Educational Expectations, School Experiences, and Academic Achievements: A Longitudinal Examination

Running Title: Expectations, Experiences and Achievements

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Abstract

This study incorporates teacher and child subjective interpretations of child school experiences into the examination of the reciprocal influence between teacher and child educational expectations and child academic achievements, using Gansu Survey of Children and Family, a longitudinal data from northwest rural China. The findings reveal that there are many relative changes in child educational expectations and academic achievements over a four-year period of time. The findings also highlight the strong current and lagged effects of child academic self-concepts and feelings of disengagement on child educational expectations and achievements. Child family background has almost no direct effect on child expectations and achievements, suggesting that future studies in educational stratification should pay more attention to child school experiences, which is a topic that have brought much insights to disparities in educational outcomes in developed countries.

Educational Expectations, School Experiences, and Academic Achievements: A Longitudinal Examination

Introduction

Educational research has indentified many factors that could influence student school achievements and attainments, including teacher educational expectations and evaluations of student abilities and school behaviors as well as student educational expectations and their own interpretations of school experiences. There are numerous studies on the relationships between teacher educational expectations of students and student school achievements (Crano and Mellon 1978; Alexander, Entwisle and Thompson 1987; Jussim and Eccles 1992; Ferguson 2003; Downey and Pribesh 2004; Benner and Mistry 2007; Entwisle, Alexander and Olson 2005; Hallinan 2008; Mistry et al. 2009). Other studies have provided evidence that teacher perceptions of students can positively or negatively influence student performances and achievements (Brophy 1983; Natriello and Dornbusch 1983; Alexaner, Entwisle and Thompson 1987; Farkas et al. 1990; Jussim et al. 1998; Croninger and Lee 2001; Weinstein 2002). Self-fulfilling prophecy is one of the main theories that have been used to explain the influence of teacher expectations and perceptions of students on student achievements. Empirical studies testing this theory have reported different conclusions (for comprehensive reviews, see Ferguson 2003; Jussim and Harber 2005).

Another line of research examines more closely the interrelationship between student educational expectations, their school experiences, and achievements (Sander, Field and Diego 2001; Buchmann and Dalton 2002; Eccles and Wigfield 2002; Liu et al. 2009). Student perceptions of school experiences as reflected in self-evaluations of academic abilities and

achievements and feelings of disengagement are closely related to educational outcomes (Fredricks, Blumenfeld and Paris 2004; Glanvill,2006; Liu et al. 2009; Daly et al. 2009).

The existing literature highlights the interrelationship among the role of teachers in shaping student schooling outcomes, the role of students as reflected in their own determinations and interpretations of school experiences, and how these impact student academic achievements. However, we have limited knowledge about how each factor influences and is influenced by other factors when all are taken into consideration across time. Also, most of the research mentioned above is conducted in the U.S. and other developed countries which has brought much insight into educational stratification research. To date, only a few studies by educational researchers in developing countries have examined the reciprocal relationships among these factors. The purpose of this study is to fill this gap by analyzing longitudinal data from rural China. It also provides a chance to test theoretical frameworks in a cultural setting that is quite different from the locus of their development. This study aims to answer the following main questions: (1) whether there is stability or change over time in teacher and child expectations and achievements; (2) whether there is reciprocal influence between teacher expectations and achievements and between child expectations and achievements; (3) whether teacher evaluations of children and child perceptions of school experiences mediate the relationships between expectations and achievements. In this study, teacher perceptions of children refer to teacher assessments of child learning abilities and achievement levels, as well as study habits and behaviors at school. Child perceptions of school experiences refer to two aspects: child self evaluations of their achievement levels and efforts in school work, and feelings of disengagement from school.

Previous Research

Teacher and Student Educational Expectations

Research in educational stratification has identified the links between teacher educational expectations for student future education attainments and school outcomes. Studies found that in general teachers tend to have lower educational expectations for students from low income families (as compared with their peers from higher income families) and for students from minority groups. At the same time, students from disadvantaged families tend to have lower expectations themselves (Crano and Mellon 1978; Wilson and Wilson 1992; Alvidreza and Weinstein 1999; Muller, Katz and Dance 1999; Benner and Mistry 2007; Kao and Tienda 1998; Mau and Bikos 2000). These low expectations are closely connected with student poor achievements at school and a high drop-out rate later (Gill and Reynolds 1999; Muller et al. 1999; Rumberger 1995). Using data from the Chicago Longitudinal Study, Gill and Reynolds (1999) found that teacher expectations are strong predictors of student reading and math achievements among African American children. Smith et al.'s (1999) study found that teacher expectations in middle school have latent effect on student high school standard test scores. One of the recognized mechanisms whereby teacher expectations may influence school outcomes is through their influence on student educational expectations, their self-concept of abilities and attainment values. In turn, these factors have been identified as predictive of later school outcomes including grades, test scores, and dropping out (Mull et.al 1999; Sirin and Rugers-Sirin 2004; Benner and Mistry 2007). Muller et al. (1999) found that teacher expectations are the strongest predictor of whether students have aspirations to attend college. Using data from the New Hope study, Benner and Mistry (2007) found that teacher expectations have a strong impact on student

achievements, and this impact is mediated by student expectations and the self-concept of competency.

