Q&A

Hongbin Li: How the Gaokao Shapes China

The U.S. should academic discuss why China's college entrance exam system retains popular support despite its hardships, and how the gaokao influences our spread overseas.

FENG PENG — OCTOBER 22, 2021

INTERVIEW

In 1989, Hongbin Li set for the gaokao. China's college entrance exam. The high score he achieved brought him a free trip to Beijing and a free first-class ticket to school he had grown up in his position now as an director of the Stanford Center on Poverty and Inequality in Beijing. An economist who taught previously at the Chinese University of Hong Kong and Tsinghua University, Li's research area includes the transition and development of the Chinese economy and the Chinese education system. His new book, The Spiral Generation: Three Generations of Chinese Elites (Harvard University Press, September 2021), co-authored by economist Rainer Zu with assistance from Claire Cousineau, pulls from their personal experiences and quantitative research to examine how the gaokao has impacted modern Chinese society.

In a Q&A from our sitting, the Big Pen Chinese, were engaged here, Feng Peng ended Hongbin Li about the China's highest exam past, present and future.

Hongbin Li. Photo Courtesy

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Feng Peng: Can you explain the gaokao system?

Hongbin Li: Gaokao, which translates to "highest exam," is basically the college entrance exam in China. It determines which college you are going to, or whether you can go to college or not. This mechanism is important because it is normally held more than days to early June every year.

Earlier in high school, each student is divided into science or social science tracks. For the science track, you study subjects like physics, biology and chemistry. For the social science track, you study geography, history and politics. They both study math, Chinese and English, but for the science track, the math is harder.

For the gaokao, students are tested on six or seven subjects over two or three days, and then they get a score; college admissions are partly based on this one score.

How did such a system emerge in China?

The gaokao was first administered in 1952, after the People's Republic of China was founded. But it was based on an exam that was called the imperial exam, which is around 1,400 years old. That was the exam given by emperors to select their officials. A person could take it many times, and once he passed it, he would become an official, and then he could take a further exam to become a higher ranking official.

The gaokao in modern China is only for college admission, but since a person gets into college, that person then has a chance to become an official. So though they are a little different, the gaokao and the old imperial exam more or less have the same basic logic.

In your book, you describe the gaokao system as a centralized hierarchical tournament. Why do you term it this way?

I have been studying China's economy for many years. The society is organized as many different competitions. Education is probably the first tournament every individual in China experiences. In China, the schooling system is more of a selection mechanism than an education mechanism. In other words, what you learn matters, but it's not important as much as who you are. Basically, the purpose of the system is to test you and select the best people into the higher levels of the hierarchy. That's the purpose, and that's why we call it a tournament.

It even starts from first grade; a five-year-old has to be tested into elementary school. In elementary school, starting in the year of 2000 will normally be able to do simple addition, subtraction, multiplication and division. They can already recognize maybe 2,500 Chinese characters. Basically, they can read and do math. For a six-year-old, you might think these are the things that a student learn in school, right? But because there's a test, parents have their children study even before getting to school to get into the best elementary school. Only after you get into the best elementary school do parents believe the student can get into the best middle and high schools, then the best college. That's why it's a tournament system.

It's hierarchical because within school is the best, which city is the best, which college is best—everything's ranked. In the US, we don't exactly know which college is the best. There's a debate, right? In China, colleges are ranked clearly, with Iets made by the government. The top two are my place (Peking University and Tsinghua University), then the next are called the top nine, and then the top 40 and the top 100 or so.

These are all determined by the government, and government funding is allocated depending on the rankings. That's why there's a clear hierarchy in colleges—and also in primary and secondary education. In every city there is a clear ranking, where a certain high school is number one, another is number two, and so on. The whole thing is very hierarchical.

What does it mean that the whole system is centralized? Education is administered by the Ministry of Education, which also has divisions in every province and every city which report to the central government. All the colleges are administered by the Ministry of Education. For example, Peking University's president is a vice minister, and he reports to the minister of education.

The gaokao exam is also centralized. People are tested on the same day. Admissions happen at the same time. Admission quotas are set by the central government. The education content is centralized. What you learn in school is all determined by the central government.

