Educational Expectations of Left-behind Children in China: Determinants and Gender Differences

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Abstract

In response to the relatively low educational attainment of left-behind children in China, this article examines the determinants of educational expectations among left-behind children and how these differ by gender by analyzing data collected from 2215 left-behind children in southwestern China. Multinomial logistic regression models of educational expectations that incorporate family economic status, care arrangement under different parental migration patterns, and significant others are tested by gender and school level. The results prove that all of the above incorporated factors affect the educational expectations of left-behind children to a considerable extent. Comparisons of educational expectations are made between left-behind children in primary school and junior high school and between different genders. The results show that male advantages in educational expectations exist only during primary school, and female left-behind children surpass male children to have higher educational expectations during junior high school. This suggests a distinctive influence of care arrangements on educational expectations between genders. For female children, grandparental care and a higher frequency of parental contact during migration could be substituted for parental absence. However, for male children, grandparental care does not fully substitute for parental care, and parental migration seems to be more detrimental to them. The findings add to our understanding of the dynamic relationship among parental migration, gender inequality, and educational opportunity among left-behind children in general.

Keywords Gender differences · Left-behind children · Well-being · Educational expectations · China

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Introduction

Out-migration from rural to urban areas is seen as an important means of increasing income and reducing poverty in China. The arrangement of who migrates and who stays complies somewhat with a rational household livelihood strategy (Duan et al., 2013; Stark & Bloom, 1985). It has been observed that many rural families follow a migration sequence pattern of parents (either or both) first, with children being left behind in the village (Wu, 2016). It was estimated that the number of children left behind due to parental migration had reached more than 61 million, accounting for 22% of all Chinese children (Duan et al., 2013).

Migration and family structural changes, which are associated with rural child education, have attracted far-reaching academic attention. Rural-urban disparities are blamed for the educational disadvantage rural children experience (Lu et al., 2019). The educational resources and infrastructure in rural areas are largely poorer than those in urban areas. It was estimated that the net enrollment rate of entry into senior high school among left-behind children was only 23.1%, while it was 59.4% for urban children according to the sixth national census data (Duan et al., 2014). Although several policies have been promulgated in recent years to facilitate the migration of rural children with their parents so that they can receive education in cities, many rural children are still facing exclusion from the urban public education system if they cannot meet the specific requirements, such as duration of residence and period of social security contribution. Another option for them is to be enrolled in private, usually unlicensed, migrant schools. Thus, leaving children behind is still an unavoidable choice for many migrant parents.

Parental migration seems to have paradoxical impacts on the education of left-behind children. Parents are motivated to move to more developed regions to gain access to better earning opportunities that will allow them to provide their left-behind children with more financial support during their school years. However, the alteration of the family structure by migration may challenge children's well-being in many respects. A large body of literature has revealed that left-behind children are at greater risk of child victimization, accidental injury and a range of psychological problems (Chen, Sun, et al., 2020b). Without parental care, left-behind children frequently experience cognitive and behavioral problems (Lu et al., 2019; Xie et al., 2019). With the absence of parental guardianship, many left-behind children receive little academic support and supervision at home. The benefits arising from migration in a family seem to come at the sacrifice of child development.

Educational attainment has long been regarded as highly important for realizing upward social mobility. Investment in education could enhance competitiveness in the labor market and result in widespread economic development across the whole country. Concerningly, the inadequate education of rural children could result in the intergenerational transmission of poverty. It is estimated that only 23% of left-behind children have successfully entered senior high school, and an even smaller percentage receive education at the college level and above (Duan et al., 2014). A larger number of left-behind children, after finishing compulsory education, will ultimately enter the labor market at a young age, repeating the

migration path of their parents. Goodburn (2019) studied the connection between different experiences of schooling and labor-market entry among migrant children and disclosed that regardless of receiving education in origins or destinations and regardless of vocational school or academic high school, migrant youths mostly surveyed in Shenzhen engaged in the jobs which were lack of security and social protection. This is contrary to the parental expectation that children could achieve upward mobility through formal education.

While considerable research on the educational dilemmas of left-behind children in China has emerged in recent years (Chen, Qi, & Yang, 2020a; Gu & Yeung, 2020), there are several limitations among the existing studies. First, most research focuses on the schooling of left-behind children mainly during their nine years of compulsory education, and scant attention has been paid to their further education after junior high school. Even less attention has been given to how left-behind children perceive their future education and, from their own perspective, what underlying factors obstruct the pursuit of further education. Understanding these aspects could help policy making target the improvement in educational level among rural children so as to enhance their quality of life in the long run. It is widely known that education is particularly important for families experiencing economic disadvantages, and most parents expect their children to perform well so that they can have a bright future and escape from intergenerational poverty (Leung & Shek, 2019). Second, education for left-behind children involves multiple agents at different levels, including children, families, schools and communities. A large body of literature has revealed the importance of parental care and company for child development, but little research has incorporated multilevel factors in modeling its determinants, despite increasing recognition of the importance of community-level factors (Xie et al., 2019; Zhou, Guo, & Lu, 2020a). Furthermore, the patriarchal hierarchy still exists in many rural families, and son preferences probably lead to differences in resources and parental expectations for sons and daughters; thus, gender differences in educational expectations among left-behind children need to be further examined. Despite *Applied Research in Quality of Life* has recently published a special issue on quality of life among children and adolescents in Chinese societies (Leung & Fung, 2021), the papers in that special issue are mainly studies in Hong Kong and empirical studies on mainland China are inadequate.

This study attempts to fill part of the gap by examining how left-behind children perceive their future educational trajectories through the analysis of data collected in Yunnan Province in southwestern China. The analysis specifically addresses the determinants of left-behind children's self-evaluated educational expectations and whether gender differences affect their perceptions. The findings will be particularly useful for understanding the dynamic relationship among parental migration, gender inequality, and educational opportunity among left-behind children.

