Do Students Prioritize Majors or Specific Colleges? Analyzing the Factors That Influence Preferences in China

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Abstract: China's college entrance examination has always been regarded as a system that promotes social stability and sustainable development. Students with different characteristics may have dissimilar professional aspirations. Due to the increasing popularity of higher education in China, these characteristics may constitute new influences among students' professional priorities and educational preferences, and it is interesting to explore how such characteristics, especially family backgrounds, affect these choices. Compared to previous investigations, this study conducted a more systematic and quantitative empirical examination of family background. Accordingly, we used data obtained through a survey on higher education reform conducted by the Graduate School of Education at Peking University. Results showed that family backgrounds significantly influenced student priorities when deciding whether majors or specific colleges were most important. When deliberating over the “unpopular majors” offered at higher-level colleges/universities and the “popular majors” offered at relatively lower-level colleges, students with comparatively advantageous family backgrounds were more likely to prioritize specific colleges; that is, they were more willing to choose higher-level colleges than “popular majors” at lower-level colleges. Conversely, students with relatively disadvantaged family backgrounds were more likely to prioritize majors; that is, they were more willing to forego higher-level colleges/universities in favor of “popular majors” at relatively lower-level colleges.

Keywords: family background; choice of major; college preference; China; college entrance exam

1. Introduction

In 1999, China initiated its first large-scale enrollment expansion in higher education; the gross enrollment rate had reached 48.1% by 2019, at which time the nation entering a stage of popularization was imminent. Accordingly, China moved from an elitist stage of higher education to an era of popular expansion within a 20-year period. The restoration of China's university admission system and the college entrance examination has made social mobility sustainable, thereby maintaining social stability. Sustainable development and education equity are consistent. Without education equity, the sustainable development of society will be difficult to achieve. However, modern students are now presented with a vast range of educational options. This is important, as the professional knowledge that students gain during their years in college will substantially impact their employment after graduation. In other words, the specific choice of major has a decisive effect on their personal career development. Once they have completed the annually offered college entrance examination, students are quickly faced with a large array of universities that offer different advantages and majors. Subsequently, students and parents are often confronted with deciding between a "college first" or "major first" approach when prioritizing their options.

In fact, the choice of university is not merely a personal choice. Due to the informational discrepancies of different social groups, different choices are presented, resulting in certain systemic differences. Since higher education is an important factor affecting social
stratification and social mobility, these differences will influence the individual’s entire course of life. If these influencing factors are not properly studied, the higher education admission system will be difficult to improve, thus affecting social equality and justice, and the sustainability of society and education. Therefore, analyzing students who take college entrance examinations has a positive effect on understanding the sustainable development of society.

Since China’s college entrance examination system is very typical to the predominant system used throughout Asian countries, this system subsequently affects the entire Asian ethnic group. Even if other countries are not adopting an examination system similar to China’s, the choice to prioritize majors or specific colleges is common [1,2]. Therefore, this study uses China as the research subject, though the results are of international significance.

Those who prioritize colleges over majors may operate under the belief that a “good” college creates a strong foundation. Meanwhile, social reputations and college rankings are considered comprehensive manifestations of institutional teaching quality, scientific research capacity, the teaching environment, and available employment resources. In this regard, a “good” college is considered to have a better learning atmosphere, stronger research capabilities, and more standardized rules and regulations, all of which are beneficial to long-term development. Different scholars have different views on which students prioritize university branding when deciding where they will apply. Looking at the differences between urban and rural areas, some scholars believe that rural parents are simply focused on finding ways for their children to leave the agrarian lifestyle and are therefore not as concerned about which major they choose [3]. From this perspective, rural children tend to select “good” colleges rather than perusing the available majors. Alternatively, some researchers are more interested in the influence of family income. Survey data have shown that candidates from upper-middle-income families pay more attention to whether a given school is well-known, the breadth of its reputation, and its geographic environment compared to candidates from lower-middle-income families [4].

Meanwhile, those who prioritize majors over colleges believe that the candidate’s specific interests and employment prospects should be the primary concerns when deciding where to apply. Choosing a major that is of interest and/or associated with gainful employment prospects has a profound effect on future career development. From this standpoint, when choosing colleges, candidates should pay particular attention to the major’s academic settings, faculty, and employment prospects, while popularity and rankings should be the least influential factors. This is especially the case for low-scoring candidates, who thus choose from lower-level schools, which often feature “ace” majors. The quality of the specific major directly affects future employment prospects, which means that students should be more inclined to look for “good” majors.

Regardless of the whether the focus is on specific colleges or majors, other scholars believe that students from disadvantaged families simply remain at a disadvantage, in which their choices in higher education are generally more limited. Yang comparatively analyzed the admission scores of children from different families entering the same college, subsequently finding that children from lower income families generally had higher scores than those of children from higher income families, and that college entrance examination scores were roughly inversely proportional to their family social status [5]. Scott and Neil further showed that children from privileged families were more likely to enter the best universities and select the best majors [6]. Survey data have also shown that about 16% of parents disagree with the educational choices made by their children, and such instances are usually based on cultural practices. For example, parents with low- and middle-level cultural qualities are more likely to engage in arbitrary communication patterns, while parents with high-level cultural qualities are more willing to follow their children’s suggestions and reach an agreement [7]. The type of experience in family cultural capital also directly affects students’ mental outlook and habitual qualities, thereby affecting their choices [8].

