

# Education and Wartime Mobilization: Evidence from Colonial Korea during WWII\*

Yutaro Izumi<sup>†</sup>      Sangyoon Park<sup>‡</sup>

July 15, 2023

## Abstract

We empirically examine the effect of colonial education on the mobilization of Koreans during World War II. In the early 1920s, the Japanese colonial government implemented an education expansion policy that doubled the number of public primary schools for Koreans. We employ a difference-in-differences strategy which exploits cross-regional variation in the number of schools built under this policy and cross-cohort variation in the exposure to school expansion. Our estimate suggests that the expansion of public primary education significantly increased military mobilization. We additionally find that higher exposure to colonial education led to lower anti-colonial activism. The results are robust to a number of controls that account for potential confounders and survive a placebo test using schools constructed in later years. By exploiting the design of the expansion policy, we use an instrumental variable approach and show that the results are qualitatively unchanged. Results from examining several potential mechanisms suggest that exposure to Japanese colonial education facilitated the assimilation of Koreans to Japanese.

Keywords: Education, Mobilization, Assimilation, Colonial Korea  
JELcodes: H56, I28, J15, N35, N45

---

\*We thank Zihe Wang and Jiayi Zhang for providing excellent research assistance. We are thankful to Sun Go, Sok Chol Hong, Duol Kim, Chulhee Lee, Chicheng Ma and participants at the HKU Brownbag, Korean Economic History Society and AASLE conference for providing insightful comments. All errors are our own.

<sup>†</sup>National Graduate Institute for Policy Studies. Email: y-izumi@grips.ac.jp

<sup>‡</sup>HKU Business School, University of Hong Kong. Email: sangyoon@hku.hk

# 1 Introduction

In times of war, the ability of a state to mobilize its citizens is crucial for achieving military success. To do so, it is necessary to foster a sense of national identity and ensure compliance with the state’s war effort. While there are various policy tools that states can use to shape national identities, such as media (Blouin and Mukand, 2019) and population resettlement (Bazzi et al., 2019), education has long been considered a key tool for cultivating national identity (Weber, 1976; Alesina et al., 2020, 2021). However, there is little consensus on the effectiveness of education in enhancing national identity and facilitating wartime mobilization. While some studies demonstrate the effectiveness of education as a tool for nation-building (Clots-Figueras and Masella, 2013; Cinnirella and Schueler, 2018; Chen et al., 2023), others show that states’ attempts to forcibly homogenize cultural identities through education can sometimes cause backlash and lower integration (Fouka, 2020; Carvalho et al., 2022).

This study examines the effect of Japanese colonial education on the mobilization of Koreans in colonial Korea during WWII. The Japanese colonial government made significant investments in primary education for Koreans as a central policy instrument for assimilating Koreans into Japanese. In particular, in the early 1920s, a massive school construction policy was implemented, and the number of public primary schools doubled and an estimated enrollment rate almost tripled from 4% to 14%. We exploit this rapid expansion of colonial primary education in the early 1920s to estimate its impact on wartime mobilization. The Korean military and labor mobilization was introduced in the late 1930s following the onset of the Second Sino-Japanese War in 1937. By the end of WWII, more than 250,000 Koreans enlisted either as a volunteer or a conscript, and more than 600,000 Koreans were mobilized as a laborer.

To estimate the effect of education on wartime mobilization, we use individual-level mobilization data which contains information on the hometown and birth year of each person. We aggregate the data at the county- and birthyear cohort-level, and apply the difference-in-differences strategy for causal identification. Specifically, we compare the changes in wartime mobilization between birthyear cohorts across counties with different intensities of education expansion. Adopting this strategy, we are able to remove potential confounders that are time-invariant but vary with education expansion across counties (e.g., geographic characteristics) as well as time-varying factors influencing mobilization across birthyear cohorts (e.g., age at the time of mobilization).

The main concern for the causal interpretation of our specification is the presence of confounders that vary with education expansion and birth year. For example, education

expansion may vary with infrastructure development which can be important for growth in agriculture and industrial sectors. Since the supply of food and industrial equipment is important during wartime, mobilization may differ across birthyear cohorts depending on the size of these sectors. To address this possibility, we include the interactions of a large number of county-specific characteristics and a post-reform indicator for cohorts young enough to enter primary school after the start of the expansion policy.

Our difference-in-differences estimates show that the primary education expansion reform increased the mobilization of Koreans during World War II. Our estimates are both economically and statistically significant, and indicate that mobilization is 35.8% higher in a county at the 25th percentile of the intensity of school construction, as compared to a county at the 75th percentile. Our result is robust to the inclusion of other potentially confounding variables. These include the number and intensity of independence protests during the 1919 March First Movement, number of religious institutions, number of modern companies by nationality (Japanese and Korean) and by industry (skilled or unskilled), employment rate by industry as well as by occupation. We also show that our estimate is not sensitive to omitting outliers.

Next, we exploit the policy design of the education expansion campaign to implement an instrumental variable approach. At the beginning of the expansion policy, the colonial government announced a policy goal of “one public primary schools for every three townships”. We use this policy goal to construct a variable which predicts the increase in public primary schools during the expansion period (1919-1925) for each county based on the number of townships in a given county and the number of public primary schools in 1919. Then, we instrument the actual change in schools with the predicted change according to the policy goal. The instrumental variable estimate is qualitatively similar to our baseline estimate showing a statistically significant increase in mobilization in counties that built more public primary schools during the expansion period.

The positive effect of education on wartime mobilization is consistent with the historical accounts that Japanese colonial education contributed to the assimilation of Koreans into Japanese, inducing their compliance with the state’s war efforts. We explore several alternative mechanisms that may potentially explain our findings. We provide suggestive evidence that eligibility conditions for mobilization, such as literacy, or quality of education provided at public primary schools cannot explain our findings. Moreover, we utilize various historical datasets, including civil exam passer data from the pre-colonial period and colonial government official records, to examine whether state capacity could have served as a potential channel through which education provision affected mobilization outcomes. Finally, we do

not find evidence to suggest that the positive effect of education on mobilization is driven by financial or economic motives.

We close our analysis by analyzing the long-run effects of Japanese colonial education on Korean's perception of Japanese in today's South Korea. Using the Korean General Social Survey, we find that greater access to public primary education in the late colonial era is positively associated with a better perception of Japanese among the older cohorts, which potentially spent their childhood under colonial rule, but not among the younger cohorts. This finding further corroborates our interpretation that Japanese colonial education facilitated the assimilation of Koreans during the colonial era and suggests that education can persistently shape people's perceptions on other ethnicities.

This paper contributes to several strands of literature. First, it adds to the literature on wartime mobilization. Prior studies have analyzed what motivates people to fight in a war, including state policies such as repression (Rozenas et al., 2022) and media propaganda (Barber and Miller, 2019), and other socio-economic factors such as wealth (Hall et al., 2019), group loyalty (Costa and Kahn, 2003), elite network (Rogall, 2021; Bai et al., 2023), leadership (Dippel and Heblich, 2021), and discrimination (Qian and Tabellini, 2021). Most relatedly, Caprettini and Voth (2022) shows that welfare expenditures strengthen patriotism and induce citizens to fight for the country during WWII in the US. The current paper builds on previous studies and analyzes how state-provided education can shape ideology and contribute to wartime mobilization. By studying one potentially important determinant of military capacity, this paper also speaks to a broader literature on state-building (Besley and Persson, 2009, 2010; Gennaioli and Voth, 2015)

The current paper is also related to the literature on nation-building. Recently, empirical and theoretical studies on the role of education policies in nation-building have gained much attention.<sup>1</sup> Specifically, Alesina et al. (2020, 2021) and Bandiera et al. (2019) study states' incentives to nation-build through education. Other studies have examined the impacts of education policies on nation-building, including the language of instruction (Clots-Figueras and Masella, 2013; Fouka, 2020), curriculum (Cantoni et al., 2017; Chen et al., 2023), educational spending (Cinnirella and Schueler, 2018), and school construction (Bazzi et al., 2020). The closest to the current paper is Fouka (2020), which studies how the restriction on the language of instruction affects the decision to volunteer for the army. We shed light on a related yet distinct question which is how exposure to primary education affects wartime

---

<sup>1</sup>Prior studies have also investigated the effects of various policies and interventions on nation-building, including military interventions (Dell and Querubin, 2018), media (Blouin and Mukand, 2019), population resettlement (Bazzi et al., 2019), political regime (Voigtländer and Voth, 2012), shared experience (Depetris-Chauvin et al., 2020), state repression (Dehdari and Gehring, 2022), and social interaction (Kukić, 2023).

mobilization.

Lastly, our paper also contributes to the literature in economics on the impact of colonialism (*e.g.*, [Acemoglu et al. 2001](#); [Dell 2010](#); [Dell and Olken 2020](#); [Lowe and Montero 2021](#)). While we study the context of a Japanese colonial state, the provision of education and the mobilization of the colonized population are also common to other colonial powers. Some prior studies examine the impacts of colonial education on human capital and development ([Chaudhary and Garg, 2015](#); [Wantchekon et al., 2015](#); [Dupraz, 2019](#)). Also, other studies examine the consequences of serving in colonial armies, such as [Salem and Seck \(2023\)](#) on French Morocco and [Jha and Wilkinson \(2012\)](#) on British India. However, little research in economics literature has explored what role colonial education played in mobilizing the local populations for war efforts.<sup>2</sup> We fill in this gap in the literature by studying the role of colonial education in wartime mobilization in Korea.

The rest of the paper is organized as follows. Section 2 describes the background of Japanese colonial education and the wartime mobilization of Koreans. Section 3 describes the mobilization data, public primary school education data, and county characteristics used in our analysis. Using these data sets, Section 4 presents the identification strategy and the results of our main analysis. In Section 5, we provide a discussion on potential mechanisms. Section 6 explores the long-run effect of colonial education on Korean’s attitude toward the Japanese and Section 7 concludes.

## 2 Background

### 2.1 Colonial Education and Indoctrination

The establishment of a modern primary education system was one of the key agenda for the Japanese colonial government. With the central ideology of Japanese colonial rule being the assimilation of Koreans into Japanese, education was regarded as a crucial policy instrument to accomplish this goal. This can be seen in Article 2 of the First Educational Ordinance enacted in 1911, which states that the goal of colonial education was to “produce loyal and obedient Imperial subjects by giving instruction based on the Imperial Rescript on

---

<sup>2</sup>Outside economics literature, studies have shown that, in two world wars, colonial powers employed political strategies such as media propaganda ([Smyth, 1985](#); [Fuhrmann, 2015](#); [Shin and Robinson, 1999](#)) and promises of political rights and post-war benefits ([Zachernuk, 2000](#)) to facilitate wartime mobilization. [Chatani \(2018\)](#) argues that in Taiwan, the colonial government implemented a mobilization tactic centered around local youth groups, which consequently led to the cultural mobilization permeating throughout the entire social class through youth education ([Henry, 2016](#)). However, there are few quantitative studies on this topic.

