1-1-2012

Reforming Rural Education: Understanding Teacher Expectations for Rural Youth

Lisa Yiu
Stanford University, lyiu@stanford.edu

Jennifer H. Adams
Stanford University, jennifer.adams@drexel.edu

Yiu, L. & Adams, J. (2013). *Reforming Rural Education: Understanding Teacher Expectations for Rural Youth* (Working Paper). Gansu Survey of Children and Families.

Forthcoming in *The China Quarterly* 2013. This article has been accepted for publication and will appear in a revised form, subsequent to peer review and/or editorial input by Cambridge University Press, in *The China Quarterly*.

Reforming Rural Education: Understanding Teacher Expectations for Rural Youth

Abstract

For China's rural children, the State's commitment to improve teaching quality in rural regions is a key component of the national efforts to close the rural-urban education gap. In this paper, we investigate an understudied, but critical dimension of quality teaching – teacher expectations. We employ longitudinal data gathered in Gansu Province in 2000 and 2007 to first examine whether teacher expectations for rural youth are conditioned by students' social origin and teacher background characteristics. Next, we determine the predictive accuracy of their expectations. Our results highlight the ways in which teacher expectations condition the sorting of rural children among different schooling tracks with distinct life trajectories. Importantly, teachers are more likely to hold lower expectations for students from disadvantaged backgrounds. In addition, non-local teachers hold lower expectations for rural children compared to local teachers. Finally, a low percentage of teachers expect students to enroll in post-compulsory vocational education. We consider the implications of these results for both educational policy and social inequality.

Comments

Yiu, L. & Adams, J. (2013). *Reforming Rural Education: Understanding Teacher Expectations for Rural Youth* (Working Paper). Gansu Survey of Children and Families.

Forthcoming in *The China Quarterly* 2013. This article has been accepted for publication and will appear in a revised form, subsequent to peer review and/or editorial input by Cambridge University Press, in *The China Quarterly*.

Forthcoming in 2013 in *The China Quarterly*

Reforming Rural Education: Understanding Teacher Expectations for Rural Youth[†]

Lisa Yiu and Jennifer Adams

Stanford University
School of Education

485 Lasuen Mall
Stanford, CA 94305

lyiu@stanford.edu
jennifer.adams@stanford.edu

2012

[†]The Gansu Survey of Children and Families is supported by a grant from the United Kingdom Economic and Social Research Council and Department for International Development (ESRC RES-167-25-0250). Earlier support for data collection came from The Spencer Foundation Small and Major Grants Programs, The World Bank, and NIH Grants 1R01TW005930-01 and 5R01TW005930-02

Reforming Rural Education: Understanding Teacher Expectations for Rural Youth

Abstract:

For China's rural children, the State's commitment to improve teaching quality in rural regions is a key component of the national efforts to close the rural-urban education gap. In this paper, we investigate an understudied, but critical dimension of quality teaching – teacher expectations. We employ longitudinal data gathered in Gansu Province in 2000 and 2007 to first examine whether teacher expectations for rural youth are conditioned by students' social origin and teacher background characteristics. Next, we determine the predictive accuracy of their expectations. Our results highlight the ways in which teacher expectations condition the sorting of rural children among different schooling tracks with distinct life trajectories. Importantly, teachers are more likely to hold lower expectations for students from disadvantaged backgrounds. In addition, non-local teachers hold lower expectations for rural children compared to local teachers. Finally, a low percentage of teachers expect students to enroll in post-compulsory vocational education. We consider the implications of these results for both educational policy and social inequality.

Reforming Rural Education: Understanding Teacher Expectations for Rural Youth

INTRODUCTION

For China's rural children, the State's commitment to modernize rural education by expanding access and increasing quality signals promise for their future. Addressing concerns about the growing educational gap between urban and rural youth, the State has pursued an aggressive strategy to ensure access to compulsory education in rural areas (Adams and Hannum 2005, 100-121; Croll 1999, 684-699). In 2007, the State abolished tuition, textbook and lodging charges associated with compulsory education in impoverished rural regions, which resulted in an estimated 200,000 rural student dropouts in Western China resuming their education (English.peopledaily.com.cn 2007; China.org.cn 2007). In addition to eliminating the financial barriers to education for rural students, the State has promoted several initiatives to improve teaching quality in rural schools. For example, the State has implemented a New Curriculum to transform teaching practices and classroom environments in order to develop creative capabilities in students and enhance student engagement. Curriculum reform has required an overhaul of all curricular materials, a revision of textbooks, and investment in teacher training to foster new classroom practices (Adams and Sargent 2009). State efforts to improve the quality of rural education also include new incentives for urban college graduates and urban teachers to teach in rural schools, targeted funds to provide reliable wages for rural teachers in poor areas, and tuition exemptions at teacher training colleges (*Daxue sheng chijiao de jiuye zhengce* 2008; Cheng 2009, 25-36; Gov.cn 2006b). Taken together, these initiatives reflect a vigorous government agenda to address growing social inequality by narrowing the urban-rural education gap.

As the primary institutional agents responsible for implementing State policies, teachers play a significant role in the realization of the State's goal to improve the quality of rural education. To

date, efforts to improve teacher quality in rural schools have focused largely on recruiting good teachers from other areas and providing limited professional development opportunities for existing teachers. Although these strategies are expected to improve the professional skills of the rural teacher labor force, they may fall short of improving rural students' experiences in the classroom. Teachers influence students' educational progress not only through the pedagogical skills and content knowledge that they bring to the classroom, but also through their educational expectations (Sewell and Hauser 1980, 59-99; Brophy and Good 1985, 303-328; Brophy and Good 1970, 365-374). Teacher expectations can be communicated both explicitly and implicitly to students, powerfully shaping their academic self-concept, academic confidence, and own expectations for future schooling (Ferguson 2003, 460-507). The educational expectations of teachers in rural schools may wield even more influence because rural parents' unfamiliarity with the school system positions teacher's opinions as those of an expert (Kong 2008; Chi and Rao 2003, 330-340). Regrettably, research indicates that teacher expectations are often affected by preconceived notions that they hold regarding the abilities and future life chances of particular groups. For example, in China, teachers, particularly those recruited from more urban areas, may hold traditional beliefs (on gender, socio-economic status, native place, vocational schooling) that shape their expectations for rural students. This study explores whether student and teacher background characteristics are empirically linked to teacher expectations for rural students to not finish compulsory education, enroll in vocational education, and other schooling outcomes that condition future life opportunities. It also determines the predictive accuracy of their expectations.

In this paper, we use longitudinal data from two waves of the Gansu Survey of Children and Families (GSCF 2000, GSCF 2007), a survey of rural children, their families and schools in Gansu province collected in 2000 and follow-up information about subsequent educational attainment

collected in 2007. We address three questions: 1) What kind of early educational expectations did teachers have for rural students in 2000? Did teacher expectations differ according to student or teacher background characteristics? 2) What student and teacher characteristics condition early teacher expectations for rural students? And 3) How accurate are teacher expectations for rural youth? How frequently do rural teachers underestimate rural youth's potential? Our paper begins with an overview of recent educational reforms initiated to transform rural education. Next, we review research detailing both the influence of teacher expectations on student outcomes and the factors that may shape teacher expectations. This is followed by a description of the data and methodological approach. We then present our analyses of the determinants of teachers' expectations for rural youth as well as the predictive accuracy of these expectations. We use multinomial logistic regression to investigate links between student and teacher background characteristics and teacher expectations, controlling for relevant student and teacher characteristics. We also examine how accurately teacher educational expectations in 2000 predict child educational attainment in 2007. The article concludes with a synthesis of findings and a discussion of possible implications for educational policy and social equality in 21st century rural China.

TRANSFORMING RURAL EDUCATION

Over the last decade, government efforts to improve rural education have been an important part of the State agenda of promoting balanced development and social equality. Equality in education has emerged as an important form of social equality, and as a result, the government has announced several policies to ensure rural students' enrollment and completion of compulsory education. In 2003, the national government held its first conference since 1949 devoted to the development of rural education (Postiglione 2007, 93-116). In 2004, the State Council approved the

New Action Plan (2003-2007), reaffirming its commitment to implement compulsory education in rural areas (State Council 2004). In the same year, the government launched a massive rural boarding school construction program spreading across nearly a thousand counties in China's western region with the aim of providing education for millions of rural students (Adams 2008; Gov.cn 2006c). This was followed by significant State investment in rural education in 2005, in which part of these funds was used to guarantee rural teachers' salaries (Edu.cn 2005). By 2007, the government had followed through on its commitment to remove the financial obstacles to compulsory education by not only eliminating school tuition and fees, but also by providing educational subsidies for rural students (Edu.cn 2005; Gov.cn 2006a). These policy initiatives underscore the government's commitment to alleviate some of the problems commonly recognized as barriers to school enrollment in rural areas.

