreover, one ethnographic study in rural Gansu showed that parents speak about educational outcomes specifically in the context of migration. Education is viewed as a means to achieve both

economic and geographic mobility (Kong, 2010).

The role of sibship structure

The links among gender, education, and migration are more complicated than implied by a focus on individual children. Sibship structure may be quite important, as it reflects resource competition and, in China, gender preferences of parents. The combination of son preference and policies permitting a second child if the first child is a girl in many parts of rural China means that parents are more likely to continue to have children until they have at least one son. Thus, girls from families with high levels of son preference may also be girls from larger families—with more children competing for educational resources.

Moreover, girls are also more likely to have younger brothers than boys, while boys are more likely to have elder sisters in the family, which may imply a burden on girls and a benefit for boys. Cicirelli (1994) argues that in China and other developing countries, older siblings have strong obligations to care for their younger siblings, and thus older siblings may be at risk of terminating their own education and work to provide for family members. Young women may be dually affected in rural China: they may be more likely than young men to take on this kind of provider role in the family, and they may be more likely than young men to have younger siblings, because families often continue to have children until they have a boy. Both factors could increase girls' chances of migrating for work, especially for girls who are not showing

signs of being high academic performers. Qualitative interviews with young women migrants in coastal Guangdong and coastal Shandong are consistent with the notion that young women are motivated to migrate to support family members, especially to pay for younger siblings' educational expenses (Ma and Jacobs, 2010).

Summary

In short, while access to education has increased for girls, migration has also become increasingly feminized. To what extent are these two competing options different for young men and women? Prior quantitative research has attested to the important linkages between youth education and migration, and field studies have highlighted that rural families and rural youth are thinking about education and migration together. Research has also attested to changing gender dynamics in education and migration among youth, compared to older cohorts, Yet, we know little about how girls and boys in rural communities may differ in the factors that shape the choice between school continuation and migration.

Research questions

This paper investigates migration and educational persistence as competing outcomes for rural youth. We investigate four research questions. First, we ask whether there are gender differences in school persistence and migration. Second, we ask whether and how sibship matters: whether sibship structures can explain any gender differences in education or migration, and

whether sibship structure operates differently for young men and women. More specifically, we investigate whether young men with more elder sisters are more likely to stay in school and whether young women with younger brothers have increased likelihood to become migrant workers. Finally, we investigate whether academic achievement at younger ages matters for education or migration outcomes, and test whether academic performance is more consequential for girls than for boys.

Methods

Data

We use data from the Gansu Survey of Children and Families (GSCF) to examine gender differences in educational decisions. The GSCF, launched in the year 2000, is a longitudinal panel survey of children in rural Gansu. This dataset is particularly well suited for the purposes of this study, for two reasons. First, the data contains detailed measures of children's educational performance and family education and economic background. Second, its longitudinal design allows measurement of family economic situation and early academic performance prior to observing educational and migration decisions that are the focus of this study.

For the purposes of this study, we combine the first, second, and fourth waves of the survey. The first wave, conducted in the year 2000 among 9 to 12 year-olds, not only surveyed

the children and asked schoolteachers questions about the child's academic performance, but also administered a cognitive development test to the participants. The first and the second waves (2000 and 2004) both contained information on household expenditures and income. Wave 4, conducted in 2009, asked about participants' school and work life, and included migration experiences. The number of young adults that participated in all three waves of the surveys used in this paper is 1812. List-wise deletion excluded approximately 13 percent of the students who did not answer all questions employed in this paper and reduced the total sample size to 1568. We define migrants as youth who live in other counties for at least three months during 2009.

