China's Lost Generation: Changes in Beliefs and their Intergenerational Transmission

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Abstract

Beliefs about whether effort pays off govern some of the most fundamental choices individual make. This paper exploit the "lost generation" during China's *Cultural Revolution* to understand how these beliefs can be affected, how they are transmitted across generations, how they affect behaviors. During the *Cultural Revolution*, China's college admission system based on entrance exams was suspended between 1966 and 1976, effectively depriving an entire cohort of young people of the opportunity to access higher education. Using data from a nationally representative survey, we employ a pseudo-RD design to compare cohorts who graduated from high school just before and after the college entrance exam was resumed. We find that the "lost generation" who missed out on college believes much less that effort pays off, even 40 years afterwards. However, they transmit less of such changed beliefs to the next generation, and invest more in their children's education.

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1 Introduction

Beliefs about whether effort pays off in life outcomes play an important role in the fundamental choices individuals make. They determine work-leisure choices and in general the intensity of effort individuals put in their professional activities (see e.g. Alesina, Glaeser and Sacerdote (2005)). They affect parents' investment choices in their children's education (see e.g. Alesina and Angeletos (2005)), and they also determine the extent of support for redistributive policies (see e.g. Corneo and Gruner (2002); Alesina and Glaeser (2005), Alesina and La Ferrara (2005), Alesina and Giuliano (2011)).

Where do these differences in beliefs come from? Economists who have studied the endogenous formation of beliefs emphasize three main channels: *(i)* vertical transmission via parents (see e.g. Bisin and Verdier (2001)), *(ii)* horizontal transmission via peers, and *(iii)* the learning and updating from personal experiences (Piketty (1995)).

A difficulty in research on the topic is that it is empirically difficult to correctly identify causal factors of changes in beliefs. This is because peoples' experiences that may shape their beliefs are often chosen according to prior beliefs, leading to confirm these beliefs. Such concern is particularly relevant for beliefs on whether effort pays off and the corresponding experiences that individuals go through. For example, one cannot infer that bad grades induce students to believe that effort does not pay off. Indeed, students who already believe that effort does not pay off are likely to study less hard than students who believe in the virtue of effort, and are therefore less likely to receive good grades. We are thus often faced with many self-fulfilling prophecies where particular actions and event are endogenously chosen on the basis of prior beliefs, which then become self-enforcing.

In this paper, we study a particularly interesting historical episode – the *Cultural Revolution* in China (1966-1976) – that may have profoundly affected beliefs on whether effort pays off. The *Cultural Revolution* suspended regular higher education for the entire decade, creating the so-called "lost generation" that grew up during that period and was thus deprived of higher education opportunities (or "delayed generation", e.g.Chen (2007)). The universities reopened and a merit-based admission system resumed in 1977, immediately after the end of the *Cultural Revolution*. However, the decade-long disruption generated significant opportunity costs of going to college specifically for those who graduated from high school earlier. For example, they would have to give up the jobs that they had already started. In other words, the *Culture Revolution* induced an abrupt shock across high school graduating cohorts' likelihood of going to college for reasons largely outside of their control. This allows us to examine whether (lack of) educational experiences persistently shape citizens' beliefs on whether effort pays off in determining success. Moreover, we investigate to what extent the changed beliefs may affect citizens' behaviors, particularly their decisions to invest in their children's education and to transmit such beliefs to the next generation.

Using data from the China Family Panel Study (CFPS), we compare the beliefs and corresponding behaviors of high school graduates who went on to obtain university degrees versus those who did not, across the cohorts who graduated just before and just after the *Cultural Revolution* ended and the college admission resumed. Specifically, the "lost generation" consists of those who would have gone to college (and hence becoming educational elites) but in reality could not since college admission was still abolished when they graduated from high school. Were they to be born just a year or two afterwards, they would have graduated from high school just in time to try the college admission exam. In reality, many of them never tried because previous years had been lost and it became too costly to go back to school.[1] When we zoom in to the narrow window of cohorts graduating from high school just before and just after the end of the *Cultural Revolution*, differences in the beliefs and behaviors between those who missed out on higher education and those who did not across the pre- and post-*Cultural Revolution* cohorts should reflect the exogenous loss of opportunity due to the suspension of higher education.

We find that high school graduates among the lost generation" who have missed out on college education are significantly less likely to believe that effort pays off relative to luck, even 40 years later. They hold persistent grudges against the government for these lost opportunities, as they report significantly higher mistrust of local government compared to later cohorts. This is especially true among those who are unsatisfied with their current income. It is not surprising to observe such changes in beliefs. Adolescence and early adulthood are often considered as formative years (or, impressionable years) in an individual's life: experiences during this period can induce persistent effects that last for a lifetime.[2] The experience of lost access to university for millions of young Chinese adults due to the *Cultural Revolution* hence would likely generate a quite transformative impact on their beliefs.

Interestingly, however, many of these beliefs are not transmitted to the next generation. In fact, we find suggestive evidence of systematic reversal across the generations. High school graduates from the "lost generation" who missed out on college education spend more on their children's education compared to immediately younger cohorts. In addition, their changed beliefs on the role of effort versus luck are transmitted to the next generation to a lesser degree. In contrast, this is not the case with their acquired larger mistrust towards government, which they pass down to their children equally strongly compared to the younger cohorts. This pattern of intrageneratinal persistence and intergenerational reversal suggests that when we are thinking of the determinants of peoples' beliefs and preferences, it it important to distinguish between those that persist over

[1] Although we do not know precisely who among the lost generation" would have gone to college if the "*Cultural Revolution* did not take place, we know that they would constitute roughly ten percent of the high school graduates based on college attainment rates from the younger cohorts whose education schedule was uninterrupted by the *Cultural Revolution*.

[2] For example, Krosnick and Alwin (1989) demonstrate that individuals are highly susceptible to attitude change during late adolescence and early adulthood. More recently, Giuliano and Spilimbergo (2014) find that individuals are much more likely to be affected by experiences of economic recessions if these downturns occurred during their formative years, as compared to those that happened later in life.

time and are transmitted across generations, and those that only have a transitory character, i.e. that are determined by personal experiences but are not transmitted across generations. Despite its importance in our understanding of the endogeneous formation of beliefs and preferences, and of culture more broadly, we know very little about which events experienced by a given generation lead to persistent changes in values and beliefs and which do not. In the conclusion, we will offer some speculative thoughts about this issue.

These findings contribute to a growing literature that investigates the endogenous formation of preferences, beliefs, and attitudes. Many specific factors affecting beliefs and preferences of individuals have been studied in the literature: for example, being raised during the Great Depression made people more risk-averse and less optimistic (Malmendier and Nagel (2011), Giuliano and Spilimbergo (2014)), experience of civil war makes people more violent (Miguel, Saiegh and Satyanath (2010)), social mobility or property ownership makes people less favorable towards redistibution (Alesina and La Ferrara (2005), Di Tella, Galiant and Schargrodsky (2007)), trust increases with age (Guiso, Sapienza and Zingales (2008)), living under the welfare state decreases incentives of parents to instill to their children the value of hard work (Lindbeck and Nyberg (2006)), and traumatic experiences of famine in early life persistently affected citizens' political trust and attitudes (Chen and Yang (2015)). We add to this literature by studying the formation of beliefs on whether effort pays off, one critical dimension of beliefs that has nonetheless received relatively less attention previously. In addition, by simultaneously observing father-son pairs, we explicitly examine the transmission of such beliefs across generations.