Educational reform in China has extended beyond the issue of costs, and focused attention on institutional factors believed to constrain the quality of education experienced by students. The national government has undertaken educational initiatives to improve the core educational practices experienced by students in classrooms – teaching and learning. In doing so, they have embarked upon a "New Curriculum" to nurture innovative and cooperative students who are positioned to help their nation compete in the global knowledge economy (Ministry of Education 2002; Sargent 2009, 632-661). Teachers play an important role in this reform, and have been called upon to transform the classroom experience by putting students at the center of learning, using praise and encouragement to motivate students, and experimenting with new approaches to teaching. New educational policies have sought not only to improve rural teaching through the transformation of what is taught and how, but have also endeavored to recruit more qualified teachers to teach in rural schools.

Because conditions were often difficult and salaries were often late, rural schools have historically encountered problems recruiting and retaining good teachers. As a result, schools sometimes hired teachers who did not have the required teaching credentials, and in this way, rural children were often paired with the least qualified teachers.[1] Top ranked schools in counties and townships have higher percentages of highly qualified, or high ranking teachers compared with their rural village schools (Paine and Fang 2007, 173-190). Recognition of this disparity taken together with the overall objective to improve rural education has inspired several policies, most consisting of financial incentives, focused on bringing high quality teachers, at least temporarily, to rural schools. In 2004, the State initiated a program that encouraged outstanding, urban college graduates to work in rural schools for three years to qualify for a government subsidized, two-year master's degree (Gov.cn 2006b). In 2006, the amended Compulsory Education Law began requiring urban teachers to work in rural schools to become eligible for job promotions (Standing Committee of the Tenth National People's Congress 2009). In 2007, the Chinese government pledged its support for students training to become teachers at the top six teaching universities to receive tuition waivers, if the student agreed to work at a primary or middle school for at least ten years and spend the first two years in a rural school (Chinadaily.com.cn 2010). In addition to State recruitment efforts, Teach for China (*Zhongguo jiaoyu xingdong* 中国教育行动) and other private organizations rigorously recruit high-achieving, new college graduates to rural schools. Specifically, Teach for China places these college graduates in full-time, two year teaching commitments at high poverty, rural schools.[2] While new college graduates and experienced urban teachers will likely arrive at rural schools armed with deeper knowledge of the subjects they teach and more pedagogical training, these qualifications

[1] Approximately 17% of the primary school teachers in the first wave of the Gansu Survey of Children and Families did not have the required teaching credential in the year 2000. For more detailed information about the characteristics of the rural teachers in this sample, see Adams 2005.
[2] See "Teach for China," http://www.tfchina.org/, accessed 2 August 2011.

alone may not transform rural education. The educational expectations held by teachers for their rural students also affect the quality of students' classroom experiences, and ultimately, students' educational attainment (Brophy and Good 1974; Sewell and Hauser 1980, 59-99; Alexander et al. 1987, 665-682; Alexander et al. 1975, 324-42).

TEACHER EXPECTATIONS

In rural China, teacher expectations primarily influence educational attainment through two mechanisms: parental expectations and student academic self-concept. First, research in rural China suggests teachers uniquely influence student outcomes by aligning parental beliefs of a student's academic potential with their expectations (Kong 2008*;* Hannum and Adams 2007, 71-98). Rural parents, who believe children's academic learning is the educator's responsibility, consider the teacher's opinions on academic matters as those of an expert. Their unfamiliarity with the school system further reinforces the respect accorded to teachers' assessment of students and viewpoints on schooling (Chi and Rao 2003, 330-340). Through official home visits with rural families and informal conversations, teachers convey their opinion of a child's progress and potential, influencing parental aspirations for their child (Kong 2008). Strikingly, when parents and teachers hold different beliefs, parents are likely to adopt the teacher's viewpoint and advice (Kong 2008; Chi and Rao 2003, 330-340). For example, separate analysis of survey data from Gansu demonstrates that high teacher expectations for rural primary school students are associated with high parental expectations four years later, even after controlling for student academic performance (Hannum and Adams 2007,71-98.). Just as important, a longitudinal analysis demonstrates that parents' early educational expectations are strong predictors of children's chances of staying in school, completing compulsory education, and graduating from secondary school (Zhang 2012). Parental expectations exert a

strong influence on students' expectations, academic competency and performance (Benner and Mistry 2007, 140-153; Goyette and Xie 1999, 22-36).

Teacher expectations are also a socializing influence on the formation of student's educational attitudes and academic self-concept, which predict school attainment (Sewell and Hauser 1980, 59-99; Alexander et al. 1975, 324-42). As teachers behave in accordance with their academic expectations toward each child, the academic self-concept of a student-- or how a student perceives his or her academic ability compared to others-- develops in relation to a teacher's belief on the child's academic potential (Kleinfeld 1972, 211-12). Student-teacher interactions, thus, lead students to view themselves as their teachers perceive them (Brophy and Good 1974). In the Chinese context, the same teacher usually educates a cohort for multiple years, teaching until graduation or passing the cohort to another teacher at a higher grade level (Wang 2003). The prolonged duration of a student-teacher pairing and student exposure to the same teacher increases the likelihood that Chinese students adjust their academic self-concept to their teacher's expectations. Furthermore, Chinese students from rural and other stigmatized backgrounds are likely more susceptible to teacher expectation effects.

Low status youth are particularly sensitive to teacher expectations, compared to parents' aspirations, because of their inclination to identify with teachers in educational matters and regard the teacher as a role model (Kleinfeld 1972, 211-212; Casteel 1997, 262-272). It is probable that teacher expectations more significantly impact the following subset of Chinese rural students: girls, those from low income households, ethnic minorities and those from other disadvantaged groups. U.S.-based research conducted on low status youth consistently finds students from stigmatized groups respond more strongly to teacher perceptions of student ability compared to their high status peers (Jussim et al. 1996, 281-388; Slaughter and Epps 1977, 3-20). Children with multiple

disadvantages are more vulnerable to teacher perceptions than single-disadvantaged peers (Jussim et al. 1996, 281-388).

In short, rural educational reforms prioritize raising school quality by improving teacher skills and pedagogy – most often through recruiting teachers with these qualities. However, our synthesis of previous research suggests that teacher qualifications alone may be insufficient to improve rural education for all students. Teachers' educational expectations for rural youth also affect students' experiences in the classroom, and ultimately, educational attainment. The State's focus on teachers to transform rural education raises important questions about teacher expectations that inform classroom experiences, and about whether student and teacher characteristics condition teacher expectations.

DATA AND METHODOLOGICAL APPROACH

This article employs data from the Gansu Survey of Children and Families (GSCF), a longitudinal, multi-level study that examines rural children's welfare in Gansu Province, an inland province in northwestern China with relatively high levels of illiteracy, widespread poverty and low rates of economic growth. In 2000, the GSCF-1 drew a representative sample of 2,000 rural children aged 9-12 in 20 counties. The sampling strategy included a multi-stage, cluster design with random selection procedures at the county, township, and village level. At the final selection stage, 20 children were sampled from a birth roster in each of the 100 selected villages. For each child, data from linkable questionnaires of mothers, fathers, teachers, school administrators and village leaders were collected. Follow-up waves were conducted in 2004, 2007, and 2009.

To address our research questions, we analyze data from the 2000 and 2007 waves of the GSCF. To improve the comparability of the sample across years, we limit the analyses to children

who were in grade three or higher in 2000.[3] Those at or beyond the third grade level should have finished compulsory education by 2007 and have had opportunity to enter post-compulsory schooling if they continued schooling at the expected rate. In our analyses, we use items from the child, household, homeroom teacher, and school administrator questionnaires to examine the predictors of teacher expectations in 2000. Table 1 provides a detailed definition of each of these variables. The outcome, teacher educational expectation,[4] is based on teacher response to the question, "*What grade level do you estimate this child can attain?*"

[insert Table 1 about here]

Table 1 also details student and teacher characteristics that may condition the formation of teacher expectations for rural students. Student characteristics include gender, academic achievement, family wealth, and teacher's evaluation of a student's non-academic behavior. Operationalized as the teacher's perception of student maturity, an educator's evaluation of student non-academic behavior has been empirically linked with academic expectations in prior research (Alexander et al. 1987, 665-682; Clifton 1981, 291-301; Kedar-Voivodas 1983, 415-437). Teacher characteristics include the teacher's connection with the community, operationalized as an educator's local origins and farm work participation. Previous research suggests that educators, who are from the same village and simultaneously engage in farm work while teaching, are likely to possess stronger community ties (Sargent and Hannum 2005, 173-204). Moreover, rural students with local teachers are significantly more likely to have higher student aspirations, better language scores, and

[3] In addition to restricting the analytic sample to those in 3rd grade or higher during 2000, we also limit the study to those 960 students administered the GSCF mathematics examination, which ensured an unbiased measure of student academic ability with respect to teacher expectations.