Variables and Models

Since we focus on comparing student versus migrant worker status, we created a dependent variable that measures both student and migrant status outcome in 2009. More specifically, we differentiate between four types of statuses: non-migrant students, migrant students, non-migrant workers, and migrant workers. The non-migrant worker category includes those who lived in the same county as their family and self-identified as not students. It is important to note that we use non-migrant worker as a shorthand term, interchangeably with non-migrant, non-student. These youth might be formally or informally employed, working as day laborers, or helping out on family farms. Due to the difficulty of defining "work" for those engaged in family-based subsistence agriculture, this category probably encompasses a wide

range of both type and degree of economic activity. Similarly, the migrant worker category is a residual category that refers to what might be better termed "the migrant work force." This group encompasses all migrants who were not students.[2]

Most studies of Chinese internal migration do not discuss migrant students when talking about rural to urban migration (such as Chan, 1994; Liang and White, 1996; Wu, 1994), nor do studies of educational status typically make a distinction between local and migrant students. As a result, we do not know much about the role and characteristics of migrant students. In this paper, we distinguish between migrant and non-migrant students. We find that migrant students and non-migrant students exhibit sizeable differences in their levels of education, family wealth, and cognitive test scores (see Table 1). Almost half of the migrant students received some college education, while non-migrant students have received some secondary education. Migrant students also come from wealthier families as compared to non-migrant students. Further, migrant students have higher cognitive test scores compared to their worker and non-migrant counterparts.

(Table 1 about here)

[2] The survey asked for three types of statuses: student, worker, and neither student nor worker. We treat the last type as workers for two reasons. First, non-migrant youth who consider themselves as neither student nor worker may be working outside or on farm status. Second, our data shows that migrant youth who do not think of themselves as either students or workers migrated primarily for work or economic needs and may be doing "dagong 打工." Another way to conceptualize the migrant worker category is to regard it as total migrant work force. However, for simplicity in wording, we will refer to total migrant work force as migrant workers.

The independent variables are measures of gender, age, family background, sibship structure, and aptitude. The variables extracted from the first wave of survey are measures of academic aptitude, including teacher's report on children's average math and language (語文 yuwen) grades and the cognitive development score administered as part of the survey. Math and language grades range from 0 to 100; cognitive test scores vary between 0 and 68. Family wealth was divided into five quintiles and comes from the 2004 wave, with the lowest quintile as the reference group. Variables that come from 2009 are gender, age, parental education, sibship structure, and academic achievement, measured by self-reported academic high school examination taking and outcomes. Since the participants in the GSCF may have taken the exam up to three times, we use the best-reported result as the exam outcome. Our variable distinguishes those who did not take the exam (the reference category), failed the exam, passed the exam, and achieved a high pass on the exam. It should be noted that students who failed the academic high school entrance exam might receive secondary education by attending vocational high schools. Table 1 presents the descriptive tabulations for the sampled participants. For analyses, we estimated multinomial logit models to examine migration and education decisions to distinguish between different types of statuses, using non-migrant workers as the reference category.

Results

Our first model examines overall gender differences in student or migrant worker statuses. Next, in Model 2, we test whether gender differences persist when we add controls for sibship structure, along with other measures of family background, meaning parental education and family wealth. Our third model adds early academic performance, and our fourth model adds more recent performance, in the form of academic high school entrance exam-taking and score level. Models 3 and 4 are estimated for the full analytic sample, and separately for girls and boys, to allow for the possibility of gender differences in factors that matter for outcomes. In this section, we discuss elements of the models that correspond to each of our research questions.

Gender differences

Table 2 presents four models of determinants of migration and educational status outcomes, as described in the preceding section. Model 1 examines gender differences in the likelihood of staying in school and becoming a migrant worker, to address our first research question. Results show that, overall, girls are no less likely to be local students or migrant workers. However, being female is marginally significantly negatively associated with the likelihood of becoming a migrant student. This result indicates that while boys and girls experience a similar propensity for work migration, girls may be less likely to receive support to

migrate for educational purposes.

(Table 2 about here)

Table 1 showed that youth who are migrant students are likely to have better-educated parents and come from wealthier families. Model 2 shows that father's education is positively associated with both student statuses, relative to the reference status of non-migrant, non-student, but father's education is not associated with migrant worker status. Net of other factors in the model, neither mother's education nor family wealth in 2004 show a systematic effect on migration outcomes. Having older sisters is negatively related to being a migrant worker, while having younger brothers is positively related. A similar pattern exists for the local (non-migrant) student status, though results are only marginally significant. More to the point of the first research question, in Model 2, the broad patterns found in Model 1 do not change after controlling for family background, including sibship structure, except that the negative relationship between being female and migrant student status becomes significant at conventional levels.

