

Do Colleges Breed Revolutionaries? Education and Political Engagement in China After Tiananmen

Yuhua Wang*

September 24, 2015

Abstract

Modernization theorists believe that education empowers citizens to take collective actions to challenge authoritarian rule. I present the first quasi-experimental evidence to test the micro-foundations of this argument in a noncompetitive authoritarian regime. Exploiting China's college expansion reform as a natural experiment, I report that higher education increases the overall level of political engagement. However, college education merely has a positive effect on people's *individualistic, expressive* behavior, while having no effect on *collective actions*. China's young intellectuals also do not differ from the less educated in a range of political attitudes, such as demand for political rights. They care more about local affairs and are more worried about socioeconomic issues, while revealing no particular concerns with broader political issues. I attribute the widespread political apathy among China's college graduates to the 1989 Tiananmen Massacre and the heightened political control in Chinese universities after 1989.

*Yuhua Wang is Assistant Professor of Government at Harvard University (yuhuawang@fas.harvard.edu). I would like to thank the Research Center for Contemporary China at Peking University, especially Shen Mingming, Yang Ming, Yan Jie, and Chai Jingjing, for designing and implementing the Chinese Citizens Awareness Survey and Professor Feng Shizheng at Renmin University for sharing the Beijing Colleges Panel Study data. Liz Perry, Horacio Larreguy, Torben Iversen, Melanie Cammett, Susan Pharr, and participants at Harvard's Comparative Political Seminar have provided helpful comments. All errors remain my own.

The more knowledgeable, the more reactionary.

–Mao Zedong

Universities have no monopoly on critical discourse, but they are the most important source of dissidents.

–Alvin W. Gouldner

Both Mao, a communist revolutionary, and Gouldner, a sociologist, believe that education can change people in a way that disrupts existing political order. Modernization theorists have long advocated for the role of education in undermining authoritarian rule and promoting political development. As [Lipset \(1959, 80\)](#) put it bluntly, “If we cannot say that a ‘high’ level of education is a sufficient condition for democracy, the available evidence does suggest that it comes close to being a necessary condition.” Scholars have attributed the onset of the “Arab Spring” to the expansion of education in the Arab world ([Saunders 2011](#); [Campante and Chor 2012](#)). Knowing education’s empowering impact, several U.S. states historically restricted the education of slaves for fear that it would encourage revolt ([Woodson 1915](#)), and Belgian colonial authorities in Africa enacted similarly restrictive education policies ([Hochschild 1999](#)).

Despite an expansive literature that documents a positive correlation between aggregate education and autocratic regimes’ transitions to democracy ([Przeworski et al. 2000](#); [Boix and Stokes 2003](#); [Glaeser et al. 2004](#)), the microfoundations are underexplored. Does education increase citizens’ levels of political engagement in authoritarian regimes? More specifically, does education empower people to participate in collective actions that disrupt authoritarian rule?

Most existing studies view education as promoting individual autonomy and empowerment. [Huntington \(1991\)](#) claims that, at the macro level, education contributed to the “Third Wave of Democratization” in the 1970s and 1980s. At the micro level, compared to those with less education, people with more education are more knowledgeable about politics ([Almond 1963](#); [Verba and Nie 1972](#); [Mattes and Bratton 2007](#)), more interested in obtaining political information ([Dee 2004](#)), more likely to participate in politics ([Rosenstone and Hansen 1993](#); [Verba, Schlozman and Brady 1995](#); [Wolfinger and Rosenstone 1980](#)), more dissatisfied with existing institutions ([Weakliem 2002](#)), and more likely to engage in protesting and similar political

activities against an autocratic regime (Campante and Chor 2012).

However, this modernization view of education neglects that education in most authoritarian countries is government-run. Authoritarian governments have enormous incentive to shape the form and content of education in their favor. Wedeen's (1999) study shows how Syrian official discourses provide the correct "grammar" and formula for acceptable speech, thus habituating citizens to behave "as if" they believe in official rhetoric. Similarly, Lott (1999) argues that governments use public education to control the information that their citizens receive. More totalitarian governments make greater investments in publicly controlled information. Huang (Forthcoming) demonstrates that the Chinese state frequently uses political education to signal its strength in social control, and students who are more exposed to such education are more likely to believe that the regime is strong in maintaining social control and less willing to participate in political dissent. The scholarly research on the relationship between education and political engagement is far from converging to the modernization view.

In China, the regime has significantly reshaped its higher education since the 1989 Tiananmen Massacre. After the Tiananmen Student Movement of that year, the Chinese government launched an extensive propaganda campaign for patriotic education (Zhao 1998). The patriotic education campaign was engineered to ensure loyalty in a population that was otherwise subject to much domestic discontent. In addition, after 1989, the party-state deployed an array of control mechanisms to maintain order on university campuses, such as "guidance counselors" trained to keep a close watch on the behavior and mindset of college students and mandatory military education and training for all freshmen (Yan 2014; Perry 2015). The heightened political control on Chinese campuses since 1989 has exerted a long-term deterrence effect on college students' political behavior and attitudes. I therefore do not expect that China's young intellectuals are more likely to take collective actions than those who are less educated.

Establishing a causal relationship between educational attainment and political engagement, however, inevitably meets two empirical challenges. The first is reverse causality: While more educated people are more likely to participate in politics, those who participate in politics are also more likely to stay in school. The second is the difficulty of differentiating between

“education as cause” and “education as proxy.” As Kam and Palmer (2008, 612-613) point out, “The likelihood that an individual will pursue higher education is systematically determined by a number of factors, including parental characteristics, individual abilities, and predispositions. The same factors that propel individuals into pursuing higher education may also propel them into participating in politics.”

Identifying education’s causal effect therefore requires a counterfactual: If the same person receives more education, would she participate in politics more? Unfortunately, this counterfactual does not exist in reality. In this study, I exploit a natural experiment in which the Chinese government implemented a college enrollment expansion reform that exogenously increased post-reform cohorts’ probability of entering college. In 1999, China implemented a far-reaching education reform that greatly increased access to higher education. The reform increased high school graduates’ probability of getting into college by 22% in a single year. By comparing the cohorts that were just young enough to benefit from this reform with those that were slightly too old, I estimate education’s causal effect on a wide spectrum of political activities. I use an instrumental variable (IV) approach to address noncompliance across cohorts.

Analyzing a nationally representative sample in China, I find that higher education significantly increases the overall level of political participation. On average, a person with a college degree is three points higher on an 18-point participation scale than a person without a college degree. However, disaggregating types of political engagement reveals that education merely has a positive effect on people’s *individualistic, expressive* behavior, such as discussing politics on the Internet, while having no effect on collective actions, such as joining a protest or demonstration. These results remain robust across a wide range of checks, including varying the bandwidth, using an ordinal or continuous coding of education, controlling for pretreatment covariates, and employing rare events logistic regressions. A placebo test shows that the results are not merely driven by cohort trends. I also tackle the concern that respondents might underreport participation in politically sensitive activities by controlling for a variable measuring respondents’ fear of government repression, and my results remain the same.

I further explore several testable implications by drawing on a college survey that interviewed more than 4,000 college students in their freshman and junior years. I discover that juniors are not more likely than freshmen to support contentious behavior, such as public gathering, protesting, and striking, and that juniors are actually less supportive of petitioning than freshmen are. In addition, juniors are not more likely than freshmen to have experienced participating in collective actions. These results add more support to the claim that China's higher education has not encouraged citizens to take collective actions.

Utilizing the rich details in the survey data, I further uncover that respondents with a college degree do not differ from those without a college degree in a wide range of political attitudes, such as political efficacy, demand for political and civil rights, political knowledge, and satisfaction with government performance. The only characteristics that distinguish the young intellectuals from those who are less educated is that college graduates care more about local affairs (but not national affairs) and are more worried about socioeconomic issues that potentially threaten their material well-being, such as medical services and unemployment. College graduates, however, show no particular concerns with broader political issues, such as corruption, social justice, and the rule of law.

To investigate whether the 1989 Tiananmen Crackdown altered college students' participation modes, I compare the cohorts that were in college when the student movement occurred and the cohorts that attended college right after the crackdown. I report strong evidence that the pre-1989 cohorts are far more likely than the post-1989 cohorts to engage in collective actions, such as protests, sit-ins, or demonstrations. The results unveil the long-term deterrence effect of the repression.

I also rule out an alternative explanation that the dearth of employment opportunities as a result of the college expansion suppressed the level of collective actions. Comparing the personal income levels of the pre- and post-expansion cohorts, I do not find any evidence that the post-expansion cohorts are economically worse off.

To my knowledge, this is the first quasi-experimental evidence about whether higher education affects political engagement in a noncompetitive authoritarian regime. My findings

challenge the conventional modernization view that education necessarily empowers citizens to challenge the authoritarian state and remind us that authoritarian governments can utilize education systems to strengthen their own rule (Lott 1999; Huang Forthcoming; Cantoni et al. 2014).

This article speaks to several strands of literature in comparative politics and political behavior. First, while consistent with prior studies that find a positive causal effect of education on political engagement¹ (Dee 2004; Sondheimer and Green 2010), this study is one of a few that shows differential causal effects of education on various political activities and detects cross-cohort variations in political engagement. Several recent studies are closely related. Friedman et al. (2011) show that while secondary schooling in West Kenya made young women more politically informed, it did not increase their support for democracy, community participation, political efficacy, and voting. Larreguy and Marshall (Forthcoming), exploiting Nigeria's 1976 education reform, show that educational attainment causes a higher level of engagement in various forms of political activities, such as voting, contacting politicians, attending community meetings, and devoting attention to political events.

Second, while most existing studies on education and political participation are conducted in developed democracies, I join a scarce but growing literature that focuses on authoritarian regimes. For example, Croke et al. (2015), taking advantage of an education reform in Zimbabwe, discover that education decreases political participation in a competitive authoritarian regime. Their explanation is that educated citizens who have stronger critical capacities may believe that participation is futile or that it legitimates autocrats. However, I show that a strong authoritarian government, such as the one in China, can credibly deter young intellectuals from engaging in collective actions (King, Pan and Roberts 2013).