The rest of the paper proceeds as follows: in Section 2, we describe the disruption of higher education during the *Cultural Revolution*; in Section 3, we present a simple model to help frame thoughts on various forces at play in the empirical context we study; in Section 4, we describe our empirical strategy and discuss the threats to identification; in Section 5, we present results; and finally we conclude in Section 6, discussing what we can learn from these results.

2 The *Cultural Revolution* (1966-1976) and the Disruption of Higher Education

2.1 Massive socio-political movement

The *Cultural Revolution* in China was a nationwide mass movement launched by Mao Zedong in 1966.[3] Having been partly sidelined inside the party after the disastrous policy of the *Great Leap Forward*, Mao called on the "masses" to revolt against the "bourgeois" headquarters and the bureaucrats inside the Chinese Communist Party (CCP) as well as against the government officials who had abandoned the "pure" revolutionary ideology and adapted bourgeois thinking and behavior. Mao encouraged the Red Guards, militias formed among students and young people, to

[3]Formally, the movement is named the "Great Proletarian Cultural Revolution."

go all over the country to spread the cultural revolution. The whole country was supposed to "remodel their world views" and abandon non-revolutionary ideas and practices.

All this led to a decade long chaos in the country. Parts of the government and the CCP were paralyzed, millions of cadres were demoted and denounced in mass trials. Competing groups of Red Guards fought each other. It is estimated that 400,000 people died during the *Cultural Revolution* because of the violence and mayhem caused. Economic development was brought to a halt due to the chaos and disruption. Ancient Chinese culture was denounced as counterrevolutionary and Red Guards destroyed large parts of the rich Chinese cultural patrimony: monuments, paintings, books, etc.

2.2 Disruption of higher education

Higher education was disrupted because it was suspected of transmitting bourgeois values. Many universities were closed until 1970. The *Gaokao*, the meritocratic entrance exam to universities was abolished in 1966. Entrance to universities became based on "class origins" and was reserved to working class children upon grassroots recommendation, i.e. was reserved to those who had shown activism in the Cultural Revolution and were of the right "class origin". Education was disrupted as the professors had been demoted and sent to the countryside to be "reeducated." Most traditional classes were replaced by "revolutionary" classes. For example, traditional medicine was considered bourgeois and was abandoned in universities. Doctors were replaced by "barefoot doctors" with minimum education performing traditional Chinese medicine based on acupuncture. No regular college degrees were granted during that period. Figure 1 shows that there was a sharp drop of university students between 1966 and 1970. The number started picking up again during the last years of the Cultural Revolution.

2.3 Resumption of college admission in 1977

The *Cultural Revolution* ended abruptly with the death of Mao Zedong in October 1976. The Gang of Four (it included Qiang Qing, Mao's wife) who had led the CCP during that period were immediately arrested after Mao's death. The college entrance exam (*Gaokao*) was reintroduced in 1977 after a ten year interruption.

Which cohorts were affected by the disruption of higher education due to the *Cultural Revolution*? The first cohort affected was those born in 1948 who were supposed to enter university in 1966. The last cohort affected was those born in 1958 who were of age to enter university in 1976. The resumption of the *Gaokao* in 1977 favored those born in 1959 and after. Those born between 1948 and 1958 who could have gone to university were thus negatively affected by the Cultural Revolution.

Older high school graduating cohorts were allowed to take the exam after 1977. Figure 2 shows the admission rate of each year's *Gaokao* since its resumption in 1977. One can see that the 1977

Gaokao was particularly competitive, largely due to the fact that test-takers during that year not only came from the 1977 high school graduating cohorts, but also from previous cohorts who were determined enough to try tp go back to school. In fact, many of the older cohorts did not attend the *Gaokao*, as it had been too many years since they had finished high school. Many had a job, had started a family and could not afford to lose their income for a number of years. Others were discouraged or had lost too much of the knowledge acquired in high school.[4]

3 Conceptual Framework

In this section, we build a very simple model of college admission in China that incorporates the features we are interested in for our empirical analysis, in particular the effect of suspending and then restarting the college admission exam. Having such a model clarifies the discussion for our empirical analysis where we want to analyze how the experience of the "lost generation" affected their beliefs. We start by analyzing the optimization choice of individual students in preparing for college admission, as a function of their ability, beliefs, the years lost after high school and the competition for admission.

3.1 Setup

The model is comprised of the following key elements:

- Call R the expected return from going to college. It can be seen as the expected net present value of all future income. Since our paper is not about returns to education, we keep that part of the model as simple as possible.
- Call p the probability of successfully passing the *Gaokao*. Assume that the probability of success depends on three key factors. First, the probability of success depends positively on effort provided e, which is the choice variable of the individual. Effort should be understood here broadly. It is not just the time and investment spent on preparing the *Gaokao*, but includes all choices made by the individual that affect the probability of being admitted. Second, we assume that the probability of success depends positively on the *prior* belief in effort versus luck, b. We assume in particular that $\frac{\partial^2 p}{\partial e \partial b} > 0$. In other words, somebody who believes more in effort believes that the marginal effect of effort on the probability of admission is higher than somebody who believes less in effort. This aspect of our model is important to understand the effect of selection on prior beliefs in the admission process, a key feature in the empirical analysis. Third, we assume that p depends on the level of competition for admission called γ. This is important because the first years after the college

[4]There, however, are no exact figures on the number of members of older cohorts who successfully passed the *Gaokao*.

admission exam was resumed, the competition was much more severe (as is evident in Figure 2). In particular, students eligible that year had to compete with people from previous cohorts who had been prevented from taking the exam. We assume that $\frac{\partial^2 p}{\partial e \partial \gamma} < 0$, i.e. more competition reduces the marginal effect of effort. The expected gross return from preparing for the exam is thus $p(e, b, \gamma)$. We assume that $p(e, b, \gamma)$ is a concave function of effort.

- Assume that there is a convex cost of effort $c(e, a, \theta)$ where a is ability and θ is the delay in being eligible to pass the *Gaokao*. We assume that $\frac{\partial^2 c}{\partial e \partial a} < 0$, i.e. the cost of effort for a given level of effort decreases with ability. This is a reasonable assumption since higher ability people have more facility with studying, and thus face a lower cost of effort. We assume that c increases with θ and also that $\frac{\partial^2 c}{\partial e \partial \theta} > 0$,. In other words, those born before 1959 face a much higher marginal cost of effort in preparing for the *Gaokao*. This is also very reasonable. Stopping to study for a number of years makes it harder to start again. Moreover, many of people from those cohorts already had jobs, some had founded families and had children to take care of. Therefore, the cost of preparing for the *Gaokao* was much harder for those cohorts. In addition, we assume that a and b are distributed independently, which seems to be the most natural assumption to make.

The eligible student thus faces the following maximization problem:

$$\max_e \; p(e, b, \gamma)R - c(e, a, \theta)$$

The optimal choice of effort e^* for individual i thus solves the following first order condition:

$$\frac{\partial p(e, b, \gamma)}{\partial e} R = \frac{\partial c(e, a, \theta)}{\partial e}$$

Given that p is concave in $e$and c is convex in e, we know a maximum will exist and satisfy that first order condition.

3.2 Comparative statistics and equilibrium choice of effort

With this framework, several simple comparative statics results follow.

First, given that $\frac{\partial^2 c}{\partial e \partial a} < 0$, e^* increases monotonically with ability. The marginal cost of effort will be higher for people of lower ability, thus leading to a lower equilibrium effort for the less able. If ability is normally distributed, there will be a higher proportion of students admitted among the more able, thus leading to a higher mean level of ability among those admitted compared to those non admitted. Formally, $\frac{de^*}{da} > 0$. At the optimum, for the marginal cost to be unchanged, a change in $e^*$and a must satisfy $\frac{\partial^2 c}{\partial e \partial a} da + \frac{\partial^2 c}{\partial^2 e} de^* = 0$. We thus have $\frac{de^*}{da} = \frac{-\frac{\partial^2 c}{\partial e \partial a}}{\frac{\partial^2 c}{\partial^2 e}}$, which is positive because of our assumptions on the cost function.