Education (*Kyoiku Chokugo*)”.<sup>3</sup> Note that the idea of shaping Japanese citizens through education had been upheld by the Japanese government ever since the Meiji Restoration and the same principle had been applied in mainland Japan, the two island regions that were originally inhabited by non-Japanese ethnic groups (Hokkaido and Okinawa), and other Japanese colonies such as Taiwan (Caprio, 2009).

Under the First Korean Educational Ordinance, the education system consisted of a four-year primary education, followed by a four-year (for boys) or three-year (for girls) secondary education, and a three-year vocational education. Importantly, primary education placed greater emphasis on the indoctrination of Korean children compared to secondary and vocational education, which focused more on the acquisition of practical knowledge and skills. This objective is explicitly stated in Article 7 of the Common School Regulation 1911 as “it is the main purpose of primary schools to cultivate moral character and create loyal and diligent subjects.” It should also be noted that access to higher education for Korean children was highly limited. As of 1919, while there were 76,918 Koreans enrolled in public primary schools, only 1,467 and 2,309 were enrolled in public secondary and vocational schools, respectively. During the study period, enrollment was not mandatory, and schools charged tuition fees.

A modern curriculum was introduced to align with Japanese educational standards, focusing on subjects like Japanese language, mathematics, and science. The Japanese language became the primary language of instruction and the curriculum aimed to promote Japanese language proficiency among Koreans to facilitate their assimilation into Japanese society. Japanese culture and values were also emphasized, and students were taught the virtues of the Japanese empire, loyalty to the emperor, and obedience to Japanese authority. At the same time, it was also designed to suppress Korean national identity, and subjects related to Korean history, culture, and literature were de-emphasized or excluded. Despite the emphasis on the assimilation of Koreans, schools were segregated based on ethnicity, and schools for ethnic Koreans provided a lower quality education compared to Japanese schools.

The March First Movement, a widespread protest against Japanese colonial rule in Korea in 1919, marked a turning point in colonial education policy. Specifically, the colonial government intensified its assimilation efforts through education in the early 1920s. Most importantly, the government implemented a school construction program under the slogan of “one school for every three townships” in 1919, which resulted in a sudden increase in public primary schools, as can be seen in Appendix Figure B1. Accordingly, the primary education

---

<sup>3</sup>The Imperial Rescript on Education is a rescript issued by *Meiji* Emperor to Japanese Imperial subjects in 1890, stipulating the guiding principles of education in Japan proper.

enrollment rate of Korean children also increased from about 1.4 percent in 1912 to almost 30 percent in the 1940s (Go and Park, 2019). The rapid increase in the enrollment rate at public primary schools can also be seen in Appendix Figure B2. In contrast, enrollment rates at religious or village schools remain steady or even decline during the same period. Our study focuses on the expansion of public primary schools between 1919 and 1925.

In addition to the construction of schools, the educational curriculum was also revised to enhance assimilation efforts. Specifically, in 1922, the Educational Ordinance was amended with three significant changes: (1) the duration of primary education was extended from four years to six years, (2) there was an increase in Japanese language class hours and a reduction in Korean language class hours, and (3) new subjects such as geography and history were introduced. It should be noted that the effect of education analyzed in this paper encompasses the combined effect of both school construction and curriculum changes. Notably, the content of history and geography classes reflected the government’s objective of justifying Japan’s colonization of Korea and instilling a sense of belonging and patriotism toward Japan. For example, the section titled “Japanese annexation of Korea” in a history textbook states,

Korea was a Japanese protectorate for several years, during which her political situation improved gradually. However, its long-lasting misgovernance is hard to break down, and people still feel insecure. Hence, it gradually turned out that there was no choice but to annex Korea to Japan in order to improve the welfare of the Korean people, and there were quite a few Koreans hoping for it. Now, Korean Emperor transferred its sovereignty to the Japanese Emperor, desiring to improve the welfare of the people better, and the Japanese Emperor agreed on it, so that Korea was finally annexed to Japan in August 1910.

By the mid-1920s, the goal of “one school for every three townships” had been achieved, and thus the growth in the number of schools and enrollment during the late 1920s was limited, as shown in Appendix Figure B1 and B2. In 1929, the second phase of educational expansion, known as the “one school for every township” plan was implemented, and the enrollment rate began to increase rapidly again in the 1930s. Note, however, that the cohorts which were exposed to the second phase of the school expansion were generally too young and ineligible for mobilization during WWII. For this reason, this paper focuses on analyzing the effect of the first phase of educational expansion.<sup>4</sup> We will exploit the second school expansion plan in a placebo exercise.

---

<sup>4</sup>In 1938, the Educational Ordinance was also amended again to facilitate the Japanese assimilation of Koreans further, which is directly associated with the mobilization policies.

## 2.2 Wartime Mobilization of Koreans

After the outbreak of the Second Sino-Japanese War in 1937, the demand for troops and laborers escalated in Japan. As a result, the Japanese government introduced mobilization systems in Japan and its colonies, including Korea and Taiwan. In Korea, wartime mobilization encompassed both military and labor mobilization, each consisting of distinct phases. The military mobilization unfolded in two stages: (1) the volunteer system (1938-1944) and conscription (1944-1945). Concurrently, labor mobilization occurred in three phases: (1) private hiring (1939-1942), (2) government-directed recruitment (1942-1944), and (3) conscription. While the exact number of mobilized individuals remains uncertain, estimates suggest that at least 250,000 Koreans were mobilized as soldiers, while more than 600,000 were mobilized as laborers. It is beyond the scope of this paper to provide an extensive background of wartime mobilization. Instead, we provide an overview of the mobilization systems that are particularly relevant to our analysis.

**Military mobilization** The Korean military mobilization started in 1938 with the introduction of the Special Volunteer Soldier System. Any Korean men who were at least 17 years old, more than 160 centimeters tall, mentally sound, free of a criminal record, with the equivalent of elementary school education, and economically stable, were eligible to apply, but the officials encouraged young men to apply even if they were not properly qualified in the early 1940s (Palmer 2013, p. 60). The applicants went through oral, written, and physical examinations. During the examination processes, fearing that independence movements and nationalism would spread within the military and potentially lead to rebellious movements, the authorities conducted background checks on the applicants and removed those who had any association with independence movements or whose families were involved. The successful applicants underwent a six-month (four-month from 1941) training program at the training center, and upon graduation, the recruits were placed on active duty or assigned to the reserve. Volunteer soldiers enlisted for two years but their deployment was often extended until the end of the war (Palmer 2013, p. 89). Until the system was replaced by a compulsory military conscription system in 1944, more than 800,000 Koreans submitted the applications, and 17,664 were enlisted as volunteer soldiers (Appendix Table B1).<sup>5</sup>

As the war with China intensified and the Pacific War began in 1941, Japan faced a

---

<sup>5</sup>There were two other volunteer systems in Korea. In May 1943, the Navy introduced the volunteer system with the inauguration of the Naval Special Volunteer System. The qualifications for volunteer soldiers in the Navy were similar to the army volunteer system. In October 1943, the Student Volunteer Soldier System was introduced, which enabled Korean students in higher education to enlist directly into the army without mandatory training.



serious shortage of combat troops, which necessitated a system to recruit a larger number of Koreans as soldiers. Therefore, in 1942, the government announced its intention to introduce conscription in 1944, which was indeed implemented in 1944 as announced. Under the conscription system, essentially every twenty-year-old Korean man was eligible for military service. In practice, however, primary school enrollment was still limited, and so was the Japanese proficiency among Korean youths, which Japanese authorities deemed to be essential.<sup>6</sup> Therefore, conscript-age Korean men were first sent to Youth Special Training Centers to receive a six-month to one-year Japanese language instruction and spiritual and moral training so that even primary school non-graduates could receive at least the equivalent of primary school education (Fujitani 2011a, p. 275). The training center graduates then took conscript examinations, and those in good physical condition, Japanese proficiency, and mental fortitude and ideology were classified as eligible for active duty and entered the military. In both 1944 and 1945, 4,5000 Koreans entered the Army and 10,000 entered the Navy each year.<sup>7</sup>

While Korean soldiers were stationed in every region occupied by the Japanese Empire, the majority of them were deployed in Korea or Japan proper. Most of the Korean conscript soldiers served as infantrymen or artillerymen, which generally require no special skills or training, but some were also placed in non-combat positions, such as engineers and technicians (Appendix Table B2). Notably, Koreans were usually assigned to the same military units as Japanese soldiers and fought alongside them, which contrasts with the French and British colonial empires where colonial subjects were segregated in the army (Palmer 2013, p. 127).

**Labor mobilization** The legal basis for labor mobilization was established by the National General Mobilization Law in 1938. Starting from 1939, the Japanese government outlined the annual labor needs in the Labor Mobilization Plan (Appendix Table B3). It assigned the Government-General of Korea an annual labor quota, which is subdivided among provincial governments. Korean workers were recruited based on these quotas.

In the first four years (1939-1942), recruitment of Korean workers was through private hiring. Specifically, individual Japanese companies, mostly in the mining and construction sectors, received quotas from the government and directly recruited Korean workers in areas

---

<sup>6</sup>Specifically, 46 percent of the Koreans who took the examination for conscription in 1944 were not enrolled at primary schools (Miyata 1985, p. 100).

<sup>7</sup>In 1944, about 94.5% of all the eligible Korean males took the examination, and 63.5% of them were classified as eligible for active duty (Fujitani 2011a, p. 277). Among them, only 24.7 % were actually placed on active duty (Palmer 2013, p. 116).

designated by the government. In 1939, seven provinces were designated as the recruitment area (Gyeonggi, North and South Chungcheong, North and South Cholla, and North and South Gyeongsang). The details of the contractual arrangement were left to individual companies. In many cases, Korean workers received only a small allowance and were forced to save their wages until the end of the contract period to prevent desertion (Naitou 2005, p. 94).

As more Japanese men were conscripted into the military after the beginning of the Pacific War in 1941, the demand for Korean labor increased and it became increasingly difficult to recruit the planned number of workers. Therefore, from March 1942, the government acted as an official agency for workers and directly recruited laborers and sent them to the workplaces. Under this scheme, two additional provinces (Kangwon and Hwanghae) were designated for recruitment. Though this government-directed recruitment was more effective than private hiring, it still lacked the legally binding power to keep the workers in the same position for which they were recruited. From September 1944, therefore, the recruitment of Korean laborers was based on a system of labor conscription. Initially, the conscription was applied to young men between the age of 20 and 35, but it was later extended to include those between the ages of 13 and 50.

### 2.3 Korean Reaction to Military Mobilization

Early historical accounts on Korean military mobilization have primarily focused on the government's exploitation of Koreans, highlighting the forced nature of the military mobilization (Kang, 1997; Higuchi, 1991, 2001).<sup>8</sup> Even under the volunteer systems, the colonial government actively promoted policies to encourage the applications. They fostered competition among local administrations to attract more applicants, aiming to showcase the high number of volunteers (Higuchi 2001, pp. 14-15). As a result, many Koreans were pressured to volunteer for the military.

