Educational Expectations and Dropout Behavior among Junior High Students in Rural China

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Abstract

The high level of dropout from junior high school is one of the most serious challenges facing the human capital development of the next generation of workers in China's rural areas. The goal of this paper is to assess to what extent the educational expectations of students are correlated with dropout behavior at the junior high school level in China. Using panel data, this research finds that the cumulative dropout rate is high among grade 7 and 8 students within our sample (as high as 19.5 percent, which implies a 3-year dropout rate of around 25 percent). Importantly, we find that this high rate of dropout is significantly correlated with students' educational expectations. Specifically, students who reported their expected level of education is "less than high school" or "less than college" are five times and four times more likely to drop out during junior high school than their peers, respectively.

Key words: dropout, educational expectations, junior high school, rural China
JEL codes: I20, I25, R10

I. Introduction

After 30 years of rapid growth, a critical question China now faces is how to avoid falling into the middle income trap (Eichengreen *et al.*, 2011; Cai and Wang, 2014).

The middle income trap refers to the economic stagnation that occurs when the average income level in a country reaches a point where it can no longer sustain transformative economic development, resulting in slow economic growth or stagnation (World Bank, 2007). Scholars agree that one of the most basic measures that can be taken to avoid this situation is to encourage the development of a country's human capital, especially within poor areas (Zhang *et al.*, 2013; Yilmaz, 2015). Indeed, it has been found that an emphasis on education has been the main reason for the rapid economic growth in many countries in East Asia in recent years (World Bank, 1993; Fleisher *et al.*, 2010).

Unfortunately, human capital accumulation in China's rural areas is likely hindered by the fact that many students choose to drop out of school at relatively young ages. In particular, evidence suggests that students drop out of school at the junior high school level at rates much higher than the rate of 2.6 percent reported by the government (MOE, 2006). For example, Mo *et al.* (2013) find that the grade 7 dropout rate in rural China is 13 percent. Similarly, Yi *et al.* (2015) find that more than 51 percent of junior high school students in poor rural areas do not go on to high school. A recent study based on 24 931 middle school students shows that the cumulative dropout rate across all stages of secondary education might be as high as 63 percent (Shi *et al.*, 2015). These dropout rates are not only high, but also will have negative consequences for China's human capital accumulation and future growth.

The literature in developing countries has identified several factors associated with dropout behavior. For example, economic factors, such as poverty and opportunity costs faced by remaining in school and rising wages driven by labor shortages, have been found to be associated with high dropout rates in rural China (Brown and Albert, 2002; Connelly and Zheng, 2003; Barrera-Osorio *et al.*, 2008; Yi *et al.*, 2012). In addition, certain family factors have been found to be related to the likelihood of a student dropping out of school, such as the number of children in the family and parental education levels (Glick and Sahn, 2000; Lopez and Salinas, 2000; Shapiro and Tambashe, 2001; Zhao and Glewwe, 2010). Gender also plays a role in students dropping out, as the research finds that boys drop out of junior high school at rates higher than those of girls (Wang *et al.*, 2014). Psychological factors might also affect dropout behavior (Nolen-Hoeksema *et al.*, 1986; Chen and Li, 2000; Kokko *et al.*, 2006; Wang *et al.*, 2014). Specifically, within the context of China, left-behind children (i.e. those who have been left in the countryside with relatives while their parents migrate to cities for work) have also been found to be especially vulnerable to dropping out of school (Yi *et al.*, 2012; Su *et al.*, 2015).

In addition to factors that other research teams have identified as determinants of dropout, a student's own educational expectations may play a role in determining

his or her dropout decision. Educational expectations have been found to play an important role in the process of educational attainment (Sewell and Shah, 1967; Sewell *et al.*, 1970). The empirical literature also suggests that an individual's expected level of education is an effective predictor of future educational attainment and life-long achievement (Khoo and Ainley, 2005; Ou and Arthur, 2008; Jacob and Wilder, 2010; Goodman *et al.*, 2011; Rampino and Taylor, 2013).

