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# *Factors Influencing the Choice of Destination for Pursuing a Master's Degree: A Mixed Methods Research*

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***Abstract:*** This report identifies factors that influence students' choices over where to pursue a master's degree. Based on information from the empirical study as well as scholarly works done by previous writers on education, the initial hypothesis of 10 factors with a whole spectrum of effects was proposed. This research employed both qualitative analysis and quantitative method of reliability and factor analyses. The qualitative part figured out a total of 18 original factors for quantitative analysis, which later compared their matrix and leave 15 factors of strong relevance. The results indicate that students' own needs turn out to be the most influential factor, with school characteristics, others' opinions, and the administrative efficacy of the school also contributing to the issue.

***Keywords:*** postgraduate education, school choice, mixed methods research, behavioral science.

## 1. Introduction

"An investment in knowledge pays the best interest", when Benjamin Franklin first proposed this in his 1758 piece The Way to Wealth, he wouldn't have understood that an increasing number of undergraduate students are buying this quote more than a century later, especially in China. According to Ministry of Education statistics, the country's upcoming national graduate entrance exam for the 2022-2023 academic year is expected to have a record 4.57 million test takers, an increase of more than 800,000 over last year [1]. Meanwhile, a bachelor's degree is becoming increasingly less competitive in China, hence may justifiably make Chinese undergraduate students feel unsatisfied with only such a diploma at hand. Therefore, investigating the factors that affect students' graduate school preferences is essential to guide them for more appropriate decisions and thus ensure their future success.

This research first conducted surveys and interviews with the regard to stratified sampling. Afterward, it combined both qualitative and quantitative research methods. A qualitative method was used to figure out the very factors which influence students' choices while the quantitative provided us with the significance level of each factor in numerical form.

## 2. Rationale

In the context of dynamic competition and globalization, the choice of graduate schools has become an issue that educational researchers and administrators must reflect upon [2]. The history of research

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on student school choice behavior can be traced back to the 1980s when the number of students in further education began to surge. Overall speaking, there are two branches of the study which reflect students' choices. One focuses on the comparison between graduate education with other types of education, while the other one categorizes different factors from different perspectives (e.g. internal or external, objective or subjective) [3][4].

Peters and Daly categorized the factors of graduate school choice as utility expectations and value expectations--where utility factors refer to factors such as quality of education, housing, and career prospects, and value expectations refer to factors that provide the greatest value to students and meet individual needs, which are also known as indirect utility factors, such as school reputation [5]. In addition, the two scholars also identified factors such as financial aid policies, location and cost of the school, family and friends, and information and advice.

Through this project, it is expected to produce a well-structured and detailed list of the factors. After building a model, the correlation coefficient of each factor will be clarified and presented. In addition, the report will include some factors of the foreign graduate program and the domestic one, as well as other elements, which have been ignored or not fully illustrated by scholars in previous studies.

## 3. Research Design and Methods

### 3.1. Qualitative Methods

The objective of qualitative research in this project was to identify highly-relevant variables for subsequent quantitative analysis. In order to fulfill this, we conducted independent interviews with 40 undergraduates, from freshmen to seniors, to obtain dependable data. We analyzed the collected data through the open coding process suggested by the analytic principles of the Grounded Theory.

#### 3.1.1. Questionnaires

The questionnaire was designed by the research group, and in order to ensure the validity of the data used and the reliability of the results obtained, the quality of the questionnaire should be checked before further analysis. The results of the reliability test were usually evaluated by using the Cronbach's alpha, which indicates high reliability when the parameter is greater than 0.8, average reliability when the parameter is between 0.7 and 0.8, and insufficient reliability when the parameter is less than 0.6. The final result of the reliability analysis was 0.839, which indicated that the internal consistency of the questionnaire was high, and the data could be used for further study.

The questionnaire facilitated the selection of sample subjects of study. The first few questions are meant to filter out students who have only vague ideas about the future after their undergraduate degree. The following questions were a motley assortment of open-ended questions and structured questions to help identify potential interviewees who had adequate knowledge of graduate study and stronger commitments to the interview. Before the final draft, a small-scale preparation test was conducted for figuring out erroneous wording and inappropriate question order.

#### 3.1.2. Coding

The recordings of the interview were transcribed into word documents and compiled with other interview materials, which were later imported to Nvivo 11.

As the qualitative analysis was only an auxiliary part of our research, we did not apply Axial and Selective Coding and employed Open Coding as a factor screening method. In the Opening Coding process, we separated the materials into different semantic junctures and assigned each one of them indigenous labeling 'codes' according to their definitions, all of which were realized through

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numerous rounds of discourse analyses. The frequency of appearances of the codes was adopted as the indicator for influence relevance. From the initial qualitative analysis, we were able to design the questionnaire which would be used in the quantitative study.