[4] Since the late 1970s, both level of education *and* educational type differentiate students who attend school for the same number of years. Whether students enroll in the academic or vocational track following the State-mandated, nine-year compulsory schooling is the main educational marker and more accurately indicates consequent life trajectory opportunities in the Chinese context. Teacher expectations for target child were categorized into the four academic trajectories: to not finish compulsory education; only finish compulsory education; enroll in post-compulsory vocational education, conditional on completing compulsory education; enroll in post-compulsory academic education, conditional on completing compulsory education.

higher self-reporting of regularly completing homework (Hannum and Park 2007, 154-172). Such a finding suggests local teachers provide a type of motivation that non-local teachers do not and hold higher expectations for students. Local origins may condition beliefs through "native place" background congruence between students and local teachers, who share the same familial roots as the communities from which their students originate.[5] We also consider measures of professional background and teaching ability, by including teacher educational attainment, years of teaching the particular student, and rank. Certified teachers are evaluated on a yearly basis and, based on these evaluations, promoted through a ranking system that recognizes teachers for their teaching ability and skills (Wang 2003). Characteristics of professional experience, including more teaching experience and higher educational attainment, are strongly linked to lower teacher expectations (Ross 1998, 49-74; Bognar 1983, 47-56). In addition, because research suggests that teacher beliefs concerning their own effectiveness are an important determinant of expectations towards students, we included a variable measuring teacher efficacy—a teacher's belief in his/her skill to competently teach and maintain order in the class (Warren 2002, 109-16; Soodak and Podell 1998, 75-100; Ross 1998, 49-74). We also incorporate controls for classroom and school characteristics that are correlated with teacher expectations, such as class size and two measures of school quality (the percentage of dilapidated classrooms and school per-pupil-expenditure) (Jussim et al 1998, 1-48). Table 2 displays descriptive statistics for all of the variables used in our analyses.

[insert Table 2 about here]

[5] The concept of Chinese "native place" ethnicity refers to a place-based identity, which develops from a strong sense of belonging to one's native place and fosters a strong sense of group solidarity. While scholars have primarily focused on urban centers as a context in which "native place" ethnicity emerges among migrants, we consider the operation of this social identity in villages where those who are "not native" migrate. Works in this genre include: Ma, Laurence J.C. and Biao Xiang. 1998. "Native place, migration and the emergence of peasant enclaves in Beijing." *The China Quarterly* 155, 546-581; Honig, Emily. 1992. *Creating Chinese Ethnicity: Subei People in Shanghai, 1850-1980*. New Haven: Yale University Press; Honig, Emily. 1996. "Native place and the making of Chinese ethnicity." In Gail Hershatter, Emily Honig, Jonathan J. Lipman & Randall Stross (eds), *Remapping China: Fissures in Historical Terrain*. Stanford: Stanford University Press, 143-155.

The analysis proceeds in three parts. First, we examine teachers' early expectations for students in 2000, looking for differences associated with student origin and teacher background characteristics. Next, we use a generalized estimating equation approach to model the determinants of teacher expectations.[6] All standard errors are adjusted to take into account clustering at the teacher level, since a proportion of surveyed students were assigned to the same teacher. In the final portion of the analyses, we exploit the data's longitudinal nature to examine the accuracy of teacher expectations by comparing teachers' early expectations for rural students (2000) with the students' actual level of school completion in 2007. This approach allows us to identify expectation patterns of over or underestimation in student potential.

RESEARCH FINDINGS: TEACHER EXPECTATIONS FOR RURAL YOUTH

What kind of early educational expectations did teachers have for rural students in 2000? Did teacher expectations differ according to student or teacher background characteristics?

Figure 1 presents the percentage of teacher expectations in 2000 by level of expected student attainment. Perhaps surprisingly, the majority of rural children had teachers who had relatively high early expectations for them. Ninety-four per cent of the students' homeroom teachers expected them to complete compulsory or enroll in post-compulsory education. Over half of the teachers expected students to enroll in either academic or vocational post-compulsory schooling. Interestingly, of those students with teachers who expected them to complete some kind of post-compulsory education, a comparatively low percentage of teachers expected their students to

[6] We employ a multinomial logit specification: Pr $(y=m|\mathbf{x}) = \exp(\mathbf{x}\beta_{m|b}) / \sum_{i=1}^{J} \exp(\mathbf{x}\beta_{j|b})$ here J denotes the number of alternative categories for teacher expectations, the dependent variable. In this analysis, J=4: if the child does not finish compulsory education, only finishes compulsory education, enrolls in post-compulsory vocational, or enrolls in post-compulsory academic schooling. *b* is the baseline (or reference) category. *m* represents the specific alternative categories. The multinomial logit model, which can be considered as simultaneously estimated binary logits for all comparisons among alternative categories, uses a different sample for each logit estimation. Coefficients are converted into relative risk ratios (rrr) by exponentiating them. The rrr is the "relative risk" or, for a unit change in x, the probability of outcome *A* versus outcome *B* is expected to change by the rrr factor.

complete post-compulsory vocational schooling – only eight per cent. Negative cultural stereotypes of manual labor work, as well as the social reality that vocational education eliminates opportunity for youth to enter higher education, may underlie teachers' unfavorable attitudes toward vocational schooling (Tsang 2000, 579-605). The disadvantages of vocational schooling are further exacerbated by the economic reality that this educational track is more expensive than academic schooling and often does not improve employment opportunities (Yang 1998, 289-304; Tsang 1997, 63-89).

While these descriptive patterns provide a generally optimistic picture of teachers' expectations for rural students, it is unclear whether teachers hold high expectations for *all* students. In fact, the generally high expectations may mask differences in teacher expectations that are associated with student origin. For instance, teachers may hold lower educational expectations for poor students, on average. It is also possible that teachers' own background characteristics shape their points of view about the educational potential of rural students. Table 3, which displays teacher expectations by selected student and teacher characteristics, provides a more complex description of teacher expectations.

[insert Figure 1 about here]

A careful examination of Table 3 indicates that teachers' expectations for rural students may be conditioned by both student and teacher characteristics, thus suggesting high expectations are targeted towards specific types of rural children (i.e. male, rich) and develop in relation to particular teacher-related factors. For example, teachers held different educational expectations for male and female students; 61.3 per cent of male students' teachers expected them to attain academic post-compulsory education compared to only 54.8 per cent of female students' teachers. Similarly, a greater percentage of teachers of students from the wealthiest quintile of families expected their students to complete some kind of post-compulsory education (71.5 per cent) compared with the

teachers of students in the poorest quintile (63.2 per cent). Not surprisingly, a greater percentage of teachers of students who demonstrated high math achievement also expected the students to complete post-compulsory education. Each of these examples suggests that teachers may not have equally high expectations for all rural students, but instead hold higher expectations for male students, rich students and high performing students.

Moreover, teachers may view rural students educational chances based on characteristics related to students' social origin, such as gender and family wealth. The data displayed in Table 3 indicates that teacher expectations for students are shaped by teachers' background characteristics as well. Most strikingly, teachers who were born in the local area had higher expectations for students than teachers who were born outside of the area. Specifically, a greater percentage of local teachers expected students to acquire a post-compulsory academic education while greater percentages of non-local teachers expected students to only finish compulsory education or not even finish compulsory education. Teachers of local origins are "native" to the village in which they teach, a Chinese-ethnic background marker that fosters attachment to the community in which their family has ancestral roots. As noted, these findings are particularly important because rural parents and students may be especially susceptible to their teachers' expectations for their educational futures. Even more importantly, teachers who underestimate a student's potential contribute toward the under-development of the student, rural society, and the nation.

[insert Table 3 about here]

What student and teacher characteristics condition early teacher expectations for rural students?

Here, we estimate multinomial logit models to investigate teacher expectations as a function of student and teacher characteristics, controlling for teaching conditions in the classroom and

school.[7] Do teachers hold lower educational expectations for poor students when compared with wealthier students? Do educators from non-local origins hold lower expectations for rural students? Does a teacher's professional background condition expectations? Table 4 displays relative risk ratios[8] for the statistically preferred model.[9]

[insert Table 4 about here]

These results confirm that student characteristics, such as gender, family wealth, and academic performance as well as teacher assessment of student maturity are associated with teacher expectations for students. First, teachers are more likely to have lower expectations for female students. The relative risk of a female being expected to not finish compulsory schooling, rather than only finish compulsory education, increases by a factor of two compared to those of a male. Similarly, compared to a male, the relative risk that a teacher expects a student to not finish compulsory schooling compared to post-compulsory vocational enrollment increases by a factor of 2.4 for a female. The gender bias in teacher expectations is even more pronounced when examining the risk that a teacher expected a student to not finish compulsory schooling rather than post-compulsory academic enrollment – the relative risk of a female student compared to a male is

[7] We choose to use a multinomial logit model for two reasons. First, within the Chinese context, post-compulsory vocational and academic educations are fundamentally distinct from each other and do not co-exist on an ordered educational continuum. Second, the four teacher expectation categories are statistically distinguishable from each other.