Model 3 adds controls for academic aptitude, meaning language and math grades and cognitive test scores from 2000, with no change in the pattern of gender results. Model 4 adds controls for high school entrance exam outcomes. The gender effect on migrant student status loses significance after controlling for academic high school examination outcome in Model 4.

This finding probably reflects the fact that the high school entrance exam is a key decision point for school continuation beyond compulsory education. Girls who participate in and pass the high school entrance exam are likely to be relatively high educational performers and those whose parents may be committed to their education. Overall, our results for gender and migrant worker status show that although girls are less likely to become migrant students, young women have similar chances to those of young men to participate in work migration.

The role of sibship structure

We revisit the models in Table 2 to address our second research question, about the role of sibship structure. We have shown already that sibship structure does not explain away the gender difference in propensity to migrate for studies. Here, we focus on what sibship structure effects themselves say about gender, migration and education.

Before discussing these results, we note that young men and women in the dataset do not share similar sibship structures. Figure 1 indicates the sibship structure for young men and women by each type of status. Overall, more men have elder sisters, while more women have younger brothers. In unreported analysis, men not only have fewer siblings than women, but households with more children belong to poorer wealth quintiles. This shows that young women are more likely to come from economic worse-off families with fewer resources to support their schooling.

(Figure 1 about here)

With regard to work migration, Model 2 shows that youth with more elder sisters are significantly less likely to work away from home or to be a local student, though the latter effect is only marginally significant in Model 2. As models control successively more performance measures, older sisters become associated with significantly lower likelihood of both student outcomes and the migration outcome. In contrast, those with more younger brothers are more likely to become migrant workers or local students (though this last effect is only marginally significant in Model 2). Most importantly, consistent with expectations of older sisters as providers for younger brothers, having younger brothers, but not having younger sisters, facilitates work migration. Having older sisters, but not older brothers, promotes the opposite outcome.

However, certain results diverge from this simple interpretation. In Model 2, the number of younger brothers shows a marginally and significant positive association with the chances of becoming a non-migrant student, while youth with elder sisters are marginally significantly less likely to become non-migrant students. With performance controlled in Models 3 and 4, these effects are stable, but become significant at conventional levels. Moreover, older sisters are associated in Models 3 and 4 with a significant negative effect on migrant student status, though this effect is marginal in Model 3.

Further complications emerge when we split the sample by gender. In both Models 3 and 4, for girls, older sisters are associated with a lower likelihood of migrating for school or work, or with being in school. Yet, older sisters are only significantly associated with lower chances of work migration for younger brothers. In these models, boys with younger brothers are more likely to be non-migrant students and migrant workers; in Model 4, boys with older brothers are also more likely to be non-migrant students.

A clear finding is that having older sisters is associated with a lower likelihood of migration, overall, and for girls and boys. This finding is consistent with the idea that elder sisters take on the role of the provider and are working away from home to support younger siblings regardless of gender. Also partially consistent with expectations, being in a household with younger brothers promotes migration in the full sample, but this finding does not pertain to girls when the sample is split.

The role of academic performance

Our third research question regards the role of academic aptitude and performance in school persistence and labor migration. Results from Models 3 and 4 indicate that early performance and, unsurprisingly, high school entrance exam-taking and performance, are related to children's likelihood of staying in school. Cognitive test scores were significantly related to migrant student status in Model 3 for girls, but not for boys, consistent with the idea that girls

need to show promise to remain in school.

The effects of early performance dissipate in the models that control for high school exam-taking and performance, which makes sense if the high school entrance exam is a key event in school continuation decisions. Generally, the academic performance variables are not related to decisions regarding work migration. An exception is that in Model 4, boys who took but failed the high school entrance exam were more likely to become labor migrants, compared to those who did not take the examination at all.

