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Daughters in Rural China**

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Abstract

We investigate maternal attitudes about gender equity and their relationship to educational expectations for sons and daughters in rural China using a survey of 2000 mothers and children in Gansu Province. Our findings suggest that most mothers hold egalitarian attitudes in terms of gender equity, but most expect future support from sons. Mothers' own attitudes about gender equity, their expectations of future support, and their children's past educational achievements predict their educational aspirations for their children. Interestingly, gender biases in aspirations appear more pronounced among mothers of mediocre students – mothers seem to be more forgiving of the mediocre academic performance of sons relative to daughters.

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Introduction

Despite rapid economic growth and poverty reduction in recent years, many parts of rural China remain plagued by problems of poverty. Children in these areas face considerable barriers to education, and many scholars have argued that the confluence of poverty with traditions of dependence on sons for old-age support and rising educational costs gives parents strong incentives to aspire to higher educational attainments for sons than for daughters. This paper investigates the question of son preference in mother's educational aspirations for children. Using data from the Gansu Survey of Children and Families (hereafter GSCF), a survey of rural 9-12 year old children, their families and schools in a poor western province, we examine the complex interaction between 1) mother's attitudes towards gender equity as an abstract concept, 2) children's actual educational performance and promise, and 3) mother's educational aspirations for children.

Our paper proceeds as follows. First, we place our study in the context of earlier work about educational aspirations and about gender and education. We then provide an overview of our data source. Next, we proceed with analyses. We present descriptive tabulations of mothers' beliefs about abstract concepts related to gender equity and specific expectations about returns on girls' or boys' schooling. Finally, we estimate multivariate models that examine how mothers' attitudes, together with children's academic promise, relate to the educational aspirations of mothers for their children net of other background factors.

Our findings suggest that most mothers hold egalitarian attitudes in terms of gender equity, but most expect future support from sons. Mothers' own attitudes about gender equity, their expectations of future support, and their children's past educational

achievements predict their educational aspirations for their children. Interestingly, gender biases in aspirations appear more pronounced among mothers of mediocre students – mothers seem to be more forgiving of the mediocre academic performance of sons relative to daughters.

Previous Research

Many early studies of educational expectations are rooted in the status attainment literature and focus on the effect of social classes on expectations of both the parents and the students (Sewell, Haller and Portes 1969; Sewell and Shah 1968a, b). In the status attainment framework, families are an important social institution through which social stratification occurs. Socioeconomic status of the family translates into different levels of support from significant others to children. Parents are key actors in this process of socialization. They have strong influences on children's schooling, and key mechanism through which their socioeconomic status is transmitted is educational aspirations. Parents act as role models, and by providing economic, social, cultural and intellectual resources to children, their children might expect to attain comparable socioeconomic positions as adults (Kao 1998).¹

¹ While status attainment theory emphasizes the role of parental aspirations in motivating youth, others have argued that aspirations are simply a rational assessment of the costs and benefits of future actions. People in different social strata tend to have different expectations of their chances of educational success as the aspirations are evaluated according to costs and opportunity structures (Alexander and Cook, 1979). Alexander and Cook (1979) argue that reports of educational plans simply reflect the likely educational attainment of youth. People in different social strata tend to have different expectations of their chances of educational success as the aspirations are evaluated according to costs and opportunity structures. However, in a more recently study using the National Education Longitudinal Study of 1988, Kao and Tienda (1998) found that youth had much higher educational aspirations than would be expected given the educational attainments of recent cohorts of U.S. youth. This result suggests that aspirations are something more than a simple report of likely outcomes. While aspirations may be overly optimistic and should not be viewed as a proxy for

While few studies of aspirations have been conducted in developing countries, existing research suggests the influence of institutional and cultural contexts in shaping parents and students' educational expectations (Buchmann, 2003). It is important to note that in the context of many developing societies, institutional and cultural contexts may differently impact the cost-benefit analysis for sons' and daughters' schooling. For example, in traditional rural settings where girls are defined primarily as future mothers and wives, cultural norms, prevailing gender attitudes, and the division of labor within family may deter investments in girls' education. Similarly, traditions of of patrilocal marriage, in which parents coreside with married sons, may have the same effect by detracting from the long-term return on investments in girls to their natal families.

China Context

Chinese culture, as influenced by Confucian ideology, has long supported the lower status of women relative to men (Li, 2003). With the establishment of the socialist "New China" in 1949 came legal guarantees of the equality of women in all spheres of life. During the socialist period of China, especially during the Cultural Revolution, the Chinese government made efforts to raise women's social status by changing their economic roles from wives and mothers to members of the People's commune as men, when the collective economic weakened the importance of traditional family by providing certain old age support for the elderly. At the same time, the official discourse guiding gender relations emphasized the equality between women and men, signaled by the well-known slogan that "women hold up half of the sky"(Lin 1993; Wong 2000; Li 2003). Gender disparities in enrollment and attainment have dramatically declined in the years since the establishment of the PRC, though this process slowed during the early years of market transition before resuming in

educational attainment, they are correlated with more standard measures of educational outcomes, such as current educational achievement (Kao and Tienda, 1988; Tsai 2000).

recent years (Hannum and Xie 1994; Zhou, More and Tuma,1998; Tsui and Rich 2002). In many parts of China, especially in urban China, gender differences in educational attainment are now modest (Hannum and Liu 2003). This reality is reflected in aspirations. For example, in a study of one city in China, Tsui and Rich (2002) found no gender difference in parents' educational expectations for sons and daughters.