Student educational expectations are associated with both behavioral choices that facilitate academic success and educational attainments (Wilson and Wilson 1992; Hao and Bonstead-Bruns 1998; Kao and Tienda 1998; Liu et al. 2009; Zhang (unpublished manuscript)). The positive impact of student educational expectations on attainment holds even when controlling for previous achievements (Trusty, Plata, and Salazar 2003). Eccles and Wigfield (2002) argue that expectations are closely related to achievement performance; at the same time, they are influenced by individual interpretations of previous achievements. They point to the cyclical influence between expectations and achievements. Several studies have reported the reciprocal relationship between child educational expectations and school achievements (Sander, Field and Diego 2001; Bui 2007). Bui's (2007) study found that the impact of school achievements on educational expectations is stronger than in the opposite direction.

The above studies point to the interrelationship among teacher and student educational expectations and student academic achievements at school. However, the long-term reciprocal effects between expectations and achievements are less clear. This study aims to disentangle these relationships. Considering the strong influence of teachers, I hypothesize that teacher educational expectations have both a long-term and a current influence on student achievements and expectations; meanwhile teachers take into consideration student achievements while forming their expectations. Also, students with better achievements are likely to have high expectations while their early high expectations serve as a motivation to strive for better achievements.

Teacher and Student Perceptions of Student School Experience

Another line of research focuses on the association between teacher perceptions of students such as academic expectations and evaluations of student abilities, behaviors and performances. Previous research has shown that teacher perceptions of student cognitive and non-cognitive skills can positively or negatively influence student performances and achievements (Brophy 1983; Jussim and Eccles 1992; Farkas et al. 1990; Weistein 2002; Ferguson 2003; Downey and Pribesh 2004; Entwisle, Alexander and Olson 2005; Rubie-Davies et al. 2006).

In examining the mechanisms through which teacher perceptions may influence student outcomes, research points to self-fulfilling prophecy effects (Brophy 1983; Good and Brophy 2003; Rolison and Medway 1985; Jussim and Harber 2005). Teachers expect students to continue to act or perform according to previously established patterns and may disregard contradictory evidence of change, and this initially erroneous belief leads to its fulfillment. This theory implies that teachers fail to perceive changes in student behavior and at the same time suppress the potential for any change. Teacher perceptions of students may lead to different treatment in daily interactions between the teachers and the students. Marshall and Weinstein (1984) point out that differential teacher treatment can influence student learning directly (e.g., the opportunity to learn), and this treatment can also have indirect effects. Teacher perceptions signal to students messages about their capabilities to learn to the extent that students internalize these messages, and their performance may reflect the beliefs of the teacher. In this way, teacher perception effects are mediated by student perceptions of competency.

Students from disadvantaged social groups seem to be more vulnerable to the negative self-fulfilling effect (Entwisle and Alexander 1988; Ferguson 2003; Downey and Pribesh 2004;

Rubie-Davies et al. 2006). Analyzing data from New Zealand, Rubie-Davies and his colleagues (2006) came to the conclusion that teachers have obvious lower academic expectations and judgments for Maori students than students of other ethnic groups. Although the Maori student achievements were similar to other students at the beginning of the year, by the end of the year, Maori students had made the least gains of all groups.

Other studies present different conclusions. After reviewing the past three decades of empirical studies on teacher perceptions and academic expectations of students and their association with student achievements, Jussim and Harber (2005) conclude that self-fulfilling prophecies do occur, but these effects are typically small, and they do not accumulate greatly across perceivers or over time. Teacher expectations may predict student outcomes specifically because these expectations are accurate rather than self-fulfilling effects. They suggest the claims that self-fulfilling prophecy effects accumulate over time are based on the assumptions that teachers do not change their perceptions of students even if the perceptions are not accurate, and the perceptions remain the same across multiple teachers and over time. On the other hand, students are passively influenced and change their behavior accordingly. The results of some empirical studies have shown that these assumptions are not valid (Rosenthal and Jacobson 1968, Rist 1970, Smith, Jussim and Eccles 1999 as cited in Jussim and Harber 2005).

Ferguson (2003) argues that teacher perceptions may lead to differences in their behavioral interaction with students, and teacher and student behaviors might be both causes and consequences of racially disparate perceptions and expectations regarding achievements. He concludes that teacher perceptions, expectations and behaviors interact with student beliefs, behaviors and work habits in ways that help to perpetuate and even to expand the black-white

test score gap. The magnitude of this effect could be substantial if effects accumulate from kindergarten through high school (Ferguson 2003).

Student daily participation in school is an important aspect of educational experiences. Hallinan points out that learning is "a social psychological as well as a cognitive process." (Hallinan 2008: p.271). How students perceive the school experience, including self-evaluation of achievements and efforts as compared with peers, and feelings of disengagement from school is closely linked to both achievements and plans for future schooling (Smerdon 1999; Johnson, Crosnoe and Elder 2001; Fredricks 2004; Hallinan 2008). Some scholars argue that student engagement is one of the most important factors related to student academic success and the prevention of school drop-out (Finn and Voelkl 1993; Smerdon 1999; Newman 1992). Other studies consider student engagements themselves as important academic outcomes and identify the factors that influence student engagements, including the teacher role in shaping student feelings about school and the neighborhood impact on students (Hallinan 2008; Daly et al. 2009).

