

# Family Capital and the Quality of Senior Secondary Education Opportunities: An Analysis Based on the Post-Junior Secondary Education Tracking in County B of Jiangsu Province

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**Abstract:** *The disparities in the quality of senior secondary education opportunities are one of key topics in educational equity research in China as they have a critical impact on students' access to higher education and even their future occupational attainments. Students' senior secondary education opportunities are related to multiple factors. This study attempted to examine the relationship between family capital and the quality of children's senior secondary education opportunities. The research into the post-junior secondary education tracking in County B of Jiangsu Province demonstrated that compared with vocational secondary education opportunities, children's access to general senior secondary education (including ordinary and key high schools) was significantly and positively affected by family social capital and less so by family cultural capital, but had a weak correlation with family economic capital; and that cultural capital had more significant impact on children's admission to high-quality senior secondary schools than to ordinary high schools. Subjective aspects of family capital helped improve the access to ordinary senior secondary education of children from underprivileged classes, whilst objective aspects of family capital could limit their key high school enrollment opportunity. It was suggested that the government push through the implementation of the "quota allocation policy" to promote balanced distribution of high achieving students; and that disadvantaged families make more efforts to increase their cultural capital, and schools and communities provide more support to disadvantaged groups to compensate for their paucity of cultural capital and to upgrade the quality of senior secondary education opportunities of their children.*

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## Introduction

As a result of the universalization of compulsory education and the increasing popularization of senior secondary education in China, child school enrollment is no longer an issue, and high-quality education resources have become the most pressing demands of the public. To undertake reliable studies of the equity of educational opportunities, we need first to identify the quality levels of and quality gaps in educational opportunities, and then to examine whether all groups have equitable access to educational resources of varying quality levels.

Students' access to education opportunities is affected by multiple factors such as social structure, national policy, family background, etc. However, compared with social structures and national policies (macro factors), family capital can more reveal the micro mechanism of access to education opportunities. Some components of family capital can be changed by individuals through their own efforts, and thus it offers more useful implications for education research. This article focuses on the effects of family capital on the quality of children's senior secondary education opportunities in attempt to provide explanations for their unequal access to high school education resources.

## The Analytical Framework and Research Hypotheses

Based on the objective and subjective aspects of family capital, this study tries to explore more practical and operational methods for family capital exploitation and explain the paths of the influences of each element of family capital on the quality of children's senior secondary education opportunities.

First, family economic capital is a key objective factor influencing the quality of children's high school education opportunities. Economically advantaged families can provide their children with superior educational conditions and high-quality educational resources, including residence in the ideal school district, private tutoring, after-school training programs, etc. Such money investment help improve child academic achievements, which in turn, makes children more successful in the competition for high-quality senior secondary education opportunities. In light of this, the study proposes hypothesis 1 (H1): Family economic capital has a positive effect on the quality of children's senior secondary education opportunities; the more investment parents make in child education, the higher the quality of children's high school education opportunities.

Second, empirical research from China and other countries confirm that family cultural capital can predict the quality of children's senior secondary education opportunities. Families with more cultural capital usually place more premiums to the quality of their children's education and create ideal home cultural atmospheres for their children to form proper learning attitudes and habits, which in turn constitute their advantages in educational competition. As a result, the study raises the hypotheses below:

*H2: Home cultural capital exerts a positive impact on the quality of children's high school education opportunities; the more cultural capital the family has, the higher the quality of the children's senior secondary education opportunities.*

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*H2a: The higher the parents' education level, the better the quality of children's high school education opportunities.*

*H2b: The bigger the size of home book collection, the higher the quality of the children's senior secondary education opportunities.*

*H2c: The higher importance the family attaches to child education, the better the quality of children's high school education opportunities.*

Third, in recent years, home social capital is also regarded as an important predictor of children's access to senior secondary education. In contrast with economic and cultural capital, family social capital influences child access to education opportunities primarily through subjective factors. Increased social capital can offset the limitation imposed on children's education opportunities by objective factors. Therefore, we propose the following hypotheses:

*H3: Home social capital poses a positive effect on the quality of children's high school education opportunities; the more social capital the family has, the higher the quality of children's senior secondary education opportunities.*

*H3a: The more productive the parent-child communication, the better the quality of children's high school education opportunities.*

*H3b: The more effective the parental supervision of child learning, the higher the quality of children's senior secondary education opportunities.*

*H3c: The higher the frequency of parent-teacher communication, the better the quality of children's high school education opportunities.*

## **Research Design**

### ***Data***

The research team collected data through the survey on the relationship between family education and educational tracking among junior secondary school graduates 2017 in B County, Jiangsu Province. County B, located in the north of Jiangsu Province, has a total area of 1467 square kilometers, most of which is constituted by plains. It has 14 towns and one development zone under its jurisdiction, with a population of about 900000. The railway transportation began at the end of 2020 in the county. Basically, it is an agriculture-dominated county. According to the comprehensive evaluation of the GDP and GDP per capita of 54 counties (cities) in Jiangsu Province by the Statistical Yearbook of Jiangsu Province (2018), the socio-economic development of County B is approximately of the middle level of the province. In 2017, the enrollment rate of general senior secondary schools in County B was 56.4%. County B is representative of its kind in the whole country in terms of economic, social, and educational development.

There are five general senior secondary schools and one vocational secondary school (School Y) in County B. In this survey, 902 subjects (1/5 of the total number of grade ten students in the county) were sampled from the tenth graders of the six high

schools by stratified sampling. Considering that there are differences in class type among the five general high schools and that students in the experimental classes are fewer than those in the ordinary classes, only students of odd numbers were sampled in experimental classes in each school, while students in ordinary classes are randomly selected on the basis of the whole class. Classes in School Y are set according to specialties; students from various specialties were included in the sample. A total of 902 questionnaires were distributed in this survey. After eliminating invalid questionnaires, the research team obtained 861 valid questionnaires representing a validity rate of 95.5%.

## ***Variables***

### **The Dependent Variables**

In this study, the dependent variable is the quality of the subject's senior secondary education opportunity, and thus high schools that those junior secondary graduates enrolled in were divided into different ranks to define the quality levels of various high school education opportunities.

According to the enrollment periods of the schools surveyed, senior secondary education opportunities in County B were classified into three quality levels: School E, as the only high school in County B that can select students in the first enrollment period after the senior secondary school entrance examination, was defined as the high quality general high school (level one); Schools D, B, C and A were classified as ordinary general high schools (level two); School Y was a vocational secondary school at the third level.

### **Independent Variables**

- **Family Economic Capital**

In this study, family economic capital was measured by household annual investment in education, a category-based interval variable. The logarithm of the median of the interval was incorporated in the analysis. The value of the logarithm was positively correlated with the family's economic capital. The family's annual investment in education included its annual expenditure on after-school training.

- **Family Cultural Capital**

In this study, parental education levels, the family book collection size, and parents' educational concepts were used to measure institutionalized, objectified, and embodied cultural capital of the family, respectively.

- **Family Social Capital**

Social capital of the family was divided into two dimensions: "parent-child communication" and "behavior supervision", according to the commonly used method of operationalization.

### **Control Variables**

There are 4 control variables in this study: gender (1 = female, 2 = male), place of residence (1 = urban, 2 = rural), number of siblings (1 = without siblings, 2 = with a sibling or siblings) and type of junior secondary school (1 = urban junior secondary school, 2 = rural junior secondary school).

## ***The Treatment of Missing Values***

As missing data of the variable “household annual investment in education” was as high as 28%, multiple imputation was adopted to address this issue in the sample analysis. We included all variables in the calculation model of multiple imputation and obtained 10 independent data sets after interpolating missing values. Statistical analysis of the 10 data sets was conducted and the estimate of the model was established by integrating the results of these processed data.