Second, given that $\frac{\partial^2 p}{\partial e \partial b} > 0$, a higher b will lead to a higher $\frac{\partial p(e,b,\gamma)}{\partial e}$. This must be matched by an increase in $\frac{\partial c(e,a,\theta)}{\partial e}$. This means that a higher equilibrium level of effort is chosen. Indeed, people with a higher b will think there is a higher probability of return on effort for a similar effort level, and will thus choose a higher e^*. Formally, varying e and b at the first order condition, we have $\frac{\partial^2 p}{\partial e \partial b} R db + \frac{\partial^2 p}{\partial^2 e} R de^* = \frac{\partial^2 c}{\partial^2 e} de^*$. we thus have $\frac{de^*}{db} = \frac{\frac{\partial^2 p}{\partial e \partial b} R}{\frac{\partial^2 c}{\partial^2 e} - \frac{\partial^2 p}{\partial^2 e} R}$ This expression is positive since the numerator is assumed positive and the denominator is also positive by convexity of $c(e, a, \theta)$ and concavity of $p(e, b, \gamma)$ with respect to e. An immediate but important implication follows from this. Since those with a higher b will choose a higher level of effort, this will increase their chance of being admitted. The mean level of b will thus be higher among those admitted than among those non admitted. Remember that we assume that a and b are distributed independently. Calling $E(b_A)$ the expected level of b for those admitted, and $E(b_{NA})$ the expected level of b for those non admitted, we have $E(b_A) > E(b_{NA})$.

Third, an individual with a higher θ will choose a lower level of equilibrium effort compared to somebody of similar ability with a lower θ or with $\theta = 0$ (those who suffer no delay in admission). Formally, $\frac{de^*}{d\theta} = \frac{\frac{\partial^2 c}{\partial e \partial \theta}}{\frac{\partial^2 p}{\partial^2 e} R - \frac{\partial^2 c}{\partial^2 e}}$, which is negative given our assumptions. Those with a higher θ who are admitted must thus have a higher mean level of ability and prior beliefs than those with a lower θ. Another way of seeing is the following. To have the same probability of being admitted, an individual with a higher θ must choose either the same level of effort than an individual with lower θ (or have a combination of higher b and lower e). Given that θ increases the cost of effort, the higher θ individual with the same level of effort must also have a higher level of ability. Therefore the pool of admitted among those with a higher θ must be of higher mean ability (or higher prior beliefs). $E(a_A)$ and $E(b_A)$ thus increase with θ. Since ability and θ are independent, a higher mean ability for those admitted means that less of those with a high θ are admitted compared with those of lower θ . There are thus high ability individuals with a higher θ who are left out compared to those with a smiliar ability and with a lower θ . The mean level of ability for those left out is thus also higher for those with a high θ than those with a lower θ. The same reasoning holds for prior beliefs. For a same level of b, an individual with a higher θ will have a higher cost of effort, deliver less effort and be less likely to be admitted. The higher cost of effort must be compensated by a higher b. Those admitted with a higher θ will thus have a higher mean level of b. This means thus also that the mean level of b among those left out will be higher for those with a higher θ .

The basic intuition is that a higher θ increases the cost of effort. This can only be compensated by a combination of higher ability and a higher level of prior beliefs. Given that ability and prior beliefs are assumed to be the same across cohorts, i.e. be independent of θ, it means that those admitted, who are less numerous are selected on a and b. Mutatis mutandis, the mean level of a and b among those not admitted is also higher. In other words, $E(a_{NA})$ and $E(b_{NA})$ also increase with θ.

Fourth, an increase in γ will lead to a lower level of e^* for all levels of a and b, which will

reinforce the selection on ability and prior beliefs for those with a higher θ.

Finally, given our discussion, call $F_{\theta A}(a)$ and $G_{\theta A}(b)$ the c.d.f. of those admitted as a function of a and b, respectively, for a given level of θ. Remember that these two are assumed to be indepedently distributed. Then it follows that for all $\theta' > \theta''$, $F_{\theta'' A}(a)$ and $G_{\theta'' A}(b)$ stochastically dominate $F_{\theta' A}(a)$ and $G_{\theta' A}(b)$. Calling $P_{\theta A}$ the proportion of admitted in cohort θ, it also follows that $P_{\theta' A} < P_{\theta'' A}$.

This discussion can be summarized by the following proposition:

Proposition 1: i) Equilibrium effort e^* in preparation for admission increases with a and b and decreases with θ and γ; ii) $E(b_A) > E(b_{NA})$ and $E(a_A) > E(a_{NA})$, and given that the distribution of ability and beliefs are assumed to be the independent of θ, $E(a_{NA})$ and $E(b_{NA})$ increase with θ; iii) for all $\theta' > \theta''$, $F_{\theta'' A}(a) \leq F_{\theta' A}(a)$, $G_{\theta'' A}(b) \leq G_{\theta' A}(b)$ and $P_{\theta' A} < P_{\theta'' A}$.

Selection into college based on beliefs Importantly, the result that $E(b_{NA})$ increases with θ will be particularly useful for our empirical analysis. The model implies that as the competition of entering college (θ) is significantly higher for members of the "lost generation" than later cohorts (see Figure 2), those among the "lost generation" who chose not to go to college or did not get admitted to college have a higher $E(b_{NA})$. This implies that if we find that members of the lost generation who were not admitted to college have lower beliefs in the payoff of effort, it cannot be due to a selection effect since the selection effect goes in the other direction. It must be due to changes in beliefs. This is what we examine next.

3.3 Belief on whether effort pays off

Next, we examine how people may adapt their beliefs based on their college admission experience.[5] Assume that people adapt their beliefs on whether effort pays off or not as a function of the *actual* outcomes of their college education attainment, and the *expected* outcome that they would consider as "fair." Specifically, in the context of the *Cultural Revolution* and the "lost generation," we consider a *fair* expected outcome given a certain level of effort to be the counterfactual probability of getting into college if the cohorts had faced no disruption in the higher education schedule.

Assume that changes in beliefs depend on the following function F that compares actual outcome with the expected fair outcome:[6]

$$\Delta b = F(y - \widetilde{y})$$

[5]Note that by adapting beliefs, we are *not* explicitly modeling the process of Bayesian belief updating on the payoff function of effort.

[6]This follows the same structure on the perception of fairness as in, for example, Fehr and Schmidt (2003), and Alesina and Angeletos (2005).

where y is an observed experienced outcome and $\widetilde{y}$ is an expected outcome.

In particular, we assume the expected "fair" outcome $\widetilde{y}$ is the equilibrium expected probability of getting into college when perceived $\widetilde{\theta}$ and $\widetilde{\gamma}$ are under "fair" conditions – when there is no delay($\theta = 0$) and when admission competition is at the level of normal years.

If y is close or equal to $\widetilde{y}$, then the outcome will be perceived to be fair to the effort, and hence beliefs on whether effort pays off or not will not change: $\Delta b = 0$. If y is larger than $\widetilde{y}$, then $\Delta b > 0$, as people adjust their beliefs upward, relatively more likely to think that effort pays off (than what is previously expected). On the contrary, if y is smaller than $\widetilde{y}$, then $\Delta b < 0$, since people observe an outcome level lower than what they have previously expected (in equilibrium).