However, it should be noted that, to date, almost all work examining the relationship between educational expectations and school dropout rates has been done in developed countries. This line of research may be especially important in China, due to the country's extremely competitive, exam-oriented educational system. Under this system, students are tracked from an early age and must pass entrance exams to continue further levels of schooling. If expectations are important for educational attainment and tracking systems create forces that can positively or negatively affect a student's expectations, then having positive expectations might be an important factor in reducing dropout rates.

It is also the case that a competitive, exam-oriented system puts pressure on students to drop out. These effects are likely to be particularly acute within China's poor rural areas. The competition is every bit as intense within these areas as in urban centers because China's education system is unified across rural and urban boundaries. However, there are many factors that may be reducing the competitiveness of rural students, such as lower incomes (MOE and NBS, 2004; Tsang and Ding, 2005), weaker family structures (Huang and Du, 2007) and poorer schooling facilities (World Bank, 2001; Wang *et al.*, 2011).

It is within this setting that we are interested in understanding the expectations of rural students regarding their own education. Furthermore, we are interested in determining whether these expectations are associated with different rates of dropout. In short, the overall goal of this paper is to examine the relationship between dropout behavior and educational expectations among junior high school students in rural China. To meet this goal, we pursue four specific objectives. First, we document the dropout rate among junior high school students in rural China. Second, we report on the educational expectations and aspirations of junior high school students in rural China. Third, we measure determinants of dropping out and educational expectations through multivariate regression. Fourth, we measure the nature of the association between dropping out and educational expectations. The correlations are calculated for both an unconditional specification and after controlling for student, family and school characteristics.

To meet these objectives, the rest of the paper is organized as follows. Section II

introduces the study's sample, data collection method and methodological approach. Section III reports the dropout rates and correlates of dropout and educational expectations. Section IV analyzes the relationship between dropout rates and educational expectations. Section V concludes.

II. Data and Methods

1. Sampling

The sample was chosen in a four-step process. First, sample counties were selected from a prefecture in northern Shaanxi Province. The prefecture has relatively poor agricultural resources and poor transportation infrastructure. Indeed, the per capital rural income in this prefecture is US$38 (or 3 percent) lower than the average per capita income for rural China (NBS, 2012). In 2012, the per capita rural income in our sample area was RMB7681 (or US$1238). When compared to other rural areas in Shaanxi, our sample area is not the poorest prefecture. In fact, the per capita rural income is US$309 higher than the average per capita rural income of Shaanxi Province. However, given that some of the counties in the prefectures are nationally-designated poor counties (which are common across China's north-west region), we believe that this prefecture is broadly representative of rural areas in Western China.

To select the counties in the sample prefecture, we first obtained a list of all the 12 counties in this prefecture. We then randomly chose 8 counties to enroll in our sample. The population of these 8 counties constitutes 84 percent of all of the sample prefecture.

After the counties were chosen, the second step of the sampling protocol involved selecting the schools. To do this, we solicited a list of all schools in each county from each county's Bureau of Education. Schools located in the county seat were excluded in order to target rural students. We also eliminated the schools that had fewer than 100 students (50 students in seventh and eighth grade, respectively), because many counties were in the middle of merging such schools. We did not want small schools in the sample because we wanted to follow students for up to 2 years (and there was a likelihood that the schools would not exist at a later date during a follow-up survey). From this modified complete list of junior high schools, we randomly selected a sample of 38 schools.

The third step was to select the students within each sample school. In each sample school, we enrolled all students in seventh and eighth grade into our sample. We did not select ninth grade students because they would not be attending the school during the follow-up surveys, making collecting follow-up survey information from students

degree. From these responses, we were able to determine which students expected to attend high school/college and which did not.

The second block of the survey was a 25-min standardized math test. The questions that made up the exam were based on a subset of a test originally created for the Trends in International Mathematics and Science Study (TIMSS). We contracted a team of teachers that worked in rural schools to ensure that the questions were relevant to the curriculum of their students. To ensure strict time limits and avoid cheating, enumerators remained in the classroom, timed the exam, and monitored the exam.