However, in poor rural areas, questions about gender equity remain a concern. Educational costs have risen in the wake of reform era education policy changes. Specifically, the decentralization of financing of education has shifted the burden of schooling from the government to local communities. This trend has increased the direct costs of schooling, which fall most heavily on poor families in poor communities. Girls may be at elevated risk of school leaving when costs rise and resources are constrained. Traditional practices of coresidence with the husband's family after marriage persist in rural settings. Thus, parents rely on sons for old age support. This leads to gendered calculations about the future returns from educating children and in weighing the direct and indirect cost of schooling (Hannum 2002). Yet, earlier research using the GSCF data suggests that most mothers express egalitarian attitudes towards abilities of boys and girls (Hannum and Kong 2002). Further, girls compare well to boys in elementary school engagement, family investment and their own achievement. Thus, there is a mixed picture of egalitarian attitude among most mothers and at the same time, persistence of traditions that may eventually detract from girls' schooling

Other research suggests that decisions about girls' schooling may be highly contingent on progress. Research suggests that girls have to show more promise in order to remain in school: academically weak girls are more likely to drop out in primary school, while most boys continue on to junior high schools (Brown and Park 2003; Zheng, Niu and Xing 2002).

Hypotheses

Previous studies on gender disparities in rural China have mostly focused on poverty and its consequences for the enrollment and attainment of girls and boys. This study complements earlier work by examining how and to what extent cultural values and norms could influence mothers' educational expectation for their sons and daughters.

We test three hypotheses. First, we investigate whether mothers' equitable attitudes about gender in the abstract can be linked to egalitarian expectations for their daughters and sons. Second, we test whether expectations of future support from sons and expectations about returns to education affect mother's educational expectations for daughters. Finally, we test that children's school performance could also be a factor that influences mothers' expectations, and consider whether academic promise may work differently for girls and boys. Testing these hypotheses illuminates the central concern of this paper: how cultural norms and values influence mothers' educational expectation for their sons and daughters within the constraint of their economic situation.

Data and Measures

Data

The GSCF data come from Gansu, one of China's poorest inland provinces with a large rural population. The GSCF employed multi-stage cluster sampling with random selection procedures at each stage, the GSCF drew a representative sample of 2000 rural children aged 9-12 from 100 villages in March 2000. At the last stage, children were sampled from all 9 to 12 year old children in the selected villages. There are also linkable secondary samples of target children's mothers and teachers, school administrators and village leaders, which provide rich information on social, material and cultural resource that are available for children at both home, school and community levels (for detailed description of the data, see Hannum and Park, 2002b).

Measurement

Our analyses focus primarily on data collected from mothers. The mothers completed questionnaires about their educational expectations and aspirations for children, their attitude toward gender, education, and their expectation for children in future, as well as their evaluation of children's well being and school performance, parenting practice at home, and their opinion about children's teachers and school. While early status attainment research focused primarily on educational and occupational status of fathers, it is primarily mothers who are childcare providers. Simpson (2003) found in the American setting, mothers have considerable influence in the educational experiences of students, and that mothers influence students' choice of academic major most readily through emotional and normative channels.

This is especially true in rural Gansu, where many of the fathers are full-time or part-time labor migrants and many spend at least some time away from the villages in which their wives and children live (Brown 2002). It is the mothers who remain at home, taking care of the family and working on the land. They are in many cases the real head of the household and have more decision power in the family, including children's education (Matthews and Nee 2000). They are the ones who play an important role in socializing the children into gender roles and have much influence on the children's schooling through their daily emotional support and normative discipline. Table 1 presents descriptions of our measures used in subsequent analyses.

[Table 1 about here.]

Mothers' Expectations

Our primary outcome measures are mother's educational expectations for their child. Mothers were asked about both aspirations and expectations: specifically, mothers were asked what the highest level of education she thinks her child can complete, and the highest level she wishes the child could complete. The mothers have very high educational

expectations for their children, and their aspirations are even higher. For example, about 27 percent of mothers expect their children to graduate from college, while 68 percent of mothers wish their children could obtain college education. For subsequent analyses, we use mother's expectations which, while still extremely optimistic, represent a more realistic report of mother's goals for their children.

Mother's Gender Attitudes

We consider mothers' beliefs regarding gender equality and capabilities of boys and girls in general. Then, we consider mother's attitudes toward old-age support. Since the beginning of economic reforms in the late 1970s, responsibility for taking care of the elderly shifted back from communities to households as the locale of economic support. This shift reinforced the value of male children as potential providers of old-age support for their parents (Summerfield, 1994). Parents may see their investment in sons' education as long-term insurance. Economic incentives that value sons over daughters may affect the educational decision-making of mothers, especially when financial resources are scarce (Greenhalgh 1994; Hannum, 2002, 2003; Li, 2003).

Finally, we look at whether mothers perceive different returns to schooling for their daughters and sons due to anticipated gender discrimination in the labor market. New opportunities for non-farm work which brings higher return to education favor men more than women. The concentration of women in agricultural work could influence mother's perception of different returns to educating their sons and daughters, which in turn influence their educational expectation for their children (Summerfield 1994, Michelson and Parish 2000). Here, we look at mother's reports about the importance of education in general and specific questions on how much they think higher level of education could influence their sons' or daughters' future income.