If we adapt this framework to our model, then we can consider the perception of an individual of ability a eligible for the admission exam. Under "fair" (or normal) circumstances, there is no perceived delay, i.e. $\widetilde{\theta} = 0$ and competition is at the corresponding expected level $\widetilde{\gamma}$. Assuming that that individual knows his ability a and prior beliefs b, he can estimate his level of effort input as $\widetilde{e}^*$ as a function of $\widetilde{\theta} = 0$ and $\widetilde{\gamma}$. This would lead to an estimate of the "fair" return of effort, namely, the probability of college admission $\widetilde{p} = \widetilde{p}(\widetilde{e}^*, b, \widetilde{\gamma})$.

In reality, a member in the "lost generation" faced $\theta > 0$ and $\gamma > \widetilde{\gamma}$. He would hence choose $e^* = e(a, b, \gamma, \theta) < \widetilde{e}^*$, and experiencing the *actual* college admission with lower likelihood ($p - \widetilde{p} < 0$). Given our assumptions on beliefs adaptation, this leads to $\Delta b = F(p - \widetilde{p}) < 0$. We thus have the following proposition:

Proposition 2: An increase in θ above $\theta = 0$ and an increase in γ above $\widetilde{\gamma}$ lead to $\Delta b < 0$.

This result is quite straightforward but goes in the opposite direction of the selection on beliefs among non-admitted students discussed above. We will thus see in the empirical analysis to what extent it is relevant.

4 Empirical Strategy

In this section, we first describe our data sources. We introduce our empirical strategy and discuss the threats to identification.

4.1 China Family Panel Study (CFPS)

For the main analyses of this paper, we use data from the China Family Panel Study (CFPS). Key demographic characteristics are measured in the baseline wave conducted in 2010, and the 2nd wave in 2012 elicits various beliefs of interest, such as whether effort pays off as well as trustworthiness of the local government.

Overview of CFPS CFPS is a large-scale, almost nationally representative panel survey project conducted by the Institute of Social Science Survey at Peking University.[7] The 25 provinces of China covered by CFPS represent about 95% of the Chinese population in mainland China, with only Inner Mongolia, Xinjiang, Tibet, Hainan, Ningxia, and Qinghai excluded from the overall sample. Through a multistage probability sampling procedure, CFPS completed interviews with a total of 14,798 sampled households and all individuals living in these households, amounting to 36,000 completed adult observations. Crucially, parents and co-resident children are independently surveyed, allowing us to observing the beliefs and attitudes of both parents and children elicited in the same physical environment around the same time.

Baseline sample restrictions For our baseline estimations, we restrict the sample to individuals who have completed at least high school, and were born between between 1957 and 1960. These restrictions allow us to focus on individuals who were eligible to apply for college, and graduated from high school up to two years before the resumption of the college admission exam in 1977, or two years after. Overall, we have 509 observations: 21 pre-1959 cohorts with college degree or above, 238 without; and 30 post-1959 cohorts with college degree or above, and 220 without.

Key outcome of interest The CFPS elicits citizens' belief on the payoff of effort in the following way: "On a sale of 1-5, to what extent do you agree that 'effort and hard work pays off'," where 1 indicating strong agreement and 5 strong disagreement.

4.2 Pseudo regression discontinuity design

In order to identify the impact of the *Cultural Revolution* and its suspension of higher education on the beliefs and behaviors among the "lost generation," we compare individuals born just before 1959 who missed out on college (but were eligible) with those born in 1959 and just after, whose college education schedule was uninterrupted since they graduated from high school in or after 1977.

Specifically, we estimate the following pseudo-regression discontinuity model:

$$\begin{aligned} y_{ic} =& \alpha\, NoCollege_i + \beta\, BirthYear_c + \delta\, Pre1959Cohort_c \\ &+ \gamma\, Pre1959Cohort_c \times NoCollege_i + \epsilon_{ic} \end{aligned}$$

where y_{ic} is the dependent variable (individual beliefs and corresponding behaviors) (i stands for individual and c for cohort); $NoCollege_i$: is a dummy variable taking a value of 1 for those who di not attend college.We control for linear cohort trend ($BirthYear_c$), and introduce a fixed effect for the two cohorts born before 1959 ($Pre1959Cohort_c$).

[7] Detailed information about the CFPS project can be found at `www.isss.edu.cn/cfps`.

The parameter of interest for our estimation is γ, which captures the differential effect from the lack of college education, among pre-1959 cohorts that were eligible for college (compared to post-1959 cohorts). It is important to note that the $Pre1959Cohort_c \times NoCollege_i$ indicator includes high school graduates who would have chosen to go to college if they were able to take college admission exam right after high school graduation, but in reality could not due to the *Cultural Revolution*. Since the $Pre1959Cohort_c \times NoCollege_i$ indicator also includes individuals who would not have gone to college *even* if they graduated after the *Cultural Revolution*,[8] if we find that γ is significantly different from zero, this suggests that the effect among those who were actually hurt by the *Cultural Revolution* is quite strong.

Note that the education attainment indicator itself does not distinguish between those individuals who started college during the *Cultural Revolution* when admission was not meritocratic but politicized and those who started afterwards. Nevertheless, this would only downwardly bias our estimate, since our model suggests that college admission exam positively selects students who have higher prior beliefs on the payoff of effort. In other words, we have a type-II error where we "mistakenly" identify some people with low prior beliefs (and attended college not through the merit-based exam) as individuals who exert effort and pass the exam. As a result of that type-II error, the sample of those that did not attend college should have higher prior beliefs in the payoff of effort.

Features of the pseudo-RD design By focusing on the cohorts graduating from high school close to the 1977 cutoff (namely, birth cohorts close to the 1959 cutoff), we eliminate many potential confounding factors that are affecting the "lost generation" other than the suspension of higher education (see the following section for detailed discussions). In addition, the narrow window of comparison brings two advantages to our identification. First, it allows us to focus on cohorts for whom born in the "right" or "wrong" years with respect to college admission opportunities was highly salient (arguably a lifetime experience). The "lost generation" faces an exogenously imposed sharp shock in the prospect of higher education, which they could have avoided if they were to be born just a year or two later. Second, while the pre-1959 birth cohorts could choose to go back to college by taking the 1977 college admission exam, the narrow window comparison enables us to hold fix the college entrance exam competitiveness (conditional on taking the exam), since all the relevant cohorts took either 1977 or 1978 exam to enter college after the *Cultural Revolution*. This means that differences in competitiveness of the admission exam after 1977-78 will not affect our estimates. Third, *all* 4 cohorts of students entered high school without the expectation that by the time they graduated, they could enter college via a merit-based exam. In other words, there is no differential selection due to expected prospect post graduation among

[8]This is because only a minority (roughly 10 percent) of high school graduates choose to take the college admission exam in any given year.

those who decided to attend high school.[9]

4.3 Identification assumption and threats to identification

Our identification via the pseudo-RD design relies on the assumption that among 1957 to 1960 birth cohorts, the ability to take college admission exam right after high school graduation is the *only* relevant abrupt change that occurred to the post-1959 cohorts of high school graduates, due to the resumption of the exam in 1977.

Our pseudo-RD design readily rules out several confounding factors that might drive the results. First, differences in beliefs between the "lost generation" that missed out on college education and the younger cohorts may be due to gradual changes in broad socioeconomic conditions over time, such as for example economic development. Our comparison of cohorts born very closely around the 1959 cutoff year rules out such concerns. Second, factors that may affect beliefs but are *not* cohort-specific cannot drive the results, because our empirical design identifies the abrupt break in cohort trend around the 1959 cutoff. Third, factors that are cohort-specific but orthogonal to higher education attainment cannot drive our results, as we make it explicit in the empirical design that the abrupt change in 1959 birth year cutoff is also particularly related to higher education opportunities.