To test the self-fulfilling prophecy effect, in this study I will examine in detail whether there are changes in both teacher and student educational expectations and in student achievements across time. I hypothesize that teacher evaluations and student interpretations of school experiences mediate the reciprocal relationships between expectations and achievements. Considering the role of both teachers and students will reveal more insights into the mechanism through which the child school experience influences educational outcomes.

China Context and Research

China has experienced rapid expansion of education in the past few decades and at present with almost universal enrollment at a basic educational level. Most of the previous studies in educational stratification in rural China focus on how poverty at both community and

household levels, traditional gender norms, school and classroom environments and policy changes impact student educational attainments and achievements. (Brown 2003; Brown and Park 2002; Hannum 2002, 2003; Zheng, Niu and Xing 2002; Zhang, Kao and Hannum 2007; Kong, Hannum and Zhang 2009). As part of the educational reform, the Chinese government is implementing a policy that eliminates all schooling fees in rural areas which would reduce the impact of poverty on schooling. In such circumstances, student school experiences are becoming increasingly important in determining educational achievements and attainments.

Some recent educational research in China has focused on school processes that may contribute to educational stratification. A few qualitative studies suggest that student school experiences, relationships with teachers and engagement in schooling are important factors that influence student school drop-out rates (Xiao 2001; Liu 2004). Other quantitative studies have found that student engagement at school, academic achievements, teacher quality, teacher educational expectations of children and school and classroom environments all matter for school outcomes (Hannum and Adams 2007, 2008). The Hannum and Adams (2008) study shows that parents and children view poor school performance, unwillingness to attend school and the opportunity costs of school attendance as major barriers to child education.

Research Design

Data

This study uses two waves of the Gansu Survey of Children and Family (GSCF) collected in rural Gansu province, China, in 2000 and 2004. The GSCF is a representative sample of 2,000 children aged 9 to 12 from 100 villages in rural Gansu; multilevel random sampling was used. The first wave of data was collected in 2000, and the second wave in 2004. Besides sample

children, there are also linkable secondary samples of sample child homeroom teachers. In both 2000 and 2004, teachers and children reported their educational expectations. The child questionnaire included questions regarding child perceptions of their own efforts in school work, levels of achievement and feelings of disengagement from school. The teachers reported evaluations of the child learning abilities and levels of achievement as well as efforts in school work and behaviors at school. Most of this information was collected from answers to questions with the same wording in both the 2000 and the 2004 questionnaire.

The GSCF longitudinal data makes it possible to investigate the changes of both groups in expectations and achievements as well as providing the chance to explore whether there are reciprocal and lagged effects among different factors. In the first wave, most children were in primary school. Four years later, about half of those children who were still in school advanced to junior high school. The sample used in this study is limited to those children who were in school in 2000 and were still in school in 2004. After eliminating cases with missing data on all the measures used in the analysis, 1627 cases are used.

Analytical Approach

To investigate the mutual influence between educational expectations and child school achievements, I conducted the analysis in three steps. First, I closely examined the stability and changes in both teacher and child expectations and child achievements over time. Next, I estimated two sets of cross-lagged models (one for child expectations and their achievements and one for teacher expectations and achievements) to explore whether there are lagged effects between expectations and achievements. The cross-lagged analysis allowed me to isolate the effects of expectations on achievements and achievements on expectations and whether the relationships between expectations and achievements are mediated by the views of each group

on child schooling experiences. In addition, the analysis will reveal whether the relationships between expectations and achievements vary by child gender and family socioeconomic status. Finally, I estimated models that include measures from both teachers and children at both time points to examine how these factors work together to influence child expectations and achievements.

Measures

Educational Expectations

Teacher educational expectations for children are measured by answers of the homeroom teacher to the question: "What is the highest level of education you think the child can attain?" The answers are in 10 categories in wave 1 and 12 categories in wave 2 and range from "not finishing primary school" "finish primary school" "some junior high school" to "graduating from college or above." Child educational expectations are constructed from their answers to the same question: "What is the highest level of education you think you can attain?" The answers include 6 categories ranging from "finish primary school" "finish junior high school" to "graduating from college or above." Teachers and children were asked the same question at both wave 1 and wave 2. In the analysis, educational expectations are translated into the number of years it takes to complete the levels.

Child School Achievements

Child school achievements are measured by their *mathematics grade* from the previous semester as reported by the teachers at both time points. The choice of the mathematics grade as a measure of their achievements is based on the consideration that children may have little help from their parents in learning mathematics due to parents having achieved only a low level of

formal schooling, and thus the children must rely mostly on their teachers. Therefore, the grades reflect more of what the children have learned in school. The grades are measured on a 100-point scale. Child achievements together with teacher and child expectations are the major outcomes of this study.

Evaluations of Child School Experiences

The GSCF provides rich information on how teachers and children perceive child schooling in both waves. I first conducted an exploratory factor analysis to identify different dimensions of teacher evaluations of children and child self-evaluations. The identification of factors is based on the results of promax rotation. Scales were then created using items (standardized) that have high loading on the same factors. Appendix 1 lists items included in each factor.