In sum, family cultural capital may at least partially influence the choices students make in the context of two dimensions: the degree of interaction and type of experience.
Reviewing the existing literature shows that the limitations of related research and its breakthrough points are mainly reflected in two aspects. First, existing research mainly focuses on the impact of family background on higher education opportunities. There are few empirical studies on the impact of choices of majors, and among these studies on professional selection, few focus on the influence mechanism. This research will focus on the influence of family background on students’ professional choices, analyze and explore the influence mechanism, and further explore the inequality in the choices under this influence. Second, the research content is too broad, which is likely the reason that existing studies have considered various factors affecting professional selection in a simple and general way, and lacked relevance. Although some studies focus on family background factors, the research does not delve sufficiently deeply and stays at the speculative level. At the same time, existing studies often consider family social capital, family economic capital, and family cultural capital separately, without comprehensively considering the overall impact of family background. When studying the factors influencing major selection, it focuses on analyzing the influence of family social and economic capitals, but does not conduct in-depth analysis and discussion on family cultural capital.

Today, college entrance examinations show new trends in how Chinese high school students make choices in higher education. For one, choosing an unpopular major is seen as a “compromise” when attempting to enter a desired school. Students may attempt to avoid the risk of rejection by accepting unpopular majors or simply avoiding the most popular majors by choosing those with lower admissions requirements. In this regard, students and parents must further deliberate over which is best to prioritize based on the constraints imposed by examination score requirements.

This study investigated the above issues based on three questions:
1. When faced with the dilemma of prioritizing majors or specific colleges, what factors influence the choices of students in China?
2. How do students from different family backgrounds make choices when facing this dilemma?
3. How do family backgrounds specifically affect these choices?

The remainder of this article is organized as follows. The Policy Background section introduces the official approach to education, especially focusing on college entrance examinations, admissions rules, the role of labeling, and both Project 211 and Project 985. It should be noted that Project 211 and Project 985 are particularly important factors in China’s endeavor to fortify and establish elite university systems, and thus have substantial effects on all related processes. This is followed by the Literature Review section, which provides an overview of current scholarship on the subject. Next, the Data and Study Model section introduces the employed research methods (dual logistic regression to analyze the influence of family background) and investigates study groups (“college priority” and “major priority” groups), while the Analysis Results section discusses our findings on intergroup differences, which were based on three aspects: major selection, family background, and gender. Finally, the Conclusion and Discussion section provides a general summary and interpretation of our results.

2. Policy Background

The college entrance examination is one of the most important factors in higher education admission in China. In fact, it is the largest such examination in the world. Since its reinstitution in 1977, the number of test takers has risen approximately 5–10 million annually. Meanwhile, college admissions have risen from approximately 200,000 to 6 million. The college entrance examination also affects the distribution of educational resources, fairness of educational opportunities, and mobility of social classes. In sum, the examination proves to be a highly important area of research.

In this study, both Project 211 and Project 985 were used as important labels for stratifying universities in China. On 4 May 1998, at the celebration ceremony for the 100th anniversary of the founding of Peking University, Chinese President Jiang Zemin proposed
to establish “a number of world-leading universities”. Since the implementation of Project 985, many Chinese universities have moved significantly upward in the world rankings, thus indicating improvements in overall school quality and international competitiveness. More specifically, Project 985 focuses on improving 39 of the best universities in China through large government subsidies and other funding policies targeted at world-class education. Meanwhile, Project 211 focuses on improving around 116 colleges/universities and several key disciplines; it was launched in November 1995, after being approved by the State Council of China. Project 211 is additionally one of the primary symbols for China’s key universities. As this study used university rankings as a measure of quality, both projects were considered important indicators.

The smaller number of institutions handled under Project 985 are expected to reach and/or maintain world-class status. Additionally, Project 985 institutions are designated under Project 211, but not all Project 211 institutions are eligible for consideration under Project 985. As such, the institutions listed under Project 985 (Ministry of Education) were considered first-class in the context of this study, while those solely listed under Project 211 were considered second tier. In other words, Project 985 institutions provide the highest quality education in China. Meanwhile, the 77 institutions listed solely under Project 211 provide a relatively lower-level education.

Further, universities and colleges in China are divided into several types, including key colleges, general colleges, private colleges, technical colleges, and vocational colleges; admissions are held at different times. More importantly, these institutions give varying levels of priority to students with high scores on the college entrance examination. Although the institutions listed under Project 985 and Project 211 are the first batch of colleges and universities to admit undergraduates, there are similar differences in the level of priority given to these factors.

The aforementioned differences in priority are reinforced through the focus on college entrance examinations during the admissions process, since the Chinese government has implemented a parallel admission method that uses these scores as the sole criterion. Parallel admission refers to a system in which candidates must express interest in several parallel colleges and universities. Candidates therefore indicate simultaneous interest in a number of institutions within a designated bracket of time when completing their college entrance examinations. At the time of selection, this information is filed according to a principle known as “score priority, follow the choices”, in which candidates are filed in a one-time order according to their total scores; that is, all candidates are placed into a queue, with higher priority given to those with better scores. Each file is then submitted to the institutions of interest in the order indicated by the candidate (i.e., first submitted to the highest ranked college). The above operation results in the university level and entrance examination scores being carefully correlated. Of course, simply meeting the score requirements of a particular university does not guarantee admission. Rather, the desired major is also an important factor. In China, the attended university is often an important factor for gaining employment and may even have a greater impact than the specific major. Considering this, students with entrance examination scores that meet the basic requirements of elite institutions are especially likely to face the dilemma of whether to choose an unpopular major at a Project 985 institution or a popular/desired major a Project 211 institution. In other words, they must decide whether to prioritize the major or specific school.