In the third block of the survey, enumerators collected data on the characteristics of students. Students were asked to fill in a questionnaire on their personal and family backgrounds. They were asked questions about their gender, age, number of siblings, the level of education of their parents, whether their family received welfare benefits, and whether their parents migrated for work. The questionnaire also included information related to the schooling of students, such as their grades, whether they boarded at school, and a score indicating the quality of their relationships with their teachers.

Data on student dropout rates was derived from follow-up surveys conducted in September 2013 and April 2014. To collect this information, enumerators first collected the name and contact information of each student included in the baseline survey. Then, enumerators recorded whether the students were present or absent during the follow-up survey. If a student was absent, the enumerators asked the homeroom teacher to provide a reason for the student's absence (i.e. coded as transferred to other schools, dropped out or on temporary leave due to illness). To further confirm whether a student had dropped out or was temporarily absent, enumerators then called the student's household to confirm that the homeroom teachers were providing accurate information.

3. Analytical Methods

To understand the relationship between student educational expectations and students dropping out, we first run descriptive analyses. In the initial analyses we look at the dropout rates with regards to the educational expectations of students. To understand what kinds of students are more likely to drop out, we then examine the student and family characteristics and educational expectations of students that do and do not drop out during junior high school. Specifically, we use *t*-tests to measure whether there is a significant difference in characteristics between these groups in order to analyze which characteristics are correlated with educational expectations and students dropping out. Furthermore, to analyze the determinants of dropping out and educational expectations, we run a multivariate regression that includes all the student and family characteristics.

We use an ordinary least squares (OLS) model to estimate the correlation between dropping out and the individual educational expectations of students:

$$Y_{ij} = \alpha + \beta H_i + \lambda X_i + \mu_j + \varepsilon_i \qquad (1)$$

$$Y_{ij} = \alpha + \beta C_i + \lambda X_i + \mu_j + \varepsilon_i. \qquad (2)$$

The dependent variable Y_{ij} indicates the dropout status of student i in school j, which equals 1 if the student dropped out in 2013 or 2014 and equals 0 if the student remained in school. H_i is the educational expectation of student i for high school, which equals 1 if the student said he/she expects to go to high school and equals 0 if the student said he/she does not expect to go to high school. C_i is the educational expectation of student i for college, which equals 1 if the student said he/she expects to go to college and equals 0 if the student said he/she does not expect to go to college. The vector X_i includes student individual-level and family-level characteristics. The individual-level characteristics include student gender, grade, boarding status, whether the student is a left behind child, the student's teacher–student relationship score and the student's academic performance (math test score). The family-level characteristics include the education level of parents, qualification for poverty grants and number of siblings. To further improve efficiency, we add school-level fixed effects, represented by μ_j.

III. Prevalence and Correlates of Dropout and Educational Expectations

1. Dropout Rates and Correlates

According to our data, the average dropout rate over our study period of 1.5 academic years is 9.8 percent. In addition, we find that the dropout rate varies by grade; the dropout rate for grade 7 students is 7.0 percent and the dropout rate increases to 12.5 percent for grade 8 students. This means that the cumulative dropout rate for grade 7 and grade 8 students among sample schools during the study period is 19.5 percent (Figure 1). If we extrapolate to all 3 years of junior high school, this means that approximately 25 percent of students are dropping out of junior high school before they graduate. This rate is nearly 10 times higher than the officially recognized level for all three grades of junior high school of 2.6 percent (MOE, 2006). The high dropout level in our sample is consistent with junior high school dropout rates of 13, 51 and 63 percent found by Mo *et al.* (2013), Yi *et al.* (2015) and Shi *et al.* (2015), respectively.

Our data also demonstrate that dropout rates vary according to the individual characteristics of students (Table 3). We find that boarding students, eighth grade students, students with siblings, students with lower levels of academic achievement and students with poorer teacher–student relationship scores are more likely to drop out