Lastly, this study adds a new perspective to explaining the resilience of Chinese authoritarianism (Nathan 2003). Several recent studies have shown the legitimizing effect of public goods provision and propaganda. For example, Lü (2014) reveals that citizens' awareness of the abolition of school fees has enhanced Chinese citizens' trust in the central government (but not in local governments). Tang (2005) shows that media exposure increases respondents' na-

¹For a counter argument, please see Berinsky and Lenz (2011) and Kam and Palmer (2008).

tionalism and support for China's political system. Similarly, [Stockmann and Gallagher \(2011\)](#) find that exposure to media reporting about labor law-related issues successfully promotes citizens' image of a proworker bias in the law, thus encouraging them to participate in the legal system. I show that China's higher education system has not produced a revolutionary generation that could threaten the regime. This helps explain what Elizabeth Perry terms a "striking situation" in which, despite the veritable explosion of popular protest found among virtually all other sectors of post-Tiananmen Chinese society, "China's university campuses have been notably tranquil" ([Perry 2015](#), 12).

EDUCATION AND POLITICAL ENGAGEMENT

Most empirical works find a positive association between education and virtually all forms of political activity. [Putnam \(1995, 68\)](#) has labeled education "the best individual-level predictor of political participation." The literature has identified two broad channels through which education promotes political engagement. First, schooling reduces the costs of certain forms of political engagement because increased cognitive ability makes it easier to process complex political information, to make decisions, and to circumvent the various bureaucratic and technological impediments to political engagement. For example, [Rosenstone and Hansen \(1993, 136\)](#) contend that education "imparts the knowledge and skills most essential to a citizen's task....Because of their schooling, the well educated have the skills people need to understand the abstract subject of politics, to follow the political campaign, and to research and evaluate the issues and candidates." Second, education increases the perceived benefits of political engagement by promoting "democratic enlightenment" or, stated differently, by shaping individual preferences for civic activity. Similarly, it is often alleged that education plays an important public role by directly inculcating students with other fundamental democratic and pluralistic values ([Dee 2004, 1699](#)).

However, most existing evidence about the liberalizing effect of education is from developed democracies. Studies that focus on authoritarian regimes often remind us of the "dark side" of education. Many argue that education serves as a tool of cultural indoctrination and so-

cial control, instilling obedience to authority (Lott 1999; Pritchett 2003; Kremer and Sarychev 2000; Huang Forthcoming). Cantoni et al. (2014), exploiting a curriculum change in China as a natural experiment, reveal that studies under the new curriculum are robustly associated with changed views on political participation and democracy, increased trust in government officials, and a more skeptical view of free markets.

Aware of the powerful role of education in shaping public opinion, many authoritarian governments have used education as a tool to strengthen their rule. Vladimir Lenin once famously said, “Give us the child for 8 years and it will be a Bolshevik forever” (quoted in Hartman (2008, 103)). During the 1920s and 1950s, the Soviet Union experimented with raising children in “communal children’s houses, dining halls, and other institutions that would decrease the importance of the individual household” (Shipler 1983, 88-89). While fighting in Afghanistan during the 1980s, the Soviet government forcibly took tens of thousands of 3- and 4-year-old Afghanis to the USSR to be raised away from the influences of their families (Amstutz 1986). The hope was that when later returned to Afghanistan, they would form the core of a loyal government administration. Even in some democracies, such as Sweden, governments have gone to great lengths to instill desired values in children. When Ingvar Carlsson (who later became prime minister) was education minister, he said that “school is the spearhead of Socialism” and “pre-school training is essential ‘to eliminate the social heritage’” of undesirable parental views (quoted in Lott (1999, 128)). Swedish educational theorists even advocated for tax and government employment policies “to get both parents out of the home, so that children are forced out as well” (Lott 1999, 128).

After the Tiananmen Student Movement in 1989, the Chinese government launched an extensive propaganda campaign for patriotic education (Zhao 1998). The patriotic education campaign was engineered and appealed to nationalism in the name of patriotism to ensure loyalty in a population that was otherwise subject to much domestic discontent. During the campaign, textbooks were revised to follow official guidelines to make sure that students understood “The great achievements of the party rule in China’s modernization process” (Zhao 1998). In addition, schools were required to raise the national flag every Monday morning with

mandatory attendance.

In addition, after 1989, the party-state deployed an array of control mechanisms to maintain order on university campuses (Yan 2014; Perry 2015). As Perry (2015, 17) observes, “The cornerstone of the control regimen is made up of so-called ‘guidance counselors,’ trained personnel tasked with keeping close tabs on their student charges to ensure that their beliefs and behavior do not violate approved boundaries. Although a system of guidance counselors was originally introduced at Tsinghua University as early as 1953, it assumed renewed and enlarged significance after 1989.”

I would not go so far as to argue that authoritarian regimes are brainwashing people. Citizens in these countries have the cognitive capacity to disengage from state action (Croke et al. 2015). As Huang (Forthcoming) contends, propaganda is often used not for indoctrination of pro-regime values and attitudes but to signal the government’s strength in maintaining social control and political order. Expecting state reactions, citizens in authoritarian regimes often alter their own behavior to minimize risks (Kuran 1991).

For example, in a seminal work on political participation in China, Shi (1997, 17) argues that, in contrast to democracies, where the primary strategy of interest articulation is organizing people with similar attributes to lobby collectively, people in China aim to persuade leaders of one’s organization to distribute the desired resources to oneself instead of to colleagues. In the same vein, Jennings (1997) shows that in rural China participants often use different participatory modes in strategic ways to pursue individual or collective goals. In Guo’s 2007 study, he shows that involvement in the Party or mass organizations provides benefits of vertical connections to official access and information, which facilitates all types of political participation.

Based on the discussion above, I expect better-educated citizens in China to have a higher level of political engagement because education decreases the costs and increases the benefits of political participation. However, China’s young intellectuals are not expected to engage in more contentious behavior, such as joining protests or demonstrations, as exposure to the state’s education signals its strength at maintaining political order.

It is important to note that protests and demonstrations in China are not necessarily against

the state. As [Perry \(1994\)](#) contends, traditional Chinese intellectuals appeal to the state not to challenge it but to ask for its response. Thus, noncompliant behavior can be constructive ([Tsai 2015](#)), some protests support the regime ([Wallace and Weiss 2015](#)), and collective resistance in China often stabilizes the state ([O'Brien and Li 2006](#); [Lorentzen 2013](#)). However, the regime still manages collective actions even when they are not state-challenging ([Weiss 2014](#)) due to the fear that these actions would escalate to be out of the state's control ([King, Pan and Roberts 2013](#)).

EMPIRICS

The central question I address is: Does college education increase political engagement? Exploiting a massive college enrollment expansion reform that the Chinese government implemented in 1999, and analyzing a nationally representative survey that interviewed over 4,000 adult Chinese citizens in 2008, I estimate the causal effect of college education on political engagement.

China's 1999 College Enrollment Expansion Reform

In 1977, the post-Mao leadership rehabilitated the college entrance exam that was once abolished during the Mao era ([Hannum et al. 2008](#)). From 1978 to 1998, the number of colleges in China increased from 598 to 1,022, and the number of college students increased from 0.86 million to 3.41 million ([Li, Whalley and Xing 2014](#), 568). However, the growth before the 1999 reform was much slower than the growth after the reform.

In June 1999, the Chinese central government and the Ministry of Education announced a college enrollment expansion reform that increased the number of new college students by 520,000. The resulting 48% growth rate was the highest since 1978. Adjusting for population growth, high school graduates' probability of entering college increased from 34% in 1998 to 56% in 1999, and the rate kept growing afterwards (see Figure 1).²

²The reasons for the college enrollment expansion are manifold. In 1997, the Chinese government initiated a massive privatization plan in which more than 20 million former state-owned enterprise employees were laid

Many features of the 1999 reform make it a valid natural experiment that assigns “subjects” into “control” and “treatment” groups at random or at least as-if random. First, the reform was not expected by high school graduates or their families. Given that the college entrance exams were held in early July, the announcement made in June was too late to change the behavior of high school graduates considerably (Li, Whalley and Xing 2014, 568).³ The cohort that was slightly too old to benefit from the expansion was not able to anticipate the reform and sort itself into the “treatment” group. I also compare the three cohorts that were born right after 1981 (i.e., the group reached college age when the reform occurred) with the three cohorts that were born in or right before 1981 (so that they were slightly too old to be “treated” by the reform).⁴ All of the subjects in my comparisons were born after China started its reforms in 1978, and they were exposed to similar socioeconomic conditions when they grew up. I will later show that many of their pretreatment characteristics, such as sex, growing up in urban/rural areas, and ethnicity, are balanced. The only difference that distinguishes the post-1981 cohorts is that they were far more likely to get into college than the pre-1981 cohorts. Some recent studies have started to use the same event as a natural experiment to study the effect of the expansion (Li, Whalley and Xing 2014).

Data

I analyze the Chinese Citizens’ Awareness Survey (CCAS), which was conducted by the Research Center for Contemporary China (RCCC) at Peking University in 2008. The CCAS interviewed 4,004 adult respondents who lived in mainland China’s 31 provinces. This survey used spatial sampling techniques to include both residents and migrants and a stratified sampling design to draw a nationally representative sample (Landry and Shen 2005). Peking University students (along with their local collaborators) conducted face-to-face interviews un-

off. Meanwhile, the Asian Financial Crisis of 1997 significantly deteriorated China’s employment condition. The higher education expansion was initiated to alleviate the unemployment problem and to stimulate consumption. Please see Li, Whalley and Xing (2014, 568).

³The announcement was even unexpected for Chinese universities. Many universities did not have enough time to prepare dorms to accommodate the increased enrollment. Please see <http://news.sina.com.cn/c/2009-01-05/092316979224.shtml> (Accessed August 12, 2015).