[8] The relative risk ratio refers to the probability of a teacher holding a non-reference expectation (only finish compulsory education, enroll in post-compulsory vocational track, or enroll in post-compulsory academic schooling) compared to the probability of a teacher holding reference expectation (not to finish compulsory education). A relative risk ratio greater than one suggests the probability of a teacher holding a non-reference expectation relative to the probability of holding the reference expectation increases as a variable changes (for a binary characteristic) or increases, holding all other variables constant; in essence, a teacher is *more* likely to hold a non-reference expectation compared to the reference expectation. If the relative risk ratio is less than one, a teacher is *less* likely to hold a non-reference expectation compared to the reference expectation as the variable changes, holding all other variables constant. If the relative risk ratio is one, a teacher is *equally* likely to hold a non-reference expectation compared to the reference expectation as the variable changes, holding all other variables constant.

[9] All models include robust variance estimators to correct for non-independence of observations at the teacher level, since two or more students may have the same teacher. Robust variance estimators preclude use of traditional goodness-of-fit measures, such as likelihood ratio tests. Consequently, the best fitting model was empirically determined by i) conducting Wald tests to identify significant variables for the preferred model, ii) comparing fit statistics for two alternative models to identify the preferred model. Results from both methods lead to the same preferred model. The preferred model's Pseudo R^2 is 0.17 and log likehood is -507.85.

nearly four times greater. Second, our findings also suggest teachers are more likely to hold lower educational expectations for poor students. For example, compared to a poor child, the relative risk of a teacher expecting a wealthy child in the highest income quintile to enroll in post-compulsory academic schooling compared to not finish compulsory education increases by a factor of 4.5. For a child in the top household quintile, the relative risk of having the teacher expect the child to enter post-compulsory vocational track than not finish compulsory education are greater by a factor of eight compared with a child in the bottom quintile. Moreover, our analyses reveals that an additional dimension of social origin, mother's education, to have a small, but significant, influence on teacher expectations. Each additional year of schooling that a student's mother has is associated with higher expectations. For example, the relative risk of a teacher expecting a student to enroll in post-compulsory academic education compared with not completing compulsory education increases by eight per cent for every additional year of education attained by the student's mother.

Not surprisingly, findings in Table 4 indicate that academic achievement is associated with teacher expectations. Improving the student's math score by one standard deviation increases the relative risk of being expected to enroll in post-compulsory education rather than not finish compulsory schooling by 60 per cent. Finally, a teacher's evaluation of a child's non-cognitive behavior also conditions teacher expectations for students. Compared to an "immature" child, the relative risk of a teacher expecting a "mature" child to enroll in post-compulsory academic schooling rather than not finish compulsory education increases by a factor of 17. Moreover, compared to an "immature" child, the relative risk of a "mature" student being expected to enroll in post-compulsory vocational education compared to the reference expectation is greater by a factor of five. These findings highlight the numerous factors that influence the formation of teacher expectations.

The results also show that teacher characteristics are associated with teacher expectations. Findings confirm an association between teachers' connection to the community and their expectations towards rural students. Compared to a non-local teacher whose native birth place is *not* the village in which he or she teaches, the relative risk of a local teacher to expect students to enroll in post-compulsory vocational schooling, rather than not finish compulsory education, increases by a factor of nearly three. The relative risk of a local teacher expecting students to enroll in post-compulsory academic education, rather than not finishing compulsory schooling, increases by a factor of 3.7 compared to a non-local teacher. Two key findings also emerge from the investigation of educator's professional experience and skill. First, although not consistently significant at conventional statistical levels, teacher ranking exhibits the following trend: compared to the lowest ranked teachers, higher ranked teachers are more likely to expect students to not finish compulsory schooling rather than attain higher schooling levels. Second, compared to low-efficacy educators, the relative risk of educators with high personal efficacy expecting students to enroll in post-compulsory vocational schooling rather than not finish compulsory education increases by a factor of 2.7.

Lastly, each additional year that an educator teaches the same student is associated with higher expectations. For example, an additional year between teacher and student increases by a factor of 1.6 the relative risk of the teacher expecting the youth to enroll in post-compulsory academic education, rather than not finish compulsory schooling. The relative risk is greater, 1.7 and 1.75, respectively, when comparing the relative risk that a teacher who teaches the same student for an additional year expects the youth to only finish compulsory education or enroll in post-compulsory vocational schooling, respectively, compared to not finish compulsory education. The controls for classroom and school characteristics that are correlated with teacher expectations, such

as class size and two measures of school quality (the school percentage of dilapidated classrooms and school per-pupil-expenditure) do not appear to shape teacher expectations in important ways. Although class size and the school percentage of dilapidated classrooms were statistically significant, a class increase of one student and standard deviation increase in the percentage dilapidated classroom, would not significantly change the relative risk of teacher expectation.

In summary, our analyses indicate that teacher expectations for rural students are conditioned not only by student characteristics, but by teacher characteristics as well. The teachers of poor students, female students, low performing students, and students who lack maturity have lower expectations, and these students may be disadvantaged as a result. Just as important, we find that teachers' own background characteristics condition their expectations for students, with non-local teachers, teachers of higher professional rank, and teachers with lower efficacy reporting lower educational expectations for students. In this way, although teachers hold generally high expectations for rural students overall, all rural students do not equally benefit from these generally high teacher expectations.

How accurate are teacher expectations for rural students?

In final section of this paper, we utilize students' educational attainment seven years later in 2007 to investigate the predictive accuracy of teacher expectations as a way to understand whether teachers may be underestimating rural students' potential. In 2007, nearly 50 per cent of students enrolled in post-compulsory education, 33 per cent of students only finished compulsory schooling, and 20 per cent had not completed compulsory education.

Table 5 presents early teacher expectations (2000) tabulated by student educational attainment (2007). The percentage of students in each category whose attainment was accurately predicted by their teachers' early expectations for them is visible diagonally in the dark gray shaded

area of the table. Teachers generally exhibited a great deal of accuracy or tended to overestimate in forming educational expectations. A high percentage of student' educational attainment was accurately predicted by their primary school teachers' expectations with 52 per cent of students' attainment matching their teacher's early expectations.[10] Among students who did not finish compulsory education, only seven per cent of students' teachers accurately predicted the relatively low attainment while nearly 37 per cent and 81 per cent of students' teachers accurately predicted compulsory education and post-compulsory education, respectively. Interestingly, Table 5 also highlights the extent that students' early teachers overestimated their educational attainment in the white shaded area; approximate 35 per cent of students' educational attainment was overestimated.[11] For example, among the students who failed to complete compulsory education, 93 per cent of teachers overestimated the attainment for these students with 39.1 per cent of teachers expecting these children to at least complete compulsory education. Similarly, among the students who only finished compulsory education, just over one half of these student's early teachers overestimated their future educational attainment by expecting them to complete post-compulsory education. Only a small percentage of rural students' educational attainment, displayed in the light gray shaded area, was underestimated by their early teachers – approximately 13 per cent.[12] Among students who only finished compulsory, only 8.7 per cent of their teachers underestimated. For students who enrolled in post-compulsory schooling, 19 per cent of their teachers under-estimated attainment. In summary, Table 5 yields two noteworthy results. First, the majority of students, 52 per cent, had

[10] This figure was calculated by summing (115 students who did finish compulsory*.07accuracy) + (195 students who completed compulsory*.369 accuracy) + (274 students who completed post-compulsory education*.81 accuracy) dividing by the total number of students, 584.
[11] This figure was calculated by summing (115 students who did finish compulsory*.93 overestimate) + (195 students who completed compulsory*.545 overestimate) and dividing by the total number of students, 584.
[12] This figure was calculated by summing (195 students who completed compulsory education *.087 underestimate) + (274 students who completed post-compulsory education*.19 underestimate) and dividing by the total number of students, 584.

their educational attainment accurately predicted by their teacher's early expectations. Next, among the students whose attainment was not accurately predicted by their early teachers, more students' educational attainment was overestimated than underestimated.

[insert Table 5 about here]

DISCUSSION

In this paper, we have investigated an unexplored, but critical dimension of rural teacher quality – teacher expectations for rural students. Overall, teacher educational expectations for rural students are high with 94 per cent of students' teacher expecting them to complete compulsory education or higher and with over half of the students' teachers expecting them to complete some form of post-compulsory education. Just as interesting, our investigation of teacher predictive accuracy indicates that students' educational attainment is most often accurately predicted or overestimated by their early teachers' expectations. However, our analysis also reveals that teacher expectations are not equally high for all students, but instead are conditioned by student and teacher characteristics.

Our analysis of teacher expectations yields five particularly notable results. First, our results also highlight the ways preconceived notions about students' gender and socioeconomic background condition teacher expectations for students. We find pronounced gender bias in teacher expectations, particularly at the post-compulsory schooling level. Since the implementation of China's economic reform policies, household and village assets operate in gendered ways to promote school enrollment, with household wealth more likely to impact enrollment for females than boys (Hannum 2003, 141-159; Davis et al. 2007, 60-82). The reduction of financial pressure for compulsory schooling and increased State pressure for girls to attend nine years schooling since 2007 minimizes financial and opportunity cost barriers for females completing compulsory

schooling. However, recent trends in post-compulsory education increase the likelihood that gender remains a strong and, possibly, stronger determinant of teacher expectations. With high financial and opportunity costs associated with schooling beyond the State-mandated nine years, females are relatively disadvantaged compared to males in pursuing post-compulsory schooling. In this way, lower educational expectations held by teachers for girls are another source of disadvantage that female students must overcome to remain in school. Similarly, teachers are more likely to hold lower educational expectations for poor students, particularly at the post-compulsory schooling level. Although recent government policies to subsidize rural compulsory schooling underlie the anticipated weakening of family wealth as an expectation predictor at the compulsory education level, our findings indicate that family poverty can condition rural students' educational experience in other ways. For instance, teachers' long held views about "the backwardness" of the rural poor may influence their expectations regarding the academic trajectories of poor students. In addition, teacher's expectations likely reflect their belief in the inability of poor families to pay for the significant costs of secondary education.