Literature Review

Educational Expectations and Theoretical Explanations

Students' educational expectations refer to their intended education level based on their rational and subjective evaluation of their abilities, past academic performance,

ambitions, family situation, etc. (Andres et al., 2007; Reynolds & Burge, 2008). By modifying Blau and Duncan's status attainment model, the Wisconsin status attainment model proposes that educational and occupational expectations mediate the effect of family social-economic status on educational and occupational attainment (Andres et al., 2007). This model continues to influence explanations of individual educational choice variations, and educational expectations are widely recognized as important correlates and predictors of future educational and occupational outcomes (Carolan, 2017; McClelland, 1990; Reynolds & Johnson, 2011; Wang & Benner, 2014). For instance, McClelland (1990) indicated that when controlling for social-economic background factors, high school students who aspire to higher education in the United States are more likely to achieve their academic goals.

A large number of studies have discussed the formation of educational expectations, and they can be divided into two streams of research. One stream considers that educational expectations are based on one's social background, and family plays a critical role in shaping children's educational expectations. Both parental expectations and family environment play roles in adolescents' formation of their own educational expectations at a very early age. Those from higher social-economic family backgrounds are more likely to pursue better educational credentials. This viewpoint regards the determinants of educational expectations as relatively stable and difficult to change. To some extent, this is realized in the reproduction of educational inequality across generations (Dumais, 2002).

The other stream of research contends that adolescents' educational expectations are adapted through self-reflection based on their academic performance and the influence of significant others. Haller and Woelfel (1972) divided significant others into two groups of people: elicitors, who were identified by individuals as models of a social role, and expectation elicitors, who were considered by individuals to influence their goal orientations. Significant others could include parents, peer groups, teachers and others who were identified as playing important roles in shaping children's behaviors, opinions and expectations. Unlike in the first stream, educational expectations can be changed and altered (Bozick et al., 2010). Interpersonal influence and self-reflection are the two basic mechanisms that shape educational expectations (Haller & Portes, 1973).

Cultural Determinants of Educational Expectations

It is noteworthy that educational expectations may be deeply rooted in culture, which exerts an imperceptible influence on people's thinking and decision-making. Under the influence of Confucianism and the history of Chinese imperial examinations, academic excellence has been an important ladder for upward social mobility for centuries (Shek & Siu, 2019). As such, a strong focus on academic excellence is common among Chinese people (Leung & Shek, 2019). Goyette and Xie (1999) also proposed that Asian parents generally had much higher academic expectations than Western parents, and they attributed this to cultural beliefs about the connection between effort, educational success, and parents' high educational expectations.

The impacts of some long-lasting gender stereotypes have been evident across various contexts and could be regarded as cultural determinants of educational expectations. Within families, child-rearing and parental expectations are very likely to differ between boys and girls. In many regions, the social roles of men as breadwinners and women as caregivers deeply affect people's construction of different goals and expectations for their sons' and daughters' development. The gender gap in educational and employment opportunities is significant. In Japan, female students tend to have lower educational and occupational aspirations than male students. A survey indicated that 75% of mothers with preschoolers expected boys to obtain a four-year college education, but only 53% had the same expectation for girls (Yamamoto, 2016). In a traditional Chinese family, sons are more preferred than daughters. In families with multiple children, the sons are more likely to face higher expectations. There is a Chinese saying, "*wang zi cheng long*", which translates to "wishing my son to be a dragon" (Leung & Shek, 2019, p. 848). Under the patriarchal tradition, sons are expected to inherit the familial reputation and legacy; therefore, sons are likely to obtain more resources and opportunities than daughters (Murphy et al., 2011).

It should be noted that the gender gap in educational expectations changes over time and across contexts (Reynolds & Burge, 2008). Since the 1980s, for instance, in many developed countries, female students have outnumbered male students at the university level. The underlying factors include people's changing attitudes towards gender stereotypes, the increased participation of women in the labor market and gender equity advocacy in various fields of society, which together create a more friendly environment for girls' higher educational expectations (Andres et al., 2007; Reynolds & Johnson, 2011). The changes reducing the gender gap in educational expectations may occur first in families with high social-economic backgrounds. As suggested by Dryler (1998), parents with higher social-economic status are more likely to encourage their daughters to cross gender boundaries and work in traditionally male-dominated academic and occupational fields.

How Are Educational Expectations of Left-behind Children Determined? Review and Hypotheses

Discussion of educational expectations is emerging but still a newly important topic in China, which sheds light on the exploration of educational expectations of left-behind children. Some studies have revealed that children from rural or undeveloped areas are more likely to hold lower educational expectations than those from urban or developed areas (Liang & Wu, 2016; Wei & Ma, 2017; Yang et al., 2016). Unequal educational opportunities among regions because of unbalanced economic development may be one of the reasons. Children in families with better economic status benefit from more resource input and have a larger probability of achieving academic success than other children. Since 2000, local governments have begun to enforce nine years of free compulsory education (including primary school of grade 1 to 6 and junior high school of grade 7 to 9), but after nine years of compulsory education, the family has to bear all educational costs in senior high school or

college and above level. Furthermore, better family background increases both the quantity and quality of parental involvement in children's education, which strengthens higher educational prospects (Liu et al., 2015). Thus, children's education is beneficial for family economic status. Thus, the following is proposed:

Hypothesis 1: The educational expectations of left-behind children are affected by family economic status. The higher the family economic status is, the more likely left-behind children are to intend to pursue further education after middle school.