Koreans also had economic incentives to volunteer for the military and comply with conscription. Joining the military provided a stable income, including pay, food, clothing, and housing, offering economic security at a time when other industries were limited. It also offered employment opportunities, social mobility, and access to resources that were scarce under Japanese colonial rule. In fact, during the early 1930s, Korean farmers were severely affected by the economic depression in Japan. The protracted duration of the Sino-Japanese War compounded the financial hardships experienced by the farmers. Moreover, in 1939,

---

<sup>8</sup>Early studies on labor mobilization also highlight coercion by the Japanese government and companies (Pak, 1965; Chong and Ki, 2003; Chong, 2006; Yamada et al., 2005)

the central and southern regions of Korea were hit by a severe drought, exacerbating the inclination of rural residents to seek opportunities elsewhere through volunteering to the military (Miyata 1985, pp. 68-69).

However, recent historical works put forward that state coercion and economic incentives do not fully explain why Koreans joined the military. Citing several episodes of veterans, Palmer (2013) argues that “[s]ome applicants were sincere Japanese patriots who believed in Japan’s propaganda of pan-Asianism and the East Asian Co-Prosperity Sphere, and felt that Japan had Asia’s best interest at heart. Others accepted the imperial ideology taught by their parents or educators, and military service was a rite of passage for all Japanese men (Palmer 2013, p. 78).” Similarly, Fujitani (2011b) holds that some Korean soldiers showed strong support for Japan, introducing the U.S. interrogation reports on prisoners of war (Fujitani 2011b, pp. 240-242).

The available pieces of evidence indeed support the notion that the reasons for Koreans to join the military were diverse. A 1941 government survey on motivations for submitting a volunteer soldier application indicates that, while 55 percent of the applicants admitted that they were coerced to apply, 34.6 percent described themselves as true volunteers (Appendix Table B4). Another survey with Korean volunteer soldiers on their motivation to join the military shows that earnest patriotism (27.9%) was the most common reason, which was followed by for honors (23.6%) and then personal utilitarian motives (e.g., economic benefits) (15.0%) (Appendix Table B5). Admittedly, the survey responses may be biased towards reporting oneself as patriotic and the results here should be interpreted with caution. Nonetheless, these figures suggest that not all mobilizations were necessarily forced or based on economic incentives.

## 3 Data

### 3.1 Mobilization

We collect mobilization data from the National Archives of Korea.<sup>9</sup> We use sources documented in Japanese military and industrial records during the mobilization period.<sup>10</sup> The data contains individual-level information on the person’s hometown (mostly at the county

---

<sup>9</sup><https://theme.archives.go.kr/next/collection/formJapaneseSearch.do> We scraped the information on mobilization from the website. Accessed on August 25, 2022.

<sup>10</sup>While the Korean government has also separately compiled a list of mobilized individuals, it is largely based on self-reports and may contain duplicate records with the Japanese source.

level), birth year, and source of the record (e.g., military unit or company site). We restrict our sample to individuals born between 1901 and 1924 and thus the age of these individuals in 1944 would be between 20 and 43. Our main sample includes more than 250,000 observations of mobilized individuals from 227 counties. The main outcome of interest in our analysis is the number of mobilized individuals in each county and birth year. We consider individuals in military records as soldiers (i.e., military mobilization) and individuals in company records as laborers (i.e., labor mobilization). Both military and labor mobilization were targeted at men, which makes it likely that our sample consists of only men. Yet, it is possible that women were also mobilized during this period. Unfortunately, one important caveat of this data is that we are not able to identify the gender of the individual. Another important limitation of this data is that it does not contain information on the year of mobilization. This implies that, in the case of military mobilization, we are not able to identify whether an individual volunteered or was drafted.

## 3.2 Education

**Public primary school** Data on education provision are collected from *Chosun Shogakko Ichiran* (School Registry in Korea), which was published by the Government-General of Chosun annually. We have obtained and digitized the data for 13 years (1914, 1915, 1917, 1918, 1919, 1922, 1926, 1928, 1929, 1931, 1932, 1933, and 1934). Each volume lists the universe of formal schools in Korea with their school name, address, year and month of establishment, duration of the program, the number of classes, teachers, students, and expenses budget. We aggregate the school level data at the county level for each year, and construct a county-level panel dataset of public primary schools. As a validation practice, we cross-check the School Registry data with annual Statistical Yearbook data on total number of schools and student enrollment (presented in Appendix Figure B3).

## 3.3 County Characteristics

We also collect various county-level information about geography, demography, infrastructure, and state capacity from both primary and secondary sources, and use them as control variables in the empirical analysis. Geographic characteristics include crop suitability index, terrain ruggedness index, area, slope, elevation, and distance from coast and waterway.<sup>11</sup> Demographic information is extracted from population censuses in 1910 and 1930. The 1910 population census provides the total population and size of elite population for each county.

---

<sup>11</sup>In Appendix Section A, we provide a detailed description and the source of each variable.

The 1930 population census contains more detailed demographic information, such as population by age and gender groups for each county. We also collect data on infrastructure and state capacity by digitizing “Chosun omanbunil chihyungdo,” which is a collection of topographic maps of Korea at a scale of 1:50,000 (1 cm on the map equals 500 m) in 1918 (Government-General of Chosun, 1918). For infrastructure, we use measured distances to major cities (i.e., Seoul and Pyeongyang), nearest train station, road, post office, telegraph office, and seaport. We calculate all distances using the digitized road network of 1918 and network analyst tool in ArcGIS. For state capacity, we count the number of police stations, prisons, and military bases at each county in 1918.

### 3.4 Descriptive Statistics

Table 1 presents the summary statistics for mobilization, public primary schools, and selected county characteristics which we include as baseline controls. Our data suggests that an average of 1,136 Koreans were mobilized from each county. On average, five percent of males born between 1901 and 1924 were mobilized of which around 80% were assigned to military units (i.e., military mobilization) and the rest to industrial compounds (i.e., labor mobilization). The average number of public primary schools per 1,000 students in 1919 was 0.23 which approximately doubled to 0.44 in 1925. Enrollment rate almost triples from 0.04 to 0.15 during that period. The increase in enrollment rate can be partly explained by the expansion of public primary schools. Appendix Figure B4 shows that primary school enrollment rate increases more in counties that received more public primary schools during the school expansion period (1919-1925). In 1930, the average county’s Korean population was 88,200.

In Appendix Figure B5, we plot the average number of mobilized Korean soldiers (in levels (a) and in logs (b)) by birthyear. We observe an increasing trend in mobilization with birthyear: younger individuals were more likely to be mobilized, especially for those born in 1924 (age twenty in 1944). In logarithmic form, we find a positive linear relationship between mobilization and birth year. The observed trend in mobilization by birth year points to the importance of controlling for birth year in the estimation which we discuss in the next section.

In Figure 1, we provide graphical evidence on the public primary school expansion policy. Panel (a) plots the relationship between the number of public primary schools per 1,000 school-age children in 1919 and the policy-predicted change in schools per 1,000 from 1919 to 1925. The colonial government’s education expansion policy in this period was based on

the principle to build one public primary school for every three townships. As suggested by the negative linear relationship in Panel (a), the policy predicts an increase in the number of schools in areas with low number of public primary schools prior to the policy. We can check the policy outcome through plotting the predicted change and actual change in schools. This is shown in Panel (b). The scatter plot shows a positive relationship between the policy-predicted change and actual change in number of public primary schools per 1,000 school-age children. Compared to the 45-degree line, depicted in dashed pattern, the linear fit line has a higher intercept but a similar slope. This suggests that the actual expansion of public primary schools closely adhered to the government’s policy goal of building one school in every three townships. This also serves as potential evidence of a strong first stage relationship between predicted and actual change in public primary schools. We get back to this point later in Section 4.6 when we present estimation results using predicted change as an instrument for actual change.

## 4 Empirical Analysis

### 4.1 Identification

Our identification strategy is a difference-in-differences approach that is based on comparing cohorts of school age or younger to cohorts too old to be exposed to the education reform to cohorts between counties with different intensities of public primary school construction between 1919 and 1925. The specification takes the following form:

$$Y_{ct} = \alpha + \beta \Delta \text{Primary school}_c \times \text{Post}_t + \gamma X_{ct} + \eta_c + \tau_t + \epsilon_{ct} \quad (1)$$

where  $Y_{ct}$  is the number of mobilized individuals from county  $c$  in birth cohort  $t$ ,  $\Delta \text{Primary school}_c \times \text{Post}_t$  is an interaction term between the increase in the number of public primary schools per 1,000 school-age children from 1919 to 1925 and an indicator for individuals born on or after 1909. We choose the birth year 1909 as the post-reform cohort as those born on or after 1909 were young enough to be exposed to the school expansion between 1919 and 1925.<sup>12</sup> However, individuals born before 1909 were too old to be exposed to the expansion of schools during this period. The terms  $\eta_c$  and  $\tau_t$  denote county and birth cohort fixed effects. The coefficient of interest is  $\beta$ , which estimates the average effect of school expansion on fully

---

<sup>12</sup>Moreover, we could further divide the post reform cohort into two groups: 1) partially exposed (1909-1918) and 2) fully exposed (1919-1924). Unlike the former group, individuals born after 1918 had full exposure to the expansion because these individuals were eligible to enter primary school on or after 1925, the final year of the first education expansion policy.

exposed cohorts. We cluster standard errors at the county level to account for the serial correlation within counties.

In the above specification, county and birth cohort fixed effects account for average differences in the outcome variable across counties and birth cohorts. The identifying assumption is that there exists no omitted time-varying and county-specific factor correlated with both the change in the number of public primary schools per 1,000 school-age children and with the outcome variable. Because it is difficult to completely rule out this concern, we include interactions of county-level variables that are plausibly correlated with public primary school construction with an indicator for fully exposed birthyear cohorts.  $X_{ct}$  is a vector of these interaction terms. We discuss the specific county-level variables when we present the baseline results in the next section.

## 4.2 Baseline Estimates

Table 2 presents the baseline estimates. The outcome variable is the logarithm of the number of Koreans mobilized as soldiers. In column (1), we estimate specification (1) including only county and birthyear fixed effects. The estimated coefficient of increase in public primary schools interacted with post reform cohort is positive and statistically significant at the 5% level. In columns (2) to (5), we gradually introduce additional baseline controls, which absorb time-varying county-level factors that might be confounding our result. To understand the motivation for adding baseline controls, it is useful to consider potential omitted variables in the estimate in column (1). First, geographic characteristics, such as agriculture suitability, terrain ruggedness, total area, slope, and elevation, may influence school expansion as well as deterministic factors of mobilization. Second, demographic characteristics, such as population and size of elite population from pre-colonial period, may differ between counties with high and low intensities of public primary school expansion.<sup>13</sup> To account for the possibility that these county-characteristics influence mobilization in a way that changes before and after the education reform, we control for interaction terms between post education reform indicator and county-level geographic and demographic characteristics (columns (2) and (3), respectively). Third, differences in distance to major cities – Seoul and Pyeongyang – and infrastructure – train station, road, post office, telegraph office and seaport – may bias our results. For example, counties closer to major cities or with better infrastructure may have higher returns to education and, thus, higher demand for public primary education. Higher

---

<sup>13</sup>The findings in [Hong and Paik \(2017\)](#) suggest that counties with higher elite population, defined as Confucian scholars or government officials who served under the Joseon dynasty, experienced larger increases in literacy rate due to greater primary school expansion.

education. Simultaneously, proximity to major cities and infrastructure may have also affected the opportunity cost of mobilization. To account for potential time-varying influences of proximity to major cities and local infrastructure on mobilization decisions, we include these characteristics interacted with the post reform indicator as controls (column 4). Finally, we account for differences in state capacity, proxied by the number of police stations, prisons, and military bases in 1918, which may have differentially affected mobilization of younger and older cohorts (column 5).