⁴I later show that the results are not sensitive to the choice of bandwidths.

der strict quality control from the Beijing headquarter, and RCCC is often considered “the most competent academic survey research agency on the mainland” (Manion 2010, 190). Section I in the Web Appendix provides more information about the survey.

Political engagement, the principal dependent variable, is operationalized using nine ordinal variables. All variables have three levels: 2 means “did it last year,” 1 “did it earlier,” and 0 “never.” I will later show that a dichotomous coding (collapsing 1 and 2) of these activities yields similar results. The nine activities are as follows:

1. *Attended Political Meetings* indicates whether the respondent has ever attended political meetings of any sort;
2. *Contacted Leaders* indicates whether the respondent has ever contacted government officials to voice her opinion;
3. *Contacted Media* indicates whether the respondent has ever voiced her opinion through the media;
4. *Contacted Social Organizations* indicates whether the respondent has ever voiced her opinion through social organizations;
5. *Discussed Politics on the Internet* indicates whether the respondent has ever voiced her opinion in political forums or discussion groups on the Internet;
6. *Collected Donations* indicates whether the respondent has ever collected donations for a social activity or organization;
7. *Signed Petition* indicates whether the respondent has ever signed a petition;
8. *Protest/Sit-In/Demonstration* indicates whether the respondent has ever joined a protest, sit-in, or demonstration;
9. *Joined Organizations* indicates whether the respondent has ever joined an organization for idealistic reasons.

Following other practices in the literature (e.g., Croke et al. (2015)), I then add these nine variables, which are positively correlated with a Cronbach’s alpha of 0.69, into a summary index (*Participation Scale*). I will first use this index as the dependent variable to examine the overall level of political engagement and then use the individual activities to investigate the nuances of political engagement.

I do not explore voting behavior in this study, because direct elections only exist at the village level in China (Manion 1996). Studies of voting behavior in China have generally

concluded that peasants with higher levels of internal efficacy and democratic orientation stayed away from village elections due to the institutional constraints on these elections (Zhong and Chen 2002; Chen and Zhong 2002). The activities that I include in the analysis are more meaningful in a noncompetitive authoritarian regime.

Figure 2 shows the distribution of the nine variables and the index. Most respondents had never participated in any political activities. The most common activities include *Attended Political Meetings*, *Contacted Leaders*, and *Collected Donations*. *Protest/Sit-In/Demonstration* has the lowest frequency, with only 0.32% respondents have done it in the year before the survey, 1.32% having done it earlier, and the vast majority (98.36%) having never done it. Despite the low percentage, considering the size of the Chinese population, this still suggests that over 21 million people in China had participated in a protest/sit-in/demonstration in their lives. This is consistent with the skyrocketing number of “mass incidents” in China (Lorentzen 2013; Wang and Minzner 2015).

I appreciate the concern that Chinese respondents might underreport their involvement in politically sensitive activities, such as protest, because of political fear. However, I show several pieces of evidence below that political fear does not contaminate my findings in any significant ways. First, the survey was conducted by a university rather than a governmental organization. RCCC, experienced in conducting political surveys in China, took several measures to ease respondents’ concerns about political sensitivity. For example, in the preface of the survey that was read to every respondent prior to the survey, respondents were guaranteed the confidentiality of their identifying information, including their names, addresses, and contact methods. In addition, every respondent was informed of the right to skip a question if he/she did not feel like answering it. Second, one way that respondents avoid a sensitive question is to select “Don’t Know” or “No Response” (Presser et al. 2004). A close look at the response rate of each question shows that *Protest/Sit-In/Demonstration* does not solicit the highest number of item non-responses: *Protest/Sit-In/Demonstration*’s non-response rate is 5.32%, but *Discussed Politics on the Internet*, which is a perfectly safe activity (King, Pan and Roberts 2013), has a non-response rate of 5.57%. Third, simply admitting ever joining a protest in the past would not

lead to repression because only protest leaders are arrested or harassed (Li and O'Brien 2008). Lastly, and most importantly, in the robustness checks, I control for political fear measured by survey questions asking about respondents' fear of government repression, and my main results remain the same.

Education is my key (endogenous) explanatory variable. The CCAS asked the respondents their highest degree. *College* indicates whether the respondent has received a college degree.⁵ A 7.64% have a college degree, which is very close to 8.93% reported in the 2010 census.⁶ Later, I will show that my results are not sensitive to this particular coding of education. The results remain similar when using an ordinal measure of education (*Level of Education*), which uses a five-point scale: incomplete primary, complete primary, complete junior high, complete senior high, and complete college and above, or a continuous variable (*Year of Education*), which is simply the total year of schooling. Section II in the Web Appendix presents the summary statistics and measurements of all of the variables used in the analysis.

Identification

To identify education's causal effect, similar to the strategies used in Card and Krueger (1992), Lemieux and Card (2001), Duflo (2001), and Croke et al. (2015), I exploit cross-cohort variation in access to higher education created by the 1999 college enrollment expansion reform. In particular, I compare the respondents who were just young enough to be "treated" by the reform and those who were just too old to benefit from the reform. I define those born after 1981, who were 18 or younger when the expansion was implemented, as "treated" ($Post1981=1$). Those born in 1981 or earlier, and thus just old enough to miss the expansion, are defined as the control group that was not "treated" by the reform ($Post1981=0$).

Figure 3 provides evidence that the expansion increased college-degree holders across cohorts. The upper-left panel, using a regression discontinuity (RD) design with birth year as the running variable, reveals that the cohorts born after 1981 exhibit a substantially higher

⁵Here, college degrees include degrees from a three-year college (*dazhuan*) and a four-year university (*daben*). Both three-year colleges and four-year universities were included in the college enrollment expansion reform.

⁶Please see http://www.stats.gov.cn/tjsj/tjgb/rkpcgb/qgrkpcgb/201104/t20110428_30327.html (Accessed August 11, 2015).

probability (coeff.=0.26,s.e.=0.07) of having a college degree than do the cohorts born earlier. Figure 4 further confirms the impact of the expansion on educational attainment using regressions. Using a “bandwidth” of three cohorts on either side of the cutoff and provincial fixed effects to account for provincial variation in college recruitment, *Post1981* has a consistently, significantly positive effect on *College*, *Level of Education*, and *Year of Education*. The cohorts born right after 1981 on average enjoy one more year of schooling than their immediate older counterparts do. *Post1981* therefore provides a good source of exogenous variation.

My identification strategy relies on the assumption that the cohorts on both sides of the reform cutoff are effectively identical, with the exception that only the post-1981 cohorts were eligible for greater access to higher education. However, people born in different years were exposed to different socioeconomic conditions and socialization processes. I therefore compare only respondents who were born in the same era. My main analysis uses a “bandwidth” of three cohorts on either side of the reform cutoff ([1979,1981] vs. [1982, 1984]). This is a powerful design because neighboring cohorts were exposed to almost identical economic, social, and political environments, as they all grew up in China’s post-Mao era. They, however, differ only on educational attainment due to an unexpected college expansion reform. I will later show that my results are robust for the choice of wider or narrower bandwidths.

There are good reasons to believe that important pretreatment covariates are balanced across the cutoff. Figure 3 shows that respondents on either side of the cutoff do not differ on sex (upper right), ethnicity (lower left), or growing up in urban areas (lower middle). None of the RD coefficients is statistically significant.

If *Post1981* provides a valid source of exogenous variation with reasonable bandwidths, then I can use it as an instrumental variable (IV) to estimate the causal effect of college education on political engagement. As suggested by the literature (Dunning 2012), I use two approaches. I first estimate the effect of *Post1981* on political engagement, which is equivalent to an “intention-to-treat” (ITT) analysis. As Dunning (2012, 138) argues, ITT analysis focuses on the groups created by the randomization, not the groups created by self-selection, and analyses of natural-experimental data should almost always present ITT analysis, although

it may lead to conservative estimates of the treatment effect. The ITT analysis uses ordinary least squares (OLS) or ordered probit (OPROBIT), depending on the coding of the dependent variable, to fit the following equation to the CCAS data:

$$Political\ Engagement_i = \beta Post1981_i + \gamma_j + \epsilon_{ij}, \quad (1)$$

where $Political\ Engagement_i$ is the outcome measure (either *Participation Scale* or the nine individual measures), and $Post1981$ is the treatment variable. I include provincial fixed effects, γ_j , to account for different college quotas and recruitment policies across provinces, and I cluster standard errors by province.

Being born after 1981, however, does not guarantee a college degree; it only enhances the chance of getting into college. This is a typical case of treatment with noncompliance because not everyone who was eligible for greater access to higher education actually took advantage of it. To estimate the causal effect of actual college education on political engagement, my second strategy is an IV approach. In the first stage, I estimate the effect of $Post1981$ on *College*:

$$College_i = \delta Post1981_i + \gamma_j + \eta_{ij}, \quad (2)$$

and then in the second stage estimate the following structural equation using two-stage least squares (2SLS):

$$Political\ Engagement_i = \theta College_i + \gamma_j + \zeta_{ij}, \quad (3)$$

The IV approach requires two additional assumptions. First, the instrument must be valid and strong. I have discussed the validity of the instrument earlier in this section, and Table 4.1 in the Web Appendix shows the first-stage results, which assure that $Post1981$ is a strong predictor of *College*. Second, the exclusion restriction assumption requires that $Post1981$ only affect political engagement through increased education. There are several reasons to believe so. The primary reason is that the strongest predictor of political engagement—socioeconomic status, which includes vocation and income—can be seen as a downstream consequence of a

respondent's education. In addition, the cohorts that were divided by the 1999 expansion were not exposed to other compound treatments. Some notable policy changes in China, such as the start of the economic reform in 1978 and the introduction of the one-child policy in 1978, affected the six cohorts in my analysis equally. One potential compound treatment might be the 1997 Asian Financial Crisis, which suppressed the employment opportunity of the post-crisis graduates. In my robustness checks, I show that even when the analysis is restricted to a very narrow window that includes only the post-crisis cohorts, my results still hold.