Children's School Performance

Children's academic achievements are measured by their math and language grades from the previous semester on a 100-point scale. In analyses, we used the average of the two grades and recoded them into five categories from A to F, which allows for a non-linear effect on mother's expectation. Previous studies on the relationship between family resources and children's educational attainment and performance find that mother's expectation is considered as a form of social capital that influence children's performance. We consider that children's performance may also be an important element in mother's decision about their children's education. Given that grades come from a time prior to mother's report of educational expectations, we suspect that mothers may respond to their children's past educational achievement as a sign of academic promise.

Family Background Measures

As measures of socio-economic status, we consider mother's years of schooling and family wealth. Regarding wealth, in settings where many people do not have access to cash income, family wealth is a more reliable measures of the socioeconomic status of the household than income. In addition, income from farming varies greatly from year to year. From the household questionnaire, we have detailed information about family property and assets, which include house, farming and other productive equipments, and household durable goods. Family wealth is calculated by a sum of the value of these possessions. For the analyses, we divide these values into quintiles, in order to capture the non-linearity of this measure and its effects on educational expectations.

Sibship Structure

Previous research finds that the sex structure and birth order of siblings have significant effects on the gender disparity in education in many different cultures and settings. Siblings are thought to compete for household resources, and in societies where that value

sons over daughters, the sex and sibship order may differentially dilute household resources (Hannum and Kong 2002). Yu and Su (2002) examine the influence of both sibling sex structure and birth order on educational attainment in Taiwan. By bringing into consideration of cultural meaning of birth order and hierarchical relations among siblings and gender in Chinese families, he concludes that a firstborn male child's entitlement to educational investments is unlikely to be affected by subsequent siblings, whereas a female firstborn child will be more susceptible to resource dilution by younger siblings, because she can easily be put into the maternal role. In this study, we look at both sex and birth order of children in the family and its possible impact on mother's expectation for the child.

Village Environment

We use two variables to measure community-level educational characteristics: the number of children in senior high school, and the number of college students in a village. Zheng, Niu and Xing (2002) found that living in a village where a higher proportion of youth attended school had a large impact on educational outcomes. It creates a cultural environment in the village that is more conducive to higher expectations, which should increase the average mother's educational expectation for her own child. The authors also infer that this could partly reflect school quality and condition.

Analysis

Descriptive Results

Table 2 presents descriptive tabulations of family characteristics and children's school performance. On average, mothers in rural Gansu have very limited formal schooling: the average is only about 4 years. Mother's education is highly correlated with their educational expectations for their children: mothers who have more education themselves tend to have higher expectations for their children (our calculations, not shown). For example,

those mothers who expect their children to have only primary school education themselves had only about 2 years of schooling. In contrast, seventy-one percent of the mothers who hold college expectation for their children had at least graduated from junior high school themselves. There are no significant gender differences in the wealth of families.

[Table 2 about here.]

The sibship sex structure and birth order show significant differences between boys and girls. On average, boys have significantly fewer siblings than girls, with 2.2 for boys and 2.4 for girls on average. More children in the family certainly intensify the competition for limited resources. Boys are more likely than girls to have elder sisters. There are on average 0.50 elder sisters for boys as compared to 0.31 for girls; while girls are more likely to have younger brothers, with average 0.27 younger brothers for boys compared to 0.50 for girls. These patterns suggest that parents often have more children if their lower-order children are girls in order to have at least one son. This difference reflects the son preference in childbearing that is prevalent in rural Gansu. As Hannum and Kong (2002, p.19) point out, the sex ratio at birth in Gansu is 124.17 in 1997, which dramatically increased from 110.38 for the 1990 census.

Girls enjoy higher grades in both math and language. Girls' language grades are 2.6 points higher than boys, and the average grade is 1.59 points higher than boys. If mothers form their educational expectation based on rational evaluation of promises of success showed by the children, higher academic achievement of girls should raise mothers' educational expectation for them.

We also examine the how village-level norms regarding education might affect individual educational expectations. Specifically, we examine the number of children in senior high school and the number of college students in the village as an indicator of community level orientation towards higher education.

Mother's Attitudes

Table 3 presents mother's expectations and attitudes towards the utility of education for boys and girls by gender. There is a significant gender difference in mothers' educational expectations. Their expectations for boys are higher than for girls. About 25 percent of the girls' mothers expect their daughters to obtain a college education, while about 29 percent of the boys' mothers hold similar expectations. Approximately 37 percent of the mothers expect their daughters to graduate from senior high school, compared to 46 percent of boys' mothers. Thirty-two percent of the girls' mothers will be satisfied if their daughters can graduate from junior high school, while only 22 percent of boys' mothers express the same expectation.

[Table 3 about here.]

To consider the factors that cause this striking gender difference in mothers' educational expectations, we first look at mothers' attitudes on gender equality in general. Most mothers agree with the egalitarian statements on ability of women in society and capability of girls in school. Only about 10 percent of the mothers who said that they did not agree or have no opinion on the statement that women could have same achievements as men, and that girls can do as well as boys. These results suggest that at least in principle, rural Chinese women hold egalitarian ideals about gender and education. However, about 10 percent of mothers do not believe that girls should enjoy the same educational opportunities as boys.

The main gender difference in mothers' attitudes towards sons and daughters in their expectation of who will be most likely to provide for them during old-age. Ninety-three percent of mothers of sons in the GSCF say they will rely on their sons, while 67 percent of mothers of daughters say that they can rely primarily on sons. Here, the message is quite clear: most mothers expect sons to provide financial support in old age. Thus, while mothers in general profess extremely egalitarian beliefs about gender equity, most mothers, and especially those with sons, expect to rely on sons for financial support in their old-age.²

How might these attitudes affect educational expectations for sons versus daughters? While mothers profess gender equity, they also expect to rely on sons rather than daughters. These attitudes are clearly linked to mother's own expectations for their children, as seen in Figure 1. Among mothers who said that they have no opinion regarding gender equity in educational opportunities, only 11 percent of them have high expectations for their daughters to have college education. However, among mothers who agree with the statement, 27 percent expect their daughters to go to college. Mothers who agreed with this statement exhibit no gender difference in their expectations for their children. In the group that does not actively agree with the statement, there is a clear gender gap in mothers' expectation. (Less than 2 percent of all mothers actively disagreed with the statement.)