The baseline coefficient reported in column (5) is 1.215, and is statistically significant at the 1% level. This implies that, an increase in public primary schools by 0.1 per 1,000 children is associated with an increase in military mobilization of Koreans by 24%, or about 221 individuals from the mean. Since the inter-quartile range of public primary schools in 1925 is 0.17, military mobilization is 40.29% higher at a county at the 75th percentile of primary schools, as compared to a county at the 25th percentile.

Table 3 presents our baseline estimate using various outcomes of mobilization. Based on the source of the mobilization record, we count individuals listed in military units as military mobilization and individuals listed in industrial companies as labor mobilization. Column (1) is our estimate reported in Table 2. The outcome in Column (2) is military mobilization rate, the number of soldiers divided by male population within each birthyear. The coefficient is estimated at 0.033 and statistically significant at the 5% level. Compared to the mean value of 0.04, the magnitude of the estimate is economically significant. In Column (3), we use the number of dead soldiers as the outcome variable. Our estimate of the coefficient is positive and its statistical significance is at the 1% level. Overall, results from using different measures of mobilization consistently suggest a positive effect of public primary education on mobilization of Koreans to serve as soldiers.

In the next three columns (4-6) we repeat the estimation using labor mobilization outcomes. None of the estimated coefficients are significant. One possible explanation to the difference in the two estimation results is that we only have a small fraction of the labor mobilization data. Previous historical studies report the number of Koreans mobilized for labor at no less than 600,000 which implies that our sample covers only about 10% of this estimated number. Another potential explanation to the different results for military and labor mobilization is that the former may be more pertinent to assimilation to Japanese and nation building behavior as, according to historical documents on recruiting Korean soldiers, patriotism was an important factor for joining the military whereas patriotism was not a critical factor for recruiting Korean laborers. Unfortunately, we are unable to provide an accurate account on labor mobilization due to lack of data. Therefore, for the remainder of



this paper, we focus our analysis on military mobilization.

### 4.3 Birthyear-specific Estimates of Education Expansion

In addition to our baseline specification, we employ a difference-in-differences specification that allows us to estimate the relationship between primary education expansion and military mobilization for each birth year. This specification takes the following form:

$$Y_{ct} = \sum_{t=1901}^{1924} \delta_t \times (\Delta \text{Primary school}_c \times 1\{\text{Birth year} = t\}) + \gamma X_{ct} + \eta_c + \tau_t + \epsilon_{ct} \quad (2)$$

where  $\delta_t$  estimates the birthyear-specific coefficient of primary school expansion for cohorts born from 1901 to 1924. To account for time-varying county-level characteristics, we include  $X_{ct}$  which is now a vector of interaction terms between birthyear cohort indicators and county characteristics.

Figure 2 shows birthyear-specific estimated coefficients on primary school expansion. The baseline year is 1908, since those born before that year were too old to be exposed to schools constructed between 1919 and 1925. It suggests that counties with higher intensity of school expansion were likely to have higher mobilization for cohorts born after 1909, who were likely to enter school when school expansion was ongoing or already completed. Note that there is a gradual increasing trend in coefficients between 1909 and 1924. This can be explained by the rise in exposure to primary education expansion for cohorts born in later years. Importantly, the coefficients for cohorts born before 1908 are close to zero. Thus, we find no evidence to suggest differential pre-trends in mobilization behavior among older cohorts who were not exposed to the expansion in public primary education.

### 4.4 Estimates of Education Expansion on Anti-colonial Activists

Our main results are consistent with the interpretation that the primary education expansion promoted the assimilation of Koreans as Japanese citizens, which in turn increased wartime mobilization. To explore further whether the education expansion had an assimilation effect, we investigate its impact on the creation of anti-colonial independence activists. If public primary education boosted the assimilation of Koreans to Japanese, we would expect to see fewer anti-colonial activists in cohorts with higher exposure to public primary education.

We test this idea by using the number of Korean activists as an outcome variable and estimate equation (1). Appendix Figure B6 depicts the number of activists by birth cohort. It

shows a decline in the number of activists born after 1911 but remains positive for all cohorts in our sample. There may be several factors that contributed to the decline in activists of which primary education can serve as one of them. To identify a causal relationship between primary education and activism, we focus on the variation in exposure to primary school expansion across cohorts and counties.

Table 4 presents the estimation results. The outcome variable is the number of anti-colonial activists per 1,000 population. With only county and birthyear fixed effects, the coefficient estimate is positive (column 1). However, after including baseline controls, the estimate, shown in column (5), is negative ( $-0.723$ ) and statistically significant at the 1% level. The coefficient implies a drop in activists per 1,000 population by almost 7.2 percentage points for a 0.1 increase in schools per 1,000 school-age population. Combining the coefficient estimate with the increase in the number of schools from 1919 to 1925 (0.23 per 1,000) suggests that the primary education expansion policy reduced the number of activists by almost half from 0.34 per 1,000 to 0.17 per 1,000. The finding that education expansion reduced anti-colonial activists supports our interpretation that the expansion of primary education for Koreans boosted assimilation and, as a result, increased mobilization and reduced participation in anti-colonial activities.

Of course, there may be several potential confounding factors responsible for these results. In the next two sections, we employ several approaches to address potential concerns to our identification strategy. First, we exploit a number of historical datasets that may account for unobserved factors which may plausibly be correlated with our variable of interest, education expansion, and the main outcome variable, military mobilization. Second, we employ a placebo exercise using the increase in public primary schools during the second phase of the education expansion period (1929-1934). Third, we utilize a instrumental variable method based on the design of the school expansion policy. Overall, our main result is robust and qualitatively similar to that show with our baseline estimation.

## 4.5 Robustness Checks

### 4.5.1 Independence Protests during the March First Movement in 1919

In Table B6, we investigate the sensitivity of our estimates to additional controls that may be correlated with public primary school expansion and mobilization. As discussed in Section 2.2, the colonial authority carefully excluded Koreans who had any association with anti-colonial independence activities from mobilization, fearing that they may infiltrate rebel groups within the army. In columns (1)-(4), we consider protest events related to the March

First Movement, the most significant independence movement during the entire colonial period, 1910-1945. The March First Movement of 1919 led to a major educational reform in 1920, including significant changes to the public school’s curriculum as well as expansion of schools. Protest variables are collected from the database of the March First Movement released by the National Institute of Korean History.<sup>14</sup> The database provides information of more than 2,000 incidents of demonstrations during the March First Movement. For each incident, the database documents its location, date and time, type of activities, estimated number of participants and casualties, characteristics of the participants, and a brief description of the events. We construct protest-related variables at the county-level – number of protests, number of protestors, and number of protest-related deaths – all of which can be interpreted as a measure of county-level resistance to the colonial government and, therefore, may have influenced public school enrollment and mobilization.

In columns (1)-(4), the coefficient estimates of education reform are almost unchanged compared to the baseline estimate reported in column (5) of Table 2 and still largely statistically significant at the 1% level. This result indicates that our estimate on education reform exposure and mobilization is robust to controlling for independence protests during the March First Movement. In addition, we find that counties with higher turnout of protestors and protest-related deaths are likely to have lower mobilization for cohorts born after the education reform. This may well be the case if anti-colonial sentiment intensified among those born after the March First Movement in counties with higher resistance to the colonial government, resulting in lower mobilization.

Religious institutions have played a major role in the March First Movement. Specifically, Protestant leaders and churches were on the front line of protests and also had the highest number of arrests and deaths during the movement. Although there was a period of cooperation between Protestant churches and the colonial government right after the March First Movement, their relationship soured again in the mid-1930s when the colonial government required all Koreans, including Christians, to visit Shinto shrines for worshipping. This oppressive policy could have sparked greater anti-colonial sentiment among Christians. At the same time, Korean Christians have displayed high demand for education. In fact, low provision of education was one of the main reasons for the March First Movement. Thus, we examine whether the effects of education expansion on mobilization is robust to controlling for religious institutions interacted with post-reform indicator. In Table B7, we report the coefficient estimates. The estimation results are similar to our benchmark estimate and suggest that our finding is not driven by religious belief or its political affiliation.

---

<sup>14</sup><http://db.history.go.kr/samil/home/main/main.do>

### 4.5.2 Labor Markets

In Table B8, we consider the influence of labor markets, which may impact decisions on education and mobilization. We measure labor markets through two different data sources. First, we use information on firms listed in the Korea Modern and Contemporary Companies Association Data in year 1937.<sup>15</sup> We use the year 1937 because the colonial government enacted the National Mobilization Law in 1938 to mobilize all resources for war efforts, resulting in the closure of many firms in Korea (Smith, 2000; Baek, 2018). Later in the mechanism section, we exploit firm closures as a measure of economic downturn to explore economic motives for complying to mobilization. Here we focus on testing whether labor market characteristics could have confounded our main result. The data contains information on each firm’s year of establishment, address, sub-industry classification, and the names of owners and investors. These firms represent modern enterprises and may require their workers to have basic modern knowledge and skills taught in public primary schools. Thus, we can consider counties with more modern firms to also have a higher demand for skilled labor. Across all columns, we control for baseline county-characteristics interacted with the post-reform indicator. In column (1), we examine using the number of firms in 1937. In column (2), we use the nationality of the firm’s owner to distinguish Japanese and Korean firms. In column (3), we classify industries into skills and unskilled and count the number of firms in those respective industries.<sup>16</sup> In column (4), we categorize firms by owner’s nationality and industry skill level. The estimate of primary school expansion is similar to our baseline estimate across all four columns.

The second data source for measuring labor market is the employment rate which we calculate from the 1930 population census. Using information on employment rate by industry we again classify industry by skill and measure employment rate in skilled and unskilled industries. As shown in columns (5) and (6), we find that our estimate is robust and statistically significant at the 1% level.

In Table B9, we examine employment in specific occupations that might be considered high skill which may be a better measure of demand for high skill labor. Specifically, we use county-level statistics on each occupation category which are provided in the 1930 population census and count the number of people working in occupations related to finance, communication, government, legal, education, medical, and administration. This number does not include all individuals working in related industries but instead only those working

---

<sup>15</sup>The data is publicly available and can be downloaded from here: <https://db.history.go.kr/id/hs>.

<sup>16</sup>Industries classified as skilled are commerce, transportation, banking, printing, electricity, manufacturing. Industries classified as unskilled are mining, agriculture, fishery, brewery, rice processing

in that specific occupation. For instance, janitors and security guards working for a financial company are not counted as having a financial job, whereas a bank teller or a manager at a bank would be counted as having a financial occupation. Column (1) uses the sum of all high-skill occupations. Columns (2)-(8) examine for each specific occupation. In most columns, the estimated interaction term between post-reform cohort and high-skill employment rate is negative, suggesting that counties with potentially higher demand for skilled labor were associated with lower mobilization among Koreans born after the education expansion. Nevertheless, the interaction between post-education reform and primary school expansion remains positive and statistically significant at the 1% level.