3. Literature Review

3.1. Emerging Issues

The primary reason for the ongoing need to prioritize either the specific college or major after taking the college entrance examination lies in China’s unique enrollment methods, particularly when compared to those used abroad. As such, Jin Dingbing (2006) proposed the use of a diversified enrollment strategy based on the high-enrollment policy implemented in the United States. In this regard, it is thought that different institutions
should adopt different policies for high-level recruits. That is, there should be selective enrollments, minimum enrollments, and competitive enrollments. Further, many institutions in the United States allow students to enroll first, then choose their majors, thus ensuring that students select disciplines that reflect their actual interests [9]. Dejun Wang (2006) believes that the primary differences between universities in the United States and China are found by looking at four aspects allowed in the United States: (1) science majors can enroll in liberal arts courses, and liberal arts majors can enroll in science courses; (2) students can more easily change majors after entering school; (3) freshmen can redesignate their majors after enrollment, and (4) unique majors may be designed for individual students [10]. In a study involving Deggendorf University in Germany, Cai Binqing (2016) pointed out that German universities fully respect the wishes of students and provide strong support for their professional choices after enrollment, specifically by implementing a system helping them choose majors. To address potential changes in their professional interests and learning choices, students may also apply for transfers to other majors during their studies. While there is no limit to the number of transfers, there may be cases in which the transfer requests exceed the maximum number of students allowed by a given major; under these circumstances, students are screened based on professional admissions criteria, with relevant course credits from their original majors recognized after transferring [11]. Ma Tingqi and Zhong Ying (2017) found that British universities were also highly concerned about the process by which students selected and transferred between majors. There, universities and colleges implement admissions service centers that are responsible for providing support throughout this process. For example, students at the University of London can apply for cross-faculty and cross-professional transfers [12]. Gao Changming (2015) pointed out three fundamental problems in China: (1) utilitarian issues: easy employment procurement and high remuneration are considered first when choosing a desired profession, in which case students may ignore their own specialties and hobbies; (2) blind obedience issues: some students may not understand the connotations of a given discipline or the associated employment prospects, but will blindly listen to the opinions of parents and teachers who advise the pursuit of popular majors; (3) gender issues: there are serious imbalances in the ratio of men to women in some majors, which is not conducive to field development [13].

3.2. Influencing Factors

At the individual level, students are influenced by many factors when selecting their majors, including family conditions, grades, school amenities, and societal expectations [14]. These factors can be roughly divided into two categories, including “non-family background” and “family background” factors.

In the context of higher education becoming more popularized, an increasing number of scholars have begun to focus on how family backgrounds influence professional preferences among students. Findings can be summarized as follows: The first view is that family backgrounds directly affect professional choices [15,16]. In addition to related indicators such as family social capital, economic capital, and cultural capital, scholars have also focused on the impacts of family political capital and socioeconomic status (SES) [17]. Empirical data obtained through American Education Tracking Research show that students with low SES tend to choose majors with high material returns, while those with high SES tend to prefer the humanities [18,19]. The second view is that family backgrounds impose indirect impacts on professional choices through other factors [20]. Finally, the third view is that family backgrounds do not influence professional choices at all [21].

A number of studies have suggested that children from different family backgrounds are differentiated and stratified via their individual preferences for certain disciplines and majors, with children from privileged families being more likely to enter popular or dominant majors [17,22–24]. Many foreign studies have also supported the above viewpoints [15,25,26]. Nevertheless, it appears that children from privileged family backgrounds have undeniable advantages at important turning points in their lives, thereby resulting in an unfair balance of educational options for children from other family backgrounds [27].
Even worse, this injustice has a cumulative effect over time, thus imposing more substantial difficulties at each successive turning point.

Due to China’s special dual urban–rural system, urban–rural differences have been the focus of many research efforts in a variety of fields. Some scholars have pointed out that, although colleges and universities continue to expand their enrollments, the urban–rural gap has not narrowed, but in fact widened due to this expansion [28]. Some researchers believe that persistent urban–rural differences have reduced the number of professional choices, even as these differences become less obvious [29,30]. Additionally, scholars have provided reasons for the different professional choices found between urban and rural areas [31]. In general, however, the literature shows that expanded college enrollments have increased existing differences between urban and rural areas with regards to the professional choices made by students. While some documents suggest that enrollment expansion has had positive effects, the focus should be on the necessity of achieving fairness in higher education opportunities for all candidates.

Aside from the professional choices students and their families must make, one must also consider situations in which choosing a major is considered a “compromise”, especially when a specific college is not the focus. To reduce the admission risks associated with applying to a given university, many students will accept adjustments to a desired major or avoid popular majors that entail fierce competition. Accordingly, many will choose “unpopular majors” with relatively low admissions score requirements. Indeed, this has become a common strategy, especially among candidates who are constrained by the scores they receive on their college entrance examinations. In view of this (and based on the proportions entering Project 985 and Project 211 institutions), we divided students into two groups according to their standardized college entrance examination scores and family background characteristics (including family capital and urban/rural household registration status); we therefore labeled these as the “college priority” and “major priority” groups. We then conducted a regression analysis on factors such as family culture and gender in order to explore any intergroup differences. Next, we conducted a logistic regression analysis to examine the factors that affect whether students prioritize majors or specific colleges. Finally, we set professional choice motivation as an independent variable in the regression model to explore its influences on these priorities.