How do economists analyze returns to education, and how do such analyses apply to the Chinese education system?

The classic model is like this: We normally say the cost of education is time. And basically we want to know, when you spend one more year of your time in school, how much additional income does it bring to you? Economists compare college degree holder to high school degree holders. In many countries, including both China and the U.S., a college graduate has around a 40% higher income than a high school graduate, meaning, since the college graduate has four more years of education, you get a lot of college has a 10% return.

But that model is based on market economies. It assumes that everything you get is from the market. So if you invest in yourself, and they pay you, that's all your income. Education is different. The most important sector is the state sector: government officials, state-owned enterprises, and also a lot of the so-called public institutions, like hospitals, colleges and schools. These employ a lot of people.

The pay for these people includes cash income, but that's only part of it. They also have other benefits. For example, Economists grew up in a rural area of Chinese province, and he moved into Tsinghua, he may stay in Beijing and get a Beijing hukou. And the most valuable thing in China is the hukou. If you grew up in Beijing, Shanghai, etc, and held that hukou registration, you have a built-in advantage in many things. College you get a very nice job, which has given you a desirable hukou, which is really valuable.

But if you get a hukou, how much is its cost or monetary value? There is none, so there's no market. Also in these jobs there are often housing, healthcare, pension and education perks, all benefits that are sometimes do not observe in the data. Even if we observe it, we don't know how to assign value to it.

That's why when we try to apply the returns to education model to China, the total "income", college graduate can seem to look really disappointing. All the models that are observable income, including many of my own works, really underestimate the true returns of education in China.

High school students in Hangzhou prepare for the gaokao. (Chinadaily)

How has Chinese society been shaped by the gaokao system?

Because the system is so important, because people know that scoring high on the exam does have a high payoff, parents really invest in students' testing skills. That's why tutoring is so widespread in China, and why it was so important that the government has decided to ban the whole industry a few years ago.

Even poor households still spend a lot of money on education, because it's their only hope for the kids to be upwardly mobile. Testing well and getting into a good college is a way that China maintains social mobility, which is very important.

This type of behavior, the cramming, the long hours — the common perception is that it's a cultural thing, and it's unreasonable. But you argue that it's actually very rational behavior. Can you explain that?

Yes, it's rational from both the individual perspective and the ruler's perspective. For individuals, we show that education has a high return. In China today, the best jobs are still government jobs, either judging for the government itself or for state-owned enterprises. These jobs are good because they not only provide security and high pay, they also provide some social status that cannot be achieved elsewhere.

When you get an official job, there are a lot of other benefits. China has the so-called "three mountains," or three areas of high expense: housing, healthcare and education. If you become a government official, you may be assigned housing that has a high market price but a low purchase price — basically it's subsidized. You have free medicine. You can go to the best hospitals free of charge. Your children can go to a good school. There may be other implicit social benefits, like social status, and so called "grey income. There's a high payoff for individuals, that's why people really care about this.

From a ruler's perspective, this is a good system because it maintains social mobility. A society with social mobility will be more stable because people have a chance at making it. The trick of this is that even though the chance of getting into a good college could be low, as long as there's a chance, people feel the need to try hard.

Moreover, the test is transparent, with a simple objective score. If you do well, you get into college. If you don't do well, you don't get into college. People who do not do well generally believe that they deserve it because other people are smarter, or they work harder, and so those people deserve better outcomes. Because everything is transparent, people know who is smart, who is working hard. So people don't blame the system.

By contrast, if you have a non-transparent system, then people might feel the system is corrupt. That's an issue, where people are not happy with the system, society will not be stable.

A system like the gaokao also helps the ruler select talents to work for him. Smart people will help him govern the country, which is good for him. The ruler can also determine what is taught in the school curriculum. So all those features the rulers like; that's why I think they want to deviate from it.

Other than those positives from the ruler's point of view, are there other reasons the system has been so enduring?

The division between elites and non-elites is a big issue in the U.S. today too. How do we select or decide who are the elites in society? One reason for the U.S. or channels to sort people into elites/non-elites. And the question is, what's the best way to do it? It's really hard to know. We don't think we have a good answer. But if the society is corrupt in other ways, then people at least want a transparent system.