### 4.5.3 Additional Sensitivity Checks

We next present results from conducting several sensitivity checks. In Table B10, we examine the sensitivity of our estimates to outliers. In columns (2) and (3), we each omit major cities and the 1924 birth year cohort from our sample. In columns (4) and (5), we drop counties with the highest and lowest 1% and 3% values of mobilization. We repeat the exercise with the 1919 public primary schools per 1,000 school-age population in columns (6) and (7). We find that our estimate is robust to omitting outliers and statistically significant at the 1% level after dropping counties at the bottom and top of the distribution of mobilization or primary schools in 1919.

### 4.5.4 Placebo Test - Second Phase Expansion of Primary Schools (1929-1934)

Despite the series of robustness checks with potential confounding factors one may still be concerned that counties with more school construction activities may have had different unobservable characteristics which had led to higher mobilization rates. To address this concern, we conduct a placebo test using the number of public primary schools constructed from 1929 to 1934. During this period the colonial government implemented the second education expansion policy which had the goal of one public primary school for each township. Thus, primary schools constructed in this period can serve as a placebo if we restrict our main sample to consist of individuals born between 1901 and 1915 who would have been too old to be exposed to school construction in the 1929-1934 period. Note that individuals born after 1916 would have exposure to school construction in 1929-1934. Accordingly, we construct our placebo treatment variable using the interaction between the increase in the number of public primary schools per 1,000 school-age children from 1929 to 1934 and the indicator for individuals born on or after 1909. Since these individuals were not exposed to

schools constructed in this period the estimate should be close to zero.

Table B11 presents estimates from the placebo test for military mobilization. Similar to Table 2, we gradually include control variables which are interactions between the indicator for post-reform cohort (1909-1915) and county-level characteristics. The estimate from including only county and birthyear fixed effects is negative yet statistically insignificant. Columns (2)-(5) all show positive yet statistically insignificant coefficient estimates. We also conduct a placebo test with anti-colonial activists and show the results in Table B12. The coefficient estimates on school construction in 1929-1934 with baseline controls in the regression are statistically insignificant. The results from the placebo test arguably imply that our finding on the positive effects of public primary education on military mobilization and anti-colonial activists is unlikely to be driven by confounding factors simply associated with the intensity of school construction.

#### 4.6 Instrumental Variable

Next, we adopt an instrumental variable approach by exploiting the policy design of the primary school expansion. More specifically, the colonial government’s policy to expand primary education was designed to ensure that there is at least one primary school for every three townships. According to this rule, counties that already exceeded the goal of one school per three township would not receive any new schools whereas counties with schools fewer than its goal would receive new schools proportionate to the existing number of schools and number of townships. This allows us to construct a variable that captures the policy-induced intensity of school expansion conditional on existing public primary schools in 1919 and the number of townships within a county. Formally, we construct the policy-predicted expansion in public primary schools per 1,000 school-age children as follows:

$$\text{Predicted expansion}_c = \text{Predicted schools per 1,000}_{c,1925} - \text{Existing schools per 1,000}_{c,1919}$$

where

$$\text{Predicted schools per 1,000}_{c,1925} = \frac{\text{Number of townships}_c}{3} \times \frac{1,000}{\text{School-age population in 1925}}$$

We then interact this variable with the post-reform indicator and use the interaction term as an instrument for public primary schools per 1,000, which is our main variable of interest in equation (1).

Before presenting the IV estimates we discuss the validity of policy-predicted expan-

sion as an instrument for actual school expansion from 1919 to 1925. First, in support of a strong first-stage relationship, as shown in Figure 1, policy-predicted change in public primary schools is highly correlated with the actual pattern of school expansion from 1919 to 1925. Second, policy-predicted expansion has to affect mobilization only through its influence on actual school expansion and not through other factors that may determine mobilization outcomes. We believe that an advantage of using the policy-predicted change in primary schools is that it is not influenced by any change in local demand for primary education. However, the existing number of public primary schools in 1919 is likely to be endogenously determined by county-level characteristics which may be related to mobilization. For example, initially wealthier counties may have had more schools in 1919 and, as a result, fewer new schools constructed during the reform period. These counties may simultaneously have lower mobilization due to less interest in serving in the military due to economic or political reasons. Table B13 shows correlations between existing schools in 1919 and county-level characteristics. Column 1 shows estimates without province fixed effects and Column 2 shows with province fixed effects. As expected, larger counties, which are more likely to have more townships, have a higher predicted expansion of public primary schools. We also find that geographic characteristics (latitude, elevation), elite population density, and distances to certain key infrastructures are negative predictors of school expansion intensity. Accordingly, it is important to include predetermined baseline county-level characteristics as controls in the instrumental variable estimation to satisfy the exclusion restriction.

Panel A of Table 5 reports reduced-form estimates using policy-predicted change in primary schools. Similar to Table 3, we present the estimate by type of mobilization: military mobilization in columns 1-3 and labor mobilization in columns 4-6. The outcome variable in Columns 1 and 4 are the number of mobilized Koreans, Columns 2 and 5 use mobilization rate as the fraction of mobilized men for a given birthyear cohort, and Columns 3 and 6 report the estimate for death of soldiers. The estimated coefficients in Columns 1-3 are positive and statistically significant. For instance, the coefficient estimate in Column 2 indicates a significant increase in military mobilization rate in counties which were predicted to construct more public primary schools under the education expansion policy in 1919. However, in the case of labor mobilization, the reduced form estimates are all insignificant as shown by the estimates in Columns 4-6.

In Panel B of Table 5, we present the second-stage results from the instrumental variable estimation. The Kleibergen-Paap F-statistic from the first stage is 164.71 (reported at the bottom of the table). Column 1 reports a coefficient estimate of 2.147, which is slightly less than twice the magnitude of our benchmark estimate reported in Column 5 of Table 2.

The estimate for mobilization rate is reported in Column 2 and is also qualitatively similar (positive and statistically significant) yet larger in magnitude than that reported in Table 3. The estimated coefficient is 0.049, suggesting that an increase in public primary school by 0.1 per 1,000 school-age population increases the mobilization rate by 0.5 percentage point from a baseline mobilization rate of 5 percent among men in eligible birth cohorts. Column 3 also shows a positive coefficient estimate suggesting education expansion led to a higher number of death of soldiers. Finally, in columns 4-6, we find no evidence of a significant relationship between education expansion and labor mobilization.

## 5 Alternative Mechanisms

In this section, we discuss potential alternative mechanisms that may explain the positive effect of colonial education on wartime mobilization. To this purpose, we exploit data from several sources, including the 1930 population census and public primary school panel data.

### 5.1 Japanese Literacy

For Koreans to serve as Japanese soldiers or industrial workers, Japanese proficiency could have been an important factor. Note that one of the requirements for military mobilization was speaking Japanese. Since Japanese language classes consist of a large part of the public primary education curriculum, ranging from 9-12 hours of classes per week, we can expect higher Japanese literacy among Koreans in counties with higher exposure to primary education. This suggests a potential channel in which the provision of primary education mechanically raises mobilization through increasing literacy. To test this hypothesis, we estimate the effect of primary school expansion on mobilization while controlling for literacy. We focus on proficiency in Japanese and Korean languages because Koreans attending primary schools would have been exposed to both language classes. The data is collected from the 1930 population census.<sup>17</sup> The results are presented in Table B14. In column (1), we control the fraction of the population literate in both Japanese and Korean. In column (2), we control for Japanese and Korean literacy by gender. The estimates in both columns are similar to our baseline estimate and we find no change in the statistical significance (5% level). The measurement on Japanese literacy may not be as accurate as Korean literacy since language proficiency is subjective especially when it cannot be correctly confirmed by others. Thus, in columns (3) and (4), we control for literacy in Korean only. This could possibly serve as a measure of receiving some formal education during which the individual may have learned

---

<sup>17</sup>Note that this is the only systematic existing data on literacy rate in Korea during the colonial period.



Japanese as well. This set of results cast doubt that an increase in Japanese literacy was the key mechanism explaining the positive effect of primary education on the mobilization of Koreans.

## 5.2 State Capacity

Another potential mechanism is related to local state capacity. For example, counties that experienced greater expansion of public primary education may have already had high state capacity or improved more in terms of state capacity due to the increase in human capital relative to other counties. It is also possible for counties with higher state capacity to recruit soldiers with more ease than counties with low state capacity. Table B15 presents estimates of primary school expansion controlling for proxies of state capacity. In Columns 1-3, we control for the number of imperial exam passers in Chosun dynasty that each county produced. These variables serve as a proxy for state capacity in pre-colonial period. Next, we digitized government officials data which records all upper-level officials who served in the colonial government. Then we aggregate officials to the county-level to obtain the number of government officials per 1,000 population for each county and year. In addition, we infer an official's ethnicity (Korean or Japanese) based on the name of the official and separately count the number of Korean and Japanese officials. Columns 4-7 report estimates after controlling for the number of upper-level county government officials in 1939. In Columns 8-11, we control for the growth in the number of government officials. Across all columns, our coefficient estimate of school expansion is almost unchanged. Overall, we do not find evidence to suggest state capacity as the key mechanism linking primary education expansion and mobilization or anti-colonial activism.

## 5.3 Financial or Economic Motives

We examine whether economic incentives can explain the positive effect of education on mobilization. As discussed in Section 2.2, economic incentives could have played a certain role in Koreans' wartime mobilization, but whether the exposure to colonial education facilitated the wartime mobilization by influencing economic incentives is not clear. While it is difficult to directly test this channel, we examine the relevance of economic incentives by investigating whether adverse economic shocks amplify the effect of education on mobilization, using rainfall shocks and modern firm closures as two alternative measures of adverse economic

shocks.<sup>18</sup> If economic incentives are relevant, we would expect that the effect of education would be stronger under adverse economic conditions.

Estimates using a triple interaction term with economic shock measures are reported in Table B16 and B17. The results shown in both tables suggest that financial hardship may have been indeed one of the reasons for Koreans to comply with mobilization. However, we find no evidence to suggest that education expansion stimulated more mobilization in counties struck by weather shocks or firm closures due to war efforts. If anything, we find the opposite: counties with higher primary education expansion show smaller effects of economic hardship on mobilization outcomes. One potential interpretation of this finding is that primary education expansion changed the skill or occupational composition of those who would later become eligible to join the military. Thus, receiving primary education may have reduced the likelihood of being adversely affected by a weather shock or from closure of a manufacturing plant.