## ***Data Analysis Methods***

Since the dependent variable in this study is a three-category nominal variable, the hierarchical and multivariate logistic regression model was adopted in data analysis. This model is intended to explain the role and strength of the independent variable X in predicting the probability of occurrence of the dependent variable Y, and that the dependent variable Y has multiple types of values. In the statistical analysis, first “enrolment in the vocational secondary schools” was used as a reference to identify the differences in enrollment between the vocational secondary school and ordinary and high-quality general high schools, and then “enrollment in ordinary general high schools was used as a reference to focus on the differences in enrollment between ordinary and high-quality general high schools.

## ***Findings of Data Analysis***

### ***Logistic Regression Analysis of the Effects of the Family Capital-related Variables on the Quality of Child Senior Secondary Education Opportunities***

The results of model one show that, girls’ probabilities of entering ordinary general high schools and high-quality general high schools (compared with the vocational secondary school) were 0.63 times and 0.68 times those of boys, respectively; that urban students’ probability of entering the high-quality general high school was 2.1 times that of their rural peers; that the number of siblings had no effect on students’ enrollment in the ordinary general high school, but had a significant influence on their enrollment in the high-quality general high school (children without siblings are nearly 100% more likely to enter the high-quality general senior secondary school than their peers with siblings); and that students who had studied in urban junior secondary schools were 2.2 times and 2.4 times more likely to enter ordinary general high schools and high-quality general high schools, respectively, than their peers who had studied in rural junior secondary school. There were no significant influences of gender and types of junior sec-

ordinary schools on enrollment in the ordinary general high school and high-quality general high school (when the comparison is limited between these two categories of schools), but the influences of the place of residence and number of siblings remained.

When the variable of family economic capital was incorporated in model two, the regression results demonstrated that there was no significant difference in the impact of home investment in education on child education tracking at the senior secondary level (general or vocational education) or on child school streaming between high-quality and ordinary senior secondary schools.

Model three was meant to examine the effect of family cultural capital on the quality of child senior secondary education opportunity. Statistical results showed that the children's probability of entering the high-quality general high school (compared with the vocational high school) would increase by 15.2% with each one year increase of paternal education; that the size of family book collection was positively related only to children's access to high-quality general senior secondary education (compared with vocational education); and that parents' educational concepts had positive effects on child access to both ordinary and high-quality general senior secondary education. Paternal education level and the number of books in the home significantly promoted children's access to the high-quality general senior secondary education (compared with the ordinary general high school education), while the regression coefficient of the variable of parents' educational concepts was not significant.

Model four showed the effect of family social capital on child senior secondary education opportunity. Parent-child communication as social capital could only increase children's chances of entering the ordinary general high school; children's probability of enrolling in the ordinary general high school (compared with the vocational secondary school) increased by 23.9% with one-score increase in parent-child communication. Parent-teacher communication has a significant positive impact on children's admission to high-quality general high school. The higher the frequency of communication between parents and teachers, the more likely it was for children to enter the high-quality general high school (compared with the vocational secondary school). Behavior supervision has a positive impact on child access to both ordinary and high-quality general senior secondary education. With every one point increase of family behavior supervision, children's probability of entering ordinary and high-quality general high school would increase by 71% and 82.4%, respectively. In the comparison of high-quality and ordinary general high school education, the influence of parent-child communication and behavior supervision was no longer significant, but parent-teacher communication could still effectively predict child enrollment in the high-quality general high school.

Model 5 included the variables of family economic capital, cultural capital, and social capital, which could reflect the comprehensive impact of family capital on the quality of children's education opportunities. First, the coefficients of variables of gender, place of residence, number of siblings and type of junior secondary school became smaller compared with those in model one, and the significance of the variable of gender disappeared, indicating that family capital can somewhat bridge the gaps in senior secondary education opportunities caused by urban-rural division, gender difference and number of siblings. Second, the regression coefficient of the variable of family investment in education was significantly smaller compared with that in model two, which means that the effect of economic capital is likely to be mediated by cultural and