Migration is an essential strategy to improve the economic situation of rural families, and remittance income has a strong and positive influence on household revenue. However, its impacts on children's development are mixed. Left-behind children without parents' supervision are at greater risk of child victimization and accidental injury (Chen, Sun, et al., 2020b), and they are also more likely to encounter cognitive and behavioral problems (Lu et al., 2019; Xie et al., 2019). Those risks and negative impacts may vary according to different parental migration types and particular stages of children's growth (Liang, 2016; Lu, 2012). Some research indicated that children who experience parental absence at a younger age may encounter more negative impacts, while children in middle school or above may gain more benefits from parental migration (Lu, 2012). The care arrangement may also play a role concerning on the negative impacts of separation from parents. Although being looked after by grandparents particularly in primary school stage does compromise children's educational attainment, being left behind with grandparents is still an important alternative for children's growth compared with being taken care of by other kinship or friendship (Liang & Sun, 2020). These provide hints that the children's guardians during migration and the contacts with their parents may affect educational expectations of left-behind children. Thus, the following is proposed:

Hypothesis 2a: The higher the frequency of contact between left-behind children and their migrant parents is, the more likely they are to have higher educational expectations.

Hypothesis 2b: Left-behind children (who have one or both parents emigrate) are more likely to have higher educational expectations if they receive care from grandparents.

In addition to the importance of parental involvement in child development, studies prove that significant others, including teachers and peer groups, also play roles in educational expectations. As children's cognitive ability is not only biologically inherited, but also affected by environment that one grew up in, such as family environment and school environment (Todd & Wolpin, 2003), Interaction with teachers and peer groups may affect and alter educational expectations. Exposure to positive role models in the school could motivate children to make greater progress in study. Teachers' encouragement could play positive roles in shaping students' attitudes towards learning and further education (Huang & Wu, 2016).

Similar to the influences of school environment, the community environment is deemed another underexplored factor. The rural community in China is regarded as an acquaintance society with complicated kinship, geographical and personal ties. These networks provide children left-behind with resources and support. Community is an important agent of socialization that shapes one's attitude towards education. If the community places high value on educational achievement, the residents living in the community may also consider pursuing higher education opportunities. Goeke-Morey et al. (2013) pointed out that youths' expectations about educational attainment were undermined by conflict in the family environment and antisocial behavior in the community. Therefore, the following is proposed:

Hypothesis 3a: The more encouragement and care left-behind children obtain from teachers, the more likely they are to have higher educational expectations.

Hypothesis 3b: The greater the emphasis the community places on education, the more likely left-behind children are to have higher educational expectations.

The gender gap in educational perceptions has yet to be determined. Traditionally, educational expectations were higher among males than females, as in traditional patriarchal Chinese families with more children, sons generally had higher value than daughters (Murphy et al., 2011). This tradition may still be sustained, as some research suggests that in rural villages where clan organizations and ancestral worship remain important, families persist in having at least one son in the postreform era (Murphy et al., 2011). The patriarchal tradition may result in more educational investment in sons than in daughters. Following this tradition, daughters may have lower educational expectations than sons.

Other studies, however, suggest that son preferences in education are undergoing changes in transitional China. For example, owing to the one-child policy maintained over four decades, more and more one-daughter families attach great importance to the education and other opportunities of girls (Ling, 2017). The social context, including the rising educational level of women, the increasing rate of female participation in the labor market, and the development of social policy providing institutional protection for the elderly in China, challenges the traditional opinion that women should focus on family housework. These changes might help improve girls' educational expectations. Migrant families have more chances to access urban lifestyles, and an increasing number of female migrant workers find job opportunities in cities, which also benefits gender equality in child rearing and education (Li et al., 2006). Ling (2017), who had conducted surveys in migrant households in Shanghai, suggested that parent-child relations in cities had shifted from the traditional focus on sons.

A national social survey indicated that Chinese parents commonly emphasize children's education, and most of them hope their children will have high educational achievement (Yang et al., 2016). However, there is a gender gap in expectations for achieving the highest education level. For example, both parents and male children expect to achieve the highest educational level. However, female children are expected to achieve a high educational level, but not the highest (Yang et al.,

2016). To some extent, expectations for boys' education are still somewhat higher than those for girls. Therefore, the following is proposed:

Hypothesis 4: Female left-behind children have lower educational expectations than male left-behind children.

Data and Methodology

Data Source

The data applied in this research were collected in 2018 through a project entitled 'A comprehensive survey on left-behind child development in poor China', which was supervised by East China University of Science and Technology (ECUST). The survey was conducted in a county of Yunnan Province, which is located in south-western China. This county was lifted out of poverty in 2018, with the poverty rate decreasing sharply from 26.3% to 0.25%. However, there was still a large rural-urban divide in economic development there. The disposable income per capita was RMB 34,646 (≈ 5075.6 US Dollars) for urban residents but only RMB 9000 (≈ 1318.5 US Dollars) for rural residents; therefore, this county still lags far behind the developed regions of China.

The survey adopted a stratified random sampling method. Eleven schools, including five primary schools and six junior high schools, scattered among four towns were involved in the questionnaire survey. The questionnaires were completed by all the left-behind children in the school from grade 4 to grade 9. Grades 4 to 6 belong to primary school, and grades 7 to 9 belong to junior high school. Left-behind children are defined as children whose parents (one or both) have worked in cities and who have to stay in their hometown to receive education. A particular classroom in the school was arranged for the survey, and respondents completed the questionnaires within 30 min with the help and supervision of the academic staff and one postgraduate from ECUST. The survey design and data collection were approved by ECUST, and ethical issues were properly evaluated before the project started. There were 2500 questionnaires distributed, and 2478 were collected. After data cleaning, 2215 valid questionnaires, accounting for 89.3% of those distributed, were included in the analysis.