In other words, our identification is threatened by additional abrupt changes at the level of $Pre1959Cohort_c \times NoCollege_i$ tjat are *not* the resumption of college admission exam in 1977. To the best of our knowledge, there is no other known major historical episodes that affected particularly the pre-1959 cohorts who missed out on college education. In particular, note that by restricting our sample to high school graduates, we effectively focus on the urban population during the period of the *Cultural Revolution*, that remained largely unaffected by the fatal *Great Chinese Famine* (1959-1961) that was prevalent among the rural population. We next go on to demonstrate that a wide range of observable characteristics are "balanced" at the level of $Pre1959Cohort_c \times NoCollege_i$.

4.4 Balance checks

In order to make sure there were no trend-breaking shocks around the 1959 birth year cutoff that did not attend college, we check the balance of characteristics across that cutoff year. We do so by estimating our baseline specification introduced in Section 4.2 on a range of individual and household characteristics.

Table 1 looks at demographic variables: gender, ethnicity as well as weight and height. There is no significant difference in gender or being of *han* ethnicity. We look at (self-reported) weight and height as measures of general health. Indeed, the various cohorts we are looking at were at a

[9] However, this also indicates that these might not be the "regular" high school students that one may expect after the college admission exam was resumed.

young age through the Great Chinese Famine at the time of the Great Leap Forward (1958-1961), and this might have left some effects on particular cohorts, even though, as stated above, our sample includes only urban people. We see that those who did not go to college have a significant lower weight, but there are no cohort effects. There is no significant difference in height.

We also check balance between groups by comparing parental characteristics and household compositions. The results are presented in Table 2. The variables we look at are whether the father or the mother was illiterate, whether they were members of the CCP, class origin (whether their family was classified as belonging to the landlord class), number of siblings and whether they were sent to the countryside during the cultural revolution. For the main variable of interest, those born before 1959 who did not go to college, we see no significant difference in those variables. For those born before 1959, their mother is less likely to be illiterate and more likely to have been a member of the CCP. They are also less likely to be descendants of the landlord class. We also see that those born in later years were less likely to have been sent to the countryside during the *Cultural Revolution*.

We also check for proxies of intelligence and abilities acquired through education, in Table 3. The CFPS conducted a word test (via recognition of Chinese vocabulary) and math test (via accuracy in performing calculations), with test versions adjusted according to respondents' actual educational attainment. The test questions are formulated based on junior to senior high school level of difficulty, and the final scores are standardized. In addition, the CFPS implemented a memory ability test (via recall of a word list verbally presented) that aims to capture both "short" term (immediate recall) and "long" term (recall after two minutes) memory capacity. These scores are also standardized. Appendix X provides more details on these measurements. Here also, we see no difference for the pre1959 cohorts who did not go to college. The only difference is that those who did not go to college do in general less well on the word test. They do very slightly better on the math test, but that is significant only at the 10 percent level.

Overall, we see that there is a strong balance between the group of interest and other groups. If we do see significant differences in beliefs for that group, it is highly plausible that this is related to their experience of missing out on college.

5 Results

We now present results that identify the impact of higher education disruption due to the *Cultural Revolution* on citizens' beliefs and corresponding behaviors.

5.1 Beliefs on whether effort pays off

The main dependent variable we look at is beliefs that hard working does *not* payoff. This is done in Table 4. This is a variable taking values between 1 and 5. Here, we see clearly that this belief is stronger among the pre-1959 cohorts who did not go to college. To be clear, the

relevant people we are interested in are those among those cohorts who would have been admitted to college in normal times, but were not due to the suspension of higher education during the *Cultural Revolution*. We do not know who these people are, but it is clear that they are included in those from the pre-1959 cohorts that did not go to college. They do not form more than 10 percent of that group, probably much less. As we can see in all three specifications of Table 4 (without and with personal or parental characteristics), the coefficient is significantly positive.

The effect is not only statistically significant, but also substantial in magnitude. The estimated effect of $Pre1959Cohort_c \times NoCollege_i$ on citizens' beliefs reflect changes in the size of 80% of a standard deviation. It is difficult to think that this effect is present *only* among those who realistically would have gone to college. Quite plausibly, a larger part of the sample thinks that they are part of the "lost generation" and attribute their failures in life to the fact that they missed out on college because of the *Cultural Revolution*. As we will see below, the difference in belief is concentrated among those who perceive their income as low. We are here in presence of a typical attribution error: people attribute their failures to the external environment they failed and not to themselves, whereas people tend to attribute their success to themselves and not to circumstances they faced (see, among others, Ross, Bierbrauer and Hoffman (1976)). Note interestingly that those who did not go to college, among all cohorts, tend to think more that hard work pays off. It is thus not the case that those with lower education generally believe less that effort pays off. The opposite is the case.

5.2 Grudges

We also see in Table 5 that the pre-1959 cohorts that did not go to college have a significantly higher distrust in local government. Distrust in local government is measured by CFPS in the following way: respondents answer to what extent do they trust local government officials, where 10 indicates strong distrust, and 1 indicates strong trust.

Note that both people who did not go to college as well as people from the pre-1959 cohorts have in general less distrust towards local government. One thus clearly sees here evidence of grudges from the relevant members of the lost generation towards local government. As we can see in column (4) of Table 5, this distrust is purely political. If asked about distrust towards strangers, which is orthogonal to the issue at hand and can be seen as a placebo in this case, we see that there are no significant differences for the group of the lost generation.

The results of Tables 4 and 5 thus clearly show grudges from members of the lost generation. Those who expected under normal circumstances to be able to go to college, but were born in the "wrong years" understood clearly that they were deprived of higher education opportunities due to political reasons, completely outside their control. It is thus no surprise that they blamed the government for their fate. This result echoes with that of Chen and Yang (2015), which shows that those who suffered from the Great Chinese Famine during the Great Leap Forward have a significantly higher distrust of government, are less likely to have married someone who worked

for government.

To make our point clearer, in Table 6, we see that lower beliefs in the payoffs of hard work and higher distrust in local government is only significant among those who perceive that they have a lower income. The coefficients are also higher. This confirms the idea that those from the lost generation who did not do well in life, in terms of income, became bitter and changed their beliefs about effort versus luck and hold grudges against the government.

Placebo tests To test the robustness of our results, we repeat the estimation of our baseline specification while replacing the cutoff years. While we know that 1959 is the *true* cutoff of interest due to the resumption of college admission exam in 1977, we nonetheless assume other years around the 1959 as the cutoffs in order to conduct placebo tests. We redraw a window of 4 cohorts around these fake cutoff birth years, and re-estimate our key coefficient of interest: $PreCutoffCohort_c \times NoCollege_i$.

The results from these placebo exercises can be seen in Figures 4 and 4. We see clearly that the coefficient is only significant for the 1959 cutoff. If we take the 1960 cutoff, this means that we compare cohorts of 1958 and 1959 to cohorts of 1960 and 1961. In effect, only the cohort of 1958 was delayed in its ability to access the *gaokao*, not the cohort of 1959. We see that the coefficient is lower, but not significant. The fact that the magnitude of the coefficient declines over time may be accounted for by the fact that there was more competition in the first years of college admission (1977 and 1978) so that there was tougher competition than in later years where competitition was more normal. Overall, only the 1959 cutoff yields significant coefficient for beliefs and distrust, suggesting that the competition effect present in our model did not lead to significant effects.