Level of Political Engagement

I find that college education increases the overall level of political engagement. First, an RD graphic analysis (upper-middle panel in Figure 3) demonstrates that the post-1981 cohorts exhibit a significantly higher level of political engagement than do the pre-1981 cohorts (coeff.=0.56, s.e.=0.27). Second, Figure 5 shows that both the ITT analysis and IV estimates find a positive effect of college education on *Participation Scale*. The IV estimates suggest that a person who has a college degree is three points higher on an 18-point participation scale than does a person who does not have a college degree.

This finding is consistent with other studies that focus on developed democracies (Rosenstone and Hansen 1993; Verba, Schlozman and Brady 1995; Wolfinger and Rosenstone 1980) and democratic developing countries (Larreguy and Marshall Forthcoming). Another study that investigates education and political participation in an authoritarian regime (Zimbabwe), however, finds a negative relationship, and their explanation is that educated citizens in a hybrid regime “disengage” from voting, which could legitimate autocrats (Croke et al. 2015). In China, a closed authoritarian regime, I do not find educated citizens’ “disengagement” from politics. This might be a consequence of the Chinese Communist Party (CCP)’s deliberate targeting of college students for mobilization and recruitment. For example, Guo (2005) reports evidence that, since the 1990s, the CCP has stepped up its efforts at recruitment and ideological work on college students. People with organizational affiliations are more likely to participate in politics (Guo 2007).

Disaggregating Political Engagement

However, different from previous literature that finds a positive effect of education on virtually all forms of political activity (Rosenstone and Hansen 1993; Verba, Schlozman and Brady 1995; Hillygus 2005), higher education in China has only selectively increased political engagement. Figure 6 reports both the ITT and IV estimates using individual activity as the dependent variable. Interestingly, college education only increases people's propensity to engage in *individualistic, expressive* behavior, such as voicing opinions through social organizations (*Contacted Social Organizations*) or voicing opinions in political forums or discussion groups on the Internet (*Discussed Politics on the Internet*). The largest effect of higher education exists in increasing people's online participation. A person who has a college degree is 1.21 point higher on a 3-point scale than a person who does not have a college degree. In contrast, people with higher education do not seem to be interested in *collective actions*, such as signing a petition (*Signed Petition*) or joining a protest, sit-in, or demonstration (*Protest/Sit-In/Demonstration*). The only exception is collecting donations for a social activity or organization (*Collected Donations*), which might refer to their involvement in raising funds for the student organizations in which they were involved while in college. The higher frequency of online political activities is not simply due to the availability of the Internet for the post-expansion cohorts, as Internet access was not available on most Chinese campuses until 2004 (after the first post-expansion cohort graduated).⁷

These findings challenge the modernization view that education empowers citizens to engage in collective behavior that could disrupt authoritarian rule (Lipset 1959; Huntington 1968; Saunders 2011; Campante and Chor 2012). My results suggest that the Chinese government's efforts to repress collective actions (King, Pan and Roberts 2013) and to signal regime strength through propaganda and education have been largely effective (Zhao 1998; Huang Forthcoming).

⁷For example, Peking University, one of the best universities in China, did not provide Internet access to its students until May 2004. Please see <http://web5.pku.edu.cn/academic/pkucc/zxjj/zxdsj/> (Accessed September 21, 2015).

Robustness Checks

The finding that while college education increases the overall level of political engagement, its effect mainly focuses on individualistic, expressive behavior but not on collective actions is highly robust across a wide range of checks.

First, I vary the size of the bandwidth within which to fit the model. As Samii (2013, 564) shows, there is a bias-variance trade-off in selecting the bandwidth. A wider bandwidth will incorporate more information but also destroy the balance around the cutoff, which introduces bias. At the same time, a narrower bandwidth will include too few observations to precisely yield informative conclusions. Table 4.2 in the Web Appendix shows results with larger windows, for example, [1975,1988], [1976,1987], [1977,1986], and [1978,1985], and a narrower window—[1980,1983]. Varying the bandwidth does not change my findings. The results with the narrower window are particularly encouraging, because the cohorts that were born in and after 1980 were equally exposed to the 1997 Asian Financial Crisis (they all reached 18 after the crisis). This indicates that the results are not driven by the crisis’s treatment effect on different cohorts.

Second, in the main analysis, I use a dummy coding of education (*College*). While it directly tests the effect of college education, it arbitrarily divides the subjects based on whether or not they have a college degree. For example, if a respondent dropped out of college, her education would be coded as 0 despite of her exposure to college education. In addition, as Marshall (2015) shows, coarsening years of schooling into an indicator could upwardly bias the IV estimate. Table 4.3 in the Web Appendix shows the estimates with an ordinal coding (*Level of Education*) and a continuous coding (*Year of Education*). In both cases, the results remain the same.

Third, although my quasi-experimental design minimizes differences in citizen characteristics around the cutoff, I show that the results are robust for the inclusion of other potentially confounding omitted variables. Table 4.4 in the Web Appendix presents the estimates that control for the pretreatment variables described in Figure 3, including *Male*, *Han*, and *Urban*. The results are unchanged.

Fourth, as Figure 2 reveals, participation is a rare event, as most people choose not to participate. King et al. (2001) argue that popular statistical procedures, such as logistic or ordered probit regressions, can sharply underestimate the probability of rare events. Table 4.5 in the Web Appendix reports results estimated using rare events logistic regression with a dichotomous coding of political activities (by grouping “did it before” and “did it last year”) as the dependent variable. The results are similar.

Fifth, I employ a placebo test to estimate the effect of a (hypothetic) reform in 1996 and compare cohorts three years on either side of this arbitrary cutoff. Contrary to a concern that cohort trends might drive the results, I do not find a significant effect of education on engagement around the placebo reform (please see Table 4.6 in the Web Appendix).

Sixth, because the CCAS employed a complex survey sampling design, following Landry and Shen’s (2005) suggestions, I rerun the analyses considering the survey design effects by using sampling weights. Table 4.7 in the Web Appendix shows similar results.

Lastly, I confront the concern that respondents might underreport their involvement in contentious, collective actions in an authoritarian regime. The CCAS asked the respondents whether or not they fear the consequences of criticizing the central government, local governments, and political leaders. I construct a variable (*Fear*) to measure the overall level of political fear and control for it in the regressions. The results (Table 4.8 in the Web Appendix), indicating the effect of college education on political engagement after holding political fear constant, are not changed.

Testable Implications

The analyses above, by comparing respondents with and without a college degree, reveal that China’s higher education has not encouraged people to take collective actions. A more direct test is to examine whether or not more exposure to college education would change one’s support for contentious behavior. Here, I draw on data from the Beijing Colleges Panel Survey (BCPS) to directly test this hypothesis. The 2010 wave of the BCPS, the only wave that has been released, interviewed 4,752 college students enrolled in Beijing’s 15 universities. De-

signed and conducted by a team at Renmin University, the BCPS drew a random sample of college students based on Beijing Municipal Government's Students Registration Database.⁸ All questionnaires were distributed by universities and self-administered by the respondents. Because there was no interviewer presence, the survey reduced respondents' concern for political sensitivity. The BCPS interviewed only freshmen and juniors.

The BCPS asked college students the extent to which (on a 1-5 scale) they approve of using collective actions to express one's or an organization's interests. The actions include public gathering, protesting, striking, and petitioning. Comparing juniors and freshmen would show whether or not two more years of college education changes college students' view of collective actions. Tables 6.1-6.4 in the Web Appendix show ordered probit estimates of *Junior's* effects on approval of public gathering, protesting, striking, and petitioning while controlling for sex, ethnicity, number of siblings, entrance exam score, major, academic ranking in class, and CCP membership. In general, juniors are not significantly different from freshmen on their approval of collective actions, except that juniors are *less* supportive of petitioning than freshmen are.

The BCPS also asked college students whether or not they had participated in any collective actions before. Table 6.5 in the Web Appendix shows that juniors are not significantly different from freshmen in their experience of participating in a collective action. These results further support the idea that China's higher education has not encouraged citizens to take collective actions.

Substance of Political Engagement

So far, I have established that Chinese young intellectuals are more interested in expressing their opinions through either social organizations or the Internet than are the less educated. However, we still know little about *what* they are expressing. The substance of political engagement is important, because we cannot tell whether their political participation is pro- or anti-regime by simply examining its frequencies. Exploring the rich data in the CCAS, I can examine how college graduates differ from the less educated on a wide spectrum of political

⁸For more information about the BCPS, please see <http://www.uchicago.cn/wp-content/uploads/2011/05/Shizheng-Feng.pdf> (Accessed August 25, 2015).

attitudes, such as trust in political institutions, political efficacy, demand for political and civil rights, political knowledge, satisfaction with government performance, interests in national and local affairs, and awareness of China's problems.

In the following paragraphs, I will summarize my main findings while leaving technical details and results in Section VI in the Web Appendix. In all estimations, I use *College* instrumented by *Post1981* as the explanatory variable, and I compare the three cohorts on either side of the college expansion cutoff with provincial fixed effects and clustered standard errors at the provincial level.

First of all, I find that Chinese young intellectuals do not exhibit a higher level of trust in political institutions, such as the central government, courts, people's congress, village/street committees, the CCP, procuratorates, local governments, the media, and the police. This is consistent with Huang's (Forthcoming) finding that China's education only signals the strength of the regime but does not indoctrinate certain values. Chinese young intellectuals also do not enjoy a higher level of political efficacy. Compared to their less educated counterparts, Chinese college graduates do not think they are better equipped to influence politics.

The young intellectuals are also not particularly dissatisfied with the (lack of) political and civil rights in China, including the right to be informed about government affairs, the right to join associations, survival rights, freedom of speech, voting rights, and the right to criticize the government. This finding contradicts many studies that find a strong positive association between education and democratic values (Inglehart 1997; Woodberry 2012).

Surprisingly, respondents with a college education also do not have a higher level of political knowledge measured by whether or not they can name the general secretary of the CCP, China's prime minister, chairman of the National People's Congress, and China's vice president. In addition, young intellectuals are not especially unsatisfied with the Chinese government's handling of social and economic issues, including compulsory education, public health, crime, social security, environmental protection, and infrastructural construction.