Variables and Measurement

This article takes into account how family, school and community factors influence educational expectations and pays close attention to gender differences in the determinants of the educational expectations of left-behind children. The term "educational expectations" is defined as, after nine years of compulsory education, the expected educational attainment the children hope to achieve after careful consideration. As in the literature, educational expectations include both parental expectations regarding the educational level that their children achieve and children's own

expectations regarding educational attainment. In this article, we limit our analysis to the educational prospects perceived by left-behind children themselves. Dependent variables, explanatory variables and controlled variables were included in the analysis.

The dependent variable is educational expectations, which is a categorical variable. The respondents were asked, "After considering your overall situation and properly evaluating your own ability, what educational level do you expect to achieve?". The three choices were "junior high school=1", "senior high school or technical high school=2", and "college and above=3". Junior high school education is 9 years of compulsory education competition in China. The senior high school or technical high school level of education is approximately 12 years of education. The college and above level of education is equivalent to 13 years of education and above. Gender is the key predictor of educational expectations: "1" denotes female children, and "2" denotes male children.

At the family level, the main variables of interest include family economic status, supervision mode under parental migration, and parental contact frequency. Family economic status was evaluated with the following question: "How does your family's economic status compare to that of other families?". It is a categorical variable with three choices: "worse=1; the same=2; and better=3". Parental contact frequency was measured with the question, "How frequently do your migrant parents contact you?", and responses were given on a five-point scale from "very rarely contact=1" to "contact every day=5".

Care arrangement after parental migration combines information on parental migration status with whether grandparents play a supplementary role in caring for children who are left behind by one or both parents. First, a dichotomous distinction is made between whether only one parent (father or mother) or both parents migrate, and this is explained by the variable of parental migration: "1" denotes that only one parent migrates, and "2" denotes that both parents migrate. Second, another dichotomous distinction is made between whether grandparents are involved in caring for children through the variable of grandparents' care, with "1" denoting grandparents being involved in caring for left behind children and "2" denoting that grandparents are not involved in caring for left behind children. Furthermore, we interact the two variables to explain the care arrangement after parental migration.

Significant others that are expected to predict educational expectations include two variables. One is student-teacher relationship. Respondents were asked to evaluate their satisfaction with the relationship between students and teachers in general, and responses were given on a Likert scale from "very dissatisfied=1" to "very satisfied=5". The other is community educational environment, which was measured by asking the respondents "whether the community considers education to be very important". This was also measured with a Likert scale reflecting the degree of importance of education, from "very unimportant=1 to very important=5".

There are three controlled variables. Two of these are ethnicity, which reflects the ethnic enclaves in Yunnan Province, and the respondent's grade level. Ethnicity includes two options: "Han =1; other ethnicities =2". The grade variable includes grades in primary school (grade 4 to 6) and grades in junior high school (grade 7 to 9). We also controlled the variable academic ranking, as academic rank

is considered one of the most important factors in educational expectations (Andres et al., 2007; Reynolds & Burge, 2008). If the respondents were ranked 1 to 5 in the school ranking, they were assigned the value “1”; those ranked 6–10 were assigned the value “2”, those ranked 11–20 were assigned the value “3”, those ranked 21–30 were assigned the value “4”, and those ranked 31 or higher were assigned the value “5”.

Among the 2120 valid responses, there are 325 left-behind children, accounting for 15.3%, who do not expect to study further after junior high school, and another 867 left-behind children, approximately 40.7% of the total, expect to finish senior high school or equivalent. The remaining 43.6% of respondents have expectations of receiving a college education or above.

Table 1 presents the description and measurement of all the variables in the analysis. It shows that educational expectations differ between genders ($Chi-square = 16.234$, $p < 0.001$), and it appears that female left-behind children have higher educational expectations than male left-behind children.

It also indicates that there are significant educational expectational differences among the family relevant factors. Better support obtained from the family may lead to higher educational expectations. For instance, better family economic status is associated with higher educational expectations ($Chi-square = 38.651$, $p < 0.001$), and more frequent parental contact during migration may increase educational expectations ($Chi-square = 56.799$, $p < 0.001$). The left-behind children with higher educational expectations seem to be more likely to have grandparent care ($Chi-square = 27.515$, $p < 0.001$).

Table 1 Description and measurement of variables in the analysis

Variable	Full sample					Educational expectations			
	N	MIN	MAX	Mean	S.D.	1	2	3	Chi-square
Educational expectations	2120	1	3	2.281	0.715	n/a	n/a	n/a	
Gender	2172	1	2	1.491	0.5	1.576	1.503	1.449	16.234 (0.000)
Family economic status	2169	1	3	2.103	0.707	1.948	2.067	2.192	38.651 (0.000)
Parental contact frequency	2083	1	5	3.849	1.183	3.663	3.711	4.043	56.799 (0.000)
Parental migration	2064	1	2	1.330	0.470	1.339	1.361	1.296	8.22 (0.016)
Grandparents care	2205	1	2	1.595	0.491	1.710	1.602	1.546	27.515 (0.000)
Student-teacher relationship	2149	1	5	3.349	0.981	2.997	3.307	3.507	78.546 (0.000)
Academic ranking	2183	1	5	3.294	1.291	4.140	3.500	2.782	370.882 (0.000)
Community educational environment	2136	1	5	4.042	1.227	3.571	3.964	4.268	94.702 (0.000)
Ethnicity	2183	1	2	1.326	0.469	1.431	1.319	1.288	22.461 (0.000)
Grade	2125	4	9	6.76	1.603	6.98	6.79	6.66	28.468 (0.000)
School level	2125	1	2	1.557	0.497	1.613	1.566	1.532	6.602 (0.037)

Notes: 1. Numbers in parentheses of *Chi-square* indicate the p value; 2. “1”, “2” and “3” under educational expectations mean expected educational achievement in junior high school, senior high school and college and above, respectively

It also indicates a slight difference in parental migration status in educational expectations ($Chi-square=8.22, p<0.05$).