5.3 Intergenerational transmission

The evidence so far shows clearly the grudges held by the lost generation. A natural question is whether they transmitted their beliefs about effort versus luck to their children. To answer that question, we estimate the following model of intergenerational elasticity of beliefs:

$$\begin{aligned} y_{ic} =& \beta\, y_{ic}^F + \gamma\, y_{ic}^F \cdot Pre1959Cohort_c \times NoCollege_{ic}^F \\ &+ \delta\, Pre1959Cohort_c \times NoCollege_{ic}^F + \epsilon_{ic} \end{aligned}$$

where y_{ic} are the beliefs of children (asked independently to the children, with the exact same wording as the question asked to the parents), y_{ic}^F are the beliefs of the father, and $NoCollege_{ic}^F$ is a dummy variable for whether the father did not go to college. The results can be seen in Table 7.

As we can see, the father's beliefs, be it on the role of effort or on distrust towards local government are transmitted to their children. The coefficients of the effect of the father's beliefs on the children's beliefs are in general all significant and positive, thus showing that there is a significant

component of intergenerational transmission. These coefficients do not however say anything about the transmission of the father's change in beliefs to the next generation. To see this, we again look at the coefficient on the father's beliefs interacted with the pre-1959 cohort not attending college. Here, we see a significant negative effect on beliefs in hard work and no significant effect on distrust towards local government. These results are interesting because they suggest that, while intergenerational transmission of beliefs are clearly present, not all changes in beliefs experienced during somebody's lifetime are necessarily transmitted to one's offspring. The negative coefficient on beliefs on effort clearly suggest some kind of reversion to the mean.

This reversion in the children's beliefs might be related to the fact that their parents, who were deprived from access to higher education, made special efforts to give their children what they had not received. In Table 8, we look at annual education spending by parents on their children's education (PPP-adjusted) in year prior to the CFPS survey. We see that, while parents with no college education, spend less on education of their children. However, those from the pre-1959 cohorts with no college education spend significantly more. This clearly suggests an intergenerational altruistic act motivated by one's personal misfortunes. Again, since only a minority in this category includes those who would have gone to college, had they had the opportunity, this spending effect on children's education is quite large. It is also consistent with the reversion in belief transmission observed among the children. Indeed, if parents invest a lot in the education of their children, they want to inculcate beliefs that will lead them to work hard on their education. As a placebo, we looked at annual medical spending. Not surprisingly, we find no significant effect among the pre-1959 cohorts that did not attend college.

6 Conclusion

People form fundamental aspects of their beliefs, preferences, and attitudes through the experiences that they have gone through, particularly during late adolescence and early adulthood. Such beliefs, preferences, and attitudes then shape important decisions throughout their lifetime, affecting outcomes even across the generations.

In this paper, we look at the effect of China's "lost generation" on belief formation. For the decade between 1966 and 1976, many higher education institutions were shut down, and admission exams to college were suspended due to the *Cultural Revolution*. While we do not know who would have gone to college if given the opportunity during those years, we do find that among those cohorts who suffered from the lost opportunities caused by the *Cultural Revolution*, beliefs in the payoff of effort were much lower, compared to those who were born afterwards and were not deprived from a normal educational path. They also have a significantly higher distrust of government. Interestingly, we found that these changes in beliefs whether effort pays off were, to a certain extent at least, not transmitted to their children.

Pondering these results, we realize we know still very little about which changes in beliefs

experienced during a generation are transmitted or not to next generations and why. In this case, we can speculate that the changes in beliefs of the "lost generation" were the result of frustration and bitterness, in line with our theoretical analysis. They were not the result of a change in identity (in the sense of Akerlof and Kranton (2010)) that was considered valuable to transmit. Intergenerational cultural transmission is arguably based on what parents consider valuable to transmit. This may include beliefs and values that help a child thrive in its existing environment. In many cases, this may also include transmission of low trust. We know from the work of Bisin and Verdier (2000) that intergenerational cultural transmission also includes beliefs and values the parents consider fundamental to their identity, such as religion or particular philosophical values, even if those may be costly for their offspring. In the case studied in this article, transmission of lower beliefs in the payoff to effort was not in the interest of the children, but these beliefs were arguably not fundamental to the identity of the parents.

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Figures and Tables

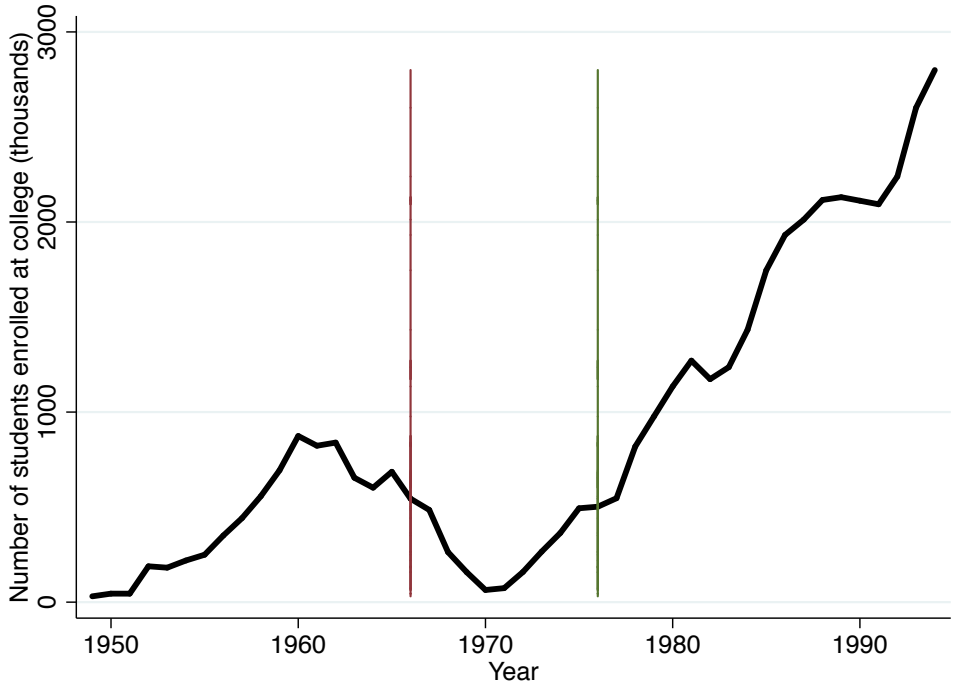

Figure 1: Number of students enrolled in universities by cohort. Data source: *Compilation of China Statistics Yearbooks* (1949 to 2008).