4. Data and Study Model

4.1. Data Sources and Sampling

This study subsampled national data previously obtained from students through a 2014 questionnaire survey targeted by undergraduate science education (conducted by the School of Education at Peking University, as commissioned by the China Ministry of Education). The subjects of exploration included ordinary undergraduate colleges with a certain number of sciences majors. The School of Education at Peking University developed a relevant measurement tool referred to as the National Higher Education Reform Questionnaire (Undergraduate Questionnaire), which was designed based on both an expert survey and research conducted through a project titled “Monitoring of Teaching Quality and Student Development in Capital Colleges and Universities”. Because the subject classification structure of the original data was biased toward science, we controlled for this by selecting a subsample based on the type of institution, area of study, and gender. Table 1 shows a structural comparison of the original sample and subsample. According to data from the 2011 “White Paper on Employment of College Graduates” and “China Education Statistics Yearbook”, the subsample was congruent with national proportions for institutional level, subject classification, and gender.
Table 1. Comparison of the sample structures before and after resampling.

| University Type                | Before (%) | After (%) | Reference Ratio (%) |
|-------------------------------|------------|-----------|---------------------|
| C9                           | 1.6        | 1.5       | 1.5                 |
| 985                           | 18.2       | 7.2       | 6.4                 |
| 211                           | 10.1       | 13.7      | 13.6                |
| General Undergraduate Colleges | 70.2       | 77.6      | 78.6                |
| Humanities                    | 14.7       | 17.8      | 19.4                |
| Social Science                | 20.8       | 29.8      | 30.7                |
| Science                       | 35.8       | 9.4       | 9.5                 |
| Industrial Agricultural Medicine | 28.7     | 43        | 40.4                |
| Gender                        |            |           |                     |
| Female                        | 58.1       | 50.4      | 50.4                |
| Male                          | 41.9       | 49.6      | 49.6                |

4.2. Defining the “College Priority” and “Major Priority” Groups

A practical difficulty arises when studying how family backgrounds influence whether students prioritize majors or specific colleges; that is, how to clearly divide them into groups of “profession first” and “college first”. Further, students may be divided into three categories based on their college entrance examination scores: the first is high-scoring candidates (who account for both the school and major when applying), while the second category is medium-scoring candidates (who may accept adjustments to their desired majors when prioritizing specific colleges; preferred majors must often be abandoned at prestigious schools, with some choosing lower tier colleges), and the third is low-scoring candidates (who are limited in their choices due to score restrictions). In this study, we focused on high- and medium-scoring candidates. Our research design is to limit the sample to a narrow range of scores, that is, near the boundary between high and medium scores, so that the samples can be compared. This is a research strategy that takes advantage of the peculiarities of China’s policies.

Using the sample proportion of students in Project 985 institutions (8.68%) (the proportions of students at various colleges and universities in this sample were 8.7, 13.7, and 77.6%). Referring to the proportion of college types in the employment white paper in 2011, Project 985 colleges (including C9) and Project 211 colleges and ordinary undergraduate colleges were shown at 7.9, 13.6, and 78.6%, respectively. The proportions of students at each college in the sample were generally similar to the national proportion. Therefore, the proportion of students in Project 985 colleges was used as the standard in this sample) as the standard, we adjusted the proportion by one percentage point both up and down. Therefore, students with college entrance examination scores ranking from 7.68 to 9.68% were set as the target group, as they are considered “marginal” Project 985 candidates and are thus likely to face the dilemma of prioritizing “low-scoring” majors at Project 985 institutions or “high-scoring” majors at 211 Project institutions. Thus, these students face the dilemma of choosing between majors and specific colleges. Within this target range, students who chose Project 985 institutions were defined as the “college priority” group, while those who chose 211 Project institutions were defined as the “major priority” group (those who chose ordinary undergraduate colleges and universities in this score segment may have been operating under other external interference factors when making their choices and were not considered for inclusion in the sample). In the data, there are 243 samples choosing “Major Priority”, accounting for 44.92%, while 298 samples choosing “Major Priority” accounting for 55.08%.

4.3. Research Model

In this study, we used a binary logistic regression model to analyze the influence of family background on the prioritization of majors and specific colleges while controlling
for the variables of gender, household registration status (urban or rural), and profession. The model was set as follows:

\[
\log \text{it}(P) = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 \sum_{i=1}^{n} X_i + \mu \tag{1}
\]

Within the model, the dependent variable was set as the binary institutional priority (i.e., major or specific college); in this case, college priority was valued as one, while major priority was valued as zero. Meanwhile, the independent variables included gender (female as the reference variable), household registration status (rural status set as the reference variable), school location, home location (eastern, central, and western regions, with western set as the reference variable), professional type (based on the four categories of humanities, social sciences, sciences, and industrial/agricultural/medical sciences, with industrial/agricultural/medical sciences set as the reference variable), father’s number of years of education, whether the father had obtained higher education (no higher education set as the reference variable), father’s occupational group (political elites, economic elites, cultural elites, ordinary groups, and disadvantaged groups, with disadvantaged groups set as the reference variable), father’s employment level (high-level, middle-level, and grassroots levels, with grassroots set as the reference variable), family income level (divided into high-income, middle-income, and low-income, with low-income set as the reference variable), and liberal arts choices (using science as the reference variable). The father’s education and occupational variables were included to replace the original control variables, thus ensuring strength among the regression results; if results did not change significantly, then they were considered both robust and reliable.