Differences are also found in student-teacher relationship and community educational environment, with the $Chi-square$ test significant at the <0.001 level. For all three controlled variables, academic ranking, ethnicity and grade all show significant differences in educational expectations. These results provide justification for us to examine them in the regression models.

Analytical Procedures and Model Application

To better understand the determinants of educational expectations among left-behind children and the gender differences in educational expectations, the analysis encompasses two steps. First, it will analyze the determinants of educational expectations in the full sample to evaluate the influences of all incorporated variables. Second, it will further compare the impacts of multiple variables among subgroups by gender and school levels. Separate multinomial regression models will be run on the primary school sample and the junior high school sample and on the female left-behind children and the male left-behind children to explore educational prospects. As the dependent variables have three choices, a multinomial logistic model is used in the analysis. The proportions of three events are indicated by p_j :

p_1 : the estimated probability of the completion of senior high school or equivalent.

p_2 : the estimated probability of completion of education at the college level or above.

p_3 : the estimated probability of the completion of junior high school education.

p_3 is the reference category. X_K are K predictor variables, denoted $X_1, X_2, \dots, X_K$, which include gender, family economic status, parental contact frequency, care arrangement during migration (the interaction of parental migration and grand-parental care), student-teacher relationship, community educational environment, academic ranking and other controlled variables. The multinomial logit model is specified in log odds form as follows:

$$\log \frac{p_j}{p_3} = \sum_k a_{jk} X_K, j = 1, 2 \quad (1)$$

$$p_1 + p_2 + p_3 = 1 \quad (2)$$

Results

Determinants of Educational Expectations among Left-behind Children

Table 2 presents the parameter estimates of the impacts of the independent variables on the log odds of having senior high school and college or above educational expectations compared with expecting only to finish junior high school.

Model 1 is a basic model including all variables. Except for gender, all major explanatory variables, such as family-level factors, student-teacher relationship and community educational environment, are statistically significant. The results indicate that better economic status could increase the probability of an individual's intention to receive senior high school or college and above educational levels. Rural families must consider economic pressure because they will bear all educational costs after nine years of compulsory education in China. This is consistent with hypothesis 1.

This further indicates that parental contact frequency and care arrangement during parental migration are key to predicting the likelihood of educational expectations. Frequent parental contact with children during migration particularly increases the aspiration of pursuing college and above educational level. The development of telecommunication technologies makes contact more convenient than before. With the widespread use of mobile phone and communication applications, it provides possibilities for migrant parents to get in touch with family members who are left behind.

The interaction between parental migration status and whether grandparents are involved in the daily care of left-behind children is statistically significant in explaining varied educational expectations. It indicates that the situation of being left behind by two parents and being supervised by others (not grandparents) is among the worst. Comparatively, children left behind with at least one parent (father or mother) at home or who are taken care of by grandparents when both parents emigrate are associated with relatively higher educational expectations. Although grandparents can be dedicated caregivers but may not necessarily be good educators (Liang & Sun, 2020), grandparents remain a good substitute for parents in terms of meeting children's basic needs for food and shelter and providing emotional support. As shown in Model 1, when being left behind by both parents, children who are taken care of by grandparents have a 0.584 increase in the *log* odds of intention to pursue senior high school education and a 1.138 increase in the *log* odds of intention to pursue college education and above. This confirms that the extended family structure, particularly grandparental care, still plays a vital role in rural migrant families. Therefore, hypotheses 2a and 2b are proven.

Model 1 proves that significant others contribute to explaining the educational expectations of left-behind children. With *p* values < 0.01 , both student-teacher relationship and community educational environment are statistically significant. These results reveal that left-behind children with better relationships with their teachers in school tend to hold higher educational expectations, and the student-teacher relationship exerts greater influence on aspiration for college and above education. A similar influence is observed for community educational environment. The greater the emphasis a community places on education, the more likely left-behind children are to have higher educational expectations. Therefore, hypotheses 3a and 3b are proven.

Among the controlled variables, academic ranking plays a vital role in predicting the educational expectations of left-behind children, with *p* values of 0.000. Somewhat unexpectedly, the coefficient for gender shows that female left-behind children

Table 2 Parameter estimates of the multinomial logistic regression of the educational expectations of left-behind children (full sample)

Variable	Model 1		Model 2	
	Senior high school	College and above	Senior high school	College and above
Gender (Ref: male)	0.006 (0.156)	0.061 (0.261)	0.436** (0.203)	0.462** (0.217)
Family economic status (Ref: better)				
worse than others	-0.555*** (0.216)	-0.906**** (0.233)	-0.578*** (0.217)	-0.928**** (0.324)
the same as others	-0.262 (0.192)	-0.382* (0.200)	-0.288 (0.193)	-0.408** (0.201)
Parental contact frequency	0.027 (0.067)	0.238*** (0.072)	0.039 (0.067)	0.249*** (0.072)
Has been left behind (Ref: both parents out-migrate × without grandparents)				
One parent stays at home × with grandparents	0.551** (0.260)	1.065**** (0.281)	0.530** (0.261)	1.045**** (0.281)
One parent stays at home × without grandparents	-0.013 (0.207)	0.418* (0.231)	-0.006 (0.208)	0.425* (0.232)
Both parents out-migrate × with grandparents	0.584** (0.261)	1.138**** (0.285)	0.579** (0.263)	1.134**** (0.286)
Student-teacher relationship	0.250*** (0.078)	0.373**** (0.084)	0.243*** (0.079)	0.367**** (0.085)
Community educational environment	0.201*** (0.058)	0.380**** (0.064)	0.200*** (0.058)	0.377**** (0.064)
Academic ranking	-0.494**** (0.076)	-0.952**** (0.079)	-0.489**** (0.077)	-0.947**** (0.080)
Ethnicity	0.463*** (0.159)	0.494*** (0.169)	0.422*** (0.160)	0.456*** (0.170)
School level	-0.095 (0.163)	-0.112 (0.171)	0.408* (0.226)	0.371 (0.239)
Female × primary school			-1.098*** (0.322)	-1.016*** (0.337)
Constant	1.08* (0.565)	0.307 (0.603)	0.905 (0.570)	0.144 (0.609)
Cox and Snell R-squared	0.218	0.218	0.224	0.224
-2 Log Likelihood	3067.127	3067.127	3054.968	3054.968
Observations	1743	1743	1743	1743