Suppose China adopted the American system, using a holistic admission system which is partially objective and partially subjective. Chinese people would think the system was corrupt, because China's really a corrupt country. If you want to see a doctor, you pay a doctor's red envelope to do an operation; parents give teachers red envelopes so that teachers favor their child. This petty corruption is really popular. So people would rather have an system that has elements of subjectivity. That's why Chinese society has a consensus that the gaokao is the most accessible system.

Another important thing is that people in China believe in meritocracy. If you look at surveys by social scientists, and if you ask parents what they value most, Chinese people say working hard is a very important value: we should hard work our children. You ask an American, they might say hobbies are also very important — though Americans are also hard working. But it's down to nothing but pressure time to work, once Chinese don't care. That's why you observe people voluntarily work longer hours in China. They work on Saturdays, Sundays in many places. They want to study more money, and they value working or making money more than consumption and leisure.

Here, in the U.S., people work hard, but they also care equally about leisure and consumption. What that might suggest is that Chinese society values working and income, which is directly affected by the gaokao, more than anything else.

> College is one of the channels to sort people into elite/non-elite. And the question is, what's the best way to do that?

What inequalities are there in such a gaokao system, and how does that compare to a system like in the U.S.?

Once you reach the stage of taking the exam, the exams seem to be fair and objective. But before reaching that point, there are 12 years of training. It's like a tennis tournament, if you have a good coach, and you have spent a lot of money on training, then the result may be better, and you can score higher. That means people from richer families definitely have an advantage.

If you compare the top 10% income group to the bottom 10% income group and see the respective chances that their kids will get into China's top 39 colleges, the ratio is 2.5. Basically, if I'm in the top income group, the chance I get into an elite college is 2.5 times that of the chance for the lowest income group. This is very unequal.

But in U.S. it is worse. The same ratio for American and Chinese is 11.5. This gap is easy to understand, because in a holistic admissions system like in the U.S., good applicants need more income because all the extracurricular activities everything. The only way is that they don't have good chances, because good ones don't want to go to poor regions, that was not in line a big city.

It's hard to solve. I think one thing you can still do is to have some kind of affirmative action. Basically, you give some quota spots in colleges to the really poor regions, or poor families based on income. But it's hard to do. You could give a certain county two spots, but it could then turn out that the two elite families in the county get the two positions.

How has China's educational culture, shaped by the gaokao system, been exported elsewhere?

When Chinese people immigrate to other countries, they are still tested to the gaokao system. They come to the U.S., but they still try to seek the same kind of process, which is not what exists. But they still accepts of the system themselves anyway. For example, a lot of Asian parents, especially Chinese parents, even if they are not satisfied with the speed of classroom teaching or instruction, still hire a tutor or tutor their children themselves. They also care about the children's grade ranking in the school or their GPA, which also justifies hiring tutors. They can learn the material before the teacher in school teaches it.

The issue is, what if other parents don't like this? There there's a kind of debate and argument in the community. Some of the time in a democratic country, people make decisions by majorities, by voting. That's why in many of the school districts with a lot of Asian families, the competition between students is a big issue for the school board members. People really pay a lot of attention to the campaigns every time for the school board elections.

A graduation ceremony at Peking University in Beijing. (Peking University)

Chinese parents care about having one single, transparent, objective measure in the school system overall, and especially for college admissions, since they just don't trust any sort of subjective system. At the national level, the Harvard case, *Students for Fair Admissions v. Harvard*, is a very good example. In that case, a group of Asian American parents sued Harvard for its admissions practices and of prejudicial ratings. In the end, the Supreme Court ruled against Harvard and gut all affirmative action.

There are also recent studies of white flight, where white families basically don't want their kids to be subject to such intense competition and stress, so they choose to migrate away from communities and schools with a lot of Asian families.

The problem is that this kind of testing system has been within Chinese culture for such a long time. Chinese people are used to it. It may take generations to change. But given that Chinese people keep immigrating to this country, this will affect the education system here. Also importantly, what if that system has some upside? What does it mean that the kids do succeed with those tactics in this system? Other parents may also want to learn or copy from this. So I think this will be an ongoing issue for a long time in this country. ♦

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