When being asked about the extent to which they care about the affairs of their own villages/communities, counties/cities, or China, college graduates reported more attention to af-

fairs at the county/city level but not at the national level than the less educated did. As to what problem concerns them the most, college graduates are more worried about the environment, medical services, and, ironically, unemployment than the less educated are. They are, however, not particularly concerned about broader political issues, such as corruption, social justice, and the rule of law.

In summary, my findings point to widespread political apathy among China's young intellectuals. They care more about socioeconomic issues at the local level that could influence their material well-being, such as medical services and unemployment, but not so much about bigger socio-political issues at the national level, such as social justice, democracy, and the rule of law.

Tiananmen and Political Engagement

How can this widespread political apathy among the Chinese college graduates be explained? Many studies have identified the 1989 Tiananmen Student Movement as a watershed to separate the CCP's different strategies in education and social order maintenance (Yan 2014). As Perry (2015, 13) argues, "The result of the post-Tiananmen approach has been a remarkable turnaround in China's campus climate." Zhao (1998) contends that, realizing that Communist ideology was becoming obsolete after 1989, the CCP launched an extensive propaganda campaign for patriotic education, which redefined the legitimacy of the post-Tiananmen leadership in a way that would permit the Communist Party's rule to continue on the basis of a non-Communist ideology. Guo (2005, 379-382) shows that the events of 1989 served as a wake-up call for the Party and Party organizations on campus. In the aftermath of 1989, the recruitment of college students has taken on new significance, and Party organizations at universities and colleges have greatly stepped up their efforts at ideological and political work. In the same vein, Wang and Minzner (2015) demonstrate that, since 1989, the CCP has significantly strengthened its coercive apparatus and altered cadre evaluation standards to increase the sensitivity of local authorities to social unrest.

Looking back at the 1980s, Deng Xiaoping regretted in 1989 that, "in the past 10 years

our biggest mistake was in the aspect of education; ideological and political education of the youth was not adequately grasped” (quoted in Guo (2005, 376-377)). In general, ideological and political work were not given priority by party leaders in the late 1980s. Reformist Party leaders Hu Yaobang and Zhao Ziyang were not known for their enthusiasm in ideological and political work (Guo 2005, 376).

To test whether or not the 1989 Tiananmen Massacre has altered Chinese college students’ political behavior, I compare college graduates who were in college in 1989 when the student movement occurred and college graduates who attended college right after the massacre. Specifically, I compare college graduates who were born after 1970 (so that they began to enter college in the fall of 1989) and those who were born in or before 1970 (so that they were in college when the student movement happened). Again, to assure a balanced comparison, I only include the cohorts that are close to the cutoff.

Figure 7 reports ordered probit estimates using a particular participation activity as the dependent variable and *Post1970* as the explanatory variable. All estimations include only respondents who have a college degree, so this is a within-college comparison. Employing three different bandwidths (four cohorts, three cohorts, or two cohorts on either side of the cutoff), the results are unequivocal: the post-Tiananmen cohorts are less likely to join a protest, sit-in, or demonstration than are the pre-Tiananmen cohorts. However, the pre- and post-Tiananmen cohorts do not differ on other political activities.

Because of the limited number of respondents in the CCAS who attended college during that period, I am unable to conduct more fine-grained analysis. However, the preliminary evidence presented in Figure 7 implies the profound impact the 1989 Student Movement has on college education. Future research can examine specific mechanisms through which the event affected public opinion and political behavior, such as deterrence, curriculum changes, teachers’ political education, or propaganda.

An Alternative Explanation

Although I put forward a political explanation for the lack of collective actions among the Chinese college students, there might be an economic mechanism at work. As a result of the college expansion, there were more students graduating from college starting in 2003 (the first year the post-expansion cohorts graduated). The increase in college graduates in the labor market then created a shortage of employment opportunities for the post-expansion cohorts. Thus, although higher education might empower college students to take collective actions, this positive effect is offset by the dearth of employment opportunities. For this alternative explanation to be valid, the post-expansion college students must be in worse economic situations than the pre-expansion college students are.

The most direct measure of economic conditions is one's personal income. I therefore compare the personal monthly income between the pre- and post-expansion college students. No matter whether I compare two or three cohorts on either side of the cutoff, as Table 3.5 in the Web Appendix shows, there is no significant difference in personal income between the two groups.

DISCUSSION AND CONCLUSION

William Rainey Harper, a leading American education leader of the late 19th century and the first president of the University of Chicago, once said, "The university, I contend, is this prophet of democracy" (Harper 1905, 19). Inspiring students with cognitive abilities that facilitate critical thinking, higher education is believed to produce citizens that constitute the pillar of democracy. Bueno de Mesquita and Downs (2005) identify access to higher education as one of the most important types of public coordination goods, the supply of which they suggest poses an existential survival threat to autocratic rule. They contend, "[a]round the world, from Beijing to Moscow to Caracas, authoritarian regimes seem to be well aware of the dangers of providing coordination goods to their people, and they refrain from doing so with remarkable consistency" (Bueno de Mesquita and Downs 2005, 84). International agencies have reiterated

arguments in favor of the importance of schooling for support for democracy (Evans and Rose 2007, 904). For example, the World Bank argues that “Broad and equitable access to education is thus essential for sustained progress toward democracy, civic participation, and better governance” (Verspoor 2001, 8). As a consequence, a huge emphasis among foreign aid donors has been placed on boosting student attendance and achievement in developing countries (Gift and Wibbels 2014, 292).

However, as of yet there has been very little systematic research evidence to support such claims in authoritarian contexts. Following Gift and Wibbels’s (2014) call to pay “more attention to the comparative politics of education,” I present, to my knowledge, the first quasi-experimental evidence on whether or not higher education affects citizens’ political engagement in a non-competitive authoritarian regime.

Exploiting China’s college enrollment expansion reform in 1999 that exogenously increased high school graduates’ probability of entering college, and analyzing a nationally representative sample survey, I estimate higher education’s causal effect on a wide spectrum of political activities. First and foremost, I demonstrate that higher education increases the overall level of political engagement. People who graduated from college are three points higher on an 18-point participation scale than people who did not. However, a closer examination of each participation activity shows that college education only increases one’s propensity to engage in individualistic, expressive behavior, such as discussing politics on the Internet, but has no effect on collective actions, such as a protest, sit-in, or demonstration. These results are highly robust across a long list of checks, including varying the bandwidth, using an ordinal or continuous coding of education, controlling for pretreatment covariates, and employing rare events logistic regressions. I also utilize a placebo test to assure that the results are not merely driven by cohort trends. To confront the concern that respondents might underreport participation in politically sensitive activities, I control for a variable measuring respondents’ fear of government repression, and my results remain the same.

Second, I find additional support from a college survey. Exploring a college survey that interviewed more than 4,000 college students in their freshman and junior years, I discover

that juniors are not more likely to support contentious behavior, such as a public gathering, protest, and strike, than freshmen, and that juniors are actually less supportive of petition than freshmen. In addition, juniors are not more likely than freshmen are to have the experience of participating in any collective actions. These results add more support to the idea that China's higher education has not encouraged citizens to take collective actions.

Third, I also find the null effect of China's higher education in changing people's political attitudes. More educated Chinese citizens are not more likely to trust in political institutions, do not enjoy a higher level of political efficacy, are not more dissatisfied with the (lack of) political and civil rights, are not more knowledgeable about politics, and are not more unsatisfied with the government's performance. The only qualities that set the college graduates apart from the less educated are college graduates' attention to local affairs (but not national affairs) and their worries about socioeconomic issues that could potentially threaten their material well-being, such as medical services and unemployment. China's young intellectuals are in general not more worried about broader, political issues, such as corruption, social justice, and the rule of law, than the less educated are.

I attribute this widespread political apathy among China's college graduates to the deterrence effect of the Tiananmen Massacre and the heightened ideological education after 1989. Comparing the cohorts that were in college when the 1989 Student Movement occurred and the cohorts that attended college right after the movement, I discover that the pre-1989 cohorts are more likely to join a protest, sit-in, or demonstration than the post-1989 cohorts. The shadow of the past still prevails in Chinese universities.

The Chinese case challenges a popular view, especially among modernization theorists, that education empowers citizens to take collective actions to disrupt authoritarian rule (Lipset 1959; Huntington 1968, 1991; Saunders 2011; Campante and Chor 2012). My findings remind us that authoritarian governments can also utilize education to serve their purposes (Lott 1999; Huang Forthcoming). The limited liberalizing effects of China's higher education also shed light on our understanding of Chinese authoritarian regime's durability.

Although the findings relate to more than 110 million college graduates in China (roughly

the population of Mexico), it is an empirical question as to whether my findings travel to other countries. As Croke et al. (2015, 45) argues, “The positive relationship between education and political participation is *conditional on regime type*” (italics in original). Future research can explore the relationship between education and political engagement in other authoritarian regimes and the specific events that mediate this relationship.