Two scales were created to measure teacher evaluations of children: *Good Student* is a scale with 9 items (with some items different across waves) which includes teacher assessment of child learning abilities, achievement levels as compared to others students in the class, study habits and behaviors at school. Another scale reflects teacher perception that the child is *Experiencing Problem* which includes 7 items in wave 1 and 6 items in wave 2 (with some items different across waves). Teachers consider factors such as disciplinary problems, absence of efforts, lack of confidence, and seemingly depressed.

Two factors are identified to measure child self-evaluation: Child *Academic Self-Concept* includes 7 items in wave 1 and 5 items in wave 2. The scale reflects how children evaluate themselves in terms of their learning abilities, their achievement levels as compared to peers and whether they consider themselves to be making efforts in school work. Another scale measures child feelings of *Disengagement* in schooling (7 items in wave 1 and 3 items in wave 2), which

includes items that reflect child feelings of being bored and lonely at school (for both waves) and beliefs that better achievements depend on luck but not hard work (for wave 1 only).

Child Individual Characteristics

Child *Gender* and *Age* are included in all analyses; boys are coded as 0 and girls as 1, and age of the child at wave 1 is used in multivariate analyses.

Family Background Measures

Family background measures include *Mothers' and Fathers' Education* (measured in years of formal schooling they have completed), *Family Wealth* and *Number of Children* in the family. Family wealth is a measure of family material resources calculated by adding together the value of household assets (including house, farming equipment and household durable goods). The logged wealth is used in multivariate analysis. There is almost no change across time in these measures.

Analysis Results

Descriptive

Table 1 presents the descriptive statistics of child characteristics and family background. Among the full sample, 53% of the children are boys with an average age of 11. Parents in rural Gansu have limited formal education: fathers on average have little more than primary school education while mothers have only about 4 years of schooling. On average, there are 2.3 children in the family. Table 1 also presents the child schooling status. In 2000, almost all sample children were in school. Four years later, about 11% of boys and 15.6% of girls had dropped out.

(Table 1 about here)

Stability and Change in Teacher and Child Educational Expectations and Achievements

In this part of the analysis, I examined the stability and changes over time in teacher and child expectations and child achievements. Table 2 presents the descriptive statistics and correlations of teacher and child expectations and achievements in both 2000 and 2004.

(Table 2 about here)

Children expressed extremely high expectations with an average of 13.7 years in 2000 and increasing to 14.7 years in 2004, equaling to more than two years of college. Among children who were still in school in 2004, half of them expressed college expectations in 2000, and almost 63% carried such high expectations in 2004 (calculation not shown). Interestingly, the correlation of child expectations between two time points is quite low with r=.12, revealing a high relative change. The mean achievement at the two time points shows that they remain stable over time with only about 2 points difference. However, the correlation of child mathematics grades over time is also very low, with r=.20, indicating that there are also many relative changes in child school performances during the four-year time period. It is also worth noting that child expectations are not closely correlated with achievements at each time point. There are also low correlations between teacher and child expectations at both time points, showing that teacher expectations for children are often different from child own expectations.

In the year 2000, teachers expected children to have on average of 11.4 years of schooling which is equivalent to almost finishing senior high school when most children were still in primary school. Four years later, teacher expectations on average rose by less than a year to 12.2 years which is slightly more than the completion of senior high school when the majority of children are in junior high school. The correlation of teacher expectations between two time

points is moderate (r=.31). Teacher expectations are relatively closely related to child achievements of the time, with r=.45 in 2000 and r=.46 in 2004, indicating that child performances may be an important factor that teachers consider when forming their expectations for children. Next, I examined changes in child expectations and achievements more closely.

Figure 1 presents changes in child educational expectations over time by child gender. Over time, about 30% of boys and 35 % of girls raise expectations. Among children who expected to finish no more than junior high school in 2000, most expected to complete senior high or college in 2004. One possible explanation is that children gain more confidence regarding their chances of continuing school as they make the transition to junior high school. However, about 13% of boys and 16% of girls lower their expectations over time.

(Figure 1 about here)

Figure 2 presents changes in child mathematics achievements over time. As indicated by the lines of mean achievement, many children whose grades were below average in 2000 managed to catch up in the four-year period and achieved above average grades. Those children who fell within the right lower quarter of the plot were below average in 2004 even though they were high achievers earlier. Actually among children whose mathematics grades were under 60 (which is considered as failing grade) at wave 1, 70 percent of them caught up during the four-year time period to achieve a grade above 60 at wave 2. Only half the children with mathematics grades above 80 remained in the top group (calculation not shown). The graph reveals the instability of child academic performance. This might be due to changes in school environments, working with different teachers, and changes in the level of difficulties of subjects after advancing to junior high school.

(Figure 2 about here)

The above descriptive analysis reveals that there is much relative change in both child educational expectations and achievements although the means remain similar across time. These findings do not provide support for the self-fulfilling prophecy. It is also interesting to notice that child expectations are only weakly correlated with their achievements at each time point when no other factors are considered. Also, teachers and children have different ideas about how far children can advance in their schooling. The instability of child expectations and achievements as well as low correlations indicates there are other factors that may influence the changes in both their expectations and achievements.