5. Analysis Results

This section discusses our analysis results in three subsections. The first shows how family backgrounds influence whether students prioritize majors or specific colleges based on the results of our binary logistic regression model, while the second details the results of our stepwise regression, in which the choice of major was set as the core independent variable in order to explore the impacts of personal motivation on prioritization. Finally, the third subsection provides a general summary based on both analyses.

5.1. Binary Logistic Regression Results

An important factor for students when considering their majors, family background, strongly influences whether they prioritize majors or specific colleges. We analyzed this issue through a binary logistic regression model. First, we used the stepwise regression method to gradually add each independent variable, thus analyzing their particular influences on the dependent variable. Without controlling for other variables, father’s education significantly impacted college preferences among students (Tables 2 and 3). For every additional year of education received by their father, the probability of children prioritizing colleges increased by 10.15%; for children with fathers who had obtained higher education, this increased by 94.06% when compared to those with fathers without any higher education. This shows that family cultural capital plays a very important role for children when considering colleges. In traditional Chinese culture, fathers are highly influential in deciding what professions and careers their children are likely to choose. In this regard, fathers with higher education levels tend to play more active roles when their children are applying to college and may substantially influence whether they prioritize majors or specific colleges. In sum, parents with higher education levels may substantially influence their children to forego desired majors in favor of better colleges.
Table 2. Results of the gradual regression on whether students prefer majors or colleges.

| Variables                  | Choose College | Choose College | Choose College | Choose College | Choose College | Choose College |
|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Father: political elite group | 0.0299         | (0.322)        | 0.0299         | (0.322)        | 0.0299         | (0.322)        |
| Father: economic elite group | 0.636          | (0.391)        | 0.636          | (0.391)        | 0.636          | (0.391)        |
| Father: cultural elite group | 0.240          | (0.289)        | 0.240          | (0.289)        | 0.240          | (0.289)        |
| Father: general group       | 0.279          | (0.207)        | 0.279          | (0.207)        | 0.279          | (0.207)        |
| Father: middle-level employment | 0.587 **       | (0.250)        | 0.587 **       | (0.250)        | 0.587 **       | (0.250)        |
| Father: senior employment   | 0.274          | (0.209)        | 0.274          | (0.209)        | 0.274          | (0.209)        |
| Father: years of education  | 0.0967 ***     | (0.0253)       | 0.0967 ***     | (0.0253)       | 0.0967 ***     | (0.0253)       |
| Father: higher education    | 0.663 ***      | (0.189)        | 0.663 ***      | (0.189)        | 0.663 ***      | (0.189)        |
| Relatively middle income    | 0.753 ***      | (0.207)        | 0.753 ***      | (0.207)        | 0.753 ***      | (0.207)        |
| Relatively high income      | 0.1032 *       | (0.532)        | 0.1032 *       | (0.532)        | 0.1032 *       | (0.532)        |
| Intercept term              | 0.0572         | (0.128)        | 0.0595         | (0.115)        | −0.815 ***     | (0.279)        |
|                            | (0.0253)       | (0.0253)       | −0.815 ***     | (0.0253)       | −0.0111        | (0.105)        |
|                            | (0.207)        | (0.207)        | −0.0111        | (0.105)        | 0.131          | (0.142)        |
| Observations                | 541            | 528            | 541            | 541            | 541            | 541            |

Note: Robust standard errors are in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 3. Results of the gradual regression on whether students prefer majors or colleges.

| Variables                  | Choose College | Choose College | Choose College | Choose College | Choose College | Choose College |
|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Male                       | 0.372 **       | (0.174)        | 0.372 **       | (0.174)        | 0.372 **       | (0.174)        |
| Urban                      | 0.459 ***      | (0.175)        | 0.459 ***      | (0.175)        | 0.459 ***      | (0.175)        |
| Eastern Hometown            | 0.325          | (0.247)        | 0.325          | (0.247)        | 0.325          | (0.247)        |
| Central Hometown            | −0.268         | (0.220)        | −0.268         | (0.220)        | −0.268         | (0.220)        |
| Science                    | 0.470          | (0.478)        | 0.470          | (0.478)        | 0.470          | (0.478)        |
| Humanities                 | −2.026 ***     | (0.258)        | −2.026 ***     | (0.258)        | −2.026 ***     | (0.258)        |
| Social Science             | −0.993 ***     | (0.215)        | −0.993 ***     | (0.215)        | −0.993 ***     | (0.215)        |
| Eastern School              | 0.282          | (0.240)        | 0.282          | (0.240)        | 0.282          | (0.240)        |
| Central School             | 0.0398         | (0.238)        | 0.0398         | (0.238)        | 0.0398         | (0.238)        |
| Advanced Literature        | −2.223 ***     | (0.221)        | −2.223 ***     | (0.221)        | −2.223 ***     | (0.221)        |
| Intercept term             | 0              | (0.129)        | −0.0504        | (0.130)        | 0.245          | (0.182)        |
|                            | (0.0253)       | (0.0253)       | 1.335 ***      | (0.503)        | 0.0770         | (0.196)        |
|                            | (0.207)        | (0.207)        | 0.0770         | (0.196)        | 0.881 ***      | (0.114)        |
| Observations                | 541            | 541            | 541            | 541            | 541            | 541            |

Note: Robust standard errors are in parentheses; *** p < 0.01, ** p < 0.05.