References

- Almond, Gabriel A. 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Sage.
- Amstutz, J Bruce. 1986. *Afghanistan: The First Five Years of Soviet Occupation*. Diane Publishing.
- Berinsky, Adam J and Gabriel S Lenz. 2011. "Education and Political Participation: Exploring the Causal Link." *Political Behavior* 33(3):357–373.
- Boix, Carles and Susan C Stokes. 2003. "Endogenous Democratization." *World Politics* 55(04):517–549.
- Bueno de Mesquita, Bruce and George W Downs. 2005. "Development and democracy." *Foreign Affairs* 84:77–86.
- Campante, Filipe R and Davin Chor. 2012. "Why Was the Arab World Poised for Revolution? Schooling, Economic Opportunities, and the Arab Spring." *The Journal of Economic Perspectives* pp. 167–187.
- Cantoni, Davide, Yuyu Chen, David Y Yang, Noam Yuchtman and Y Jane Zhang. 2014. "Curriculum and Ideology." *National Bureau of Economic Research Working Paper No. 20112* .
- Card, David and Alan B. Krueger. 1992. "Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States." *The Journal of Political Economy* 100(1):1–40.
- Chen, Jie and Yang Zhong. 2002. "Why Do People Vote in Semicompetitive Elections in China?" *Journal of Politics* 64(1):178–197.
- Croke, Kevin, Guy Grossman, Horacio A Larreguy and J Marshall. 2015. "Deliberate Disengagement: How Education Decreases Political Participation In Electoral Authoritarian Regimes." *Working Paper* .
- Dee, Thomas S. 2004. "Are There Civic Returns to Education?" *Journal of Public Economics* 88(9):1697–1720.
- Duflo, Esther. 2001. "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment." *American Economic Review* 91(4):795–813.
- Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach*. Cambridge University Press.
- Evans, Geoffrey and Pauline Rose. 2007. "Education and Support for Democracy in Sub-Saharan Africa: Testing Mechanisms of Influence." *Afrobarometer Working Paper* (75).
- Friedman, Willa, Michael Kremer, Edward Miguel and Rebecca Thornton. 2011. "Education as Liberation?" *National Bureau of Economic Research No. 16939* .

- Gift, Thomas and Erik Wibbels. 2014. "Reading, Writing, and the Regrettable Status of Education Research in Comparative Politics." *Annual Review of Political Science* 17:291–312.
- Glaeser, Edward L, Rafael La Porta, Florencio Lopez-de Silanes and Andrei Shleifer. 2004. "Do Institutions Cause Growth?" *Journal of Economic Growth* 9(3):271–303.
- Guo, Gang. 2005. "Party Recruitment of College Students in China." *Journal of Contemporary China* 14(43):371–393.
- Guo, Gang. 2007. "Organizational Involvement and Political Participation in China." *Comparative Political Studies* 40(4):457–482.
- Hannum, Emily C, Jere Behrman, Meiyan Wang and Jihong Liu. 2008. Education in the reform era. In *China's Great Economic Transformation*, ed. Brandt, Loren and Rawski, Thomas G. Cambridge University Press pp. 215–249.
- Harper, William Rainey. 1905. The University and Democracy. In *The Trend in Higher Education*. University of Chicago Press.
- Hartman, Andrew. 2008. *Education and the Cold War: The Battle for the American School*. Palgrave Macmillan.
- Hillygus, D Sunshine. 2005. "The Missing Link: Exploring the Relationship Between Higher Education and Political Engagement." *Political Behavior* 27(1):25–47.
- Hochschild, Adam. 1999. *King Leopold's Ghost: A Story of Greed, Terror, and Heroism in Colonial Africa*. Houghton Mifflin Harcourt.
- Huang, Haifeng. Forthcoming. "Propaganda as Signaling." *Comparative Politics* .
- Huntington, Samuel P. 1968. *Political Order in Changing Societies*. Yale University Press.
- Huntington, Samuel P. 1991. "Democracy's Third Wave." *Journal of Democracy* 2(2):12–34.
- Inglehart, Ronald. 1997. *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 societies*. Cambridge University Press.
- Jennings, M Kent. 1997. "Political Participation in the Chinese Countryside." *American Political Science Review* 91(02):361–372.
- Kam, Cindy D and Carl L Palmer. 2008. "Reconsidering the Effects of Education on Political Participation." *The Journal of Politics* 70(03):612–631.
- King, Gary, James Honaker, Anne Joseph and Scheve Kenneth. 2001. "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation." *American Political Science Review* 95(1):49–69.
- King, Gary, Jennifer Pan and Margaret E Roberts. 2013. "How Censorship in China Allows Government Criticism but Silences Collective Expression." *American Political Science Review* 107(02):326–343.

- Kremer, Michael and Andrei Sarychev. 2000. "Why Do Governments Operate Schools?" *Harvard University: Cambridge, Mass. Available on line at <http://post.economics.harvard.edu/faculty/kremer/papers.html>. Processed .*
- Kuran, Timur. 1991. "Now Out of Never: The Element of Surprise in the East European Revolution of 1989." *World Politics* 44(01):7–48.
- Landry, Pierre and Mingming Shen. 2005. "Reaching Migrants in Survey Research: The Use of the Global Positioning System to Reduce Coverage Bias in China." *Political Analysis* 13:1–12.
- Larreguy, Horacio and John Marshall. Forthcoming. "The Effect of Education on Civic and Political Engagement in Non-Consolidated Democracies: Evidence from Nigeria." *Review of Economics and Statistics* .
- Lemieux, Thomas and David Card. 2001. "Education, Earnings, and the 'Canadian GI Bill'." *Canadian Journal of Economics/Revue canadienne d'économique* 34(2):313–344.
- Li, Lianjiang and Kevin J O'brien. 2008. "Protest Leadership in Rural China." *The China Quarterly* 193:1–23.
- Li, Shi, John Whalley and Chunbing Xing. 2014. "China's Higher Education Expansion and Unemployment of College Graduates." *China Economic Review* 30:567–582.
- Lipset, Seymour Martin. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy." *American Political Science Review* 53(01):69–105.
- Lorentzen, Peter L. 2013. "Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime." *Quarterly Journal of Political Science* 8(2):127–158.
- Lott, Jr, John R. 1999. "Public Schooling, Indoctrination, and Totalitarianism." *Journal of Political Economy* 107(S6):S127–S157.
- Lü, Xiaobo. 2014. "Social Policy and Regime Legitimacy: The Effects of Education Reform in China." *American Political Science Review* 108(02):423–437.
- Manion, Melanie. 1996. "The Electoral Connection in the Chinese Countryside." *American Political Science Review* 90(04):736–748.
- Manion, Melanie. 2010. A Survey of Survey Research on Chinese Politics: What Have We Learned? In *Contemporary Chinese Politics: New Sources, Methods, and Field Strategies*, ed. Carlson, Allen and Gallagher, Mary E. and Lieberthal, Lieberthal and Manion, Melanie. Cambridge University Press pp. 181–199.
- Marshall, John. 2015. "Coarsening Bias: How Instrumenting for Coarsened Treatments Upwardly Biases Instrumental Variable Estimates." Unpublished Manuscript.
- Mattes, Robert and Michael Bratton. 2007. "Learning About Democracy in Africa: Awareness, Performance, and Experience." *American Journal of Political Science* 51(1):192–217.
- Nathan, Andrew. 2003. "Authoritarian Resilience." *Journal of Democracy* 14(1):6–17.

- O'Brien, Kevin J and Lianjiang Li. 2006. *Rightful Resistance in Rural China*. Cambridge University Press.
- Perry, Elizabeth J. 1994. Casting a Chinese Democracy Movement: The Roles of Students, Workers, and Entrepreneurs. In *Popular Protest and Political Culture in Modern China*, ed. Wasserstrom, Jeff and Perry, Elizabeth J. Cambridge University Press pp. 146–64.
- Perry, Elizabeth J. 2015. “Higher Education and Authoritarian Resilience: The Case of China, Past and Present.” *Harvard-Yenching Institute Working Paper* .
- Presser, Stanley, Mick P Couper, Judith T Lessler, Elizabeth Martin, Jean Martin, Jennifer M Rothgeb and Eleanor Singer. 2004. “Methods for Testing and Evaluating Survey Questions.” *Public Opinion Quarterly* 68(1):109–130.
- Pritchett, Lant. 2003. “When Will They Ever Learn? Why All Governments Produce Schooling.” *Working Paper* .
- Przeworski, Adam, Michael Alvarez, Jose Antonio Cheibub and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-being in the World, 1950-1990*. Cambridge University Press.
- Putnam, Robert D. 1995. “Bowling Alone: America’s Declining Social Capital.” *Journal of Democracy* 6(1):65–78.
- Rosenstone, Steven and John M Hansen. 1993. “Mobilization, Participation and Democracy in America.”.
- Samii, Cyrus. 2013. “Perils or Promise of Ethnic Integration? Evidence from a Hard Case in Burundi.” *American Political Science Review* 107(03):558–573.
- Saunders, Doug. 2011. “A Self-Taught Democracy Emerges From Tunisia’s Classrooms.” *The Globe and Mail* .
- Shi, Tianjian. 1997. *Political Participation in Beijing*. Harvard University Press.
- Shipler, David K. 1983. *Russia: Broken Idols, Solemn Dreams*. Penguin Group USA.
- Sondheimer, Rachel Milstein and Donald P Green. 2010. “Using Experiments to Estimate the Effects of Education on Voter Turnout.” *American Journal of Political Science* 54(1):174–189.
- Stockmann, Daniela and Mary E Gallagher. 2011. “Remote Control: How the Media Sustain Authoritarian Rule in China.” *Comparative Political Studies* 44(4):436–467.
- Tang, Wenfang. 2005. *Public Opinion and Political Change in China*. Stanford University Press.
- Tsai, Lily L. 2015. “Constructive Noncompliance.” *Comparative Politics* 47(3):253–279.
- Verba, Sidney, Kay Lehman Schlozman and Henry Brady. 1995. *Voice and Equality: Civic Voluntarism in American Politics*. Harvard University Press.