Figure 1. Dropout Rates of Seventh and Eighth Grade Students, Shaanxi Province, China, 2012–2014 (%)
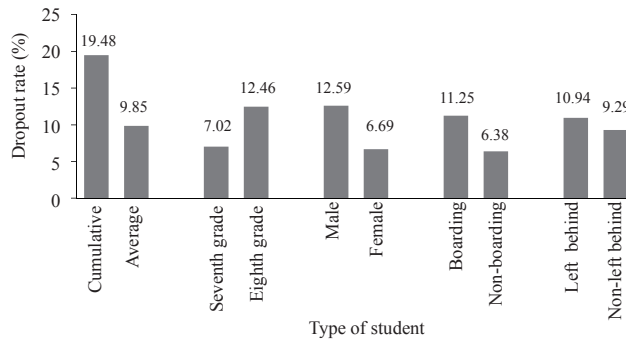
Source: Author's survey.

from junior high school than their peers. In addition, we find that the dropout rate of male students in our sample (12.6 percent) is nearly two times higher than that of female students (6.7 percent: Figure 1). Such findings are also consistent with the results of other researchers. According to Mo *et al.* (2013) and Yi *et al.* (2012), junior high school boys in China face a higher opportunity cost of staying in school as compared to girls because there are more opportunities available to them in the job market at this age.

Table 3. Comparisons between Attrited Students and Students Present for the Endline Survey

	Students in endline survey	Attrited students	Differences	*t*-values/levels of significance
Male share (%)	68.48	51.94	16.54	6.79***
Eighth-grade student share (%)	65.87	50.53	15.34	6.28***
Boarding student share (%)	81.30	70.05	11.25	5.07***
Left behind student share (%)	37.39	33.25	4.14	1.79*
Math test score[a] (mean)	7.32	7.87	−0.55	4.58***
Share of fathers with educational attainment of junior high school or above (%)	38.04	45.78	−7.74	−3.17***
Share of mothers with educational attainment of junior high school or above (%)	25.65	25.36	0.29	0.14
Share of families that qualify for poverty grants (%)	32.83	31.68	1.15	0.50
Number of siblings (mean)	1.51	1.38	0.13	2.78***
Teacher–student relationship score[b] (mean)	6.45	7.11	−0.66	−5.41***

Source: Author's survey.

Notes: ***, ** and * indicate the significance at 1, 5 and 10-percent levels, respectively. [a]Math test score measures math abilities using a standardized math instrument that is based on student curriculum. The scores are between 0 and 15. The mean of the distribution is 7.81; the standard deviation is 2.43. [b]The teacher–student relationship score measures the relationship between teachers and students. The scores are between 0 and 10. The mean of the distribution is 7.05; the standard deviation is 2.51.

2. Educational Expectations and Correlates

Figures 2 and 3 depict the prevalence of educational expectations among junior high school students. On average, the share of junior high school students whose expected level of education is "less than high school" is 5.6 percent (Figure 2), and the share of students whose expected level of education is "less than college" is 19.9 percent (Figure 3).

Interestingly, these results mean that most of the junior high school students expect to attend high school or college. However, these findings are inconsistent with the high dropout rates that have been found at the junior high school level. For this reason, we believe that it is likely that the educational expectations reported by students are due

Figure 2. The Share of Students Whose Expected Level of Education is "Less than High School" among Different Types of Students, Shaanxi Province, China, 2012–2014 (%)

Source: Author's survey.

Figure 3. The Share of Students Whose Expected Level of Education is "Less than College" among Different Types of Students, Shaanxi Province, China, 2012–2014 (%)
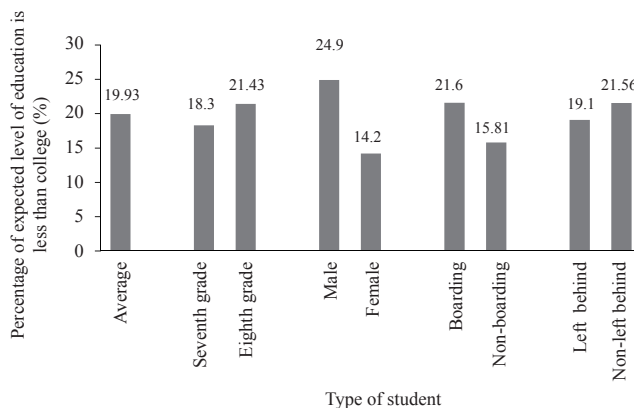
Source: Author's survey.

to "wishful thinking" rather than being a realistic assessment of future educational attainment. Yi *et al.* (2015) find that, within China's competitive educational system, rural students with lower levels of academic achievement rarely went on to attend academic high school even after reporting that they planned to attend that level of schooling. In this case, the educational expectations of these students were credited to "wishful thinking" rather than a realistic evaluation of outcomes. It may be "wishful thinking" that can explain these discrepancies between the reported expected levels of education of students and their dropout behavior.

