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Factors of Educational Anxiety for Chinese Students Entering Higher Education based on Educational Expectations

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Abstract: For the recent years, more and more reports had indicated that Chinese students are suffering from educational anxiety when entering in higher education. This paper examines the relationship between environmental factors, self-factors, family factors, and how these factors affect educational anxiety for Chinese students entering higher education. This study uses the 2020 China Family Panel Studies (CFPS) panel data to analyse the relationship between these factors. The results have shown that the environmental factors such as what type of school do they go to and the self-factors such as the expectations on oneself has great associations with students' anxiety level. The anxiety level is positively correlated with the academic strength of each type of the school, and students who do not met their self-expectations and with intention to improve suffer the most anxiety. Most of the students do now know their family spence on education therefore the relationship between family factors and educational anxiety needs further research to be determined.

Keywords: Anxiety, China, Education, Environment, Expectation, Higher Education.

1. Introduction

People's Republic of China is one of the biggest countries in the world, both in landscape and in population. By July 2023, the Chinese population has exceeded 1.4 billion, and the number is continuously rising. China has the largest higher education scale in the world, with over 44.3 million students enrolled in colleges and universities, according to the Ministry of Education of the People's Republic of China. Because of the enormously large population and limited social resources, extreme competitions exist in education systems for students who want a better living in the future.

The Chinese Education system is fairly different from the mainstream systems in North America or Europe, as it comes with great competition in systematical examinations. Most Chinese higher educational institutions, such as colleges and universities, are placed in an official ranking system, that universities are divided into batches, and the First Batch, also known as Yi Ben, is often where students want to go to. Highly ranked institutions will be more well-known and have better educational resources; by entering these institutions and studying there, graduates will often be granted with honor and more opportunities outside of the knowledge they learnt. For example, graduates from the top 2 First Batch universities: Tsinghua University and Peking University, can more easily succeed in career competitions compared to graduates with similar academic achievements from lower ranked universities.

Students need to enter specific annual academical examination held by the People's Republic of China to enroll in higher education institutions, which is the National College Entrance Examination (NCEE), also known as the Gao Kao; this examination is the prerequisite of students' next level of education, that for Gao Kao, students with outstanding scores may be accepted by the First Batch, while lower scores can only enter Second Batch or Third Batch, and even lower scores may only enter vocational schools, while the Chinese vocational competition is even more competitive based on China's large population. Therefore, Chinese families often hope their children to enter good universities, and many of them hold great expectations towards their kids. Many students also suffer from competition from their peers, teachers, and even expectation from themselves, which causes educational anxiety.

This paper examines factors of educational expectations from three aspects: environmental factors (school type), self-factors (rankings in class), and family factors (family spence on education), and how these factors affect education anxiety associated with students attending higher education.

2. Literacy Review

In most countries, citizens are grouped into social classes based on their socioeconomic status. Moving between social classes refers to changes that happen in an individual's socioeconomic situation. Education is a significant factor which promotes upward mobility; therefore, many families treat education as an opportunity to get a better life [1,2].

2.1. Benefits of Education

Education can be understood as an investment, as it is known for bringing welfare benefits toward individuals and societies; it brings a form of economic return of human capital to individuals who invest in education [3,4]. Much research also indicates that education brings better health [5-10], life expectancy [11,12], as well as better mental health [13-16]. Results show that education has many positive outcomes as it brings benefits to one's life conditions.

2.2. Educational Expectations and Anxiety

However, just like any other field in society, education also comes with competition.

Education expectation can raise education anxiety, as people stress when they are expecting too much. It has been pointed out that additional education can bring losses in

leisure time and work-related stress [17]. The anxiety level is also associated with education level. There have been findings demonstrating that highly educated people may have higher anxiety levels consisting with their highly standardized expectations [4]. This is a significant factor for students as most of their anxiety comes from education in school.

2.3. Education in Asian

Asian students, particularly, are experiencing high expectations from their parents and teachers, which lead to great stress [18,19]. China, specifically, has strong education anxieties; not only do students suffer from competition arises from large population, but also spatial recruiting competition in their neighborhood areas [20,21].

Previous studies had shown that education expectations can bring anxiety towards students entering higher education. This paper examines whether three distinct factors, environmental factors, self-expectation factors, and family spence factors have effects and how they affect education anxiety for students.