Personal characteristics and family backgrounds had significant impacts on whether students preferred colleges. For example, men were 45.06% more likely than women to “prefer colleges and universities”, while urban residents were 58.24% more likely than rural residents to do the same. Chinese society tends to place higher expectations on men to achieve higher status within society, while women are expected to pursue professional development; this may explain why male students are more inclined to prioritize colleges, while female students are more likely to prioritize majors [32,33]. In the dual segmentation model for urban/rural areas, information on rural students was relatively limited; further,
there is a lack of understanding about the general role of higher education with regard to the development potential for these students. In this case, they may tend to choose majors that are directly connected to the job market. Students with fathers in high-level employment positions were 79.85% more likely to “prefer colleges” than those with fathers in middle-level employment positions. Respectively, high- and middle-income families were 180.66 and 12.33% more likely than low-income families to “prefer colleges”. This indicates that students with more advantaged family backgrounds are more likely to prioritize colleges over majors. Students with these backgrounds often have more information channels and can therefore make more future-driven choices. Nevertheless, these students are generally not as eager to choose a major that will secure employment, instead preferring to make use of the better university brand to obtain higher status within society. In addition, students who chose the humanities and social sciences were 86.81 and 62.95% less likely to focus on specific colleges, respectively, when compared to students who majored in engineering, agriculture, and medicine. Further, high-level Chinese students were 89.17% less likely to choose colleges than science students. This may be due to the relatively narrow range of majors considered by high-level Chinese students when completing their applications. Science majors are usually able to engage in economics, finance, management, and other liberal arts disciplines, but liberal arts majors are typically prohibited from engaging in science and engineering disciplines; that is, they can only apply to corresponding liberal arts majors, and thus denied the opportunity to apply to better colleges. The college priority group was more likely to choose industrial and agricultural medicine majors when compared to the humanities and social sciences, which supports the previous conclusion. However, home and school locations showed no significant influences on whether students preferred majors or colleges.

Table 4 shows the regression results for the full model. Because some variables may have been affected by multicollinearity, family background variables were not added to the regression model concurrently. Results showed that the father’s education had a relatively stable influence on whether students prioritized specific colleges. With the addition of different control variables, students with fathers who obtained higher education prioritized colleges and universities at far higher rates (271.35%) when compared to those with fathers without any higher education. Middle-income students from low-income families also showed a significant increase (73.32%).

Meanwhile, liberal arts high school graduates were 94.55% less likely to prioritize colleges than science high school graduates. The same trend was revealed when using the father’s years of education as the independent variable. For every additional year of the father’s education, the probability of students prioritizing colleges increased by 14.79%. This verifies the previous gradual regression conclusions regarding the influence of family education background, family income level, and high-level Chinese fields of science on the prioritization of colleges over majors; the father’s education level showed no coefficient ratio when adding the control variable. In the full model, the influences of home and school locations were significant when controlling for other variables. Students from the eastern region were more likely to prioritize colleges when compared to those from the western region. This may reflect the similar differences found between students from urban and rural areas; that is, there may be cultural asymmetries and risk preferences resulting from different levels of economic and social development. Children from the eastern region were less likely to prioritize universities in the eastern region. This may be because Project 985 universities are more concentrated there, which entails more intense competition yielding higher admission risks for students with similar scores. Nevertheless, it is more likely for students to gain admission to Project 985 institutions in the west.
Table 4. Results of the full model regression on whether students prefer majors or colleges.