[Figure 1 about here.]

The same result can be found when we link mothers' reaction to the statement that given the same opportunities women can achieve as much as men can. Among mothers who agree with the statement, there is no gender difference in their college expectation for their

² In auxiliary analyses, we examine mothers' views on this statement by their family wealth, we see that it is clearly connected with family economic situations. 53 percent of girls' mothers who agree with the statement are from the poorest families (the bottom two quintiles of family wealth), while only about 12 percent of those who agree with this statement are from the top quintile in family wealth. Patrilineal marriage structure influences mothers' educational expectations for their daughters most among the poor.

children. Among mothers who do not actively agree, the gender gap is as much as 16 percent. 28 percent of boys' mothers in this group expect their sons go to college, while only 12 percent of girls' mothers have the same expectation. Mothers' egalitarian gender attitude benefits both sons and daughters, with daughters benefit more. This support our first hypothesis that mothers attitude on gender in general influence their educational expectations for children. The egalitarian attitude leads to equal expectations for their daughters and sons.

Figure 2 examines mother's expectations for college attendance by their responses to whether they should rely on sons for old-age support. This figure shows that mothers who think they should rely on their sons for old age support have comparatively lower expectations for both their sons and daughters – these ideals may also be related to lower educational status of mothers. It is among these mothers where we find the most gender difference in mothers' educational expectations. Twenty-six percent of the boys' mothers who expect to rely on their sons in old-age expect their children to go to college; this is somewhat lower than then 33 percent of mothers who have no opinion and the 31 percent of mothers who disagree who profess comparable expectations. These opinions have an even greater effect on the expectations mothers have for their daughters – 32 percent of mothers with no opinion, 29 percent of mothers who disagree, and 21 percent of mothers who agree have college expectations for their daughters.

[Figure 2 about here.]

Figure 3 displays mothers' college expectations for their sons and daughters by their response to the question “there is no use to educate daughters since they will marry out.” Although a majority of mothers express disagreement with this rather extreme statement, there are still about one out of five mothers who agree with it. It is among this group that we see a striking gender difference. Girlsmothers who think that educating daughters is a waste of household resources since they are going to marry and leave home have much lower

educational expectation for their daughters. Only 16 percent of those who agree with the statement expect their daughters to go to college, compared to about 27 percent of mothers who do not agree or have no opinion. This is the only group that exhibits a gender gap in their educational expectations for their children.

[Figure 3 about here]

Figure 4 examines the relationship between mothers' educational expectations and their expectation for future economic. T-tests show that for boys, their mothers' educational expectations are not associated with how much financial aid they expect from them in future; while for girls, the association is highly significant. Figure 4 illustrates that about 33 percent of mothers who expect a lot of financial support from children in future have college education expectation for both their sons and daughters. Among mothers who expect little aid from children, their educational expectation for their children drops. For boys, their mothers college expectation drop to 28 percent, while for girls only 21 percent of mothers still have college education expectation for their daughters. It shows that mothers' educational expectations for their children are directly connected with their expectation for children's financial support in their old age, and it influence girls more than boys.

[Figure 4 about here]

Figure 5 examines mothers' expectations for sons and daughters with their beliefs about the relative importance of education for sons versus daughters. Among mothers who think education will have similar impact on the future of boys and girls, there is no gender difference in their educational expectations for sons versus daughters. But among mothers who agree that education may not bring same labor market outcome for boys and girls, there is about an 8 percent difference.

[Figure 5 about here]

Figure 6 shows mothers' college expectation for boys and girls in different wealth quintiles. In almost every quintile of family wealth, mothers have higher educational expectations for their sons than for their daughters; except those families who are in the middle of economic continuum. It is interesting to see that among the poorest mothers, their educational expectations for their children are higher than those in the middle quintiles of wealth. This may be a desperate optimism for poor mothers; it can also reflect a lack of information about higher education. Among the top four quintiles of family wealth, mothers' educational expectations for their sons increase. About 27 percent of boys' mothers in the 3rd quintile of family wealth expect their sons to have college education, it rises to 29 percent for mothers in the 4th quintile, and the percentage goes up to 34 percent for mothers in the most better off families. In the same economic situations, mothers' expectations for their daughters do not change much, with 28, 27 and 29 percent respectively. It shows that boys benefit much from better economic situation at home, while it does not change much of mothers' educational expectations for their daughters.

[Figure 6 about here]

Figure 7 links mother's educational expectations with children's school achievements. Mothers' college expectations are closely tied to children's school achievement. However, in all achievement groups, there is a gender difference that favor boys. Most strikingly, when boys school achievement goes up from C to B, mothers' college education expectation for their sons goes up 11 points, from 29 percent to 40 percent; while for girls, this change is only 4 points, from 26 percent to 30 percent. Also, mothers whose children earned a "B" average exhibit the largest gender gap in their educational expectations. For boys if their school achievement is good, their mothers hold very high educational expectations for them, while for girls they have to be at the very top of school achievement to have their mothers hold the same educational expectation. All together, there are only 6 percent of boys and girls

are in this achievement group. Among the middle three achievement groups, which makes up 81 percent of all children in the sample, there is significant gender difference in mothers' educational expectations for every group.