Child and Teacher Evaluations

Table 3 presents the descriptive statistics and correlation of factor scales that measure child and teacher subjective evaluations of child school experience. We see again much change in how children interpret their school experiences over time. The correlation of child academic self-concept between two time points is only r=.19, and the correlation of their feelings of disengagement is as low as r=.06. Not only do children changed their future plan for schooling, how they perceive their school experience also change a lot. In a sense, it is good to see that many children who felt disengaged from school in year 2000 no longer feel the same way four years later. Teacher evaluations of children being good students changed relatively less over time, with correlation of r=.30 between two time points. However, teachers have different opinions about whether a child is experiencing problems over time, with a cross time correlation of r=.10 for this measure.

(Table 3 about here)

Cross-lagged Examination of Child Expectations and Achievements

To test the reciprocal relations between child educational expectations and child achievements, a cross-lagged analysis is estimated with child educational expectations and achievements at wave 2 as separate outcomes. The first set of models contains only the wave 1 measures of the outcomes as predictors. The second set of models includes child academic self-concepts and feelings of disengagement from wave 1 to evaluate whether child self-evaluations mediate the reciprocal relationships between expectations and achievements. The third set are full models with measures of family background added. All models control for child gender and age, and a village fixed effect is used to consider the possible impact of village characteristics.

Table 4 presents the cross-lagged estimation results of child expectations and achievements. The cross-lagged coefficients in the first set of models show that child early achievements have a significant but rather weak effect on later expectations, while early expectations cannot predict later achievements, which is consistent with the descriptive findings.

(Table 4 about here)

The second set of models includes measures of child early academic self-concepts and feelings of disengagement from school. The observed relationships between expectations and achievements remain the same. Meanwhile, child feelings of disengagement from school at an early time point has a strong negative lagged effect on both later expectations and achievements.

The last set of models add in family background measures: parents' education, number of children in the family, and family wealth. Adding in family characteristics does not change the patterns of observed relationships. Family background measures have almost no direct impact on child expectations and achievements, except a rather weak association between father education and child expectation.

The cross-lagged models of child educational expectations and achievements reveal that child early higher expectations do not serve as a motivation for children to strive for better achievement later. Early better grades help children to form higher expectations later although the effect is not strong. Feelings of disengagement from school, rather than actual academic achievements, at an early time point have strong negative lagged effects on both expectations and achievements. It is also interesting to note that family backgrounds have almost no direct effect on child expectations and achievements when controlling for factors included in the models. It is also worth noticing that these cross-lagged models explain little of the variations in expectations and achievements.

Cross-lagged Examination of Teacher Expectations and Child Achievements

Next, I examined the reciprocal relationships between teacher educational expectations for children and child school achievements. Three sets of models are estimated using the same set-up as the previous part of the cross-lagged examination, with teacher expectations and child achievements as separate outcomes. The first set of models includes only the early measure of the two outcomes, the second set of models add in teacher evaluations of children from wave 1 ,and then family background measures added to the last set of models.

Table 5 presents the results: Model 1 shows there are lagged effects of both early teacher expectations on later achievements and early achievements on later teacher expectations although both effects are rather week.

The second set of models encompasses early teacher evaluations of children. Child early achievements still have a lagged effect on later teacher expectations. Teacher early evaluations of children as good students are closely associated with later teacher expectations. In the achievement model, the lagged effect of early teacher expectations on later achievements almost

vanished, and child early achievements can no longer significantly predict later achievements. Teacher early evaluations of children as good students have a strong lagged impact on later child achievements. In both models, teacher perceptions of the child experiencing problems initially have no lagged effect on later teacher expectations nor later achievements. The last set of models includes family background measures which do not change the observed relationships. Through all sets of models, teachers tend to have lower expectations for girls after controlling for other factors in the model although teachers have better evaluations of children and there is no gender difference in child achievements.

(Table 5 about here)

The results of this part of the analysis indicate that when teachers form expectations for children, they take into account child early achievements while teacher expectations initially do not show a direct impact on later achievements while holding other factors constant. The lagged effects of teacher influences on child later achievements are mostly through teacher evaluations of children. It is likely that teacher evaluations of children manifest more in the daily interactions between teachers and children and thus have a stronger impact. The above results indicate that in order to understand the stratification in school outcomes for children, we must take into consideration both the teacher and child subjective interpretations of child school experiences

Child Expectations and Achievement

The above cross-lagged analyses show that early teacher evaluations and child perceptions of school experiences have a significant influence on how teachers and children later form their educational expectations and child achievements. If these factors have some lagged effect, it is logical to anticipate that the current measure of these factors be closely related to child expectations and achievements. In this last part of the analysis, I estimated two models with

child expectations and achievements as outcomes. I included both teacher and child perceptions of schooling at both time points while controlling for early expectations and achievements to examine how these factors work together to impact child expectations and achievements. Table 6 presents the results.