To further understand what types of students tend to have lower educational expectations, we used *t*-tests to compare characteristics between students whose education expectations are "less than high school" or "high school or above" (Table 4) and between students whose educational expectations are "less than college" or "college or above" (Table 5). Similar to the relationship identified between student gender and dropout rates, we find that there is a large difference in educational expectations between the genders. The share of male students whose expected level of education is "less than high school" (7.6 percent) is more than two times higher than that of female

Table 4. Comparisons between Students Whose Expected Levels of Education is "High School or Above" and Students Whose Expected Levels of Education is "Less than High School"

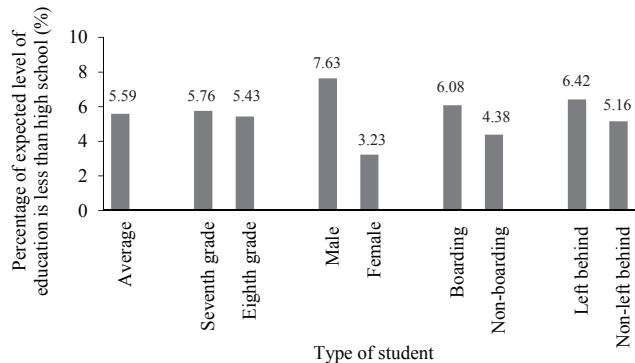|	Expected level of education is "high school or above"	Expected level of education is "less than high school"	Differences	*t*-values/levels of significance
Male share (%)	52.40	73.18	−20.78	−6.57***
Eighth-grade student share (%)	52.13	50.57	1.56	0.49
Boarding student share (%)	70.79	77.39	−6.60	−2.29**
Left behind student share (%)	33.35	38.70	−5.35	−1.77*
Math test score[a]	7.88	6.73	1.15	7.46***
Share of fathers with educational attainment of junior high school or above (%)	45.58	35.63	9.95	3.14***
Share of mothers with educational attainment of junior high school or above (%)	25.51	23.37	2.14	0.77
Share of families that qualify for poverty grants (%)	31.54	36.02	−4.48	−1.51
Number of siblings (mean)	1.37	1.57	−0.20	−3.18***
Teacher–student relationship score[b] (mean)	7.12	5.81	1.31	8.28***

Source: Author's survey.

Notes: ***, ** and * indicate the significance at 1, 5 and 10-percent levels, respectively. [a]Math test score measures math abilities using a standardized math instrument that is based on student curriculum. The scores are between 0 and 15. The mean of the distribution is 7.81; the standard deviation is 2.43. [b]The teacher–student relationship score measures the relationship between teachers and students. The scores are between 0 and 10. The mean of the distribution is 7.05; the standard deviation is 2.51.

Table 5. Comparisons between Students Whose Expected Level of Education is "College or Above" and Students Whose Expected Level of Education is "Less than College"

	Expected level of education is "college or above"	Expected level of education is "less than college"	Differences	*t*-values/levels of significance
Male share (%)	50.24	66.92	−16.68	−9.21***
Eighth-grade student share (%)	51.07	55.96	−4.89	−2.67***
Boarding student share (%)	69.68	77.12	−7.44	−4.49***
Left behind student share (%)	32.97	36.41	−3.44	−1.99**
Math test score[a] (mean)	7.98	7.14	0.84	9.57***
Share of fathers with educational attainment of junior high school or above (%)	47.11	36.63	10.48	5.77***
Share of mothers with educational attainment of junior high school or above (%)	26.04	22.77	3.27	2.05**
Share of families that qualify for poverty grants (%)	31.39	33.40	−2.01	−1.18
Number of siblings (mean)	1.37	1.47	−0.10	−2.69***
Teacher–student relationship score[b] (mean)	7.28	6.14	1.14	12.54***

Source: Author's own survey.