[Figure 7 about here]

Our findings suggest that while mothers are fairly egalitarian and rational, they exhibit slightly higher expectations for boys. Mothers whose attitudes are least egalitarian have the lowest educational expectations for boys and girls, but exhibit the largest gender gap.

Multivariate Analyses

To disentangle the relationship between mother's educational background, household resources, mothers' attitudes toward education and their actual expectations for their children, we use ordered logistic regression to examine how these factors influence mothers' educational expectations. The dependent variable is mothers' expectations as measured by four categories – graduation from primary school, junior high school, high school, and college. We first estimate models for the pooled sample and then estimate separate models for boys and girls. We finally test the effect of family socioeconomic situation, sibship structure, mothers' attitudes, and children's school performance in multivariate models. Table 4 presents the results of ordered logistic regression on mothers' educational expectations for their children.

[Table 4 about here]

Column 1 of the table is the baseline model, with only child's gender. There is a highly significant gender effect on mother's educational expectations. In Model 2, we take into consideration mothers' education and family wealth. Model 3 adds sibship structure. The next three models add mothers' attitudes toward gender equality in general, mothers' attitudes toward old age support, and then their view on future return to their children's education. In the full model, Model 8, we add village environment measurements. Finally,

we analyze the full model for boys and girls separately. All models include controls for children's age.

First, we look at the models that include both boys and girls. Mothers' education has a highly significant positive effect on their expectation for their children. However, when we add in the control for village environment in full, it is no longer significant at the .05 level. In villages where there is a larger number of children in senior high school or above, even mothers with little education themselves will carry same expectation as those mothers who have more schooling.

Wealth is positively related to expectations. Compared with the poorest families, being in the third quintile increase the odds of having higher lever of expectation by 30 percent, in the fourth quintile, by 62 percent, and if the family is in the top quintile, the odds of mother having a higher level of expectation increases by 71 percent compared with the bottom quintile. On the top two quintiles remain significant across all models, though the magnitude of the effect decreases.

The effect of number of children in the family is in consistent with the hypothesis that more children in the family will dilute the resources. Here, we see that both birth order and the sex of children matters. Have an elder brother and an elder sister decrease the odds for mother to have higher expectation. This effect remains constant across all models.

However, what we did not expect is the different effect of having younger brothers and sisters. The negative effect of having a younger brother on mothers' expectation disappears once we start to control for mothers' attitudes. In contrast, the negative effect of having a younger sister remains highly significant across all models. Mothers' egalitarian gender attitudes are also positively linked to mothers' expectations. Mothers with more egalitarian attitudes about girls' right to an education and women's abilities increase their odds of having higher expectations for their children by about 50 percent. This finding

persists after controlling for other factors. Mothers who hold the traditional beliefs that they should rely on sons for old age support have significantly lower expectations.

It is interesting to note that the attitude, it is useless to educate daughters since they will marry out, has no significant effect on expectations, controlling for other factors. However, mothers' expectations for future economic aid from children is highly significant. As parents expect more economic aid from children in future, the odds of having higher expectations increases by about 34 percent compared with those mothers who expect less, which remains about the same across all models. The only measurement of mothers' attitudes on returns to education that has significant effect on expectation is their view on how much senior high school education could influence their daughters' income compared with junior high. As mothers anticipate more influence, their odds of having higher educational expectations go up by 38 percent.

As we have seen in the descriptive analysis, mother's educational expectations for their children are highly associated with children's school achievement. Here, we see a very strong positive effect of children's grades on mothers' expectation. As children's grades improve, the odds for mothers to have higher expectation go up about 50 percent for each higher grade group. This effect increases a little more when we take into consideration the village environment in the last full model. The numbers of students in the village who have entered college have a strong positive effect on mothers' expectation.

Finally, by comparing the model for boys and girls separately, we see many of the factors we discussed above function differently for boys and girls. Mothers' education has no significant effect for girls. Wealth is no longer significant in both models. The surprising results is the influence of siblings. For boys, only younger sister have negative effect that is significant at .05 level. Having a younger sister in the family will decrease mothers' odds of having higher level expectation for their sons by about 30 percent. For girls, it seems that

daughters compete for family resource among girls, for only having elder or younger sisters have significant negative effect. That having brothers does not influence mothers' expectation for their daughters contradicts our expectation that girls would be especially disadvantaged in families with boys.

Also interesting is that mothers' egalitarian gender attitude about women's abilities can increase the odds of higher expectation for girls by 90 percent, controlling for all the other factors; while it has no effect for boys. The only measurement of mothers' attitude on old age support that has significant effect is the amount of economic aid mothers expect from their children in future. Actually, for boys it is no longer significant at .05 level. But for girls, when mothers expect more aid, it significantly increases the odds of higher expectation by 45 percent. Mothers expect their sons to have high education anyway, but for girls, mothers have to take into account the future return from daughters in forming their expectations. The same holds for mothers' consideration of the importance of senior high education for their daughters, compared with junior high schooling. As mothers anticipate more returns from senior high school education, the odds for them to have higher expectations go up by 50 percent.