### 3.2. Quantitative Methods

The questionnaire was designed based on the result of qualitative studies, after which could we figure out the importance level of each factor and lead to our conclusion. An index system was constructed to quantify the factor indicators of graduate students' school choice. It was mainly divided into primary, secondary and tertiary indicators. In order to understand the different reasons for choosing graduate schools, we set five evaluation levels for the degree of satisfaction of the indicators.

#### 3.2.1. Principal Factors Analysis

Regarding there were 15 factors at this stage, which is too complicated for any further studies, we decided to use principal factor analysis to simplify the data collected, and ultimately construct a linear regression model to explain the choices of students. From the table of the average score of importance, we could calculate the commonality of each factor, meanwhile, some of the factors were congregated to simplify our outcomes. If the study meets a high confidence and concentration level, then principal factors analysis would make a huge sense and we could come up with 3 or 4 factors in total, by which fifteen equations can be written to explain all 15 factors. Therefore, the model can be constructed.

#### 3.2.2. Component Matrix and Rotating Component Matrix

To study the degree of influence of a school's characteristics, students' own needs, others' influence, objective conditions, and geographical and academic background on the differences in graduate students' reasons for choosing schools, we envisioned extracting four major factors through factor analysis, to classify and group many factors for the next comprehensive analysis, and now test whether the idea is feasible. As long as the major factors could reach the cumulative variance of 70%, then the component Matrix can be used.

If the component Matrix is clear enough for our research purpose, then there is no need to rotate the component Matrix. If it is still ambiguous and the parameters of the linear regression equations are not explicit enough, the rotation of component Matrix should be executed with the help of SPSS, then the factors would be accessible to study and analyze, thus making the model built.

## 4. Results

### 4.1. Qualitative Results

Factors with code reference numbers lower than 10 were regarded as 'irrelevant' and were filtered out. The remaining 11 factors were processed into the later quantitative procedure.

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## 4.2. Quantitative Results

Table 1: Average Score of Importance of Factor Indicators.

| Factor indicators | Average score of importance | Factor indicators | Average score of importance |
|---|---|---|---|
| Employment prospects | 4.98 | Influence or advice from senior and friends | 4.32 |
| Opportunity for further professional studies | 4.84 | Influence or advice from parents and relatives | 4.31 |
| Tuition and living cost | 3.01 | Influence or advice from non-relative elders | 2.95 |
| Funding policy | 3.15 | Proximity to home | 2.98 |
| Reputation of the school | 4.97 | Degree of economic development of the school location | 3.24 |
| Reputation of disciplines and majors | 4.96 | Having friends or relatives at the school | 2.53 |
| Reputation of instructors | 4.93 | Environment, facilities and equipment of the school | 3.10 |
| Admission score | 4.19 | | |

As shown in Table 1, the average scores of the three importance indicators (‘reputation of the school’, ‘reputation of disciplines and majors’, and ‘employment prospects’) were relatively high, indicating the importance of the above-mentioned factors in choosing a university. However, due to the limited time and number of respondents available, we could not jump to our conclusion.

The average scores of “the opportunity for further professional studies”, “influence of advice from seniors and friends”, and “influence or advice from parents and relatives” were at the medium level, which indicated that these three factors would to some extent affect students’ judgement. And in general, students were willing to listen to those experienced people’s advice to help themselves to make their own choices.

The average scores for the importance of “having friends or relatives at the school” and “proximity from home” was 2.53 and 2.98, which was relatively low. It showed that students were more concerned about the popularity of the school, the reputation of the discipline and major, and the employment prospects.

Thus, the school should avoid separating enrollment from employment while improving themselves, attract high quality employment agencies as much as possible, and provide students with information about job vacancies, manual instruction and useful feedbacks from employers.

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## 4.3. Results of Factor Analysis

### 4.3.1. Results of Principal Factor Analysis

Table 2: Degree of Commonality of Factor Indicators.

| Factor indicators | Degree of commonality | Factor indicators | Degree of commonality |
|---|---|---|---|
| Employment prospects | 0.871 | Influence or advice from senior and friends | 0.871 |
| Opportunity for further professional studies | 0.786 | Influence or advice from parents and relatives | 0.806 |
| Tuition and living cost | 0.877 | Influence or advice from non-relative elders | 0.832 |
| Funding policy | 0.884 | Proximity to home | 0.825 |
| Reputation of the school | 0.786 | Degree of economic development of the school location | 0.794 |
| Reputation of disciplines and majors | 0.622 | Having friends or relatives at the school | 0.774 |
| Reputation of instructors | 0.814 | Environment, facilities and equipment of the school | 0.906 |
| Admission score | 0.861 | | |

According to the Kaiser's rule, when the commonality is higher than 0.4, the factor could be recognized as a principal factor [6]. The variable commonality reflects the dependence of each variable on all the extracted common factors. From Table 2, most of the variable commonality is above 80% indicating that the extracted factors already contain most of the information of the original variables, and the effect of factor extraction is relatively satisfactory.