- Verba, Sidney and Norman H Nie. 1972. *Participation in America: Political Democracy and Social Equality*. University of Chicago Press.
- Verspoor, Adriaan. 2001. *A Chance to Learn: Knowledge and Finance for Education in Sub-Saharan Africa. Africa Region Human Development Series*. ERIC.
- Wallace, Jeremy L. and Jessica Chen Weiss. 2015. "The Political Geography of Nationalist Protest in China: Cities and the 2012 Anti-Japanese Protests." *The China Quarterly* 222:403–429.
- Wang, Yuhua and Carl Minzner. 2015. "The Rise of the Chinese Security State." *The China Quarterly* 222:339–359.
- Weakliem, David L. 2002. "The Effects of Education on Political Opinions: An International Study." *International Journal of Public Opinion Research* 14(2):141–157.
- Wedeen, Lisa. 1999. *Ambiguities of Domination: Politics, Rhetoric, and Symbols in Contemporary Syria*. University of Chicago Press.
- Weiss, Jessica Chen. 2014. *Powerful Patriots: Nationalist Protest in China's Foreign Relations*. Oxford University Press.
- Wolfinger, Raymond E and Steven J Rosenstone. 1980. *Who Votes?* Vol. 22 Yale University Press.
- Woodberry, Robert D. 2012. "The Missionary Roots of Liberal Democracy." *American Political Science Review* 106(02):244–274.
- Woodson, Carter G. 1915. *The Education of the Negro Prior to 1861*. New York: Putnam.
- Yan, Xiaojun. 2014. "Engineering Stability: Authoritarian Political Control over University Students in Post-Deng China." *The China Quarterly* 218:493–513.
- Zhao, Suisheng. 1998. "A State-Led Nationalism: The Patriotic Education Campaign in Post-Tiananmen China." *Communist and Post-Communist Studies* 31(3):287–302.
- Zhong, Yang and Jie Chen. 2002. "To Vote or Not to Vote An Analysis of Peasants' Participation in Chinese Village Elections." *Comparative Political Studies* 35(6):686–712.

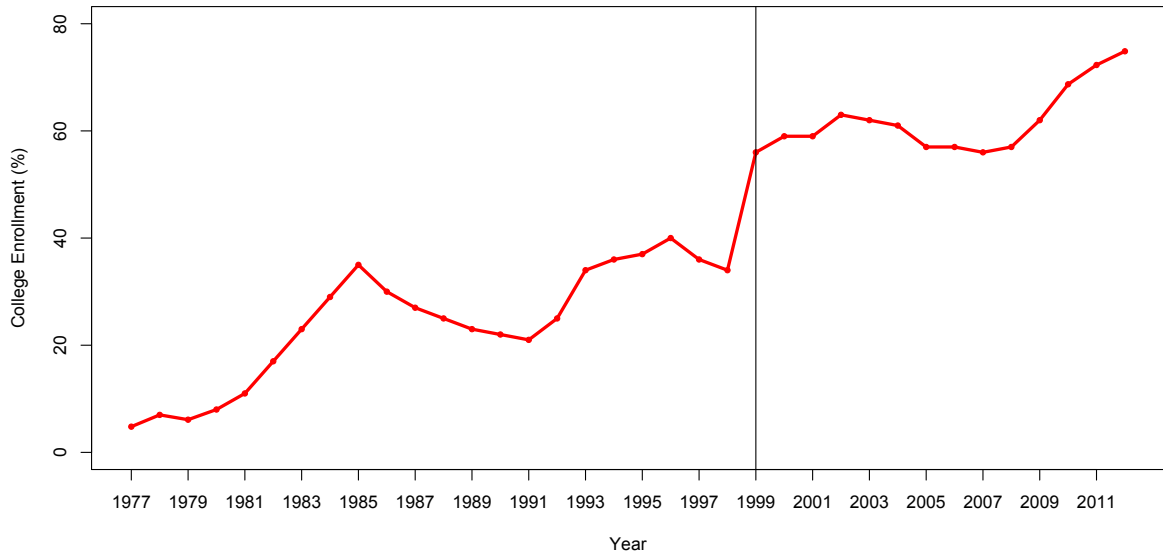


Figure 1: China's College Enrollment Rate (1977-2012)

Notes: The figure plots China's college enrollment rate from 1977 to 2012. College enrollment rate is calculated as $\text{Number of recruited} \times 100 / \text{Number of attendants of the national entrance exam}$. The data are from the Ministry of Education (<http://edu.people.com.cn/n/2013/0503/c116076-21359059.html> (Accessed August 14, 2015)).

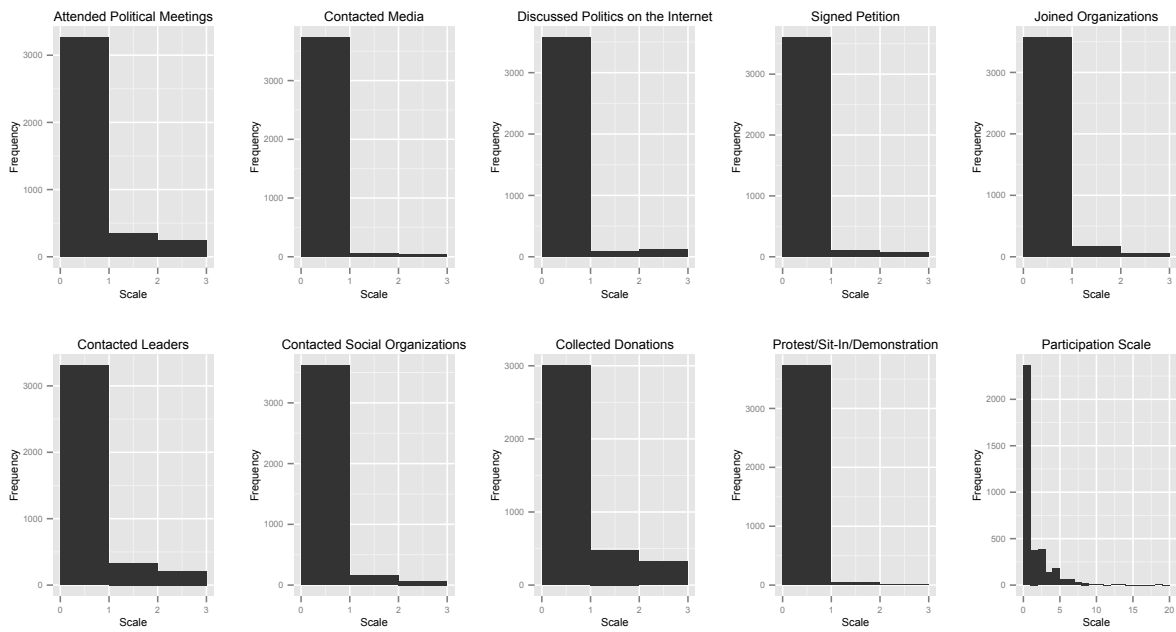


Figure 2: Histograms of Political Engagement

Notes: The figure plots the histograms of each participation activity and the participation index. The nine participation activities are all coded as ordinal variables (0 = never, 1 = did it earlier, 2 = did it last year), and the *Participation Scale* is the sum of all nine activities.

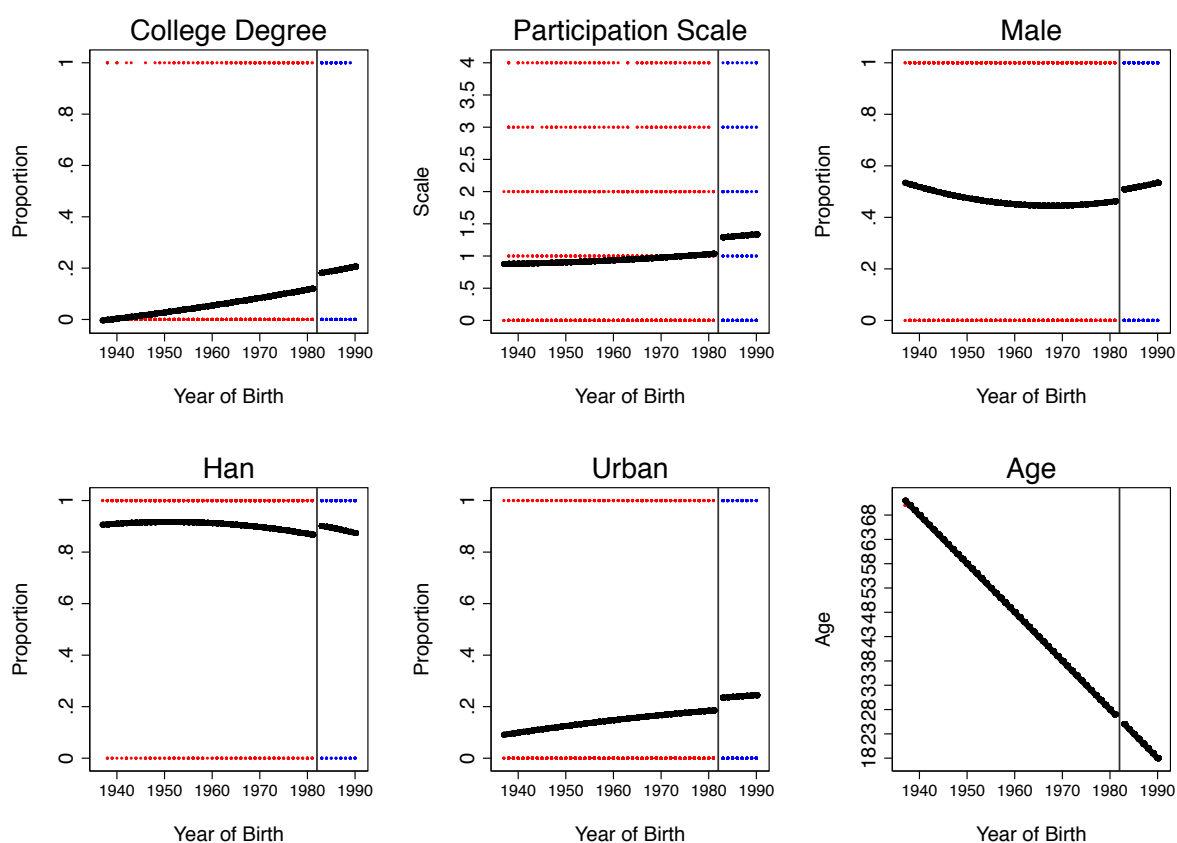


Figure 3: Trends in Key Variables by Cohort

Notes: The figure plots the RD graphic analysis of key variables in the analysis. The plotted lines report the fitted values from a regression of each dependent variable on a cubic polynomial in Year of Birth. The local linear regression smoothers are fit on either side of the cutoff point (1982), demarcated by the vertical line. The dots indicate the actual distribution of observations in the sample. The jump of *College Degree* at the cutoff point is estimated to be 0.26 (s.e.=0.07). The jump of *Participation Scale* at the cutoff point is estimated to be 0.56 (s.e.=0.27). The jump of *Male* is estimated to be 0.12 (s.e.=0.17), that of *Han* 0.03 (s.e.=0.14), and that of *Urban* 0.13 (s.e.=0.07). All are estimated with the “Imbens-Kalyanaraman optimal” bandwidth and a rectangle kernel.