Notes: ***, ** and * indicate the significance at 1, 5 and 10-percent levels, respectively. [a]Math test score measures math abilities using a standardized math instrument that is based on student curriculum. The scores are between 0 and 15. The mean of the distribution is 7.81; the standard deviation is 2.43. [b]The teacher–student relationship score measures the relationship between teachers and students. The scores are between 0 and 10. The mean of the distribution is 7.05; the standard deviation is 2.51.

students (3.2 percent: Figure 2). In addition, the share of male students whose expected level of education is "less than college" (24.9 percent) is nearly 11 percentage points higher than that of female students (14.2 percent: Figure 3). We also find that students from more disadvantaged family backgrounds (indicated by boarding at school, having siblings and lower levels of parental education) are more likely to have lower academic expectations than their peers. Finally, the data show that students with lower math test scores at baseline are also more likely to have lower educational expectations than other students (Tables 4 and 5).

3. Multivariate Regression: Determinants of Dropout and Educational Expectations

When we run a multivariate regression, we find that several student and family characteristics are significantly correlated with dropout behavior. Most of these correlations are consistent with the descriptive results. According to our data, boys, eighth grade students, boarding students, students with siblings and students with lower

teacher–student relationship scores are more likely than their peers to drop out at the junior high school level (Table 6, column 1). We also find that students with lower levels of academic performance are more likely to drop out. Specifically, the rate of dropout increases 0.9 percentage points for each 1 point decrease in a student's math score (Table 6, column 1, row 9).

Also similar to the findings of our descriptive results, our multivariate analysis reveals that student and family characteristics are related to a student's educational expectations. Our descriptive results show that boys and students with siblings are significantly less likely to report to expect to attend high school than their peers (Table 6, column 2). In addition, boys, eighth grade students, boarding students, students with siblings, and students with low teacher–student relationship scores are significantly less likely to report to expect to attend college than their peers (Table 6, Column 3).

In addition to student and family characteristics (and while holding these

Table 6. Multivariate Analysis of Determinants of Dropout and Educational Expectations

Variables	(1) Drop out (1 = yes)	(2) Expectations to attend high school or above (1 = yes)	(3) Expectations to attend college or above (1 = yes)
Male (1 = yes)	0.062***	−0.044***	−0.103***
	(0.01)	(0.01)	(0.01)
Grade 8 (1 = yes)	0.059***	0.002	−0.035***
	(0.01)	(0.01)	(0.01)
Boarding (1 = yes)	0.046***	−0.013	−0.048***
	(0.01)	(0.01)	(0.01)
Left behind child (1 = yes)	0.010	−0.002	−0.007
	(0.01)	(0.01)	(0.01)
Father completed junior high school (1 = yes)	−0.014	0.010	0.044***
	(0.01)	(0.01)	(0.01)
Mother completed junior high school (1 = yes)	0.014	0.004	0.013
	(0.01)	(0.01)	(0.01)
Household qualifies for poverty grants (1 = yes)	−0.009	−0.008	−0.003
	(0.01)	(0.01)	(0.01)
Number of siblings	0.010**	−0.010***	−0.016***
	(0.00)	(0.00)	(0.01)
Math test score	−0.009***	0.009***	0.022***
	(0.00)	(0.00)	(0.00)
Teacher–student relationship score	−0.006***	0.009***	0.023***
	(0.00)	(0.00)	(0.00)
County dummy	Yes	Yes	Yes
Constant	0.062**	0.879***	0.620***
	(0.02)	(0.02)	(0.03)
Observations	4668	4668	4668
R^2	0.054	0.061	0.099

Source: Author's survey.

Notes: Robust standard errors in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

characteristics constant), the academic performance of students at baseline is related to their educational expectations. For each point decrease on the standardized math test at baseline, students are 0.9 percentage points less likely to expect to attend high school and 2.2 percentage points less likely to expect to attend college (Table 6, columns 2 and 3, row 9). In particular, when we focus on the poorest performing students, who we expect are the most likely to fail the entrance exams in China's schooling system, these effects are even larger. For those students whose standardized math test score rank is in the lowest quintile, the probability of expecting to attend high school is 9.4 percentage points lower and the probability of expecting to attend college is 17.0 percentage points lower than for other students (Table 7, column 3, row 3; column 6, row 3).