social capital. Third, in models three, four, and five, the coefficients of variables related to cultural capital remain significant, and the coefficient of paternal education level and the size of home book collection remain stable, indicating that institutionalized cultural capital and objectified cultural capital have a consistent and independent positive impact on the quality of child high school education opportunities. In addition, the regression coefficient of parents' educational concepts has increased, indicating that there existed interaction between embodied cultural capital and other family capital-related variables. Last, with the incorporation of the variables of economic and cultural capital, the regression coefficients of variables of parent-child communication and behavior supervision showed a growing tendency, indicating that there was interaction between domestic social capital and economic and cultural capital. The positive effect of non-domestic social capital like the frequency of parent-teacher communication turned negative and was no longer significant, indicating that after controlling for other family capital-related variables, non-domestic social capital no longer had an impact on the quality of children's education opportunities, and the effect of non-domestic social capital was likely to be mediated by other family capital-related variables.

## ***A Comparison of the Effects of Family Capital-Related Variables***

This study calculated the standardized logistic regression coefficients to compare the effects of home economic, cultural, and social capital on the quality of high school education opportunities. The results showed that regarding their respective influences on child access to general senior secondary education (compared with vocational secondary education), the absolute value of the standardized regression coefficient of the variable of social capital was significantly greater than that of cultural capital, and that the effect of economic capital on the quality of children's educational opportunities was minimal. Only cultural capital plays an important role in child access to high-quality general senior secondary education (compared with ordinary general high education). Additionally, the standardized regression coefficients of subjective factors (parents' educational concepts, parent-child communication, and behavior supervision) were significantly greater than those of objective factors (the paternal education level and size of family book collection) in terms of their effects on child enrollment in the general senior secondary school (compared with the vocational secondary school); Regarding their influences on child admission to high-quality general high schools (compared with ordinary general high schools), the standardized regression coefficients of objective factors were significantly bigger than those of subjective factors. That demonstrated that subjective factors played a more important role than objective ones in general vs. vocational tracking, while in high-quality vs. ordinary general senior secondary education streaming, the opposite was true.

## **Conclusions and Discussions**



- i. There are prominent differences between urban and rural areas in the quality of senior secondary education opportunities. There exist considerable disparities between urban and rural junior secondary school students in the access to both ordinary and high-quality general high school education, with urban students being particularly advantaged in accessing high-quality general senior secondary education.
- ii. Family capital affects the quality of children's senior secondary education opportunities through cultural reproduction. Compared with economic and social capital, cultural capital has a relatively more stable and independent influence on the quality of senior high school education opportunities and is less susceptible to other aspects of family capital. Home cultural capital is the most powerful predictor of children's ordinary and key high school enrollment opportunities.
- iii. Family economic capital has no significant impact on the quality of child senior secondary education opportunities. The research findings show that the amount of family investment in education has no salient association with children's admission to the ordinary general high school (compared with the vocational high school) and to the key general high school (compared with the vocational secondary school and ordinary general high school).
- iv. The impact of home cultural capital on the quality of child senior secondary education opportunities has its limitations. Parents' educational concepts have a positive effect on children's admission to the ordinary and key general high schools (compared with the vocational secondary school), while the paternal education level and size of family book collection can positively influence children's enrollment in the key general high school (compared with the ordinary general high school).
- v. Behavior supervision as social capital imposes greater effects on the quality of child senior secondary education opportunity than parent-child communication. Domestic social capital (parent-child communication and behavior supervision) has significant effects on children's entrance to ordinary general high schools (compared with vocational secondary schools) and key general high schools (compared with vocational secondary schools), and the impact of behavior supervision is far greater than that of parent-child communication.
- vi. Subjective aspects of family capital affect the general vs. vocational education tracking, while its objective aspects influence the ordinary vs. high-quality general senior secondary education streaming. Subjective aspects of family capital such as parents' educational concepts, parent-child communication, and behavior supervision have greater impact on child performance in the general vs. vocational education tracking than objective aspects such as family investment in education, the paternal education level, and the size of family book collection, which gives disadvantaged children motivation to compete for more general senior secondary education opportunities.

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