Table 3: Tested Values of Common Factors (from SPSS).

| Common Factor | Initial Eigenvalue | | | Extracted Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sum | Variance | Accumulation | Sum | Variance | Accumulation | Sum | Variance | Accumulation |
| 1 | 7.684 | 48.019% | 48.019% | 7.684 | 48.019% | 48.019% | 6.567 | 41.045% | 41.045% |
| 2 | 2.198 | 13.743% | 61.762% | 2.198 | 13.743% | 61.762% | 2.364 | 14.798% | 55.843% |
| 3 | 1.402 | 8.754% | 70.516% | 1.402 | 8.754% | 70.516% | 1.911 | 11.937% | 67.720% |
| 4 | 1.119 | 6.987% | 77.503% | 1.119 | 6.987% | 77.503% | 1.558 | 9.783% | 77.503% |

In Table 3, it can be seen that the variance explained by the first four factors reached 77. 503%, so four factors were extracted, before which a component Matrix can be used.

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### 4.3.2. Result of Component Matrix and Rotating Component Matrix

Table 4: Component Matrix.

| Original Factor | Composition | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Employment prospects | 0.934 | 0.020 | -0.090 | -0.104 |
| Opportunity for further professional studies | 0.931 | 0.058 | -0.036 | -0.084 |
| Tuition and living cost | 0.918 | 0.103 | 0.042 | -0.115 |
| Funding policy | 0.905 | -0.164 | 0.016 | -0.203 |
| Reputation of the school | 0.119 | 0.880 | -0.078 | -0.024 |
| Reputation of disciplines and majors | -0.027 | 0.848 | 0.119 | 0.357 |
| Reputation of instructors | 0.121 | 0.734 | -0.198 | -0.175 |
| Admission score | 0.257 | 0.635 | -0.197 | -0.034 |
| Influence or advice from seniors and friends | 0.031 | 0.039 | -0.461 | 0.265 |
| Influence or advice from parents and relatives | -0.313 | -0.113 | 0.826 | -0.122 |
| Influence or advice from non-relative elders | -0.153 | -0.325 | 0.746 | 0.431 |
| Proximity to home | 0.472 | -0.610 | 0.293 | 0.306 |
| Degree of economic development of the school location | -0.191 | 0.477 | 0.748 | 0.083 |
| Having friends or relatives at the school | 0.405 | 0.352 | 0.722 | -0.124 |
| Environment, facilities and equipment of the school | 0.635 | 0.007 | -0.051 | 0.706 |

From the analysis results, S1, S2, S3, and S4 all have very high loadings on the first factor, which means that they are highly correlated with the first factor, therefore the first factor is important; S5, S6, S7 and S8 have higher loadings on the second factor, which means that the second factor is highly correlated with them; S10 to S15 have higher loadings on the third factor, which means they are highly correlated with the third factor. The loadings of S1, S2, S3 and S4 on the fourth factor are relatively close, indicating that their correlations do not differ much. Therefore, it can be known that the actual meanings of these four factors are ambiguous, and therefore need to be factor-rotated.

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Table 5: Rotating Component Matrix.

| Original Factor | Composition | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Employment prospects | 0.901 | -0.173 | 0.226 | -0.008 |
| Opportunity for further professional studies | 0.888 | -0.157 | 0.244 | 0.056 |
| Tuition and living cost | 0.885 | -0.146 | 0.210 | 0.144 |
| Funding policy | 0.851 | -0.380 | 0.126 | 0.013 |
| Reputation of the school | -0.068 | 0.841 | 0.279 | 0.035 |
| Reputation of disciplines and majors | 0.099 | 0.835 | 0.234 | 0.164 |
| Reputation of instructors | 0.153 | 0.675 | 0.187 | -0.030 |
| Admission score | 0.145 | -0.506 | 0.088 | 0.012 |
| Influence or advice from seniors and friends | -0.079 | 0.342 | 0.865 | -0.019 |
| Influence or advice from parents and relatives | -0.060 | -0.233 | 0.839 | 0.214 |
| Influence or advice from non-relative elders | 0.158 | 0.459 | -0.734 | 0.045 |
| Proximity to home | 0.361 | -0.062 | 0.026 | 0.832 |
| Degree of economic development of the school location | 0.626 | -0.229 | 0.143 | 0.630 |
| Having friends or relatives at the school | -0.231 | 0.195 | 0.012 | -0.859 |
| Environment, facilities and equipment of the school | 0.351 | 0.049 | -0.021 | 0.582 |