　　Taking into account all the evidence offered above, similar student and family characteristics are correlated with both the dropout decisions and educational expectations of students. In sum, the multivariate analysis in Table 6 confirms that findings of the descriptive analysis: boys, eighth grade students, boarding students, students with siblings and students with poor teacher–student relationship scores are more likely to drop out and less likely to report to expect to attend high school or college. In addition, we find that students who perform worse academically are also more likely to drop out and to report to have lower educational expectations.

Table 7. OLS Estimates of the Relationship between
Educational Expectations and Academic Achievement

	(1)	(2)	(3)	(4)	(5)	(6)
	Expectations to attend high school or above			Expectations to attend college or above		
Math test score	0.010***	0.020**		0.022***	0.030**	
	(0.00)	(0.01)		(0.00)	(0.01)	
Math test score^2		−0.001			−0.001	
		(0.00)			(0.00)	
Lowest quintile math test score			−0.094***			−0.170***
			(0.03)			(0.05)
Second quintile math test score			−0.066***			−0.133***
			(0.02)			(0.04)
Third quintile math test score			−0.033**			−0.062
			(0.01)			(0.04)
Fourth quintile math test score			−0.014			−0.004
			(0.01)			(0.04)
Student controls[a]	Yes	Yes	Yes	Yes	Yes	Yes
County dummy	Yes	Yes	Yes	Yes	Yes	Yes
School dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.87***	0.84***	0.99***	0.54***	0.51***	0.78***
	(0.03)	(0.04)	(0.03)	(0.07)	(0.09)	(0.08)
Observations	4668	4668	4668	4668	4668	4668
R^2	0.08	0.08	0.08	0.12	0.12	0.12

Source: Author's survey.

Notes: Robust standard errors are in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. [a]Student controls include gender, grade, boarding, left behind status, academic achievement, parent's education status, quality for poverty grants, number of siblings and teacher–student relationship score. OLS, ordinary least squares.

IV. The Correlates of Dropout and Educational Expectations

In this section, we examine the correlations between educational expectations and dropping out. Figure 4 shows that students whose expected level of education is "less than high school" drop out of junior high school at an extremely high rate (38.7 percent). This dropout rate is more than five times higher than students whose expected level of education is "high school or above" (8.1 percent: Figure 4). Similarly, students whose expected level of education is "less than college" drop out at a rate of 23.4 percent, nearly four times higher than students whose expected level of education is "college or above" (6.5 percent: Figure 4).

When we run the unadjusted OLS analysis to examine the correlation between educational expectations and dropout rates, we find that educational expectations are strongly correlated with dropout behavior. The dropout rate among students whose expected level of education is "less than high school" is more than 30.6 percentage points greater than that of students whose expected level of education is "high school or above" (Table 8, column 1, row 1). In addition, the dropout rate among students whose expected level of education is "less than college" is more than 16.9 percentage points greater than that of students whose expected level of education is "college or above" (Table 8, column 4, row 2).

In the adjusted OLS regression, we still find that lower educational expectations predict dropout behavior after controlling for student-level and family-level characteristics. Specifically, we find that the dropout rate among students whose expected level of education is "less than high school" is more than 27.7 percentage points greater than that of students whose expected level of education is "high school or

Figure 4. The Relationship between Dropout Rate and Educational Expectations among Seventh and Eighth Grade Students, Shaanxi Province, China, 2012–2014 (%)
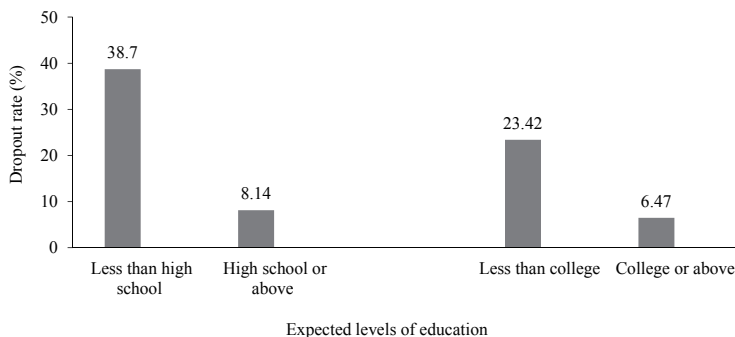
Source: Author's survey.