3. Methods

The hypotheses for this paper are:

H0: Educational expectation factors do not have an effect on educational anxiety of Chinese students entering higher education.

H1: Educational expectation factors have a significant effect on educational anxiety of Chinese students entering higher education.

H2: Environmental factors of educational expectation have a significant effect on educational anxiety of Chinese students entering higher education.

H3: Self-expectation factors of educational expectation have a significant effect on educational anxiety of Chinese students entering higher education.

H4: Family spence factors of educational expectation has a significant effect on educational anxiety of Chinese students entering higher education.

The dataset used is the 2020 China Family Panel Studies (CFPS) dataset. China Family Panel Studies (CFPS) is a nationally representative, biannual longitudinal survey of Chinese communities, families, and individuals launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University, China.

The population of this dataset is 25082 Chinese citizens. The sample chosen consists of 748 individuals that are currently in high school range (from grade 9 to grade 12). The question used to determine the education status of the candidate is the following:

@CFPS_2020 (What type of education are you in right now?)

The sample used for this dataset are candidates who answered 5, which is high school (regular secondary school)/ vocational secondary school/ technical school/ vocational high school.

The independent variables for this research will be the three factors: environmental factors, self-expectations, family spence; the dependent variable will be the anxiety level.

Candidates will first indicate what type of school they go to; regular high school is 1, vocational secondary school is 2, adult vocational secondary school is 3, vocational high school is 4, and technical school is 5. This will be the environmental factors, and we seek to find the different anxiety levels associated with each type of school (see Table 1).

Table 1. What type of school do you go to?

	Frequency	Percent
High School	539	72.06%
Vocational Secondary School	101	13.50%
Adult Vocational Secondary School	5	0.67%
Vocational High School	71	9.49%
Technical School	32	4.28%
Total	748	100.00%

Candidates will then answer based on their expectations of their study. The expectation level was recorded with a numerical order, indicating low expectations to high expectations from 1-5 (see Table 2).

Table 2. What level of expectations do you have on your study?

	Frequency	**Percent**
1	18	2.41%
2	60	8.02%
3	448	59.89%
4	164	21.93%
5	58	7.75%
Total	748	100.00%

Candidates will then answer a question about their total family spence on their education. The number put down will be recorded (see table 3).

Table 3. What is your family spence on your study?

	Frequency	Percent
Unknow	714	95.45%
N/A	4	0.53%
900¥	1	0.13%
1000¥	1	0.13%
1200¥	1	0.13%
1700¥	1	0.13%
2200¥	1	0.13%
3000¥	1	0.13%
3800¥	1	0.13%
4000¥	1	0.13%
4200¥	2	0.27%
5000¥	2	0.27%
6000¥	3	0.40%
7200¥	1	0.13%
8000¥	1	0.13%
8500¥	2	0.27%
10000¥	2	0.27%
12000¥	2	0.27%
16000¥	2	0.27%
18000¥	1	0.13%
20000¥	1	0.13%
30000¥	1	0.13%
35000¥	1	0.13%
50000¥	1	0.13%
Total	748	100%

Lastly. Anxiety levels will be recorded on a numerical scale from low to high with answers from 1-5. Then we analyze the results and see how these factors influence anxiety level (see table 4).

Table 4. What is your anxiety level?

	Frequency	Percent
1	60	8.02%
2	127	16.98%
3	361	48.26%
4	165	22.06%
5	35	4.68%
Total	748	100.00%

4. Results

Out of the 748 participants, the most part is 539 answers going to regular high schools, alone with 101 answers for vocational secondary schools, 71 for vocational high schools, 32 for technical schools, and 5 for adult vocational secondary schools.

Most students had medium to high levels of self-expectations, with 448 for moderate self-expectation (3), 164 for higher self-expectations (4), and 58 for extremely high self-expectations (5), while 60 for lower self-expectations (2) and 18 for minimum self-expectations (1).

For family education spences, most participants did not know their family spence (714), while a few other results vary from 900 to 50000 yuan.

We use Analysis of Variance (ANOVA) to analyze the first two factors, as school type, self-expectation, and anxiety levels are all ordinal data. Here are the results:

For environmental factors, participants going to regular high schools have the highest level of self-reported anxiety level of 3.33, and vocational high school and technical school students reported a mean of 3. Vocational secondary school students have a lower average anxiety level of 2, and adult vocational secondary school students have the lowest, with an average of 1 (p=0.0001) (see table 5 and 6). Therefore, H2 is supported as the school type can significantly affect the student's anxiety level.