## 5. Discussion

As an increasing number of undergraduates were showing signs of high-level anxiety over future choices of graduate programs, this paper aimed to identify the major factors contributing to students' preferences for master's degrees [2]. At the initial stage of our research, we conducted several preliminary interviews, from which we summarized three major conflicts that lead to students' anxiety. We analyzed the three challenges and raised two research questions based on them for reviewing previous scholarly works afterward. Recognizing the fact that former research was lacking in terms of comprehensiveness and problem-solving approach, we decided to take into consideration the whole spectrum of factors, filtering out those who are highly relevant and proposed practical solutions based on our findings through a mixture of qualitative and quantitative methods. For the qualitative method, we designed questionnaires to select individuals for interviews and analyzed their responses through an open coding process. The results of qualitative analysis proceeded to further quantitative-method research, where we set different evaluation levels and applied the factor-analysis research model.

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### 5.1. Analysis of Rotating Component Matrix

It can be concluded from the rotating component matrix in Table 5 that the factors influencing graduate students' choice of school are "the students' own demands", "the school's academic background", "the other people's influence" and "the school's living condition".

Therefore, it can be seen that "the students' own needs" is the most important factor that influences a graduate student when choosing a master's school while "the school's academic background" is the second most important factor, and "the other people's influence" comes third. The least significant factor is "the school's living condition", which shows that the objective conditions and geographical locations of the school are not the special concerns of graduate students at present.

### 5.2. Reflections Based on the Results and Analytical Data

By quantifying the factors influencing the choice of graduate schools, the conclusion of the method of principal factor analysis is as follows:

First, students pay special attention to their own needs when choosing the next step of their academic career, in particular, the employment prospects and a better chance for even further study, which is related to students' future development. In addition, there is no doubt that students as adults will consider reducing the burden of life for themselves or for their families.

Second, the characteristics of the school itself could comprehensively manifest its ability of student cultivation, management level, and scientific research level, which ultimately gather in the quality and capability of students, and these characteristics, in turn, will greatly affect students' prospects.

Third, because of the lack of in-depth understanding of the school chosen by graduate students, students' choices of school will be greatly influenced by others.

According to the above analysis, from the perspective of the universities, they should:

Schools should first focus on the improvement of their education quality, and revise their cultivation plan according to the feedback from the society and employers.

A comprehensive demonstration of the schools' characteristics and advantages of talent cultivation to the public. The prestige of the school is of great importance. The school should effortlessly and relentlessly promote the construction of discipline advantage and the popularity of its faculty members, thus enhancing the social influence of the school, and finally, achieving the purpose of attracting outstanding students.

Last but not the least, the management level of a school should never be ignored, they should optimize internal management and improve the satisfaction level of faculties and students.

In retrospect of the shortcomings of this paper, when exploring the influencing factors of graduate students' school selection, we have done several in-depth interviews with individuals who have gone through the whole process of choosing a graduate school, which involves the issue of satisfaction status of their chosen school, but the sample size is relatively small due to the time limit, so there are more things can be further discussed in future research.

## 6. Conclusion

By comparing the results with the hypothesis, those factors whose effects we believed to be dependent upon personal interests proved to be playing decisive roles in students' choices of graduate programs. Those which were formerly deemed as positively effective also ended up being among the most significant ones. The three newly proposed ideas, due to their novelty and opportunistic nature, were not registered in the list, although some of their impacts have already been taken into account by plenty of graduates What might be unexpected should be that family background did not necessarily end up with the extent of importance that we have hypothetically attached to it. However, one can still justifiably say that the impact of family background might be scattered into specific factors like

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others' opinions. The students could also potentially construct their own needs based on their familial origins, either by design or instinct.

Our research could serve to supplement the contemporary study of graduate education, by pointing out the three principal factors that we have identified and their implications for graduate schools should they wish to add to their attractiveness. In all, hopefully, the findings of this paper are able to yield insights to help students who are still in the fog to make reasonable and suitable choices.

Future literature should include more perspectives so that academics could foster deeper understandings of the issue. Future research should also dig further into the factor of family background, to determine if it has been effective in one form or another in other factors and the extent of their effectiveness in different factors. Future scholars should be able to quantify its impact and be attentive to its progress around the globe to provide more timely, concrete solutions to graduates in the age of the pandemic.

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