In the full model for the whole sample, we saw very strong positive effects of children's grades on mothers' expectation. However, when we look at boys and girls separately, we find that better school achievement benefited boys more than girls in each grade level, except among A students. Comparing B group with C students, boys enjoy a 120 percent increase in the odds of higher expectation for mothers, while for girls, this increase is only 40 percent. It is only when the girls make it into the A group that their mothers' expectation will go up dramatically. This is consistent with our descriptive findings. Norms may also matter more for girls: when there are more college students in the village, it has more influence on girls' mothers.

For boys, factors that influence mothers' expectation are mothers' education, number of younger sisters in the family, mothers' egalitarian attitude on daughters right to schooling, their higher anticipation of return to schooling for daughters, children's own school achievements, and village environment.

For girls, mothers' education no longer matters. Also, girls have to compete with elder or younger sisters for better education opportunity, but not younger brothers. They benefit much from mothers who believe that women are as capable as men, as well as from mothers who expect more economic aid from them and believe that higher education matters for their daughters' future. Better school achievement certainly works in their favor, but they have to be in the top group to really benefit from it. The number of college students in village certainly helps mothers to form higher expectations for their daughter. We find these factors are important in understanding mothers' expectation for their daughters and sons. However, they still cannot explain away the gender effect on mothers' expectation.

Conclusion

This paper has gone beyond standard investigations of gender inequality in education in China, which typically investigate the impact of socio-economic resources on enrollment or attainment outcomes, to investigated links between cultural values and mothers' educational expectations for children. Results show that mothers' attitudes about gender equality in general, their ideas about old age support, and their anticipation of future return to children's schooling all relate to their educational expectations for their children. Further, mothers are rational in expecting children with higher educational performance to go further in school. Finally, mothers exhibit more favoritism towards sons versus daughters when we examine average but not exceptional students.

These results suggest a number of useful insights for further work. First, the consistency of mothers' gender attitudes and their expectations for their children suggests these attitudes can indeed play an important role in any observed gender gaps in eventual educational attainment, and are worthy of further understanding. Second, the notion that gender and poverty work together to condition children's status attainment opportunities is relatively well-established, but the idea that school performance also plays into the equation is relatively new. Our results suggest that understanding the interplay of gender, performance and poverty is an important new direction for research on gender and education in rural China and in certain other developing societies. Finally, certain of the sibship structure results in these analyses run counter to common wisdom about competition for resources, and will be probed further in subsequent analyses.

Subsequent analyses for this paper will also undertake the following tasks: We will attempt to more carefully acknowledge potential endogeneity problems between mothers' aspirations and school performance. We will work to include more contextual variables at the village level, or to employ village fixed effects models. We will more carefully consider whether and how attitude variables explain socio-economic disparities in aspirations, and we will consider combining or streamlining the number of attitude variables considered in multivariate analysis.

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Table 1. Definitions of Measures Used in the Analysis

Mother's expectation	<p>“What is the highest level of education you think your child can achieve?” 4 categories:</p> <p style="padding-left: 40px;">Graduate from primary school</p> <p style="padding-left: 40px;">Graduate from junior high school</p> <p style="padding-left: 40px;">Graduate from senior high school</p> <p style="padding-left: 40px;">Graduate from college or above</p>
Mother's education	Years of formal schooling
Family wealth	Sum of the monetary value of family's house, farming and other productive equipments, and household durable goods
Sibling structure	Number of siblings ever had, including non-resident sibs
Mother's gender attitudes	<p>Three items: (Agree, Disagree, No Opinion)</p> <p style="padding-left: 40px;">“Girls can do as well as boys if they study hard.”</p> <p style="padding-left: 40px;">“Women can achieve as much as men can.”</p> <p style="padding-left: 40px;">“Daughters should enjoy the same education opportunities as sons.”</p>
Mother's attitude on old-age support	<p>Three items:</p> <p style="padding-left: 40px;">“Parents should rely on sons for old age support.”</p> <p style="padding-left: 40px;">“There is no use educating daughters since they will marry out.”</p> <p style="padding-left: 40px;">“How much financial aid you expect from your children?”</p>
Mother's attitude on return to education	<p>Four items:</p> <p style="padding-left: 40px;">“A good education is important for a happy life.”</p> <p style="padding-left: 40px;">“Education influence boys' future more than girls.”</p> <p style="padding-left: 40px;">“How much senior high school education will influence son's future income compared with junior high school?”</p> <p style="padding-left: 40px;">“How much senior high school education will influence girls' future income compared with junior high?”</p>
Child academic achievement	<p>Average Math and Chinese grades from the previous year (0-100). In the analysis, we recode these to a 5-category scale.</p> <p style="padding-left: 40px;">A 100-90</p> <p style="padding-left: 40px;">B 89-80</p> <p style="padding-left: 40px;">C 79-70</p> <p style="padding-left: 40px;">D 69-60</p> <p style="padding-left: 40px;">F below 60</p>

Table 2. Descriptive of Family Background Characteristics, Children's Achievement, and Village Characteristics: Means and Standard Deviations (in parentheses)

	Male	Female
<u>Family Socioeconomic Status</u>		
Mother's Education (in years)**	4.30 (3.50)	3.97 (3.50)
Family Wealth (in RMB yuan)	15156 (17105)	14184 (16623)
<u>Sibling Structure</u>		
Number of children***	2.20 (0.67)	2.44 (0.76)
Number of Elder Brothers***	0.26 (0.46)	0.34 (0.53)
Number of Younger Brothers***	0.27 (0.50)	0.50 (0.44)
Number of Elder Sisters***	0.50 (0.74)	0.31 (0.59)
Number of Younger Sisters***	0.21 (0.43)	0.29 (0.55)
<u>Child's Academic Achievement</u>		
Math	73.69 (14.91)	74.29 (14.22)
Language***	71.32 (13.63)	73.90 (12.51)
Average	72.50 (13.63)	74.10 (12.70)
<u>Village Characteristics</u>		
Number of junior high students in village	42.90 (70.10)	41.60 (69.40)
Number of senior high students in village	20.00 (25.15)	19.30 (25.75)
N	980	907