Table 5. Anxiety level and school type.

Anxiety Level	What type of school do you go to?					
	High School	Vocational Secondary School	Adult Vocational Secondary School	Vocational High School	Technical School	Total
1	25	20	1	8	6	60
2	82	19	1	19	6	127
3	273	42	3	29	14	361
4	131	17	0	12	5	165
5	28	3	0	3	1	35
Total	539	101	5	71	32	748

Table 6. Environmental Factors.

Anxiety level @ School Type	Mean	Std.Err.
High School	3.333	.177
Vocational Secondary School	2	1
Adult Vocational Secondary School	1	.
Vocational High School	3	.577
Technical School	3	.408

For self-expectations, participants with extremely high self-expectations have the highest average of anxiety level of 4.5, and minimum self-expectations and lower self-expectations groups have level of 4; participants with higher self-expectations have an average anxiety level of 3.25, and moderate self-expectations group has the lowest average anxiety level of 2.92 (P=0.0000) (see table 7 and 8). H3 is supported, as students' self-expectations can significantly affect their anxiety level.

Table 7. Anxiety level and Self-expectation

Anxiety Level	Self-Expectation					
	1	2	3	4	5	Total
1	7	7	26	4	16	60
2	1	9	84	28	5	127
3	2	27	230	82	20	361
4	3	12	101	42	7	165
5	5	5	7	8	10	35
Total	18	60	448	164	28	748

Table 8. Self-expectation Factors.

Anxiety level @ Self-expectation	Mean	Std.Err.
1	4	.
2	4	.
3	2.923	.156
4	3.25	.854
5	4.5	.5

Mlogit model is used to analyze the relationship between family education spence and associated anxiety level. Since most of the participants (n=714) did not answer this question and 4 other participants did not answer with a clear data, the relationship between these two factors indicated by the result from the Mlogit analysis is not significant (p>0.05). Therefore, H4 rejected, the relationship between family factors and educational anxiety is yet to be determined.

5. Summary, Discussion and Conclusion

Mostly as hypothesized with H1, education expectation factors have significant effects on educational anxiety of

Chinese students entering higher education. Among these factors, environmental factors and self-expectation factors have significant effects on educational anxiety of Chinese students entering higher education.

The results indicated strong correlations among school type, self-expectation, and anxiety level. The results show that most students going to regular high schools have stronger anxiety levels, as there are extreme academic competitions in those schools because regular high schools focus on academic strengths, and students will need to strive for high ranked universities. Vocational high schools and technical schools are also associated with strong anxiety levels, as the competition is relatively strong for students since they will go into Chinese labor markets, which also has great competition based on China's large population. Participants going into adult vocational secondary schools have the lowest anxiety, as they may have other careers and school is not the only thing that needs to be worried about. Being adults, who have more life experiences compared to regular high school students, may also be an explanation.

For self-expectations, with no doubt people with highest self-expectations suffer from anxiety the most. It is interesting, however, that participants with lower self-expectations also suffer from relatively high levels of anxiety. One possible explanation would be that these participants already have good academic standing and does now have much further expectations, yet they get stress from maintaining this current positions. In general, students of Chinese higher education system suffer from high stress.

Most participants do not have knowledge of how much their family is spending on education, which caused low statistical significance on this data. It could be a result of most students do not have straight access to information such as how much school is, or the cost of their after-curriculum activities, as a result of Chinese parents taking care of all these processes. Chinese students also have lesser knowledge about money as they will be mostly focusing on academic studying. Considering it is a common belief for Chinese students that weekends are supposed for learning, most parents would ask their children to go to multiple tutoring classes but not based on students' own intentions, therefore it is understandable that they may not care or want to know about the prices of those classes.

In conclusion, this study has shown that education expectation factors have significant effects on educational anxiety for Chinese students entering higher education. Students will get different educational anxiety based on what school they go to, and how much self-expectations they have for themselves. Family and education departments should take these results and work on solutions to treat the uprising anxiety level among students and take care of their well-being and mental health. There are certain restrictions, such as the limited sample chosen from only one year, and many questions for this questionnaire cannot directly address educational anxiety problems. Future studies should work on a more comprehensive method to correlate these factors, with large panel data resources to support this claim.

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