Second, compared to non-local teachers, local educators, who are more attached to the community, hold higher expectations for their students. Descriptive analyses indicate that more local teachers participate in farm work and live in their own home or their parent's home in the village. They also report working in the same school for a longer period of time, which further emphasizes their commitment to the community. The familial roots of a local teacher in the community constitute a localized Chinese ethnicity, a type of social belonging that includes all those with the same native place origins and excludes all others.[13] The significance of teacher place of origin as a factor associated with educational expectations hints that teacher expectations emerge from the

[13] See footnote #5.

interaction of "native place" backgrounds between teacher and student (Alexander et al. 1987, 665-682). A plausible mechanism by which locality conditions teacher expectations is through culture-linked, teacher perceptions of student ability, behavior, and life chances (Carter 2005; Farkas et al. 1990, 127-142). As teacher expectations are based on behaviors related to cognitive performance (i.e. homework) and behavior marginally related to performance (i.e. disruptive behavior), local teachers plausibly judge students' non-cognitive traits, styles and habits more favorably than non-local teachers.

Third, our analysis highlights that, compared to low-efficacy educators, an educator who reports high efficacy is more likely to expect students to enroll in post-compulsory vocational schooling, rather than not finish compulsory education.[14] This finding is consistent with research from other contexts demonstrating that teachers with a high sense of efficacy set higher expectations for students, as evidenced by more optimism and expectancy for student achievement, behavior and improvement (Ashton et al. 1983). Since teachers' efficacy beliefs influence the effort that teachers invest in teaching and the goals they establish, teachers with a high sense of efficacy show resilience in confronting setbacks and persistence in teaching struggling, unmotivated students (Tschannen-Moran, et al. 1998, 202-248).[15] Particularly as rural teachers face unmotivated students and high dropout rates, efficacy emerges as a significant teacher characteristic for future investigation (China.org.cn 2004).

Fourth, our analyses reveal that relatively few teachers —only eight per cent—expect students to enroll in post-compulsory vocational education. This finding raises concern about the role of vocational education in transforming the rural educational experience. The low percentage

[14] While teacher efficacy is not statistically significant for the other two categories (only finishing compulsory education, post-compulsory academic enrollment), the efficacy construct used in this study was relatively limited. A more comprehensive efficacy construct is required to further explore teacher efficacy's influence on teacher expectation formation.

[15]

of students with teachers who expect their students to complete post-compulsory vocational education highlights the culture-based hierarchy of schooling, which esteems youth who enroll in the academic track. High costs, poor infrastructure and low teacher quality may be additional factors fueling the low proportion of teachers who expect students to enroll in vocational education (Paine and Fang 2007, 173-190; Tsang 2000, 579-605). While company-affiliated secondary vocational schools are generally better managed, better funded, and lead to higher employment satisfaction among vocational graduates (Yang 1998, 289-304 ; Min and Tsang 1990, 351-364), to date this success is not widespread and may constrain teacher expectations for their students to attend vocational schools.

Finally, our analyses yields generally optimistic findings with teachers holding generally high expectation for rural students, as well as expectations that overestimate attainment more often than underestimate it. However, the results also raise concerns for both the students who have had their attainment over and underestimated. First, drawing on our results to highlight the way in which student background characteristics condition early teacher expectations, we suggest that the 13 per cent of students (who had early teachers who underestimated their attainment) are more likely to be from disadvantaged backgrounds. Next, for the 35 per cent of students who had their attainment overestimated by their teachers, our findings raise questions about why these students failed to achieve the education that their early teachers expected for them. Although we cannot identify the factors that contributed to lower attainment in these analyses, we speculate that overestimation may reflect the gap between teacher beliefs about student ability to attain *and* the financial realities of education that faced rural families in the pre-rural relief era. In this way, both the underestimation and overestimation of a youth's attainment suggest rural students' academic potential are not being fully realized.

IMPLICATIONS FOR POLICY

For the last two decades, initiatives aimed at expanding access to rural schooling have played a key role in the State's efforts to close the education gap between rural and urban residents, and ultimately, promote social equality. As rural youth face decreasing enrollment obstacles, educational policymakers have turned their attention to improving the quality of education experienced by rural youth. Our findings improve our understanding of the formation of teacher expectations, an important aspect of rural teaching, and also have significant implications for the State policies to improve rural education, particularly those policies aimed to raise teaching quality and promote vocational education. As teacher expectations condition the daily schooling experience and educational trajectories of rural students, our paper contributes new perspectives to existing policy discussions on rural educational reform. Our results confirm the benefit of local teachers to the children who are at the greatest risk of school dropout. Rural students of local teachers show a marginally significant advantage in math achievement, as well as sizable advantages in higher student aspirations, better language scores, and consistent homework completion (Hannum and Park 2007, 154-172). The significance of teacher place of origin as a factor associated with educational expectations hints that rural students may be best served by policies that encourage and assist local residents to pursue teaching as a profession. In light of these findings, policy initiatives that focus primarily on raising rural teacher quality via the recruitment of non-local personnel need to be examined more carefully. Although our data doesn't allow us to differentiate between non-local teachers with rural or urban origins, our findings raise non-locality as a salient policy issue that requires closer examination. Specifically, recent reform efforts have touted the ambitious recruitment of urban teachers and new college graduates to rural schools. While these recruitment programs managed by the State, and also by private organizations, such as Teach for China, promise

educators with a strong understanding of the subject they teach, little is known about how effective these teachers are in rural schools (*Daxue sheng chijiao de jiuye zhengce* 2008; Cheng 2009, 25-36; Gov.cn 2006b). And, since our findings suggest that non-local teachers have significantly lower educational expectations for rural teachers, policymakers should consider that there may be negative classroom consequences associated with current State policy incentives that encourage urban college graduates and urban educators to teach in rural areas. These policies will fall short of improving rural schooling if these teachers pass on low educational expectations to rural students and their parents.

Our results regarding the association between teacher efficacy and teacher expectations also raise questions about the recruitment of inexperienced, college graduates as a strategy to improve rural education. Recent state policies, as well as an increasing number of organizations, like Teach for China, recruit outstanding college graduates to teach in high poverty, rural Chinese communities. While college graduates enter their classroom with a strong foundation of knowledge and the motivation to improve practice, they lack professional experience and skill as a teacher. Research from the United States indicates that teachers who participate in alternative certification programs—including Teacher for America, the program from which Teach for China is modeled—often express inadequate preparation to teach and manage a classroom, a sentiment also associated with lowered efficacy (Darling-Hammond et al. 2002, 286-302). Thus, inexperienced urban graduates who enter the rural classroom through participating in non-traditional certification routes may possess low efficacy and, according to these study's findings, would be more likely to hold lower expectations for their rural students.

Based on our findings, policymakers should consider ways to enhance teacher efficacy, particularly for recent college graduates, through professional development. Novice teachers, who may arrive with "unrealistic optimism" that good teaching can overcome all obstacles to learning (i.e.

poverty) but little understanding of the rural students' lives, face hopelessness when facing reality in the rural classroom (Weinstein 1998, 31-40). A professional development that targets efficacy would develop skills to identify and address the source of teacher low efficacy beliefs, thus gaining self-awareness of whether they attribute successes and failures to the teachers' ability or factors external to the teacher (i.e. student ability, parents do not appear to support child's education, etc.) (Ashton et al. 1983). Such a program also promises benefits for both teachers of non-local and local origins.

Lastly, while the State has been investing heavily in vocational and technical education as the primary strategy to address unemployment in poor rural areas, our findings indicate a strong cultural bias that may undermine State efforts to expand this educational sector (Moe.edu.cn 2006). Negative stereotypes of manual labor persist in pervading Chinese society and fuel critical attitudes toward vocational schooling (Tsang 2000, 579-605). Empirical evidence, which document graduates of vocational schooling have lower levels of labor productivity and vocational education's higher equipment costs compared to academic schooling, also raise concern about the cost-effectiveness of State policy (Tsang 1997, 63-89). Our findings suggest policymakers should consider cultural attitudes, which perceive vocational schooling as a school track that reproduces social stratification for rural students, to be a formidable challenge in transforming this educational path to a promising pathway.