## 6 Long-run effects of colonial education

In this section, we examine whether there is a long-run effect of colonial education on Korean’s perception of Japanese. As discussed in Section 2.1, the goal of colonial education was to assimilate Koreans into Japanese and to produce loyal and obedient subjects of the Japanese empire. Our main result suggests that the colonial government’s education policy was successful to the extent that the expansion of primary schools were associated with more Koreans joining the Japanese army during the mobilization period. In light of this finding, we hypothesize that Koreans indoctrinated with colonial education may have persistently favorable views on the Japanese. To test our hypothesis, we use data from the Korean General Social Survey (KGSS), which is an annual survey including topical module surveys.<sup>19</sup> In 2008, 2010, and 2018 there was a module asking respondents to indicate whether they would accept Japanese as a neighbor, colleague, or family member (Kim et al., 2019). We use the binary response to this question as an indicator of their perception on Japanese. As KGSS is designed to be a representative sample of the national population, the data comes with weights for each individual observation. We use these weights in our regression analysis.

Table 6 shows estimates on the long run effect of colonial education on Korean’s per-

---

<sup>18</sup>Specifically, using rainfall data between 1935 and 1939, we calculate the deviation of summer rainfall from county-specific long-run mean, normalized by the county-specific standard deviation. In Column (1), we sum up the absolute value of this weather shock variable over time between 1935 and 1939, and use it as a measure of rainfall shocks.

<sup>19</sup>KGSS data is publicly available from 2003 to 2021. <https://kgss.skku.edu/kgss/index.do>

ception of Japanese. The measure of colonial education is the number of public primary schools by year 1934, which is the latest year we have school data at the county level. Each column is based on the response to the question “Can you accept Japanese as a close kin (Column 1), colleague (Column 2), or neighbor (Column 3)?”, respectively. We divide the survey respondents into three groups based on age. The first group consists of respondents older than 60 in 2010 (Panel A); the second group includes respondents of age less or equal to 60 and greater than 30 (Panel B); respondents in the third group are those younger than 30 (Panel C). In all regressions, we control for county and year fixed effects, along with respondent characteristics (age and gender), geographic and distance-related factors, demographics (1930 and 1995), and road and nightlight luminosity in 2006 as indicators of economic development.

In Panel A, Column 1, the coefficient estimate is positive and statistically significant at the 1% level. For respondents of age greater than 60, living in a county which had higher number of public primary schools in the colonial period is associated with a higher likelihood of accepting Japanese as a close kin. Columns 2 and 3 also show positive relationships between colonial education and accepting Japanese as a colleague or neighbor. In Column 4, we create an index on the perception of Japanese by averaging the response of the three questions. The significantly positive estimate shows that Koreans above age 60, who were likely directly or indirectly exposed to the colonial education system, are more likely to have a positive perception towards Japanese even 60 years after independence if their county had a higher number of public primary schools during the colonial period.

Panels B and C report coefficient estimates for younger age groups - from 30 to 60 and below 30. In either age group, we do not find a significant relationship between public primary schools from the colonial period and perceptions on Japanese. The coefficient in Panel C, Column 1 is weakly significant yet the average index in Column 4 is statistically insignificant. Note that the average perception is less favorable among the older age groups as visible by comparing the mean of the dependent variable across panels. Thus, while Koreans of older age are on average less willing to accept Japanese as a neighbor or a family member than their younger counterparts, at least those in counties that had a higher provision of colonial education are more inclined to have a positive view towards Japanese. We also check whether this could be a general pattern for Korean’s perceptions on other countries, such as China. Table B18 shows no significant relationship between colonial primary schools and acceptance of Chinese. These long-run findings are in line with our main result that education during the colonial period were largely responsible for promoting positive images of Japan to Koreans to facilitate assimilation.

## 7 Conclusion

In this paper, we investigate the impact of colonial education on wartime mobilization of Koreans during WWII. Exploiting the differential expansion of public primary education across counties and cohorts in a difference-in-differences framework, we find that the expansion of colonial education in the early 1920s increased the mobilization of Korean soldiers during WWII. Moreover, we find empirical evidence that colonial education reduced anti-colonial activism. Our results are consistent with the interpretation that exposure to Japanese colonial education facilitated the assimilation of Koreans, which in turn increased wartime mobilization and abated anti-colonial activism. We further explore several alternative mechanisms which may explain the positive effect of education on mobilization. We find no strong evidence in support of these other potential explanations. Finally, we find suggestive evidence on the persistence of education on shaping people's perception of national identity.

## References

- Acemoglu, Daron, Simon Johnson, and James A. Robinson**, “The Colonial Origins of Comparative Development: An Empirical Investigation,” *American Economic Review*, 2001, pp. 1369–1401.
- Alesina, Alberto, Bryony Reich, and Alessandro Riboni**, “Nation-building, nationalism, and wars,” *Journal of Economic Growth*, 2020, *25* (4), 381–430.
- , **Paola Giuliano, and Bryony Reich**, “Nation-Building and Education,” *The Economic Journal*, 2021, *131* (638), 2273–2303.
- Baek, S Youn**, “The Hidden Engine of Growth: Labor Scarcity and the Rise of the Manufacturing Sector,” , 2018, *2018* (1), 1–25.
- Bai, Ying, Ruixue Jia, and Jiaojiao Yang**, “Web of Power: How Elite Networks Shaped War and Politics in China,” *The Quarterly Journal of Economics*, 2023, *138* (2), 1067–1108.
- Bandiera, Oriana, Myra Mohnen, Imran Rasul, and Martina Viarengo**, “Nation-Building Through Compulsory Schooling during the Age of Mass Migration,” *The Economic Journal*, 2019, *129* (617), 62–109.
- Barber, Benjamin and Charles Miller**, “Propaganda and Combat Motivation: Radio Broadcasts and German Soldiers’ Performance in World War II,” *World Politics*, 2019, *71* (3), 457–502.
- Bazzi, Samuel, Arya Gaduh, Alexander D. Rothenberg, and Maisy Wong**, “Unity in Diversity? How Intergroup Contact Can Foster Nation Building,” *American Economic Review*, 2019, *109* (11), 3978–4025.
- , **Masyhur Hilmy, and Benjamin Marx**, “Islam and the State: Religious Education in the Age of Mass Schooling,” Working Paper 27073, National Bureau of Economic Research 2020.
- Besley, Timothy and Torsten Persson**, “The Origins of State Capacity: Property Rights, Taxation, and Politics,” *American Economic Review*, 2009, *99* (4), 1218–1244.
- and – , “State Capacity, Conflict, and Development,” *Econometrica*, 2010, *78* (1), 1–34.
- Blouin, Arthur and Sharun W. Mukand**, “Erasing Ethnicity? Propaganda, Nation Building, and Identity in Rwanda,” *Journal of Political Economy*, 2019, *127* (3), 1008–1062.
- Cantoni, Davide, Yuyu Chen, David Y Yang, Noam Yuchtman, and Y Jane Zhang**, “Curriculum and Ideology,” *Journal of Political Economy*, 2017, *125* (2), 55.
- Caprettini, Bruno and Hans-Joachim Voth**, “New Deal, New Patriots: How 1930s Government Spending Boosted Patriotism During World War II,” *The Quarterly Journal of Economics*, 2022, p. qjac028.
- Caprio, Mark**, *Japanese Assimilation Policies in Colonial Korea, 1910-1945*, Seattle: University of Washington Press, 2009.

- Carvalho, Jean-Paul, Mark Koyama, and Cole Williams**, “Resisting Education,” 2022.
- Chatani, Sayaka**, *Nation-Empire: Ideology and Rural Youth Mobilization in Japan and Its Colonies*, Cornell University Press, 2018.
- Chaudhary, Latika and Manuj Garg**, “Does History Matter? Colonial Education Investments in India: Colonial Education,” *Economic History Review*, 2015, 68 (3), 937–961.
- Chen, Wei-Lin, Ming-Jen Lin, and Tzu-Ting Yang**, “Curriculum and National Identity: Evidence from the 1997 Curriculum Reform in Taiwan,” *Journal of Development Economics*, 2023, 163.
- Cinnirella, Francesco and Ruth Schueler**, “Nation Building: The Role of Central Spending in Education,” *Explorations in Economic History*, 2018, 67, 18–39.
- Clots-Figueras, Irma and Paolo Masella**, “Education, Language and Identity,” *The Economic Journal*, 2013, 123 (570), F332–F357.
- Costa, Dora L. and Matthew E. Kahn**, “Cowards and Heroes: Group Loyalty in the American Civil War,” *The Quarterly Journal of Economics*, 2003, 118 (2), 519–548.
- Dehdari, Sirus H. and Kai Gehring**, “The Origins of Common Identity: Evidence from Alsace-Lorraine,” *American Economic Journal: Applied Economics*, January 2022, 14 (1), 261–92.
- Dell, Melissa**, “The Persistent Effects of Peru’s Mining Mita,” *Econometrica*, 2010, 78 (6), 1863–1903.
- **and Benjamin A Olken**, “The Development Effects of the Extractive Colonial Economy: The Dutch Cultivation System in Java,” *Review of Economic Studies*, 2020, 87 (1), 164–203.
- **and Pablo Querubin**, “Nation Building Through Foreign Intervention: Evidence from Discontinuities in Military Strategies,” *Quarterly Journal of Economics*, 2018, 133 (2), 701–764.
- Depetris-Chauvin, Emilio, Ruben Durante, and Filipe Campante**, “Building Nations through Shared Experiences: Evidence from African Football,” *American Economic Review*, 2020, 110 (5), 1572–1602.
- Dippel, Christian and Stephan Heblich**, “Leadership in Social Movements: Evidence from the “Forty-Eighters” in the Civil War,” *American Economic Review*, 2021, 111 (2), 472–505.
- Dupraz, Yannick**, “French and British Colonial Legacies in Education: Evidence from the Partition of Cameroon,” *The Journal of Economic History*, 2019, 79 (3), 628–668.
- Fouka, Vasiliki**, “Backlash: The Unintended Effects of Language Prohibition in U.S. Schools after World War I,” *The Review of Economic Studies*, 2020, 87 (1), 204–239.
- Fuhrmann, Wolfgang**, *Imperial Projections: Screening the German Colonies*, Vol. 17, Berghahn Books, 2015.
- Fujitani, T.**, *Race for Empire: Koreans as Japanese and Japanese as Americans during*