Findings from Model 3 and Model 4 provide some evidence that suggests that parents, of course possibly in conjunction with youth themselves, take into account child's aptitude when making decisions in educational investment. There is little evidence that this consideration is occurring for the labor migration outcome.

Discussion

Overall, our results do not indicate gender differences in work migration, versus staying at home, among rural youth in Gansu. However, girls are less likely to be migrant students, and this finding is not explained by the larger numbers of siblings girls have or by their early academic performance. In addition, after we control for taking and performing well on the high school examination, we find no difference in migration outcomes for girls versus boys. This

finding suggests that gender differences in educational trajectories occur at the stage of completing compulsory education, taking the high school entrance exam, and transitioning to post-compulsory education. Parents may decide which children they want to support through high school, and those children are the ones who sit the exam.

Sibship structure is important overall, and it is distinctively related to young men's and women's likelihood of continuing education. Young women with older sisters are vulnerable with respect to gaining support to migrate for schooling: they come from economically worse-off families with fewer resources to support their education, and they are likely to be in families in which strong son preference led to the larger number of girls, as families tried for a boy. Young men do not share similar disadvantages: older sisters have no such negative effects on young men's educational persistence.

Positioning in sibship structure also shapes migration decisions differently for young women and men. Overall, those who have elder sisters are less likely to become migrant workers, and those who have younger brothers are more likely to do so. This finding, on average, presents a disadvantage for girls, because girls are more likely to have younger brothers, and boys are more likely to have older sisters. This finding appears consistent with the image of parents sending girls off to earn money to support their younger brothers' schooling, or younger sibling's schooling.

However, other evidence muddies the waters of such a simple interpretation. We find no evidence that the presence of elder sisters is significantly positively associated with the student statuses, net of other controls in the model, for boys, and the presence of elder sisters is negatively related to student statuses for girls. In fact, net of other factors, girls with more older sisters are less likely to be in school or leaving home to work or study. Somewhat surprisingly, we find that the presence of younger brothers is associated with a significantly greater likelihood of work migration for boys but not for girls.

Finally, we find that children's early academic aptitude and performance is significantly associated with educational persistence, and this effect appears to operate through high school entrance exam-taking and performance. Interestingly, there are some signs of difference for girls and boys. First, cognitive test scores are significantly related to young women's likelihood of being a migrant student, but not those of young men. This finding suggests that the importance of early academic aptitude is more important for girls than for boys as parents decide how much to invest in their children's education. Second, relative to those who don't take the high school entrance exam, boys (but not girls) who take but fail the exam have greater likelihood of becoming migrant workers, relative to staying home. It is possible that migration may be viewed more favorably as a backup plan for boys than for girls who try but fail in China's competitive examination system. Interestingly, with the exception just noted for boys who fail the high

school entrance examination, academic aptitude and performance are not associated with migrant worker decisions.

Educational attainment is strongly and increasingly tied to future earnings in China (de Brauw and Rozelle, 2007; Zhang and Zhao, 2007). Rural youth are already disadvantaged compared to urban youth in terms of average educational levels (de Brauw and Giles, 2008), and, in all likelihood, in how potential employers perceive the quality of their educational credentials. Our findings suggest that within poor rural communities, those with more family resource and human capital—those with more educated fathers, and those with better academic performance—are more likely to stay in school. We find fewer clear patterns determining the decision to terminate education and become migrant workers, other than those associated with having older sisters and younger brothers. Further research is needed to understand the migration decision, and its consequences for youth trajectories. Our findings support that parents (and children themselves) are willing to invest in the educational careers of youth, but girls have to exhibit promise earlier in their academic lives. Similarly, boys may be given more opportunity to show that they are worth investing in, as we found that taking and failing the high school entrance exam was key for determining the likelihood of migrating as a laborer for boys. These findings suggest that labor migration may adversely affect the educational attainment of rural youth except among those who show early signs of academic promise. Girls have less

opportunity to fail than boys, but we found remarkably similar levels of migration outcomes.

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