Table 8. OLS Estimates of the Relationship between Educational Expectation and Dropout Rates

Variable	(1) Dropout	(2) Dropout	(3) Dropout	(4) Dropout	(5) Dropout	(6) Dropout
Expected levels of education for high school (1 = high School or above; 0 = less than high school)	−0.306*** (0.02)	−0.277*** (0.02)	−0.254*** (0.04)			
Expected levels of education for college (1 = college or above; 0 = less than college)				−0.169*** (0.01)	−0.145*** (0.01)	−0.133*** (0.02)
Student controls[a]	No	Yes	Yes	No	Yes	Yes
School fixed effects[b]	No	No	Yes	No	No	Yes
Constant	0.387*** (0.02)	0.339*** (0.03)	0.301*** (0.04)	0.234*** (0.01)	0.187*** (0.02)	0.150*** (0.02)
Observations	4671	4671	4671	4671	4671	4671
R^2	0.055	0.078	0.123	0.052	0.073	0.116

Source: Author's survey.

Notes: Robust standard errors are in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. [a]Student controls including gender, grade, boarding, left behind status, academic achievement, parent's education status, quality for poverty grants, number of siblings and teacher–student relationship score. [b]Significance tests adjusted for clustering within schools. OLS, ordinary least squares.

above" (Table 8, column 2, row 1). In addition, the dropout rate among students whose expected level of education is "less than college" is more than 14.5 percentage points greater than that of students whose expected levels of education is "college or above" (Table 8, column 5, row 2).

Importantly, the same story continues to hold when we look at associations between dropout rates and educational expectations within schools. In our adjusted regression with school fixed effects, we find that educational expectations are still significantly correlated with dropout rates (Table 8, column 3, row 1 and column 6, row 2). These results mean that educational expectations are highly correlated with student dropout rates even when controlling for all student, family and school characteristics.

V. Conclusion

In this paper, we attempt to determine the relationship between the educational expectations of students and dropout rates at the junior high school level. We find that the cumulative dropout rate among grade 7 and 8 students in our sample is high (19.5 percent). In addition, we show that the level of expected educational attainment among this sample is also low: 5.6 percent of rural junior high school students do not expect to go to high school and 19.9 percent do not expect to go to college. Although these levels of educational expectations are low, they are optimistic when compared to the actual proportion of students in rural China that continue on to high school and college. In part, this might be due to "wishful thinking" among our sample. Furthermore, we find that students with lower levels of academic achievement are more likely to have lower

educational expectations than other students.

Even after controlling for student, family and school characteristics, our results show that the educational expectations of students are significantly correlated with dropout rates at the junior high school level. A student with an expected level of education of "less than high school" is found to be 25.4 percentage points more likely to drop out of junior high school than their peers who expected to attend high school. Similarly, students with expected levels of education of "less than college" are found to be 13.3 percentage points more likely to drop out than students who expected to attend college.

Taken together, these results may imply that China's exam-oriented academic system has been a contributing factor to the high dropout levels at the junior high school level. Under China's exam-oriented academic system, where one's ability to continue schooling relies on his/her performance on the high school and college entrance exams, students who have performed poorly in school will be likely to lose confidence and lower their expectations of continuing in this academic system. As a result, they may choose to drop out of school as a form of escape or to select other paths to success.

The results of this study contribute to a broader policy debate regarding how to effectively deal with students dropping out of school. Recently, the Chinese Government put forward a plan to universalize high school education (MOE, 2015), which would no doubt benefit from a lower dropout rate among junior high school students. Our results suggest that China's top educational leaders should consider reforming the exam-oriented academic system in poor rural areas, which might serve as a way to raise the educational expectations of students, encourage them to continue schooling past the junior high school level, and, ultimately, improve human capital in poor rural areas.

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