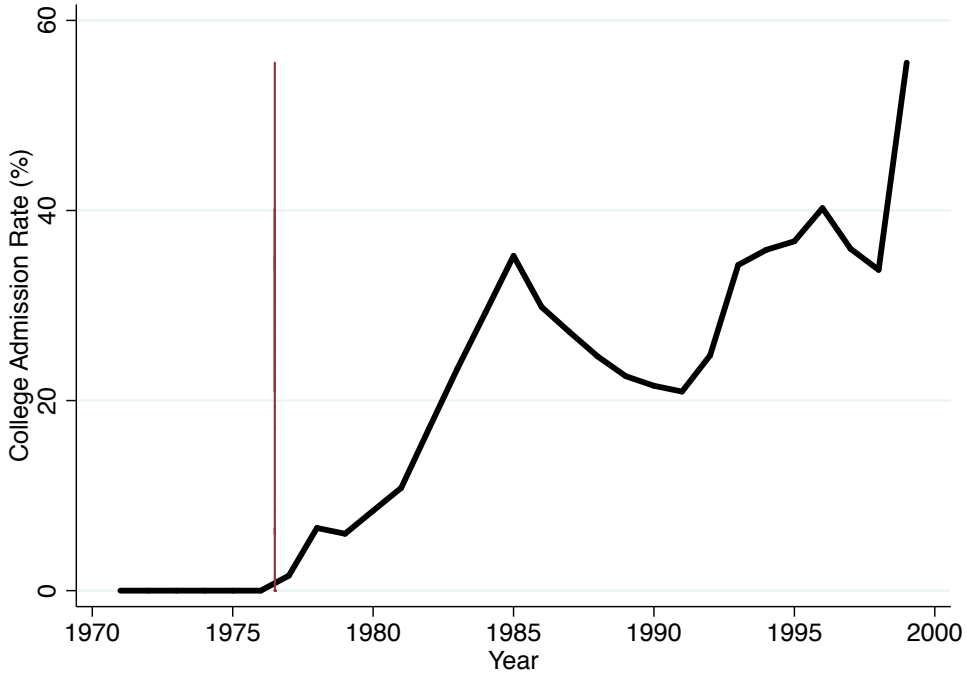

Figure 2: College entrance exam admission rate by exam year. Admission rate equals total students admitted into college divided by total students took the exam. Admission rate for 1977 exam is adjusted for the pre-screening process implemented in many provinces before the college entrance exam.

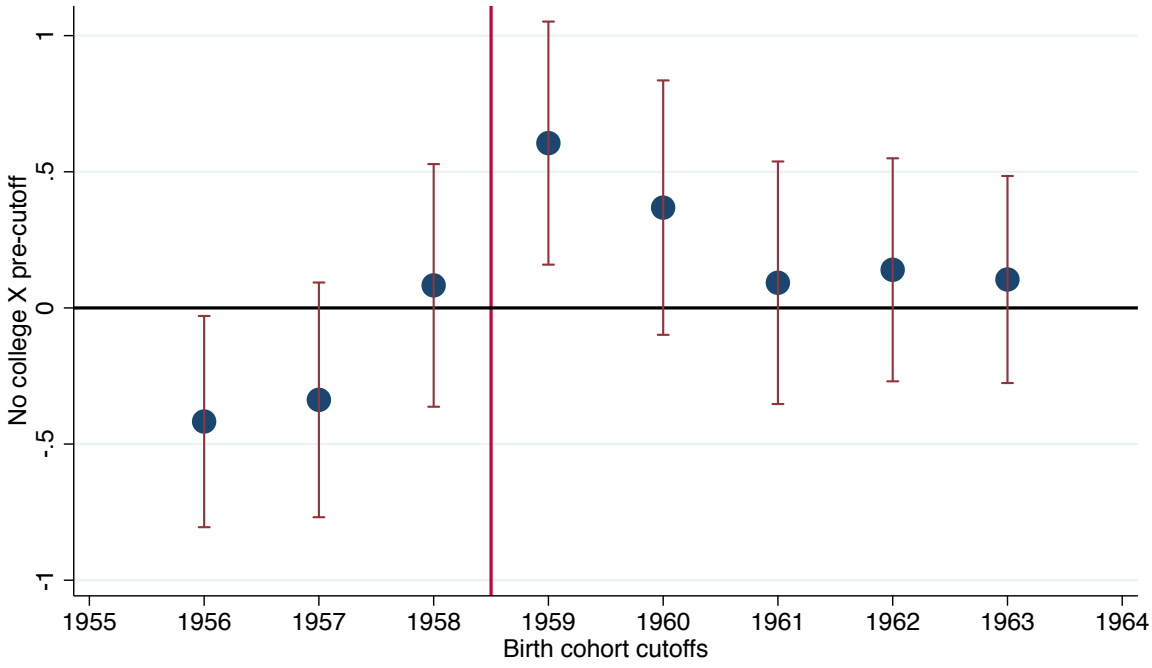

Figure 3: Placebo test of pseudo-RD design on the outcome of beliefs that effort does not pay off. For each birth cohort cutoff year, we draw 2 cohorts prior and 2 cohorts post the cutoff, and re-estimate our baseline specification. Only the NoCollege×PreCutoff coefficient estimates are shown.

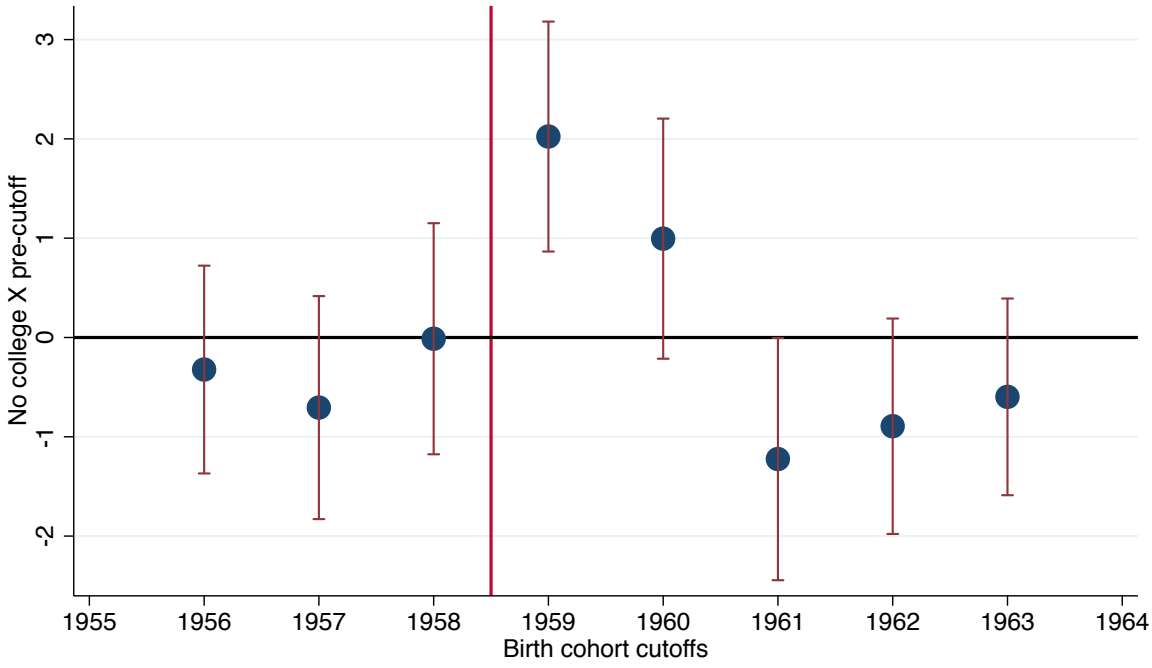

Figure 4: Placebo test of pseudo-RD design on the outcome of distrust in local government. For each birth cohort cutoff year, we draw 2 cohorts prior and 2 cohorts post the cutoff, and re-estimate our baseline specification. Only the NoCollege×PreCutoff coefficient estimates are shown.

Table 1: Balance check – demographics

Dependent variables:	Gender	Han	Weight	Height
	(1)	(2)	(3)	(4)
NoCollege	-0.165	0.007	-11.080**	-2.753
	[0.111]	[0.045]	[4.745]	[1.687]
BirthYear	0.057	0.025	1.637	0.057
	[0.044]	[0.018]	[1.857]	[1.660]
Pre1959Cohort	0.061	0.068	2.744	-0.638
	[0.168]	[0.069]	[7.169]	[2.549]
NoCollege ×	0.036	-0.016	-1.093	0.116
Pre1959Cohort	[0.147]	[0.060]	[6.245]	[2.220]
Observations	509	509	507	507
Mean	0.601	0.959	128.0	165.3
Std.Dev.	0.490	0.199	21.0	7.4

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets.