(Table 6 about here)

In the model for child expectations, after controlling for their early expectations and achievements, current achievements and current teacher expectations are associated with child expectations, though the associations are not strong. This is consistent with many previous findings. What stands out in this model is that child school experiences have a significant impact on their expectations. Child current academic self-concepts and feelings of disengagement from school have a strong impact on expectations, in addition to significant lagged effects from these measures from an early time point. It is also interesting to note that neither current nor early measures of teacher evaluations of children have any impact on child expectations, after taking into consideration child own evaluations and feeling of disengagement. Child family background measures have almost no effect except that children who have more siblings tend to have lower expectations.

In the model for child achievements, current teachers show a strong influence. Teacher current higher expectations and especially better evaluations of children are closely associated with child better achievements. Child current expectations and academic self-concepts are also closely linked to achievements, while child feelings of disengagement are not significantly associated with their achievements. As opposed to the expectation model, child early perceptions of schooling have no lagged impact on achievements. Again, measures of family SES have no influence on their achievements. Note that the factors that are considered together explain little

of the variation in child expectations, but have more power in explaining the variation in child achievements.

Conclusion

This study investigated the reciprocal influence between teacher and child educational expectations as well as the mediating effects of teacher and child perceptions of school experiences using longitudinal data from rural northwest China. Two findings are most interesting: First, there are many relative changes in child educational expectations and achievements over a four-year time period although the overall levels of these two measures remain about the same; and second, the strong current and lagged influence of child self-academic concepts and feelings of disengagement, especially on child educational expectations.

The changes in child expectations and achievements over time may due to the fact that as children advance in school (especially as they move from primary school to junior high school), they have experienced changes in school environments, working with different teachers and different levels of difficulty in the subjects they learn. These findings provide no support for self-fulfilling prophecy effects.

Cross-lagged analyses reveal that child early expectations have little impact on later achievements while early achievements have a very limited influence on later expectations. Child early higher expectations do not serve as an inspiration for better achievements, and their expectations are rarely based on previous achievements. Teachers take into consideration child early achievements when they form educational expectations for children while teacher early expectations do not show a direct impact on child later achievements.

What matters most when children form their educational expectations are their interpretations of their school experiences. Children who hold higher academic self-concepts are

more likely to have higher expectations while their feelings of disengagement can really suppress expectations. In addition, child self-evaluations and disengagements four years earlier can still have a lagged effect on child expectations, even after controlling for their current interpretations of school experiences.

As for child academic achievements, current teacher expectations and evaluations of children are closely tied with child achievements, as well as child own current expectations and their academic self-concept. This may indicate that teachers have accurate evaluations of children. At the same time, early teacher expectations and evaluations have no lagged effect on child current achievements, which provides support for the argument that self-fulfilling effects do not accumulate across perceivers or over time as Jussim and Harber (2003) suggest in their review of research in the US.

It is worth noticing that child genders and family backgrounds as measured by parent education and family wealth have no direct impact on child expectations and academic achievements, after taking into consideration of child perceptions of their school experiences and teacher evaluations. The findings suggest that future studies on educational stratification in China should "go beyond the cost" (Hannum and Adams 2008) to pay more attention to child school experiences.

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Table 1. Descriptive: Demographic and Schooling Status

	Mean or Proportion	Std. Dev.	N
Child Characteristics			
Boys	0.53	0.50	2000
Age (2000)	11.03	1.09	2000
Schooling Status (at school)			
2000	0.99	0.11	2000
2004	0.87	0.34	1918
Family Background			
Father's Education	6.81	3.96	2000
Mother's Education	4.20	3.63	2000
Family Wealth	23012.39	42517.58	2000
Number of Children	2.34	0.73	2000

Table 2. Educational Expectations and Achievements by Year

Expectation		Mean	Std.	Correlation				
Child	Year			1	2	3	4	5
1	2000	13.71	2.8					
2	2004	14.68	2.17	**0.12**				
Teacher								
3	2000	11.36	2.72	0.24	0.14			
4	2004	12.19	2.73	0.13	0.21	0.31		
Mathematics Grade								
5	2000	73.85	15.92	0.16	0.1	0.45	0.28	
6	2004	71.99	16.8	0.09	0.17	0.17	0.46	**0.20**

Table3. Descriptive and Correlation of Child and Teacher Evaluation Scales

		Mean	Std.	Min.	Max.	Cronbach Alpha	Correlation						
Child							1	2	3	4	5	6	7
	Academic Self-Concept												
1	2000	0.00	0.58	-2.24	1.05	0.70							
2	2004	0.00	0.61	-2.61	1.17	0.67	**0.19**						
	Disengagement												
3	2000	0.00	0.64	-1.34	1.65	0.82	-0.04	-0.09					
4	2004	0.00	0.77	-1.07	2.69	0.67	-0.07	-0.17	**0.06**				
Teacher													
	Good Student												
5	2000	0.00	0.65	-2.19	1.45	0.86	0.28	0.20	-0.15	-0.11			
6	2004	0.00	0.69	-1.75	1.19	0.85	0.18	0.28	-0.12	-0.12	**0.30**		
	Experiencing Problem												
7	2000	0.00	0.57	-0.80	1.96	0.67	-0.16	-0.04	0.02	0.04	-0.44	-0.07	
8	2004	0.00	0.62	-0.82	2.37	0.68	-0.17	-0.16	0.02	0.10	-0.17	-0.39	**0.10**