Notes: 1. Dependent variable = educational expectations, reference group: completion in junior high school education; 2. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$; **** $p < 0.001$; 3. Numbers in parentheses are the standard errors of the estimates

are more likely than male left-behind children to intend to study further after compulsory education, but the variance is not statistically significant.

To further explore the impacts of gender and whether educational expectations of different genders change with grade, the interaction between gender and grade is introduced into the model. The interaction between gender and grade shows statistical significance. To obtain clearer and more precise results, we recode grade into a dichotomous variable—school level that denotes study in primary school or study in junior high school. In Model 2, the results show that after introducing the interaction of gender and school level, the influences of all other variables on educational expectations remain stable. The coefficient of gender becomes significant with p values <0.05 . Interestingly, the interactive effect shows that the impacts of gender vary between primary school and junior high school on predicting educational expectations. Girls are less likely to hold higher educational expectations than boys during primary school.

The multinomial logistic regression models in Table 3, which are run separately among the primary school survey sample and junior high school survey sample, further confirm that gender differences vary by school level in predicting educational expectations. Model 3 suggests relatively lower expectations towards further education among girls than boys during primary school, while Model 4 shows that the opposite is true during junior high school, with girls holding higher educational expectations than boys. Therefore, hypothesis 4 is only proven among left-behind children during primary school but not during junior high school.

Female left-behind children seem to increase their educational expectations and even surpass male left-behind children after going to junior high school. To find possible reasons, regression results divided between the primary school sample and the junior high school sample among female left-behind children are presented in Table 4. The results suggest that the student-teacher relationship affects the educational prospects of female children more in the junior high school study period than during the primary school period. Girls in junior high school probably benefit more from the interaction with teachers during this period, which helps increase their educational expectations. This is probably because girls are more adaptive than boys in junior high school. Huang and Wu (2016) compare gender differences in educational expectations among junior high school students in China and suggest that female students are more likely than male students to be regarded as good students to obtain more encouragement from teachers. In any case, the results likely imply that the school environment in junior high school has the potential to change gender inequality in the long run.

Gender Differences in Determinants of Educational Expectations

To more deeply investigate gender differences in determinants of educational expectations and whether a certain gender pattern of influences exists in shaping different educational expectations, separate multinomial logistic regression models for different genders are provided in Table 5. The influences of academic ranking, student-teacher relationship and community educational environment are very similar

Table 3 Parameter estimates of the multinomial logistic regression of the educational expectations of left-behind children by subgroup (primary school sample and junior high school sample)

Variable	Model 3 Primary school sample		Model 4 Junior high school sample	
	Senior high school	College and above	Senior high school	College and above
Gender (Ref: male)	–0.710 ^{***} (0.255)	–0.595 ^{**} (0.261)	0.405 ^{**} (0.209)	0.406 [*] (0.224)
Family economic status (Ref: better)				
worse than others	–0.693 ^{**} (0.340)	–0.942 ^{***} (0.353)	–0.494 [*] (0.292)	–0.889 ^{***} (0.324)
the same as others	–0.443 (0.293)	–0.559 [*] (0.296)	–0.149 (0.266)	–0.276 (0.282)
Parental contact frequency	0.072 (0.099)	0.263 ^{**} (0.103)	0.001 (0.094)	0.233 ^{**} (0.104)
Has been left behind (Ref: both parents out-migrate × without grandparents)				
One parent stays at home × with grandparents	0.444 (0.427)	1.334 ^{***} (0.454)	0.644 [*] (0.342)	0.905 ^{**} (0.372)
One parent stays at home × without grandparents	–0.238 (0.341)	0.532 (0.374)	0.177 (0.272)	0.359 ^{**} (0.308)
Both parents out-migrate × with grandparents	0.116 (0.417)	1.035 ^{**} (0.445)	0.924 ^{***} (0.350)	1.264 ^{***} (0.385)
Student-teacher relationship	0.132 (0.122)	0.21 [*] (0.127)	0.293 ^{***} (0.107)	0.455 ^{***} (0.117)
Community educational environment	0.244 (0.097)	0.353 ^{***} (0.101)	0.200 ^{***} (0.077)	0.427 ^{***} (0.086)
Academic ranking	–0.430 ^{***} (0.112)	–0.842 ^{***} (0.115)	–0.555 ^{***} (0.109)	–1.043 ^{***} (0.113)
Ethnicity	controlled	controlled	controlled	controlled
Grade	controlled	controlled	controlled	controlled
Constant	2.038 ^{**} (0.906)	1.145 (0.940)	0.822 (0.776)	0.049 (0.840)
Cox and Snell R-squared	0.192	0.192	0.266	0.266
–2 Log Likelihood	1304.597	1304.597	1716.387	1716.387
Observations	752	752	991	991