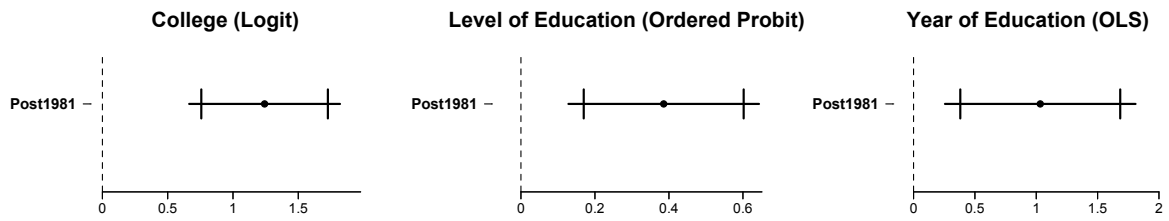


Figure 4: Estimates of Education Reform on Educational Attainment

Notes: The figure plots regression estimates of the effect of *Post1981* on education. The left panel reports logistic regression estimates using *College* (an indicator for whether the respondent received college degree) as the dependent variable. The middle panel reports ordered probit estimates using *Level of Education* (a 5-point ordinal variable) as the dependent variable. The right panel reports OLS estimates using *Year of Education* (a continuous measure of the total year of schooling) as the dependent variable. The black dots are estimates of regression coefficients. Lines represent the 95% confidence intervals, and the small bars 90% confidence intervals, both of which are based on clustered standard errors at the provincial level. All specifications include provincial fixed effects and three cohorts on either side of the reform cutoff. Table 3.1 in the Web Appendix reports the results that generate this figure.

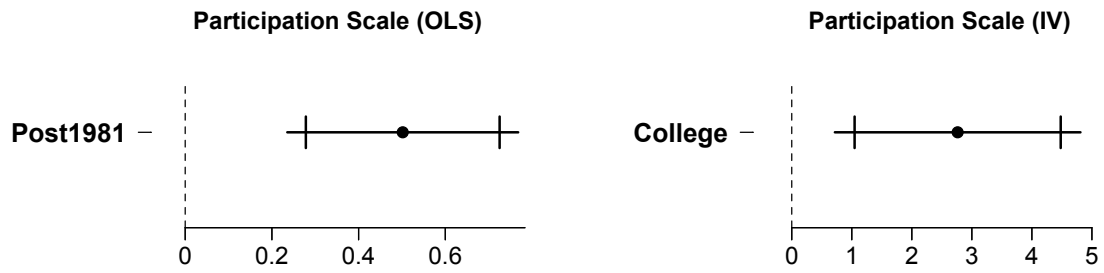


Figure 5: The Effects of College Education on Political Engagement

Notes: The figure plots regression estimates of the effects of college education on the overall level of political engagement. The left panel reports ITT estimates using *Post1981* (an indicator for whether the respondent was born after 1981) as the explanatory variable. The right panel reports IV estimates using *College* (instrumented by *Post1981*) as the explanatory variable. The black dots are estimates of regression coefficients. Lines represent the 95% confidence intervals, and the small bars 90% confidence intervals, both of which are based on clustered standard errors at the provincial level. All specifications include provincial fixed effects and three cohorts on either side of the reform cutoff. Table 3.2 in the Web Appendix reports the results that generate this figure.

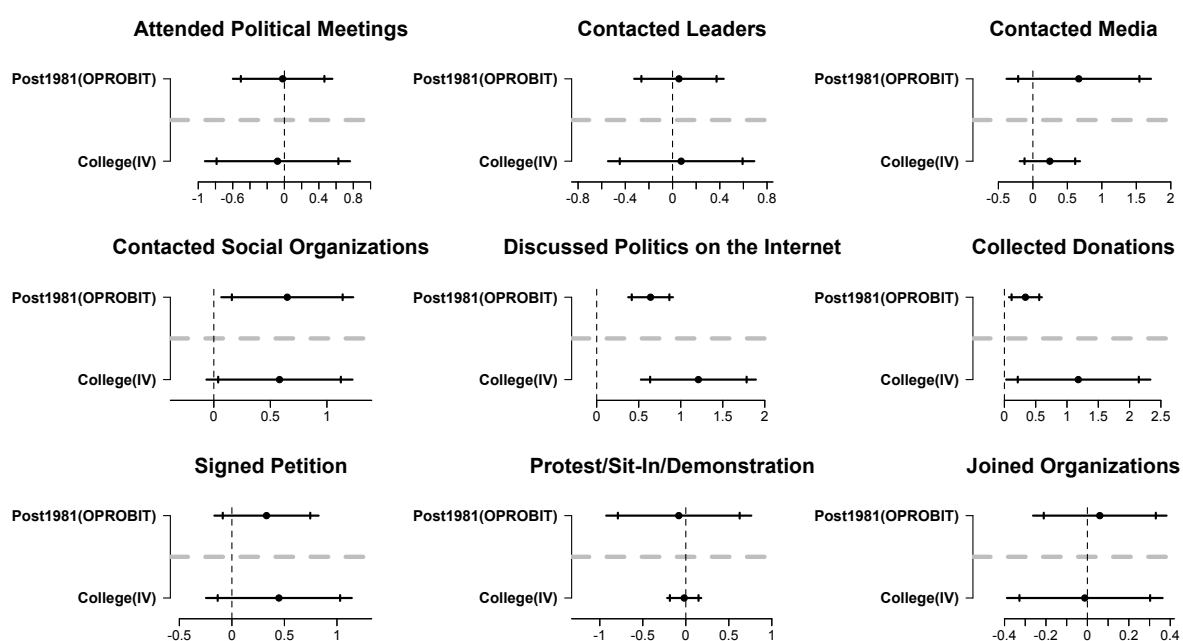


Figure 6: The Effects of College Education on Participation Activities

Notes: The figure plots regression estimates of the effects of college education on individual participation activities. Each line represents a separate regression. The upper line reports ITT estimates using *Post1981* as the explanatory variable. The lower line reports IV estimates using *College* (instrumented by *Post1981*) as the explanatory variable. The black dots are estimates of regression coefficients. Lines represent the 95% confidence intervals, and the small bars 90% confidence intervals, both of which are based on clustered standard errors at the provincial level. All specifications include provincial fixed effects and three cohorts on either side of the reform cutoff. Table 3.3 in the Web Appendix reports the results that generate this figure.

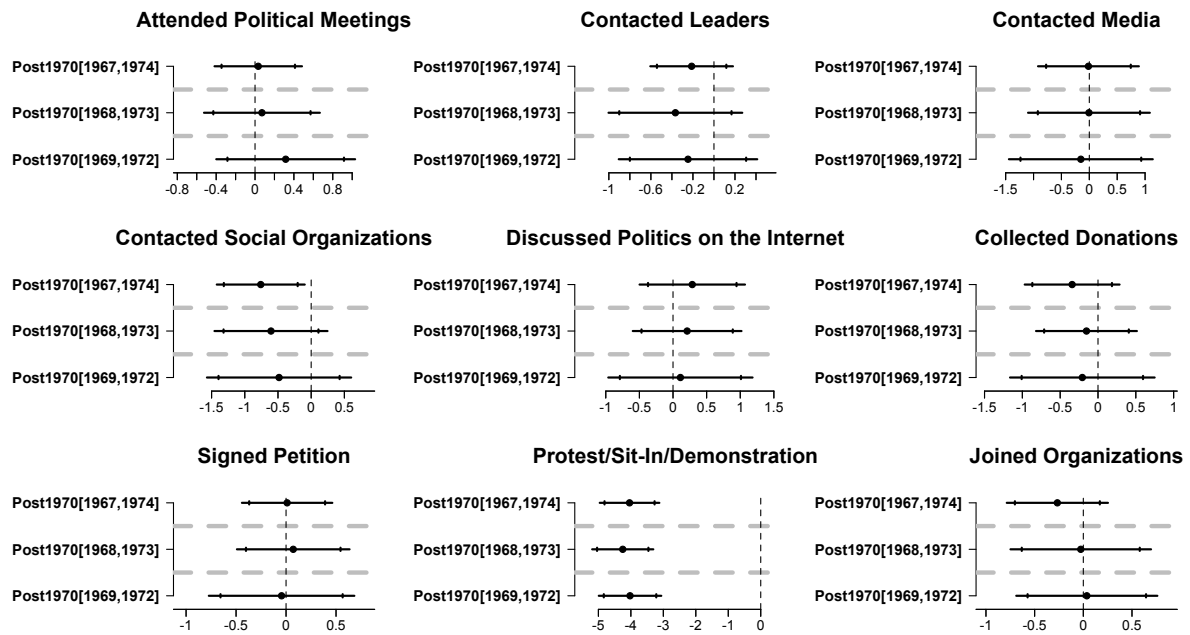


Figure 7: The Effects of 1989 on Participation Activities

Notes: The figure plots regression estimates of the effects of the 1989 Tiananmen Massacre on individual participation activities. Each line represents a separate regression. The upper line reports ordered probit estimates using *Post1970* as the explanatory variable and including four cohorts on either side of the 1989 cutoff. The middle line reports ordered probit estimates using *Post1970* as the explanatory variable and including three cohorts on either side of the 1989 cutoff. The lower line reports ordered probit estimates using *Post1970* as the explanatory variable and including two cohorts on either side of the 1989 cutoff. The black dots are estimates of regression coefficients. Lines represent the 95% confidence intervals, and the small bars 90% confidence intervals, both of which are based on clustered standard errors at the provincial level. All specifications include only respondents who have a college degree. Table 3.4 in the Web Appendix reports the results that generate this figure.