| Variables                        | Choose College | Choose College | Choose College | Choose College |
|----------------------------------|----------------|----------------|----------------|----------------|
| Male                             | −0.0359        | 0.0292         | 0.0243         | 0.0605         |
|                                  | (0.295)        | (0.295)        | (0.294)        | (0.295)        |
| Urban                            | 0.252          | 0.417          | 0.312          | 0.456          |
|                                  | (0.328)        | (0.335)        | (0.326)        | (0.335)        |
| Eastern Hometown                 | 0.811 *        | 0.926 **       | 0.755 *        | 0.872 **       |
|                                  | (0.428)        | (0.431)        | (0.427)        | (0.431)        |
| Central Hometown                 | −0.246         | −0.188         | −0.350         | −0.285         |
|                                  | (0.386)        | (0.386)        | (0.386)        | (0.386)        |
| Father: political elite group    | −1.014         | −0.771         | −0.718         | −0.877 **      |
|                                  | (0.619)        | (0.600)        | (0.439)        | (0.446)        |
| Father: economic elite group     | 0.767          | 0.888          | 0.888          | 0.888          |
|                                  | (0.788)        | (0.770)        | (0.770)        | (0.770)        |
| Father: cultural elite group     | −1.164 **       | −0.949 *       | −0.949 *       | −0.949 *       |
|                                  | (0.545)        | (0.532)        | (0.532)        | (0.532)        |
| Father: general group            | −0.323         | −0.286         | −0.286         | −0.286         |
|                                  | (0.354)        | (0.354)        | (0.354)        | (0.354)        |
| Father: higher education         | 1.312 ***       | 1.139 **       | 1.139 **       | 1.139 **       |
|                                  | (0.424)        | (0.451)        | (0.451)        | (0.451)        |
| Relatively middle income         | 0.550 *        | 0.490          | 0.525 *        | 0.463          |
|                                  | (0.300)        | (0.299)        | (0.300)        | (0.299)        |
| Relatively high income           | 0.522          | 0.657          | 0.350          | 0.499          |
|                                  | (0.723)        | (0.747)        | (0.721)        | (0.740)        |
| Science                          | 0.368          | 0.314          | 0.423          | 0.353          |
|                                  | (0.686)        | (0.680)        | (0.665)        | (0.665)        |
| Humanities                       | −0.530         | −0.660         | −0.486         | −0.641         |
|                                  | (0.562)        | (0.561)        | (0.565)        | (0.563)        |
| Social Science                   | −0.541         | −0.583         | −0.517         | −0.568         |
|                                  | (0.392)        | (0.402)        | (0.390)        | (0.400)        |
| Division of Arts and Science     | −2.911 ***      | −2.787 ***     | −2.834 ***     | −2.709 ***     |
|                                  | (0.465)        | (0.457)        | (0.463)        | (0.454)        |
| Eastern School                   | −0.822 *       | −0.877 **      | −0.811 *       | −0.877 **      |
|                                  | (0.439)        | (0.438)        | (0.441)        | (0.440)        |
| Central School                   | −0.718         | −0.777 *       | −0.629         | −0.716         |
|                                  | (0.439)        | (0.438)        | (0.437)        | (0.438)        |
| Father: middle-level employment  | −0.319         | −0.160         | −0.160         | −0.160         |
|                                  | (0.453)        | (0.453)        | (0.446)        | (0.446)        |
| Father: senior employment        | −0.621         | −0.372         | −0.372         | −0.372         |
|                                  | (0.476)        | (0.476)        | (0.476)        | (0.476)        |
| Father: years of education       | 0.138 ***       | 0.113 **       | 0.138 ***      | 0.113 **       |
|                                  | (0.0528)       | (0.0538)       | (0.0528)       | (0.0538)       |
| Intercept term                   | 1.904 ***       | 1.816 ***      | 0.722          | 0.875          |
|                                  | (0.495)        | (0.489)        | (0.632)        | (0.641)        |
| Observations                     | 432            | 424            | 432            | 424            |

Note: robust standard errors are in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1.

5.2. Regression Results after Considering Motivation

This study additionally explored whether personal motivation among students influenced the prioritization of majors or specific colleges, particularly in terms of field of study advantages, personal interests, self-efficacy, employment prospects, encouragement from relatives and friends, and projected salaries when applying for college (Table 5). In sum, there were no significant influences. This may be because students are required to select their desired majors and colleges over a very short period of time. Students and parents strive to make the best use of college entrance examination scores, which creates considerable pressure. In this context, the focus is often placed on the best schools and majors rather than the personal motivations of the students themselves.
Table 5. Regression results for motivation on whether students prefer majors or colleges.

| Variable                        | Choose College | Choose College | Choose College | Choose College | Choose College | Choose College | Choose College |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Field of study advantage        | 0.0393         | 0.0167         | 0.0425         | 0.0209         | 0.0538         | 0.00874        | 0.0637         |
|                                 | (0.100)        | (0.119)        | (0.112)        | (0.160)        | (0.115)        | (0.165)        | (0.110)        |
| Personal interest                | 0.0425         | 0.00874        | 0.0538         | 0.00874        | 0.0637         | 0.00874        | 0.0637         |
|                                 | (0.112)        | (0.165)        | (0.115)        | (0.165)        | (0.110)        | (0.165)        | (0.110)        |
| Self-efficacy                   | 0.0538         | 0.00874        | 0.0637         | 0.00874        | 0.0538         | 0.00874        | 0.0637         |
|                                 | (0.115)        | (0.165)        | (0.110)        | (0.165)        | (0.115)        | (0.165)        | (0.110)        |
| Employment prospects            | 0.0637         | 0.0149         | 0.109          | 0.0902         | 0.0538         | 0.00874        | 0.0637         |
|                                 | (0.110)        | (0.145)        | (0.102)        | (0.119)        | (0.115)        | (0.165)        | (0.110)        |
| Encouragement from relatives and friends | 0.109          | 0.0902         |                |                |                |                |                |
|                                 | (0.102)        | (0.119)        |                |                |                |                |                |
| Future salary                   | 0.229          | 0.211          | 0.184          | 0.148          | 0.0526         | 0.0933         |                |
|                                 | (0.289)        | (0.342)        | (0.338)        | (0.339)        | (0.282)        | (0.300)        | (0.473)        |
| Intercept term                  | 0.211          | 0.211          | 0.184          | 0.148          | 0.0526         | 0.0933         |                |
|                                 | (0.342)        | (0.338)        | (0.339)        | (0.282)        | (0.300)        | (0.473)        |                |
| Observations                    | 439            | 439            | 439            | 439            | 439            | 439            | 439            |

Note: robust standard errors are in parentheses.