Notes: 1. Dependent variable = educational expectations, reference group: completion in junior high school education; 2. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$; **** $p < 0.001$; 3. Numbers in parentheses are the standard errors of the estimates

Table 4 Multinomial logistic regression predicting the educational expectations of female left-behind children by school level

Variable	Model 5 Primary school sample		Model 6 Junior high school sample	
	Senior high school	College and above	Senior high school	College and above
Family economic status (Ref: better)				
worse than others	-1.196* (0.510)	-1.511** (0.533)	-0.212 (0.510)	-0.727 (0.523)
the same as others	-1.509* (0.429)	-1.258** (0.439)	-0.066 (0.419)	-0.065 (0.442)
Parental contact frequency	0.190 (0.142)	0.479** (0.152)	-0.190 (0.157)	0.184 (0.168)
Has been left behind (Ref: both parents out-migrate × without grandparents)				
One parent stays at home × with grandparents	0.372 (0.682)	1.837* (0.713)	0.155 (0.547)	0.192 (0.576)
One parent stays at home × without grandparents	-0.688 (0.509)	-0.027 (0.562)	-0.147 (0.459)	-0.154 (0.492)
Both parents out-migrate × with grandparents	0.271 (0.611)	0.964 (0.663)	0.746 (0.575)	1.082 (0.610)
Student-teacher relationship	0.309 (0.188)	0.373 (0.127)	0.193 (0.179)	0.456* (0.189)
Cox and Snell R-squared	0.297	0.297	0.236	0.236
-2 Log Likelihood	601.411	601.411	845.945	845.945
Observations	376	376	518	518

Notes: 1. Dependent variable=educational expectations; reference group: completion in junior high school education; other variables including community environment, academic ranking, ethnicity and grade have already been controlled. 2. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. 3. Numbers in parentheses are the standard errors of the estimates

between genders. The differences lie in family economic status, parental contact frequency and care arrangement during migration.

The worse family economic status overall poses a great obstacle for female children than for male children with regard to planning to study further. The odds ratio of female children who were from worse economic backgrounds having an intention to pursue college education and above is 32.6% ($\exp(-1.120)=0.326$), while it is 45.3% ($\exp(-0.792)=0.453$) for male children with the same economic background. If family economic status is considered to be at the middle level, girls remain less likely than boys to intend to study further.

Gender differences can be observed in how parental contact frequency and care arrangement during migration affect the educational expectations of left-behind children. First, Model 7 indicates that frequent parental contact with female children during migration leads to a 0.328 increase in the *log* odds of intention of pursuing college education and above ($p<0.01$), while it is a 0.171 increase for male children ($p<0.1$). This implies that female children seem to obtain greater benefits than male children from frequent parent contact during migration.

Second, there is no difference between only one parent migrating (with or without grandparents) and both parents emigrating without grandparents for female children. However, for female children who are left behind by both parents, grandparental care matters, as female children who are left behind with grandparents are 2.081 times more likely than those without grandparents to aspire to pursue college education and above. It appears that being taken care of by grandparents is a good substitute for parental absence among female children. This result is different from that for male children, who rely more on parental care at home. Model 8 shows that if being left behind with one parent at home either with or without grandparental care, the likelihood of male children aspiring to study college and above increases dramatically. Only in the situation of both parents emigrating does grandparental care make a difference.

Conclusion and Discussion

In response to the relatively low educational attainment among left-behind children in China, this article examined the determinants of educational expectations among left-behind children. After nine years of free compulsory education, whether left-behind children aspire to receive further education is determined not only by their academic ranking and performance in school but also by factors external to their endeavors, such as their family's economic status and care arrangement during migration and whether the surrounding environment, including school and community, makes them feel that further education is necessary.

According to the existing literature, a person's educational expectations may be inherited through the socioeconomic status of one's family or learned from interpersonal influences and interactions. For children who are left behind, it could be both. On the one hand, family economic status remains a very important predictor of variance in educational expectations. Children from families in the lowest economic level have the least probability of aspiring to continue their education after junior

Table 5 Parameter estimates of the multinomial logistic regression of the educational expectations of male and female left-behind children

Variable	Model 7 Female		Model 8 Male	
	Senior high school	College and above	Senior high school	College and above
Family economic status (Ref: better)				
worse than others	-0.662** (0.341)	-1.120*** (0.326)	-0.535* (0.286)	-0.792** (0.312)
the same as others	-0.591** (0.294)	-0.672** (0.302)	No	No
Parental contact frequency	No	0.328*** (0.161)	No	0.171* (0.100)
Has been left behind (Ref: both parents out-migrate × without grandparents)				
One parent stays at home × with grandparents	No	No	0.807*** (0.348)	1.191*** (0.387)
One parent stays at home × without grandparents	No	No	No	0.817** (0.317)
Both parents out-migrate × with grandparents	No	1.030** (0.435)	No	1.170*** (0.390)
Student-teacher relationship	0.249** (0.125)	0.421*** (0.131)	0.240** (0.103)	0.308*** (0.112)
Community educational environment	0.164* (0.090)	0.352*** (0.140)	0.213*** (0.077)	0.385*** (0.086)
Academic ranking	-0.513*** (0.167)	-0.967*** (0.114)	-0.461*** (0.107)	-0.926*** (0.112)
Grade	Controlled	Controlled	Controlled	Controlled
Ethnicity	Controlled	Controlled	Controlled	Controlled
Cox and Snell R-squared	0.227		0.225	
-2 Log Likelihood	1506.142		1533.956	
Observations	887		856	

Notes: 1. Dependent variable = educational expectations, reference group: completion of junior high school education; 2. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$; **** $p < 0.001$; 3. Numbers in parentheses are the standard errors of the estimates; 4. 'No' in Table 3 indicates no statistical significance

high school, and family economic status is much more significant in affecting the pursuit of a college education and above than the pursuit of senior high school. This implies that the improved economic situation through migration is still very important for higher educational expectations among left-behind children, despite migration being considered to have adverse influences on child development (Lu et al., 2019).