CONCLUSION

As the State heavily invests in rural education, schools will be challenged to both recruit and develop teachers who are prepared to effectively teach China's rural population. It is important to note State educational reforms to raise teaching quality in rural communities are a strategic resource investment to achieve balanced rural-urban development. Outside the home, the teacher is the most important influence on student learning and form the foundation of good schools. However, the

State's teacher recruitment focus on strong pedagogical skills and content knowledge alone may not transform rural education. Our analysis suggests the State's well-intentioned recruitment of urban teachers and college graduates to improve rural teaching quality may actually hinder the advancement of disadvantaged students. As teachers structure daily realities in the classroom, more research needs to be conducted on the mechanism by which teacher locality origins condition beliefs and practices. Building from cultural capital research in the developed world (Farkas et al. 1990, 127-142; Carter 2005),[16] a plausible future study is to explore the relationship, if any, between educator locality and teacher evaluation of student maturity—a variable our analysis identifies as a strong teacher expectation predictor at the post-compulsory level. This study also suggests a policy alternative to recruiting non-local teachers: developing teachers from within the Chinese rural communities. Additional research needs to examine the merits and realistic possibilities of this option.

Furthermore, the trends that emerge from our analysis suggest the need for more regular attention to the role that teachers and their expectations play in conditioning rural educational opportunity and, ultimately, in achieving educational equity. While research on educational attainment and stratification in developing nations often overlooks children's agency, a child's attachment to teachers and school will have increasing importance on school persistence as the State decreases financial barriers to schooling (Hannum and Park 2007, 154-172). Teacher expectations critically shape a child's relationship with teachers and comprise an important component of a student's schooling experience (Brophy and Good 1974; Ferguson 2003, 460-507). Thus, the mechanism by which teacher expectations effect school attainment is a research question with lasting implications on educational and, ultimately, social equality in 21st century rural China.

[16] These cultural framework studies examine and conclude a relationship between non-academic behavior and teacher evaluation of student academic potential.

Table 1: **Definitions of Variables Used in Analysis**

Variables	Definition
Outcome Variable (2000)	
Teacher's educational expectation	"What grade level do you estimate this child can attain?" Not finish compulsory education, Finish compulsory education only, Enter post-compulsory vocational track, Enter post-compulsory academic track
Student characteristics	
Child's gender (1=female, 0=male)	Child is male or female
Mother's education	Years of formal schooling the mother has completed
Family logwealth quintile	Total value of house, equipment and durable goods
Child's academic ability	Normalized score for math test administered during the first-wave survey (2000). Exams were developed to be age-appropriate for a child's mathematical level. Grade 1, 2, 3 students were given one exam, while Grade 4, 5, 6 students took another exam.
Teacher-report of student maturity	Teacher report on the frequency of target child's behavior (often, sometimes never) over the past 3 months. A proxy for a teacher's evaluation of the child's non-academic behavior in the classroom. "Has difficulty focusing his/her attention Likes to participate actively in class Is not active during class Is fearful or anxious Likes school Gets on well with others Concentrates in class Enjoys games and sports Cries a lot Is disobedient Has trouble getting along with other children Listens and follows directions Is sleepy Is active and lively in public Lacks confidence Is disruptive in class Is helpful to others Is unhappy, sad, or despondent" A teacher perceived personal maturity score was calculated by summing responses to these 19 items. The alpha reliability of the student maturity scale was 0.7883.
Teacher characteristics	

Teacher is local	Teacher is local born, or from the same village as the target child
Teacher engages in farm work	Teacher participates in farm work
Teacher gender (1=male, 0=female)	Teacher is male or female
Teacher rank	Rank level that teacher has been evaluated: Intern, Level 1, Level 2, High Rank
Teacher's age	Teacher age in years
Teacher efficacy	"I think that the students in my class will be successful" (strongly agree, agree, disagree, strongly disagree). High teacher efficacy was coded to be "agree" and "strongly agree"
Years of teaching the target child	Number of years the teacher has taught the child
Years of teaching	Total number of years of teaching
Level of teacher's educational attainment[17]	Level of formal schooling the teacher has completed: Finish compulsory education only (lower secondary), Upper secondary, Tertiary education.
Controls: Class and school teaching experiences	
Log (per pupil expenditure)	Total school expenditure divided by the total student population. School expenditures include: management expenses, teacher wages, student scholarships, school maintenance, water, electricity, heating, library, physical education, lab equipment and other school-related expenses. A proxy for school quality.
School percentage of dilapidated classrooms	School principal report on the percentage of classrooms that do not meet safety standards
Class size	Teacher report on the student number in target child's class

Data source: GSCF 2000

[17] Only 2 teachers among 950 did not complete compulsory education (middle school), so we did not utilize this educational level as an analytical category.

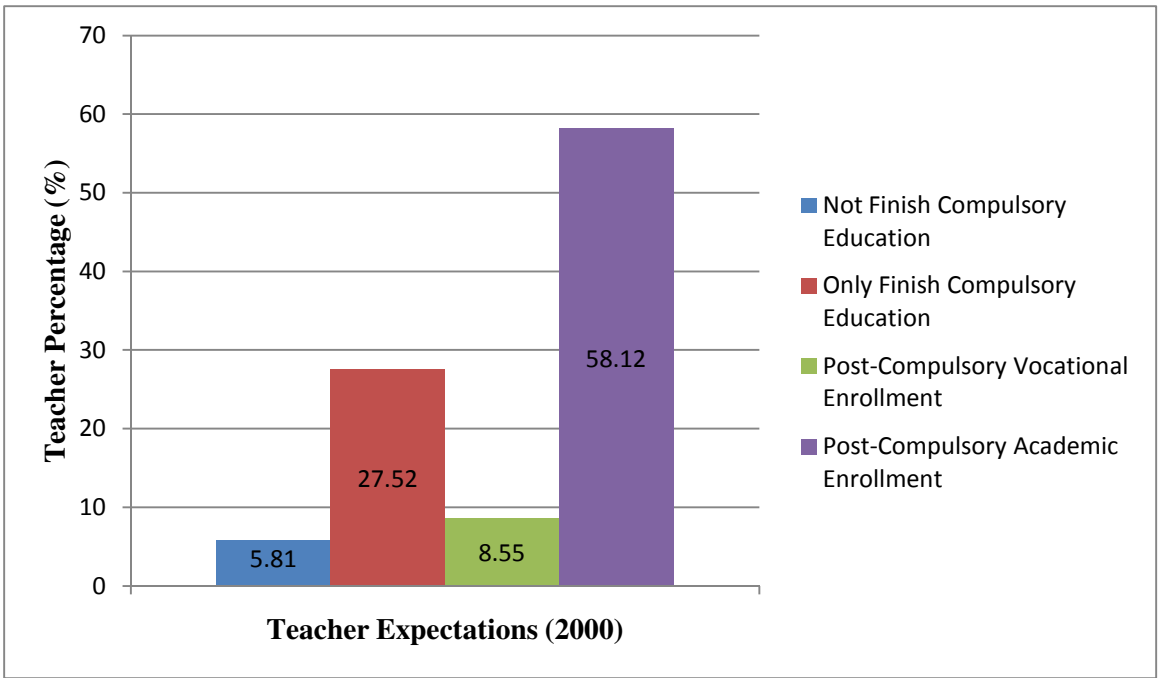
Table 2: **Descriptive Statistics of School, Class, Teacher, Family and Student Characteristics Influencing Teacher Expectations in Rural Gansu, 2000 (standard deviation)**

Variable	No. of Cases	Mean or Proportion	SD
Outcome Variable			
Teacher expectation (2000) (1=Not finish compulsory education, 2=Only finish compulsory education, 3=Enroll post-compulsory vocational, 4=Enroll post-compulsory academic)	584	3.19	(1.02)
Student characteristics			
Child's gender (1=female, 0=male)	584	.48	(.50)
Mother's education	584	4.18	(4.17)
Family logwealth quintile	584	3.02	(1.40)
Child's academic ability	584	.23	(.97)
Teacher-report of student maturity**	584	.026	(.46)
Teacher characteristics			
Teacher is local	584	.36	(.48)
Teacher engages in farm work	584	.50	(.50)
Teacher gender (1=male, 0=female)	584	.67	(.47)
Teacher rank			
Intern	584	.060	(.24)
Level 1	584	.46	(.50)
Level 2	584	.24	(.43)
High Rank	584	.11	(.32)
Teacher's age	584	35.22	(10.01)
Teacher efficacy	584	.88	(.33)
Years of teaching the target child	584	1.90	(1.10)
Years of teaching	584	14.72	(9.31)
Level of teacher's educational attainment			
Finish compulsory education only (lower secondary)	584	.21	(.41)
Upper secondary	584	.56	(.50)
Tertiary education	584	.22	(.42)
Controls: Class and school teaching experiences			
Log (per pupil expenditure)	584	28.01	(38.40)
School percentage of dilapidated classrooms	584	.17	(.28)
Class size	584	37.80	(12.83)

Notes:
**A 19-item scale in which teacher evaluated target child's non-academic behavior in the classroom by reporting on the frequency of target child's behavior over the past 3 months. The alpha reliability of the student maturity scale was 0.7883.