T-tests of gender differences in means: *p<0.10 ** p <0.05 *** p<0.01

Table 3 **Descriptive Tabulations of Mothers' Attitudes**

	<u>Males</u>	<u>Females</u>
	(%)	(%)
<u>Educational Expectation</u>		
Mother's expectation		
Graduate from elementary school	3.3	6
Graduate from junior high	21.9	31.5
Graduate from senior high	46.1	37.4
Graduate from college and above	28.8	25.2
<u>Attitudes Toward Ability</u>		
Girls can do as well as boys at school		
Disagree	1.1	0.4
No opinion	8.9	9.0
Agree	90.0	90.5
Women can achieve as much as men do		
Disagree	1.9	2.9
No opinion	8.4	8.8
Agree	89.7	88.3
Daughters should enjoy same educ opportunity		
Disagree	2.0	1.6
No opinion	7.4	7.4
Agree	90.5	91.0
<u>Attitudes Toward Old-Age Support</u>		
Parents should rely on son for old age support		
Disagree	22.2	23.8
No opinion	18.9	21.0
Agree	58.9	55.2
No use to educ daughters since they will marry out		
Disagree	70.0	66.5
No opinion	12.6	14.9
Agree	17.4	18.6
Amount of financial aid expected from children		
Very little	13.7	17.4
Some	67.0	65.4
A lot	19.3	17.1
which child give most financial support in future		
son	93.3	67.2
which child give most emotional support in future		
son	66.1	29.6
<u>Attitude Toward Return to Education</u>		
Educ influence boys' future more than girls		
Yes	47.6	43.3
Influence of senior high educ for boys' future income		
No influence	12.20	12.10
Some influence	34.70	34.80
A great deal	53.10	53.00
Influence of senior high educ for girls' future income		
No influence	13.70	13.10
Some influence	38.70	38.80
A great deal	48.00	48.10
N	980	907

Table 4. Ordered logistic regression on mothers' educational expectations

	1	2	3	4	5	6	7	8	Male	Female
Female	-0.373*** 0.69	-0.354*** 0.70	-0.278*** 0.76	-0.293*** 0.74	-0.29*** 0.75	-0.306*** 0.736	-0.354*** 0.70	-0.353*** 0.70		
Mother's education		0.062*** 1.06	0.056*** 1.06	0.057*** 1.06	0.052*** 1.06	0.051*** 1.11	0.041*** 1.04	0.025* 1.03	0.044** 1.04	0.012 1.01
Wealth second quintile		0.117* 1.13	0.119 1.13	0.128 1.14	0.120 1.13	0.096 1.10	0.114 1.12	0.083 1.09	-0.045 0.96	0.278 1.32
Wealth third quintile		0.263*** 1.30	0.254* 1.29	0.234* 1.26	0.219* 1.25	0.181 1.20	0.165 1.18	0.158 1.17	0.064 1.07	0.264 1.30
Wealth fourth quintile		0.480*** 1.62	0.457*** 1.58	0.467*** 1.60	0.440*** 1.56	0.415** 1.54	0.366** 1.42	0.349** 1.42	0.322 1.38	0.396* 1.49
Wealth fifth quintile		0.535*** 1.71	0.514*** 1.67	0.506*** 1.66	0.461*** 1.60	0.434** 1.54	0.374** 1.45	0.336** 1.40	0.305 1.36	0.349 1.42
Elder brother			-0.271** 0.76	-0.275** 0.76	-0.259** 0.77	-0.263** 0.77	-0.235** 0.79	-0.252** 0.77	-0.285* 0.75	-0.179 0.84
Elder sister			-0.162** 0.85	-0.171** 0.84	-0.168** 0.85	-0.174** 0.84	-0.171** 0.84	-0.196** 0.82	-0.125 0.88	-0.325** 0.72
Younger brother			-0.229** 0.79	-0.204* 0.82	-0.173 0.84	-0.160 0.85	-0.138 0.87	-0.155 0.86	-0.363* 0.72	0.027 1.03
Younger sister			-0.346*** 0.71	-0.360*** 0.70	-0.349*** 0.70	-0.360*** 0.69	-0.378*** 0.68	-0.416*** 0.66	-0.319** 0.69	-0.467*** 0.63
Girls can do as well as boys in school				0.012 1.01	0.024 1.02	-0.015 1.01	0.011 1.01	-0.006 1.01	0.030 1.03	0.0364 1.04
Daughters should enjoy same educ opportunity				0.390** 1.48	0.354** 1.43	0.344** 1.40	0.362*** 1.44	0.385** 1.47	0.376** 1.46	0.403* 1.45
Women can achieve same as men				0.410*** 1.50	0.401*** 1.49	0.375*** 1.46	0.375*** 1.46	0.438*** 1.55	0.194 1.22	0.623*** 1.90
Parents should rely on son for old age support					-0.147** 0.86	-0.134** 0.87	-0.134** 0.87	-0.117** 0.89	-0.090 0.91	-0.152* 0.86
No use educ daughters since they will marry out					-0.072 0.93	-0.056 0.94	-0.046 0.94	-0.054 0.95	0.043 1.04	-0.129 0.88
How much financial aid expect from kids					0.296*** 1.34	0.299*** 1.35	0.290*** 1.34	0.287*** 1.33	0.189* 1.27	0.374** 1.45
Educ influence boys' future more than girls'						0.136 1.15	0.123 1.13	0.103 1.11	-0.067 0.93	0.290** 1.33
Senior high influence boys' future income						0.126 1.13	0.138 1.15	0.123 1.13	0.088 1.09	0.19 1.21
Senior high influence girls' future income						0.321** 1.38	0.317** 1.37	0.276** 1.32	0.130** 1.14	0.409** 0.66
Grade D (60-70)							0.267* 1.31	0.286** 1.33	0.445** 1.56	0.149 1.16
Grade C (71-80)							0.593*** 1.81	0.601*** 1.84	0.696*** 2.00	0.506** 1.66
Grade B (81-90)							0.896*** 2.45	0.900*** 2.46	1.168*** 3.22	0.677** 1.97
Grade A (91-100)							1.032*** 2.80	1.08*** 2.95	1.061*** 2.89	1.30*** 3.10
Number of students in senior high in village								0.005** 1.01	0.007** 1.00	0.004 1.00
Number of students entered college in village								0.110*** 1.12	0.083** 1.09	0.155*** 1.17
Max-rescaled R-square (Estimates and odds ratio)	0.01	0.04	0.05	0.07	0.08	0.09	0.12	0.14	0.12	0.17