Table 4. Cross-Lagged OLS of Child Expectations and Achievements

	Expectation (2004)			Achievement (2004)		
(2000)	(1)	(2)	(3)	(1)	(2)	(3)
Expectation	0.057***	0.048**	0.045**	0.158	-0.005	0.001
	(2.846)	(2.275)	(2.139)	(1.046)	(-0.029)	(0.008)
Achievement	0.013***	0.012***	0.011***	0.166***	0.145***	0.142***
	(3.492)	(3.190)	(2.834)	(6.136)	(5.178)	(5.047)
Self Evaluation						
Good Student		-0.085	-0.071		1.359*	1.343*
		(-0.868)	(-0.725)		(1.842)	(1.813)
Disengagement		-0.350***	-0.358***		-2.203***	-2.130***
		(-3.591)	(-3.678)		(-2.994)	(-2.890)
Family Background						
Father's Education			0.034**			0.099
			(2.392)			(0.906)
Mother's Education			-0.003			0.221*
			(-0.164)			(1.674)
Number of Children in Family			-0.142*			0.597
			(-1.783)			(0.987)
Family Wealth			-0.013			-0.329
			(-0.205)			(-0.667)
Gender	-0.059	-0.026	-0.003	0.183	0.101	0.023
	(-0.552)	(-0.239)	(-0.028)	(0.228)	(0.125)	(0.028)
Age	0.114**	0.058	0.058	-0.226	-0.580	-0.622
	(2.243)	(1.089)	(1.097)	(-0.589)	(-1.449)	(-1.546)
Constant	11.814***	12.570***	12.905***	59.864***	67.625***	68.427***
	(17.544)	(17.082)	(13.518)	(11.814)	(12.177)	(9.457)
Adjusted R-squared	-0.047	-0.038	-0.035	-0.039	-0.031	-0.030
N	1627	1627	1627	1627	1627	1627

note: *** p<0.01, ** p<0.05, * p<0.1

Table 5. Cross-Lagged OLS of Teacher Expectations and Child Achievements

	Teacher Expectation (2004)			Child Achievement (2004)		
	(1)	(2)	(3)	(1)	(2)	(3)
Teacher Expectation	0.211***	0.130***	0.120***	0.783***	0.369*	0.361*
	(7.351)	(3.945)	(3.630)	(4.425)	(1.810)	(1.753)
Achievement	0.030***	0.019***	0.019***	0.110***	0.054*	0.053
	(6.281)	(3.640)	(3.613)	(3.701)	(1.653)	(1.620)
Teacher Evaluation						
Good Student		0.713***	0.706***		3.830***	3.837***
		(4.673)	(4.628)		(4.049)	(4.048)
Experiencing Problem		0.060	0.069		0.943	0.960
		(0.445)	(0.511)		(1.125)	(1.142)
Family Background						
Father's Education			0.028			0.071
			(1.588)			(0.655)
Mother's Education			0.057***			0.194
			(2.732)			(1.482)
Number of Children in Family			0.085			0.609
			(0.885)			(1.022)
Family Wealth			0.016			-0.458
			(0.202)			(-0.934)
Child Gender	-0.376***	-0.453***	-0.449***	0.326	-0.023	-0.124
	(-2.918)	(-3.507)	(-3.430)	(0.410)	(-0.029)	(-0.152)
Child Age	0.005	-0.004	-0.013	-0.346	-0.386	-0.435
	(0.083)	(-0.068)	(-0.210)	(-0.906)	(-1.017)	(-1.139)
Constant	8.065***	9.992***	9.410***	58.257***	67.983***	70.462***
	(10.364)	(11.502)	(8.254)	(12.109)	(12.630)	(9.945)
Adjusted R-squared	0.044	0.057	0.063	-0.027	-0.017	-0.016
N	1627	1627	1627	1627	1627	1627

Note: ***p<0.01, **p<0.05, *p<0.1

Table 6. OLS of Child Expectations and Achievements

	Child Expectation	Achievement
Child Expectation (2000)	0.036*	0.012
	(1.768)	(0.091)
Child Expectation (2004)		0.367**
		(2.218)
Achievement (2000)	-0.001	-0.013
	(-0.165)	(-0.471)
Achievement (2004)	0.009**	
	(2.218)	
Teacher Expectation (2000)	0.009	-0.001
	(0.335)	(-0.005)
Teacher Expectation (2004)	0.083***	0.731***
	(3.077)	(4.206)
Child Self-Evaluation		
Academic Self-Concept (2000)	-0.204**	-0.995
	(-2.094)	(-1.583)
Academic Self-Concept (2004)	0.446***	1.608***
	(4.845)	(2.698)
Disengagement (2000)	-0.217**	-0.368
	(-2.262)	(-0.595)
Disengagement (2004)	-0.311***	-0.080
	(-4.598)	(-0.182)
Teacher Evaluation		
Good Student (2000)	0.211*	0.602
	(1.689)	(0.748)
Good student (2004)	-0.054	10.275***
	(-0.481)	(15.162)
Experiencing Problem (2000)	0.161	-0.087
	(1.473)	(-0.123)
Experiencing Problem (2004)	0.045	-1.442**
	(0.477)	(-2.358)
Family Background		
Father's Education	0.025*	-0.025
	(1.811)	(-0.278)
Mother's Education	-0.013	0.041
	(-0.771)	(0.371)
Number of Children in Family	-0.161**	0.043
	(-2.075)	(0.087)