Data source: GSCF 2000

Figure 1: **Teachers' Early Expectations for Rural Students**



Notes: n=584 teachers

Data Source: GSCF 2000

Table 3: **Teacher Expectations by Rural Student Characteristics and Teacher Background Characteristics** (n=584)

	Not finish Compulsory	Only finish Compulsory	Post-compulsory Vocational	Post-compulsory Academic
Student characteristics				
Gender				
Male	4.3%	26.9%	7.5%	61.3%
Female	7.2%	28.3%	9.7%	54.8%
Family wealth				
Poorest	9.4%	27.4%	5.1%	58.1%
2nd Quintile	5.1%	30.0%	6.8%	58.1%
3rd Quintile	6.8%	30.5%	8.4%	54.2%
4th Quintile	4.3%	24.1%	9.5%	62.1%
Wealthiest	2.6%	25.9%	12.9%	58.6%
Math achievement				
Low score	7.6%	32.0%	8.1%	52.3%
Medium score	6.6%	28.3%	6.6%	58.6%
High score	2.7%	22.2%	11.1%	64.0%
Teacher characteristics				
Teacher origins				
Local community	3.4%	24.9%	7.2%	64.6%
Not local	6.9%	29.1%	9.3%	54.7%
Teacher education				
Middle school	6.6%	26.5%	6.6%	60.3%
Secondary school	5.5%	30.4%	7.2%	56.8%
Post-secondary	5.2%	21.6%	13.4%	59.7%
Teacher efficacy				
High efficacy	5.5%	26.3%	9.2%	59.1%
Low efficacy	7.0%	36.6%	4.2%	52.1%

Source:
GSCF 2000

Table 4: **Multinomial Logit Estimates of Teacher Expectations****

	Only finish compulsory vs not finish	Vocational vs not finish	Academic vs not finish
Student characteristics			
Child is female	0.481 *	0.416 **	0.255 ***
	(0.147)	(0.118)	(0.090)
Mother's years of education	1.038	1.098 **	1.084 ***
	(0.030)	(0.032)	(0.023)
2nd quintile (reference: bottom)	1.975	2.211 **	2.196 ~
	(1.026)	(0.684)	(1.014)
3rd quintile (reference: bottom)	1.387	1.557	1.110
	(0.700)	(0.672)	(0.675)
4th quintile (reference: bottom)	2.712	4.271 ***	3.150 ~
	(1.673)	(1.702)	(2.003)
Top quintile (reference: bottom)	4.296 ~	8.073 ***	4.513 *
	(3.551)	(4.672)	(2.799)
Child's math achievement, 2000 [A]	1.302	1.692 ***	1.565 *
	(0.295)	(0.242)	(0.293)
Teacher-report of student maturity	1.887	5.381 ***	17.167 ***
	(0.951)	(2.063)	(6.827)
Teacher characteristics			
Teacher is local [B]	2.342 ~	2.888 **	3.714 ***
	(1.028)	(1.140)	(1.135)
Teacher participates in farm work	1.044	0.887	1.392
	(0.278)	(0.237)	(0.427)
Teacher is male	1.055	1.674	0.791
	(0.359)	(1.133)	(0.226)
Teacher educational attainment[C]			
Tertiary level (reference: compulsory edu)	1.375	3.052 ***	1.868
	(0.376)	(0.902)	(0.833)
Upper secondary (reference: compulsory edu)	1.667***	1.920 *	1.245
	(0.209)	(0.541)	(0.176)
High teacher efficacy [D]	1.106	2.675 ***	1.724
	(0.412)	(0.735)	(0.747)
Years of teaching student	1.717 **	1.747 **	1.617 **
	(0.323)	(0.367)	(0.275)
Teacher's age	0.918 ~	0.855 **	0.990 *
	(0.042)	(0.050)	(0.042)
Teacher rank [E]			
Teacher is intern rank	1.659	2.018*	3.730 **
	(0.875)	(0.681)	(1.754)
Teacher is level 2 rank	0.724	1.296	1.318
	(0.432)	(0.442)	(0.704)
	1.175	1.187	1.008
Teacher is level 1 rank			
	(0.751)	(0.534)	(0.604)
Teacher is high level rank	0.455 ~	0.411	0.479 ~
	(0.192)	(0.278)	(0.184)

Years of teaching	1.087 **	1.142 *	1.110 *
	(0.033)	(0.065)	(0.046)
Controls: Class and school teaching context			
Log (per pupil expenditure)	0.995	0.995	0.989
	(0.007)	(0.005)	(0.008)
School percentage of dilapidated classrooms	0.647	0.125 *	0.241 ~
	(0.365)	(0.103)	(0.183)
Class size	0.988 ~	0.969 **	0.985 *
	(0.006)	(0.011)	(0.008)
Observations	584	584	584

Notes:

[A] Normalized score for math test administered during the first-wave survey (2000). Exams were developed to be age-appropriate for child's mathematical level.

[B] Teacher is local born, or from the same village as the target child

[C] Level of formal schooling the teacher has completed: Finish compulsory education only (lower secondary), Upper secondary, Tertiary education. Only 2 teachers among 950 did not complete compulsory education (middle school), so I chose to disregard this educational level as an analytical category.

[D] "I think that the students in my class will be successful" (strongly agree, agree, disagree, strongly disagree). High teacher efficacy was coded to be "agree" and "strongly agree."

[E] Rank level that teacher has been evaluated: Intern, Level 1, Level 2, High Rank

~ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Robust Standard errors, clustering at the teacher level, are applied for all models

Pseudo R^2= 0.17

Log pseudo likelihood= -507.85

Notes:

**The multinomial logit model can be considered as simultaneously estimated binary logits for all comparisons among alternative categories. Each logit estimation uses a different sample. Coefficients are converted into relative risk ratios (rrr) by exponentiating them. The rrr is the "relative risk" or, for a unit change in x, the probability of outcome *A* versus outcome *B* is expected to change by the rrr factor.

Data Source: GSCF 2000

Table 5: **Teacher Expectations (2000) by Student Educational Attainment in 2007*** (n=584)

	Teacher Expectations		
	Not Finish Compulsory Education	Only finish Compulsory	Post-compulsory Enrollment
Student Completion Rates			
Not Finish Compulsory (%) n=115	7.0%	39.1%	53.9%
Only Finish Compulsory (%) n=195	8.7%	36.9%	54.5%
Post-Compulsory Enrollment (%) n=274	2.9%	16.1%	81.0%

Notes:
* We limit the analyses presented here to children who were in grade three or higher in 2000.[18] Those at or beyond the third grade level would finish compulsory education and have opportunity to enter post-compulsory schooling if they continued schooling in a timely manner without grade repetition.

Data Sources: GSCF 2000, 2007

[18] In addition to restricting the analytic sample to those in 3rd grade or higher during 2000, we also limit the study to those 960 students administered the GSCF mathematics examination, which insured an unbiased measure of student academic ability with respect to the dependent variable, teacher expectation.

BIBLIOGRAPHY

2008. *Daxue sheng chijiao de jiuye zhengce (National College Employment Policy).* Beijing.

Adams, Jennifer. 2005. "The teacher gap in rural China." Paper presented at the Annual meeting of the Comparative and International Education Society, Stanford University, California, 22-26 March 2005.

Adams, Jennifer. 2008. "How are children faring under China's rural boarding school construction program?" Paper presented at the Conference on "Poverty, Health, and Education in China," Oxford University, United Kingdom, December 2008.

Adams, Jennifer, and Emily Hannum. 2005. "Children's social welfare in China, 1989-1997: access to health insurance and education." *The China Quarterly,* 181, 100-121

Adams, Jennifer and Tanja Sargent. 2009. "Curriculum transformation in China: Trends in student perceptions of classroom practice and engagement." Paper presented at the Association of Asian Studies Conference, Chicago, Illinois , 26-29 March 2009.

Alexander, Karl L., Doris R. Entwisle, and Maxine S. Thompson. 1987. "School performance, status relations, and the structure of sentiment: bringing the teacher back in." *American Sociological Review* 52(5), 665-682

Alexander, Karl L., Bruce K. Eckland, and Larry J. Griffin. 1975. "The Wisconsin model of socio-economic achievement: a replication." *American Journal of Sociology* 81, 324-42.

Ashton, Patricia T., Rodman Webb, and Nancy Doda. 1983."A study of teachers' sense of efficacy: final report." Gainsville: University of Florida.

Benner, Aprile D. and Rashmita S. Mistry. 2007."Congruence of mother and teacher educational expectations and low-income youth's academic competence." *Journal of Educational Psychology* 99(1), 140-153.

Bognar, Carl J. 1983. "Teacher expectations and student characteristics." *Canadian Journal of Education* 8(1), 47-56.

Brophy, Jere E. and Thomas L. Good. 1970. "Teachers' communication of differential expectations for children's classroom performance: some behavioral data." *Journal of Educational Psychology* 61,365-374.

Brophy, Jere E. and Thomas L. Good. 1974. *Teacher-Student relationships: Causes and Consequences.* New York: Holt, Rinehart & Winston.