On the other hand, educational expectations could be learned from or affected by significant others who play essential roles in educational expectations. Significant others might include teachers and neighbors. At the school level, teachers' influences and active interaction with teachers have positive impacts on improving the educational prospects of left-behind children. Living in a community emphasizing education also matters for increasing the intention to study further.

The article also indicates that the educational expectations of girls might increase when they go to junior high school. Male advantages in educational expectations exist only during primary school and not during junior high school. In contrast, girls' educational expectations surpass boys' expectations when studying in junior high school. With increasing age and school level, significant others, including teachers and communities, play a more important role in affecting the educational prospects of female children. It is likely that compared with boys, girls benefit more from interaction with teachers in junior high school, through which they obtain more encouragement and support. This underscores the importance of the school environment of junior high school in reducing gender inequality in the long run.

This research adds to the literature on educational expectations of left-behind children by investigating its determinants and variations by gender. Left-behind children have to face dilemma choices related to parental separation and opportunities for schooling. Family economic status matters for educational opportunities, and it matters even more for girls than for boys. To a large extent, family economic resources are still distributed preferentially to male children in rural areas. To obtain further educational opportunities, female children have to support parental migration and bear the disadvantages of separation from parents, as their educational opportunities increase with improved family economic status through migration. This is not only a social-economic process but also a self-readjusting process. It seems that boys and girls who are left behind show distinctive readjustment capabilities. There is no significant variance between the migration of only one parent and the migration of both parents with regard to effects on girls' educational expectations. For girls, grandparental care and higher frequency of parental contact during migration could be substitutes for parental absence. In contrast, for boys, the effects differ significantly for being left behind by only one parent or by both parents; having one parent at home helps considerably in increasing boys' educational prospects. Therefore, it appears that female left-behind children benefit more from parental migration than male left-behind children, particularly during the junior high school period. For male left-behind children, grandparental care does not fully substitute for the roles played by parents, and parental migration seems to be more detrimental to them.

This article has several policy implications. First, in Chinese society, grandparents play important roles in taking care of children in both rural and urban China. Our research observes that grandparental care overall still plays a positive role in

the educational prospects of left-behind children during parental migration. Being left behind with grandparents is a last resort for most rural families. Comparisons between children raised by grandparents and those raised by parents suggest there are significant differences in educational outcomes (Yue et al., 2020). Liang and Sun (2020) suggested that grandparents may not necessarily be good educators. Unless more integrated social policies being implemented in Chinese cities so as to reduce the number of left-behind children in rural China, the educational inequality faced by left-behind children cannot be fundamentally solved.

Second, the study indicates positive impacts of the student-teacher relationship and the community educational environment on the educational prospects of left-behind children. In recent years, a number of policies have been promulgated to protect left-behind children. For instance, schools are required to fill out the left-behind children information card, which helps them obtain comprehensive information about the family, academic performance and living situation of left-behind children. Teachers are instructed to pay more attention to left-behind children. This paper proves that more care and support from teachers in schools increase educational prospects. As educational expectations differ by gender and school level, male left-behind children need more supervision and care if they are left behind by both parents.

Third, promoting psychosocial competence is a potentially helpful way of increasing the well-being of left-behind children in China. The support from family members and significant others can be regarded as important “developmental assets”, which are closely related to the ecological perspective or the positive youth development (PYD) perspective (Qi et al., 2020; Shek, Dou, et al., 2019a). This perspective emphasizes that through scientific intervention, positive interaction between the individual and the environment (e.g., family, school, and the community) can be built up. Several recent studies (Zhou, Shek, & Zhu, 2020b; Zhou, Shek, Zhu, & Dou, 2020c) have proven that positive youth development attributes are positively related to psychological well-being among Chinese adolescents.

PYD can help build competencies, enhance plasticity and increase the opportunities for growth among adolescents (Shek, Dou, et al., 2019a). In recent years, PYD programs entitled “Tin Ka Ping (TKP) Positive Adolescent Training through Holistic Social Programs (P.A.T.H.S.)” have already been implemented in both Hong Kong (Ma et al., 2019) and mainland China (Shek, Zhu, et al., 2019b; Zhu & Shek, 2020) with remarkable success. If these programs could be applied to rural China, the left-behind children will have chances to learn how to cope with challenges and difficulties.

The study has several limitations due to the data restrictions. First, our estimation sample is based on Yunnan Province, which limits the ability of our results to explain the educational expectations of left-behind children in other parts of China given the imbalances in social and economic development throughout the country. Second, within our sample, the information focuses on left-behind children, which also limits the statistical power to investigate the extent to which different factors affect educational expectations through comparisons with different social groups, including non-left-behind children and migrant children. Third, our data set does not include detailed information about parents’ employment and social status, which

poses difficulties in examining the impacts of parental social and economic status on educational expectations among left-behind children. Therefore, a more comprehensive design for national data collection is highly desirable in further research and data collection schemes. Despite these limitations, this study brings important insights to support our understanding of the dynamic relationship among parental migration, gender inequality, and educational opportunity among left-behind children in general. It calls for scholars and social service practitioners to use an ecological model to understand the positive interaction between the individual and the environment, so as to formulate effective policies or intervention strategies for enhancing the well-being of left-behind children in rural areas of China over the long run.

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Declarations

Conflict of Interest We have no known conflict of interest to disclose.

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