Family Wealth	-0.005	-0.397
	(-0.078)	(-0.969)
Child Gender	-0.011	-0.151
	(-0.100)	(-0.214)
Child Age	0.085	-0.066
	(1.633)	(-0.196)
Constant	11.850***	63.101***
	(11.195)	(9.138)
Adjusted R-squared	0.030	0.299
N	1627	1627

Note: ***p< 0.01, **p< 0.05. *p< 0.1

Appendix 1: Items in Factor Scales

Child	
Academic Self-Concept (2000)	How do you rate your Chinese ability compared to your peers?
	How do you rate your mathematics ability compared to your peers?
	Are you a good student?
	Are you good at being a student leader?
	Do you generally finish your homework?
	Do you study hard on Chinese?
	Do you study hard on mathematics?
Academic Self-Concept (2004)	How do you rate your Chinese ability compared to your peers?
	How do you rate your mathematics ability compared to your peers?
	Do you generally finish your homework?
	Do you study hard on Chinese?
	Do you study hard on mathematics?
Feelings of Disengagement (2000)	I don't want to go to school most of the time
	I feel bored at school
	I feel lonely at school
	Success in mathematics depends on inborn ability
	Success in Chinese depends on inborn ability
	Success in mathematics depends on luck
	Success in Chinese depends on luck
	Success in math depends on the teacher
	Success in Chinese depends on the teacher
Feelings of Disengagement (2004)	I don't want to go to school most of the time
	I feel bored at school
	I feel lonely at school
Teacher	
Good Student (2000)	How is this child's capability of learning?
	How is this child's Chinese compared with her/his classmates?
	How is this child's mathematics compared with her/his classmates?
	Did this child work hard last semester?
	Does this child generally finish her/his homework?
	Is the child active in class?
	Is the child passive in class?
	Is the child attentive in class?
Good Student (2004)	How is this child's capability of learning?

	How is this child's Chinese compared with her/his classmates?
	How is this child's mathematics compared with her/his classmates?
	Is this child very smart?
	Is this child very active in thinking?
	Did this child work hard last semester?
	Does this child generally finish her/his homework?
	Is the child active in class?
	Is the child attentive in class?
Experiencing Problems(2000)	This child likes to cry
	This chid has problem following rules and regulations
	This child has problem communicating with others
	This child lacks confidence
	This child often misbehaves in class
	This child seems unhappy, sad, or depressed
	This child needs attention.
Experiencing Problems(2004)	This chid has problem following rules and regulations
	This child has problem communicating with others
	This child lacks confidence
	This child often misbehaves in class
	This child seems unhappy, sad, or depressed
	This child often does not concentrate in class

Appendix 1: Items in Factor Scales

Child	
Academic Self-Concept (2000)	How do you rate your Chinese ability compared to your peers?
	How do you rate your mathematics ability compared to your peers?
	Are you a good student?
	Are you good at being a student leader?
	Do you generally finish your homework?
	Do you study hard on Chinese?
	Do you study hard on mathematics?
Academic Self-Concept (2004)	How do you rate your Chinese ability compared to your peers?
	How do you rate your mathematics ability compared to your peers?
	Do you generally finish your homework?
	Do you study hard on Chinese?
	Do you study hard on mathematics?
Feelings of Disengagement (2000)	I don't want to go to school most of the time
	I feel bored at school
	I feel lonely at school
	Success in mathematics depends on inborn ability
	Success in Chinese depends on inborn ability
	Success in mathematics depends on luck
	Success in Chinese depends on luck
	Success in mathematics depends on the teacher
	Success in Chinese depends on the teacher
Feelings of Disengagement (2004)	I don't want to go to school most of the time
	I feel bored at school
	I feel lonely at school
Teacher	
Good Student (2000)	How is this child's capability of learning?
	How is this child's Chinese compared with her/his classmates?
	How is this child's mathematics compared with her/his classmates?
	Did this child work hard last semester?
	Does this child generally finish her/his homework?
	Is the child active in class?
	Is the child passive in class?
	Is the child attentive in class?
Good Student (2004)	How is this child's capability of learning?
	How is this child's Chinese compared with her/his classmates?
	w is this child's mathematics compared with her/his classmates?

	Is this child very smart?
	Is this child very active in thinking?
	Did this child work hard last semester?
	Does this child generally finish her/his homework?
	Is the child active in class?
	Is the child attentive in class?
Experiencing Problems(2000)	This child likes to cry
	This child has problem following rules and regulations
	This child has problem communicating with others
	This child lacks confidence
	This child often misbehaves in class
	This child seems unhappy, sad, or depressed
	This child needs attention.
Experiencing Problems(2004)	This child has problem following rules and regulations
	This child has problem communicating with others
	This child lacks confidence
	This child often misbehaves in class
	This child seems unhappy, sad, or depressed
	This child often does not concentrate in class