Brophy, Jere E. and Thomas L. Good. 1985. "Teacher-student interaction." In Jerome B. Dusek (ed.), *Teacher Expectancies*. Hillsdale, N.J.: Lawrence Erlbaum, 303-328.

Carter, Prudence. 2005. *Keeping' It Real: School Success Beyond Black and White*. Oxford, Oxford University Press.

Casteel, Clifton. 1997. "Attitudes of African-American and Caucasian eighth grade students about praises, rewards, and punishments." *Elementary School Guidance and Counseling* 31, 262-272.

Cheng, Gang. 2009. "Funding for compulsory education in rural areas." In Dongping Yang (ed.), *The China Educational Development Yearbook*. Beijing: Social Sciences Academic Press, 25-36.

Chi, Jin and Nirmala Rao. 2003. "Parental beliefs about school learning and children's educational attainment: evidence from rural China." *Ethos* 31(3), 330-340.

China.org.cn. 2004. "High dropout rates in rural China," 25 June 2004. http://www.china.org.cn/english/2004/Jun/99362.htm. Accessed 25 March 2012.

China.org.cn. 2007. "China exempts all rural children from compulsory education fees," 28 February 2007. http://china.org.cn/english/education/201008.htm. Accessed 10 October 2008.

Chinadaily.com.cn. 2010. "Wen calls for dedication to rural education," 11 September 2010. http://www.chinadaily.com.cn/china/2010-09/11/content_11289312.htm. Accessed 2 August 2011.

Clifton, Rodney A. 1981."Ethnicity, teachers' expectations, and the academic achievement process in Canada." *Sociology of Education* 54(4), 291-301.

Croll, Elisabeth. 1999. "Social welfare reform: trends and tensions." *The China Quarterly*, 159 , 684–699.

Darling-Hammond, Linda, Ruth Chung, and Red Frelow. 2002. "Variation in teacher preparation: how well do different pathways prepare teachers to teach?" *Journal of Teacher Education* 53(4), 286-302.

Davis, Deborah, Pierre Landry, Yusheng Pang, and Jin Xiao. 2007. "Gendered pathways to rural schooling: the interplay of wealth and local institutions." *The China Quarterly* 189, 60-82.

Edu.cn. 2005. "China to spend 218 bln yuan promoting rural education," 27 December 2005, http://www.edu.cn/20051227/3167788.shtml. Accessed 7 July 2006.

English.peopledaily.com.cn. 2007. "China abolishes tuition fees in all rural schools," 17 January 2007. http://english.peopledaily.com.cn/200701/17/eng20070117_341889.html. Accessed 10 October 2008.

Farkas, George, Robert P. Grobe, Daniel Sheehan, and Yuan Shuan. 1990. "Cultural resources and school success: gender, ethnicity, and poverty groups within an urban school district." *American Sociological Review* 55, 127-142.

Ferguson, Ronald F. 2003. "Teacher perceptions and expectations and the black-white test score gap." *Urban Education* 38(4), 460-507.

Gov.cn. 2006a. "China pledges elimination of rural compulsory education charges in two years," 5 Mar 2006. http://www.gov.cn/english/2006-03/05/content_218710.htm. Accessed 15 August 2011.

Gov.cn. 2006b. "China inspires urban teachers to work for rural schools," 7 March 2006. http://www.gov.cn/english/2006-03/07/content_221720.htm. Accessed 2 July 2011.

Gov.cn. 2006c. "China spends 9b yuan on rural boarding schools," 12 June 2006. http://www.gov.cn/english/2006-06/12/content_307828.htm. Accessed 2 Sept 2011.

Goyette, Kimberly and Yu Xie. 1999."Educational expectations of Asian-American youths: determinants and ethnic differences." *Sociology of Education* 72, 22-36.

Hannum, Emily. 2003. "Poverty and basic education in rural China: communities, households, and girls' and boys' enrollment." *Comparative Education Review* 47(2), 141-159.

Hannum, Emily and Albert Park. 2007. "Academic achievement and engagement in rural China." In Emily Hannum and Albert Park (eds.), *Education and Reform in China.* Oxford: Routledge, 154-172.

Hannum, Emily and Jennifer Adams. 2007. "Girls in Gansu, China: expectations and aspirations for secondary schooling," In Maureen Lewis and Marlaine Lockheed (eds.), *Exclusion, Gender and Schooling: Case Studies from the Developing World.* Washington, D.C.: Center for Global Development, 71-98.

Jussim, Lee, Jacquelynne Eccles, and Stephanie Madon. 1996. "Social perception, social stereotypes and teacher expectations: accuracy and the quest for the powerful self-fulfilling prophecy." *Advances in Experimental Social Psychology* 28, 281-388.

Jussim, Lee, Alison Smith, Stephanie Madon, and Polly Palumbo. 1998."Teacher expectations." In Jeremy Brophy (ed.), *Expectations in the Classroom: Advances in Research on Teaching Vol. 7*. Greenwich, Connecticut: JAI Press Inc., 1-48.

Kedar-Voivodas, Gita. 1983. "The impact of elementary children's school roles and sex roles on teacher attitudes: an interactional analysis." *Review of Educational Research* 53, 415-437.

Kleinfeld, Judith. 1972. "The relative importance of teachers and parents in the formation of Negro and white students' academic self-concept." *Journal of Educational Research* 65(5), 211-12.

Kong, Peggy. 2008. "Old Man Moves a Mountain: Rural Parents' Involvement in Their Children's Schooling." PhD diss., Harvard Graduate School of Education, 2008.

Min, Wei-Fang and Mun Tsang. 1990. "Vocational education and productivity: a case study of the Beijing General Auto Industry Company." *Economics of Education Review* 9, 351-364.

Ministry of Education. 2002. *Suzhi Jiaoyu Guannian: Xuexi Tiyao (The concept of quality education: key points for study)*. Beijing.

Moe.edu.cn. 2006. "Vocational Education in China," 20 October 2006. http://www.moe.edu.cn/english/vocational_v.htm. Accessed 7 October 2008.

Paine, Lynn and Yanping Fang. 2007. "Supporting China's teachers: challenges in reforming professional development." In Emily Hannum and Albert Park (eds), *Education and Reform in China.* New York: Routledge, 173-190.

Postiglione, Gerry. 2007. "School access in rural Tibet." In Emily Hannum and Albert Park (eds.), *Education and Reform in China.* London: Routledge, 93-116.

Ross, John A. 1998. "The antecedents and consequences of teacher efficacy." In Jeremy Brophy (ed.), *Expectations in the Classroom: Advances in Research on Teaching Vol. 7*. Greenwich, Connecticut: JAI Press Inc., 49-74

Sargent, Tanja. 2009. "Revolutionizing ritual interaction in the classroom: constructing the Chinese renaissance on the 21st century." *Modern China*, 632-661.

Sargent, Tanja and Emily Hannum. 2005."Keeping teachers happy: job satisfaction among primary school teachers in rural China." *Comparative Education Review* 49(2), 173-204.

Sewell, William H. and Robert M. Hauser. 1980."The Wisconsin longitudinal study of social and psychological factors in aspirations and achievements," *Research in Sociology of Education and Socialization* 1, 59-99.

Slaughter, Diana T. and Edgar G. Epps. 1977. "The home environment and academic achievement of black American children and youth: an overview." *Journal of Negro Education* 56(1), 3-20.

Soodak, Leslie C. and David M. Podell. 1998. "Teacher efficacy and the vulnerability of the difficult-to-teach student," In Jeremy Brophy (ed.), *Expectations in the Classroom: Advances in Research on Teaching Vol. 7*. Greenwich, Connecticut: JAI Press Inc., 75-100.

Standing Committee of the Tenth National People's Congress. 2009. "Compulsory education law of the People's Republic of China," Order No. 52. Beijing, 29 June 2009.

State Council. 2004. 2003-2007 Action plan for revitalizing education." Beijing.

Tsang, Mun C. 1997. "The costs of vocational training." *International Journal of Manpower* 18(1/2), 63-89.

Tsang, Mun C. 2000. "Education and national development in China since 1949: oscillating policies and enduring dilemmas." *China Review*, 579-605.

Tschannen-Moran, Megan, Anita W. Hoy, and Wayne K. Hoy. 1998. "Teacher efficacy: its meaning and measure." *Review of Educational Research* 28(2), 202-248.

Wang, Xiufang. 2003. *Education in China since 1976*. Jefferson, North Carolina: McFarland & Company, Inc., Publishers.

Warren, Susan S. 2002. "Stories from the classroom: how expectations and efficacy of diverse teachers affect the academic performance of children in poor urban schools." *Educational Horizons* 80(3), 109-16.

Weinstein, Carol S. 1988. "Preservice teachers' expectations about the first year of teaching." *Teaching and Teacher Education* 4, 31-40.

Yang, Jin. 1998. "General or vocational? The tough choice in the Chinese education policy." *International Journal of Educational Development* 18, 289-304.

Zhang, Yuping. 2012. "The hopes carry them on: early educational expectations and later educational outcomes in rural, Gansu, China." Paper presented at The Education and Inequality Workshop, University of Pennsylvania, Pennsylvania, 23 March, 2012.