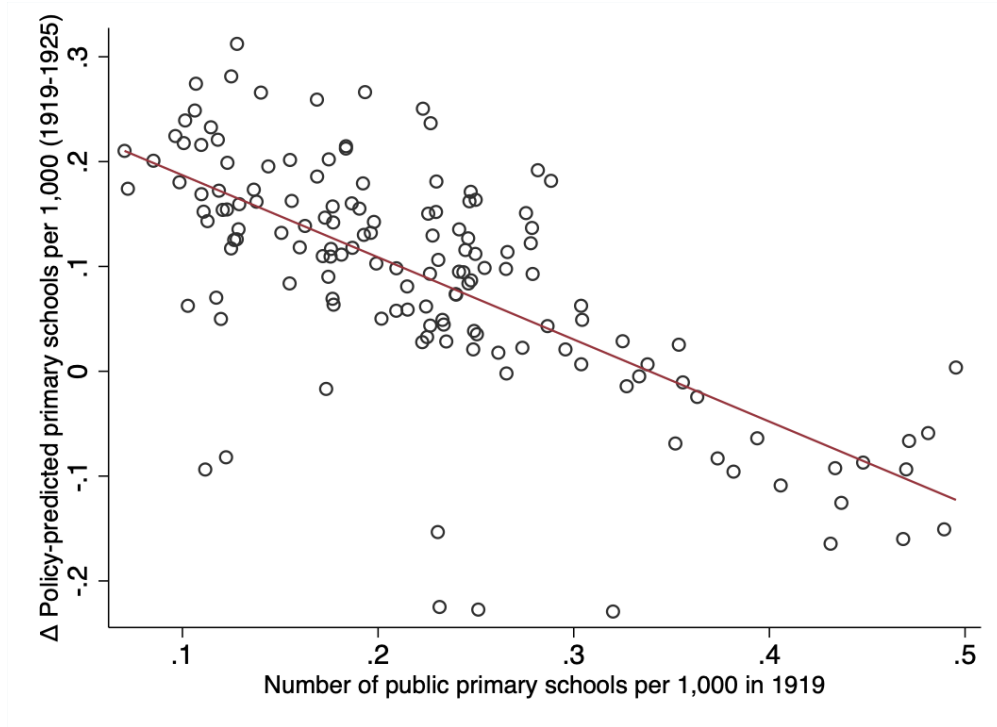
- World War II*, 1 ed., University of California Press, 2011.
- Fujitani, Takashi**, *Race for Empire: Koreans as Japanese and Japanese as Americans during World War II*, Vol. 7, Univ of California Press, 2011.
- Galor, Oded and Ömer Özak**, “Land productivity and economic development: Caloric suitability vs. agricultural suitability,” 2015.
- and – , “The agricultural origins of time preference,” *American Economic Review*, 2016, 106 (10), 3064–3103.
- , – , and **Assaf Sarid**, “Geographical origins and economic consequences of language structures,” 2016.
- Gennaioli, Nicola and Hans-Joachim Voth**, “State Capacity and Military Conflict,” *The Review of Economic Studies*, 2015, 82 (4), 1409–1448.
- Go, Sun and Ki-Joo Park**, “Universal Public Schooling in Colonial Korea and Taiwan,” in David Mitch and Gabriele Cappelli, eds., *Globalization and the Rise of Mass Education*, Palgrave Studies in Economic History, Palgrave Macmillan, 2019, chapter 0, pp. 101–127.
- Government-General of Chosun**, “Chosun Omanbunil Chihyungdo,” 1918.
- , “Chosun Gookse Chosabogo,” 1930.
- gyong Chong, Hye**, 2006.
- Hall, Andrew B., Connor Huff, and Shiro Kuriwaki**, “Wealth, Slaveownership, and Fighting for the Confederacy: An Empirical Study of the American Civil War,” *American Political Science Review*, 2019, 113 (3), 658–673.
- Henry, Todd A**, *Assimilating Seoul: Japanese rule and the politics of public space in colonial Korea, 1910–1945*, Vol. 12, Univ of California Press, 2016.
- Higuchi, Yuichi**, *Kogun Heishi ni sareta Chosenjin: 15-nen senso-ka no sodoin taisei no kenkyu (Koreans Forced into the Imperial Army: Study on the General Mobilization System during the Fifteen-year War)*, Shakai Hyoron Shya, 1991.
- , *Senjika Chosen no Minshu to Chohei (The Korean People and Conscription during the Wartime)*, Sowa Shya, 2001.
- hon Chong, Tae and Kwang so Ki**, 2003.
- Hong, Ji Yeon and Christopher Paik**, “Colonization and education: Exploring the legacy of local elites in Korea,” 2017, 0 (0), 1–27.
- Jha, Saumitra and Steven Wilkinson**, “Does Combat Experience Foster Organizational Skill? Evidence from Ethnic Cleansing during the Partition of South Asia,” *The American Political Science Review*, 2012, 106 (4), 883–907.
- Kim, Jibum, Jeong han Kang, Seok ho Kim, Changhwan Kim, Wonho Park, Yun-Suk Lee, Seongsoo Choi, Seulgi Choi, and Sori Kim**, “Korean General Social Survey,” 2019. Seoul, Korea: Sungkyunkwan University.
- Kukić, Leonard**, “The Last Yugoslavs: Ethnic Diversity and National Identity,” *Explorations in Economic History*, 2023, 88, 101504.

- Lowes, Sara and Eduardo Montero**, “The Legacy of Colonial Medicine in Central Africa,” *American Economic Review*, 2021, 111 (4), 1284–1314.
- Miyata, Setsuko**, *Chosen Minshu to Kominka Seisaku (The Korean People and the Imperial Assimilation Policy)*, Mirai Shya, 1985.
- Naitou, Hisako**, “Korean Forced Labor in Japan’s Wartime Empire,” in “Asian Labor in the Wartime Japanese Empire: Unknown Histories,” Routledge, 2005.
- Nunn, Nathan and Diego Puga**, “Ruggedness: The blessing of bad geography in Africa,” *Review of Economics and Statistics*, 2012, 94 (1), 20–36.
- Palmer, B.**, *Fighting for the Enemy: Koreans in Japan’s War, 1937-1945* Book Collections on Project MUSE, University of Washington Press, 2013.
- Qian, Nancy and Marco Tabellini**, “Discrimination and State Capacity: Evidence from WWII U.S. Army Enlistment,” 2021.
- Rogall, Thorsten**, “Mobilizing the Masses for Genocide,” *American Economic Review*, 2021, 111 (1), 41–72.
- Rozenas, Arturas, Roya Talibova, and Yuri Zhukov**, “Fighting for Tyranny: State Repression and Combat Motivation,” 2022.
- Salem, Ariane and Awa Ambra Seck**, “En Route: The French Colonial Army, Emigration, and Development in Morocco,” 2023.
- sang Kang, Duk**, *Chosenjin Gakuto Shutsujin: Mo hitotsu no Wadatsumi no Koe (Korean Student Mobilization: Another Voice from the Sea)*, Iwanami Shoten, 1997.
- Shin, Gi-Wook and Michael Edson Robinson**, *Colonial modernity in Korea*, Vol. 184, Harvard Univ Asia Center, 1999.
- sik Pak, Kyong**, *Chosenjin Kyosei Renko no Kiroku (A Record of the Forced Displacement of Koreans)*, Miraisha, 1965.
- Smith, W Donald**, “Beyond the bridge on the River Kwai: Labor mobilization in the greater East Asia co-prosperity sphere,” *International Labor and Working-Class History*, 2000, 58, 219–238.
- Smyth, Rosaleen**, “Britain’s African colonies and British propaganda during the Second World War,” *The Journal of Imperial and Commonwealth History*, 1985, 14 (1), 65–82.
- Voightländer, Nico and Hans-Joachim Voth**, “Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany,” *The Quarterly Journal of Economics*, 2012, 127 (3), 1339–1392.
- Wantchekon, Leonard, Marko Klasnja, and Natalija Novta**, “Education and Human Capital Externalities: Evidence from Colonial Benin,” *The Quarterly Journal of Economics*, 2015, 130 (2), 703–757.
- Weber, Eugen**, *Peasants into Frenchmen: The Modernization of Rural France, 1870-1914*, Stanford University Press, 1976.
- Yamada, Shoji, Tadashi Kosho, and Yuichi Higuchi**, *Korean Wartime Labor Mobilization (Chosen-jin Senji Rodo Do-in)* 2005.

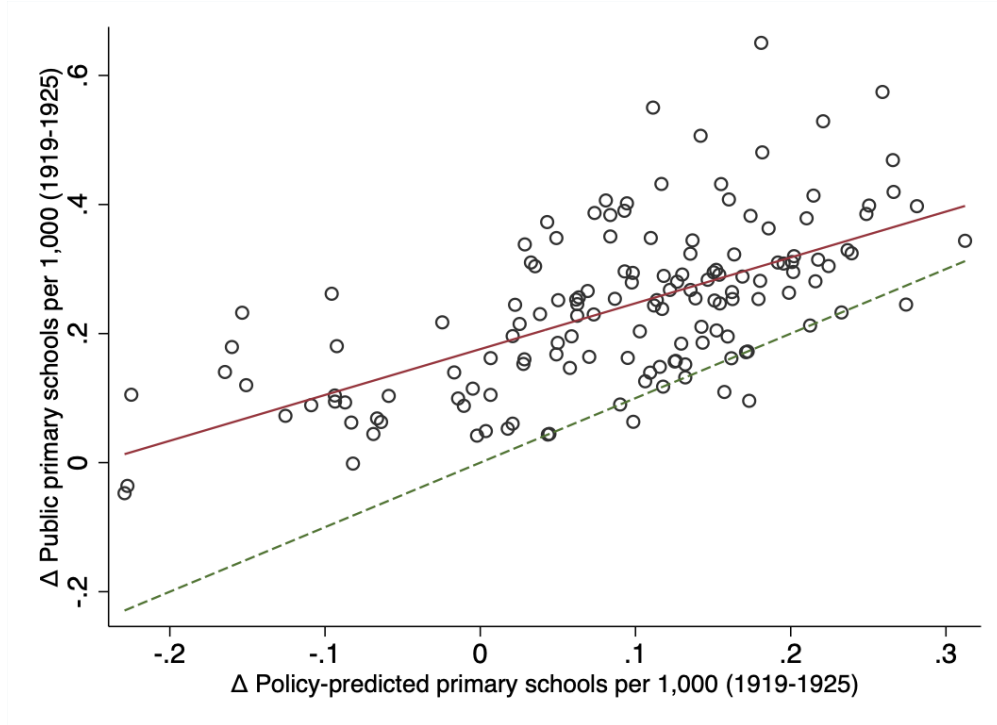


**Zachernuk, Philip Serge**, *Colonial Subjects: an African intelligentsia and Atlantic ideas*,  
University of Virginia Press, 2000.

**Figure 1:** Public Primary School Expansion Policy



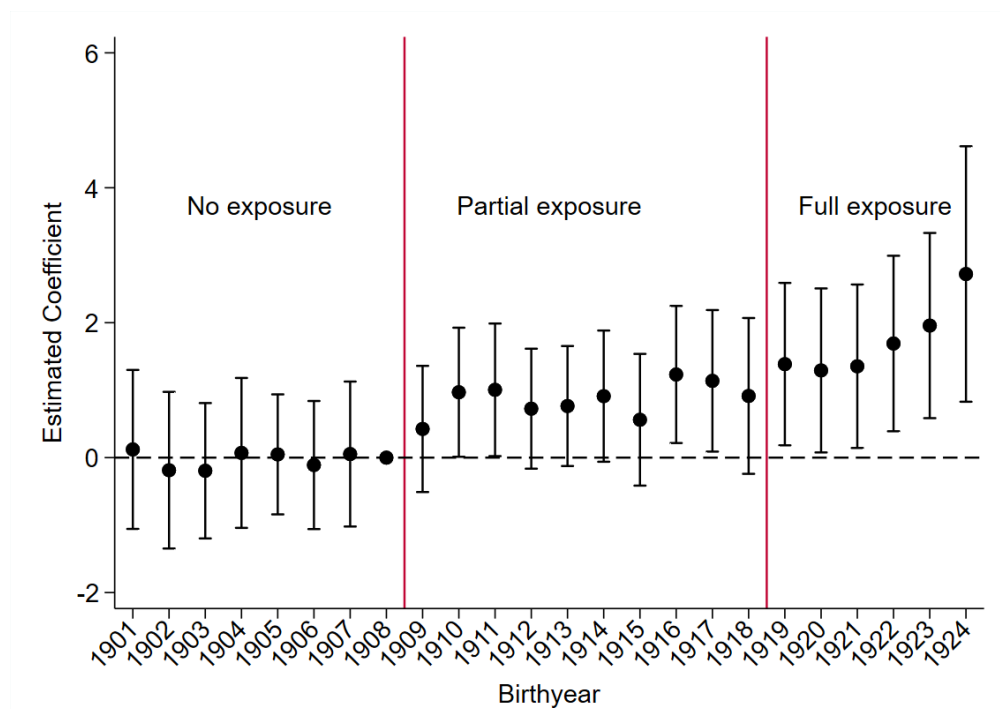
(a) Expansion policy - one public primary school for every three townships



(b) Policy-predicted and actual expansion of public primary schools

Notes: Binscatter plot with all 227 counties in the dataset. The solid line in both panels represent linear fits and the dashed line in panel (b) represents the 45 degree line.