5.3. Summary

The stepwise regression results showed that students with comparatively advantaged family backgrounds were more likely to prioritize specific colleges when compared to students with relatively disadvantaged family backgrounds. In this context, those with fathers at the top of the professional pyramid were also more likely to prioritize colleges compared to those with fathers with less prestigious careers. Several other factors influenced students to prioritize specific colleges over majors, including highly educated fathers, higher family incomes, urban household registration status, being male, and science-centered educations. The binary logistic regression model further reinforced the finding that advantaged family backgrounds substantially and positively influenced students to prioritize specific colleges, the most notable factors including fathers with better occupations, fathers with higher education levels, higher annual family incomes, and urban household registration status.

After controlling for family background factors, we found that gender and place of origin significantly influenced student priorities. Men were more likely to focus on colleges over majors; meanwhile, students from the central region were significantly less likely to prioritize colleges. Finally, students who aspired to engage in the humanities and social sciences were more likely to forego higher-level colleges in order to focus on those disciplines; that is, they prioritized majors over specific colleges.

6. Conclusions and Discussion

In this study, we investigated the factors that influenced students to prioritize specific colleges over majors, and vice versa. While there are systemic differences between the two groups, family background holds a significant influence on the student’s choice. If there is no intervention, the current higher education admission system will seriously hinder social equity and sustainable development within Chinese society. The following main conclusions were drawn: (1) there were clear areas of stratification and differentiation between prioritization groups, especially with regards to characteristics of their family background. We found clear intergroup differences when looking at family social capital, cultural capital, economic capital, and urban/rural distributions. Students with more advantaged family backgrounds were more likely to prioritize specific colleges, while those with relatively disadvantaged backgrounds were more likely to prioritize majors. Similarly, urban students were more likely to prioritize specific colleges than rural students. (2) There were clear intergroup differences in the distribution of majors, student regional origins, and gender. Students in the college priority group were more likely to choose science and
engineering, while students in the major priority group were more likely to choose the humanities and social sciences. Meanwhile, there were more males in the college priority group. Finally, students from the eastern and western regions were more likely to prioritize colleges than those from the central region.

Family capital also played a specific role; students with economic and social advantages had more access to quality professional training and resources outside of school. Subsequently, they were more familiar with mid- and high-level career fields, and thus understood the relevant modes of operation and positive impacts of college and peer networks. These students placed more focus on the colleges they wanted to attend. Students with higher levels of family cultural capital (e.g., those with highly educated fathers) were influenced by their parents, and thus had higher standards for their own academic qualifications and future development. Further, they were more familiar with the training models used in higher education and tended to value undergraduate education more than professional training. These students expected to enjoy a greater number of opportunities during their undergraduate tenures at specific colleges, including the ability to study abroad.

Students scoring at the margins of the admission standards required by Project 985 institutions and with relatively advantaged family backgrounds were more likely to choose colleges and majors focused on science and engineering; conversely, children with less advantaged backgrounds were more likely to choose their majors first, and tended to focus on humanities and social science disciplines offered at Project 211 institutions. This is dually related to the distribution of available majors; Project 985 institutions offer many science and engineering programs, but relatively few humanities and social science programs, ultimately resulting in different admissions opportunities. Nevertheless, issues with college entrance examination scores, college level restrictions, and unsuitable academic settings may force students with advantaged family backgrounds to compromise and prioritize majors over specific colleges. Due to the faculty adjustments implemented in 1952, Project 985 colleges have strong reputations in science, but weak in literature. Accordingly, there are more enrollment opportunities and obvious advantages in science and engineering.

Students with advantaged family backgrounds who prioritize specific colleges are more likely to enter science and engineering programs, while those with disadvantaged family backgrounds are deterred by the risk of admissions opportunities. When college entrance examination scores fall at the margins of admissions standards, many students maximize their situation by prioritizing specific types of majors, and therefore choose to focus on Project 211 colleges, which offer more opportunities in the humanities and social sciences. This further demonstrates that students with advantaged family backgrounds place more emphasis on specific colleges. In conclusion, family backgrounds not only directly affect whether students prioritize majors or specific colleges, but also influence the selection of specific majors.

This study has several limitations and areas that can be addressed in future research. First, the existing major selection method includes not only a single application for the college entrance examination but also broad enrollment, transfer of majors, minors, double major, etc. This study only analyzes the factors influencing the major selection method of the college entrance examination, but without considering the other aspects, it is difficult to comprehensively and systematically show the current situation of students’ major selection, and is something that future research can explore in depth. Second, the method employed to measure professional choice motivation can be further optimized. Especially for the measurement indicators of motivation, students of different family backgrounds have different choices of majors, and their personal preferences will also have a certain influence. Measuring the motivation of professional choice reasonably and accurately is a challenge to be addressed in related research. Third, quantitative analysis would inevitably have problems of endogeneity and causality of variables. Due to the nature of panel data and the complexity of factors influencing students’ majors, it is almost im-
possible to completely eliminate the endogeneity of variables. In addition, no in-depth quantitative analysis has been carried out on important factors such as college entrance examination scores.

**Author Contributions:** Conceptualization, C.G.; Formal analysis, M.G. and X.H.; Funding acquisition, C.G.; Software, X.H.; Writing—original draft, M.G. and X.H.; Writing—review & editing, C.G. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was funded by National Natural Science Foundation of China: grant number 72074012.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Not applicable.

**Conflicts of Interest:** The authors declare no conflict of interest.

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