Table 2: Balance check – household background and composition

Dependent variables:	Father illiterate	Father CCP	Mother illiterate	Mother CCP	Land lord class	# of siblings	Sent down to countryside
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
NoCollege	0.087	-0.057	-0.074	0.049	-0.058	0.591	0.036
	[0.120]	[0.100]	[0.096]	[0.054]	[0.039]	[0.413]	[0.077]
BirthYear	-0.071	0.062	-0.055	0.025	-0.004	-0.003	-0.076**
	[0.047]	[0.040]	[0.038]	[0.021]	[0.015]	[0.163]	[0.030]
Pre1959Cohort	-0.093	0.134	-0.261*	0.191**	-0.104*	0.710	-0.013
	[0.182]	[0.155]	[0.146]	[0.082]	[0.058]	[0.627]	[0.117]
NoCollege ×	-0.051	-0.041	0.112	-0.117	0.076	-0.518	-0.040
Pre1959Cohort	[0.160]	[0.135]	[0.128]	[0.072]	[0.051]	[0.547]	[0.102]
Observations	468	491	492	498	497	509	509
Mean	0.510	0.262	0.771	0.060	0.030	3.563	0.139
Std.Dev.	0.500	0.440	0.420	0.238	0.169	1.808	0.346

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets.

Table 3: Balance check – intelligence and ability

Dependent variables:	Word test	Math test	Long-term memory	Short-term memory
	(1)	(2)	(3)	(4)
NoCollege	-3.417***	0.063*	-2.927	-4.503
	[0.868]	[0.221]	[6.343]	[6.165]
BirthYear	-0.064	0.045	1.234	1.518
	[0.339]	[0.086]	[2.539]	[2.457]
Pre1959Cohort	-0.006	0.535	0.914	1.414
	[1.311]	[0.333]	[9.665]	[9.383]
NoCollege ×	0.545	-0.317	2.502	2.780
Pre1959Cohort	[1.142]	[0.290]	[8.402]	[8.165]
Observations	509	509	483	488
Mean	24.560	18.230	60.514	59.784
Std.Dev.	3.93	0.970	27.783	26.903

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets.

Table 4: "Lost generation" and beliefs on effort vs. luck

Dependent variables:	Hardworking *doesn't* pay off			
	(1)	(2)	(3)	(4)
NoCollege	-0.412***	-0.410***	-0.432**	-0.435**
	[0.202]	[0.204]	[0.214]	[0.216]
BirthYear	-0.031	-0.020	0.019	0.028
	[0.080]	[0.080]	[0.085]	[0.086]
Pre1959Cohort	-0.520*	-0.496	-0.452	-0.431
	[0.305]	[0.307]	[0.329]	[0.331]
NoCollege ×	0.605**	0.608**	0.616**	0.615**
Pre1959Cohort	[0.266]	[0.267]	[0.287]	[0.288]
Personal chara.	No	Yes	No	Yes
Parental chara.	No	No	Yes	No
Observations	504	501	449	446
Mean	2.287	2.287	2.287	2.287
Std.Dev.	0.887	0.887	0.887	0.887

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets. Personal characteristics include: gender, han ethnicity indicator, weight, and height. Parental and household characteristics include father literacy, father CCP membership, mother literacy, mother CCP membership, landlord class during the Land Reform, total number of siblings, and indicator whether one was sent down to countryside during the Cultural Revolution.

Table 5: "Lost generation" and distrust in government

Dependent variables:	Distrust in local government				Distrust in strangers *(placebo)*
	(1)	(2)	(3)	(4)	(5)
NoCollege	-1.226**	-1.095**	-1.307**	-1.131**	0.085
	[0.520]	[0.519]	[0.536]	[0.534]	[0.476]
BirthYear	0.089	0.116	0.251	0.266	0.024
	[0.205]	[0.205]	[0.213]	[0.212]	[0.188]
Pre1959Cohort	-1.966**	-1.880**	-1.851**	-1.694**	-0.275
	[0.790]	[0.785]	[0.824]	[0.815]	[0.724]
NoCollege ×	2.023***	2.055**	1.945***	1.875***	0.295
Pre1959Cohort	[0.689]	[0.683]	[0.719]	[0.712]	[0.631]
Personal chara.	No	Yes	No	Yes	No
Parental chara.	No	No	Yes	Yes	No
Observations	498	495	448	445	496
Mean	5.280	5.280	5.280	5.280	7.845
Std.Dev.	2.296	2.296	2.296	2.296	2.083

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets. Personal characteristics include: gender, han ethnicity indicator, weight, and height. Parental and household characteristics include father literacy, father CCP membership, mother literacy, mother CCP membership, landlord class during the Land Reform, total number of siblings, and indicator whether one was sent down to countryside during the Cultural Revolution.

Table 6: Heterogeneity by income satisfaction

Dependent variables:	Hardworking doesn't pay off		Distrust in local govt.	
Subjective income evaluation	High	Low	High	Low
	(1)	(2)	(3)	(4)
NoCollege	0.506*	-0.306	-0.695	-2.011**
	[0.260]	[0.318]	[0.705]	[0.781]
BirthYear	-0.065	-0.000	0.097	0.035
	[0.110]	[0.115]	[0.302]	[0.282]
Pre1959Cohort	-0.535	-0.699	-1.272	-3.072**
	[0.373]	[0.544]	[1.018]	[1.338]
NoCollege ×	0.519	0.883*	1.181	3.176***
Pre1959Cohort	[0.325]	[0.480]	[0.890]	[1.180]
Observations	241	263	236	262

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets.

Table 7: Intergenerational elasticity of beliefs

Child's beliefs:	Hardworking doesn't pay off		Distrust in local govt.	
	(1)	(2)	(3)	(4)
Father's corresponding beliefs	0.283***	0.363***	0.241***	0.303***
	[0.071]	[0.079]	[0.049]	[0.067]
Father's corresponding beliefs		-0.123**		-0.001
× Pre1959NoCollege		[0.055]		[0.052]
Observations	243	242	248	242

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets.

Table 8: Spending on children's education

Dependent variables:	Annual educational spendings *(PPP-adjusted)*			Annual medical spendings *(placebo)*
	(1)	(2)	(3)	(4)
NoCollege	-6,430***	-6,330***	-6,327***	-3,871
	[2,131]	[2,146]	[2,120]	[3,113]
BirthYear	700	843	381	-2,542**
	[839]	[848]	[840]	[1,201]
Pre1959Cohort	-5,120	-4,856	-6,592	-8,486*
	[3,234]	[3,247]	[3,214]	[4,673]
NoCollege ×	6,736**	6,816**	6,855**	1,932
Pre1959Cohort	[2,823]	[2,826]	[2,804]	[4,060]
Personal chara.	No	Yes	No	No
Child chara.	No	No	Yes	No
Observations	500	496	500	499
Mean	4,604	4,604	4,604	4,646
Std.Dev.	9,394	9,394	9,394	13,379

*: Significant at 10%; **: 5%; ***: 1%. Robust standard errors in brackets. Personal characteristics include: gender, han ethnicity indicator, weight, and height. Parental and household characteristics include father literacy, father CCP membership, mother literacy, mother CCP membership, landlord class during the Land Reform, total number of siblings, and indicator whether one was sent down to countryside during the Cultural Revolution.