* p<0.1 ** p<0.05 *** p<0.001

Figure 1. Mother's college expectation by their answer to "girls should have same educ opportunity as boys"

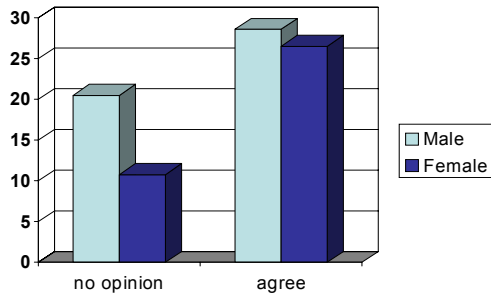


Figure 2. Mother's expectation for children to go to college by their answers to "should rely on son for old age support"

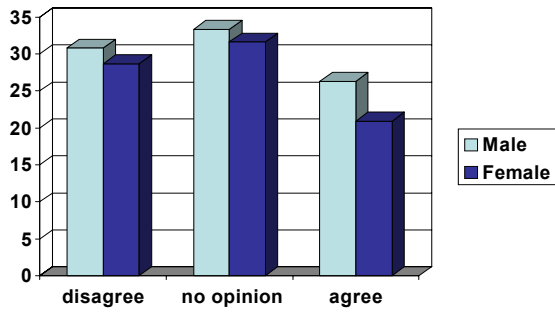


Figure 3. Mother's expectation for children to go to college by their answers to "no use to educate daughters since they will marry out"

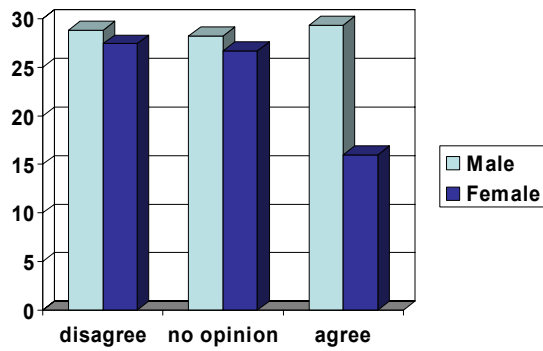


Figure 4. Mother's expectation for children to go to college by their answers to "how much financial aid expected from children"

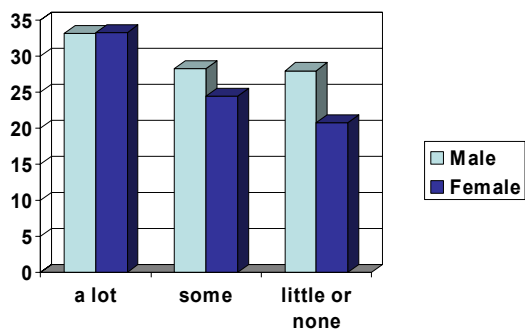


Figure 5. mother's college expectation and if agree educ influence sons' more than daughters' future

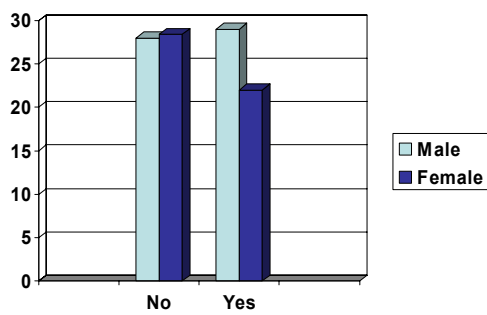


Figure 6. Mother's expectation for children to graduate from college and family wealth

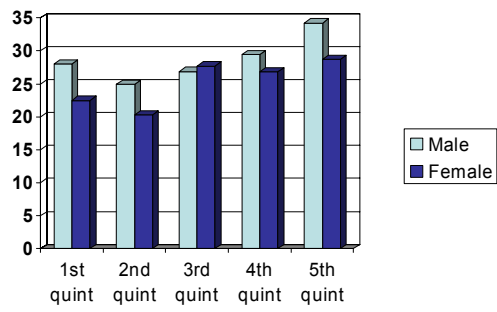


Figure 7. Mother's expectation for children to graduate from college and children's grade