**Figure 2:** Birth year-specific estimates of school expansion on mobilization



Notes: 1908 Birth cohort as baseline year. Regressions include all baseline county-level controls interacted with birth year cohort dummies.

**Table 1: Summary Statistics**

	Obs.	Mean	Median	S.D.	25th perc.	75th perc.
Military mobilization - number of Korean soldiers	227	921.20	885.00	735.36	433.00	1245.00
Military mobilization rate - soldier/male population in birthyear	227	0.03	0.03	0.03	0.01	0.05
Labor mobilization - number of Korean laborers	227	215.16	173.00	215.28	16.00	328.00
Labor mobilization rate - laborer/male population in birthyear	227	0.01	0.01	0.01	0.00	0.02
Public primary schools per 1,000 eligible children in 1919	227	0.23	0.21	0.11	0.14	0.28
Public primary schools per 1,000 eligible children in 1925	227	0.44	0.44	0.13	0.35	0.53
Public primary school enrollment rate in 1919	227	0.04	0.03	0.02	0.02	0.05
Public primary school enrollment rate in 1926	227	0.15	0.15	0.05	0.12	0.17
County area (unit = $km^2$ )	227	959.53	787.00	793.52	531.00	1124.00
Terrain ruggedness index	227	176.05	172.50	85.37	104.68	238.32
Average slope	227	5.24	5.08	2.61	3.06	7.12
Average crop suitability index	227	2.39	2.50	0.36	2.42	2.55
Longitude	227	127.33	127.27	1.22	126.60	128.27
Latitude	227	37.60	37.32	2.04	35.84	39.13
Average elevation	227	241.89	175.61	234.74	81.78	327.06
Korean Population in 1930 (unit=1,000)	227	88.20	79.84	37.99	61.65	104.91
Female population ratio in 1930	227	48.74	49.04	1.46	48.12	49.67
Distance to Seoul	227	271.40	253.08	153.61	168.30	354.97
Distance to Pyeongyang	227	362.18	376.91	181.54	208.06	519.73
Distance to train station	227	52.84	35.03	50.40	14.72	73.82
Distance to post office	227	9.95	9.05	4.71	7.00	12.40
Distance to telegraph office	227	87.86	74.48	67.30	45.03	107.44
Distance to road	227	0.65	0.16	1.37	0.00	0.74
Distance to seaport	227	105.18	101.26	54.66	65.72	134.02
Number of military barracks in 1918	227	0.30	0.00	0.75	0.00	0.00
Number of prisons in 1918	227	0.08	0.00	0.31	0.00	0.00
Number of police stations in 1918	227	5.72	5.00	3.00	4.00	8.00

Notes: This table shows summary statistics at the county (*gun*) level.

**Table 2: Baseline Estimate: Increase in Public Primary Schools in 1919-1925**

	Log(Number of mobilized Korean soldiers)				
	(1)	(2)	(3)	(4)	(5)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.460*** (0.418)	1.386*** (0.389)	1.349*** (0.397)	1.075*** (0.364)	1.215*** (0.362)
County FE	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y
Geographics	N	Y	Y	Y	Y
Demographics (1910, 1930)	N	N	Y	Y	Y
Distance to major cities and infrastructure (1918)	N	N	N	Y	Y
Police and military stations (1918)	N	N	N	N	Y
Mean of dep.	38.38	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448	5448
R-squared	0.86	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table 3:** Estimates: Mobilization and Death as Soldiers and Laborers

	Military mobilization			Labor mobilization		
	Log(mobil.)	Mobil. Rate	Log(death)	Log(mobil.)	Mobil. Rate	Log(death)
	(1)	(2)	(3)	(4)	(5)	(6)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.215*** (0.362)	0.033** (0.013)	0.773*** (0.280)	0.290 (0.263)	0.006 (0.004)	0.018 (0.057)
County FE	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y
Mean of dep.	2.14	0.04	0.90	1.51	0.01	0.04
S.D. of dep.	1.72	0.10	1.00	1.29	0.01	0.18
Observations	5448	5448	5448	5448	5448	5448
R-squared	0.89	0.72	0.76	0.87	0.63	0.20

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table 4:** Baseline Estimate: Increase in Public Primary Schools in 1919-1925

	Activist rate (activists per 1,000 population)				
	(1)	(2)	(3)	(4)	(5)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	0.422* (0.237)	-0.947*** (0.314)	-1.010*** (0.320)	-0.830*** (0.255)	-0.723*** (0.277)
County FE	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y
Geographics	N	Y	Y	Y	Y
Demographics (1910, 1930)	N	N	Y	Y	Y
Distance to major cities and infrastructure (1918)	N	N	N	Y	Y
Police and military stations (1918)	N	N	N	N	Y
Mean of dep.	0.34	0.34	0.34	0.34	0.34
S.D. of dep.	0.94	0.94	0.94	0.94	0.94
Observations	5448	5448	5448	5448	5448
R-squared	0.44	0.48	0.48	0.49	0.50

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table 5:** IV Estimate: Policy-induced Expansion in Public Primary Schools in 1919-1925

	Military mobilization			Labor mobilization		
	Log(mobil.)	Mobil. Rate	Log(death)	Log(mobil.)	Mobil. Rate	Log(death)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Reduced Form						
Post reform cohort $\times$ $\Delta$ Predicted Primary school per 1000 (1919-1925)	1.482*** (0.389)	0.034** (0.015)	0.788*** (0.296)	0.420 (0.287)	0.000 (0.003)	0.027 (0.052)
Mean of dep.	2.14	0.04	0.90	1.51	0.01	0.04
S.D. of dep.	1.72	0.10	1.00	1.29	0.01	0.18
Observations	5448	5448	5448	5448	5448	5448
R-squared	0.89	0.72	0.76	0.87	0.63	0.20
Panel B. Second Stage						
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	2.147*** (0.584)	0.049** (0.021)	1.141*** (0.439)	0.608 (0.424)	0.000 (0.005)	0.040 (0.076)
County FE	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y
Kleibergen-Paap F-statistic	164.71	164.71	164.71	164.71	164.71	164.71

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table 6:** Long Run Effects of Colonial Education on Korean's Perception of Japanese

	Can you accept Japanese as			
	close kin	colleague	neighbor	average
	(1)	(2)	(3)	(4)
Panel A. Respondent's age > 60				
Public primary schools per 1000 in 1934	0.743*** (0.236)	0.445* (0.248)	0.347 (0.235)	0.507** (0.215)
Mean of dep.	0.45	0.62	0.67	0.58
S.D. of dep.	0.49	0.48	0.47	0.41
Observations	834	834	835	839
R-squared	0.13	0.08	0.10	0.12
Panel B. Respondent's age < 60 and $\geq$ 30				
Public primary schools per 1000 in 1934	0.019 (0.137)	-0.028 (0.128)	0.044 (0.103)	0.006 (0.102)
Mean of dep.	0.55	0.80	0.82	0.72
S.D. of dep.	0.49	0.40	0.38	0.35
Observations	2301	2307	2295	2311
R-squared	0.17	0.06	0.07	0.12
Panel C. Respondent's age < 30				
Public primary schools per 1000 in 1934	0.478* (0.267)	0.048 (0.141)	-0.157 (0.131)	0.130 (0.133)
Mean of dep.	0.63	0.87	0.89	0.80
S.D. of dep.	0.47	0.33	0.31	0.30
Observations	886	886	883	887
R-squared	0.22	0.05	0.08	0.15
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Respondent charac.	Y	Y	Y	Y
Geographics	Y	Y	Y	Y
Distance	Y	Y	Y	Y
Demographics (1930)	Y	Y	Y	Y
Demographics (1995)	Y	Y	Y	Y
Road and nightlight (2006)	Y	Y	Y	Y

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by weights provided in KGSS. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

## A Data Appendix

This Appendix lists information on the datasets we used to collect county characteristics.

**Crop suitability index.** The crop suitability index by Galor and Özak (2015, 2016) and Galor et al. (2016) captures the degree of land suitability for crops in the region. We aggregate the grid-level crop suitability index at the county level by averaging the values of grid cells that fall into the same county boundary.<sup>20</sup>

**Terrain rugged index (TRI).** We use TRI, which captures the terrain ruggedness, based on the grid-level data by Nunn and Puga (2012).<sup>21</sup> Using the 1918 county boundaries, we compute the average TRI values within the same county using the Zonal Statistics command in ArcGIS software.

**Elevation.** Elevation data are from the Global Digital Elevation Model Version 3, jointly created by The Ministry of Economy, Trade, and Industry (METI) of Japan and the United States National Aeronautics and Space Administration (NASA). This dataset is available in RASTER format for the whole earth. We averaged the elevation values from the cells within the same county by using ArcGIS.<sup>22</sup>

**Distance from coast and waterway.** The National Geographic Information Institute (NGII) in Korea provides GIS datasets (shapefiles) of waterways. Using these, we computed the linear distance from the central point of each county to the nearest waterway and coast using ArcGIS.<sup>23</sup>

**GIS maps of colonial Korea (1918).** We created a geospatial map of Korea by digitizing the “Chosun omanbunil chihyungdo”, which is a collection of topographic maps of Korea at the 1:50000 scale (1 cm on the map equals 500 m) (Government-General of Chosun, 1918). The map provides comprehensive geo-referenced information on various buildings and offices, including but not limited to schools, hospitals, markets, military barracks, police stations, courts, telegram and post offices, as well as all road and railroad networks. We calculated the distance from each town to Seoul, Pyeongyang, and the nearest train station based on our digitized road network. The county-level distance was calculated as an arithmetic mean of town-level distances within the county.

**Population census of colonial Korea (1930).** We digitized Korea’s 1930 population census records (Government-General of Chosun, 1930). The census reports town-level (*myeon*)

---

<sup>20</sup>Data can be downloaded from <https://ozak.github.io/Caloric-Suitability-Index/>.

<sup>21</sup>Data can be downloaded from <https://diegopuga.org/data/rugged/>.

<sup>22</sup>Data are available at <https://lpdaac.usgs.gov/tools/data-pool/>.

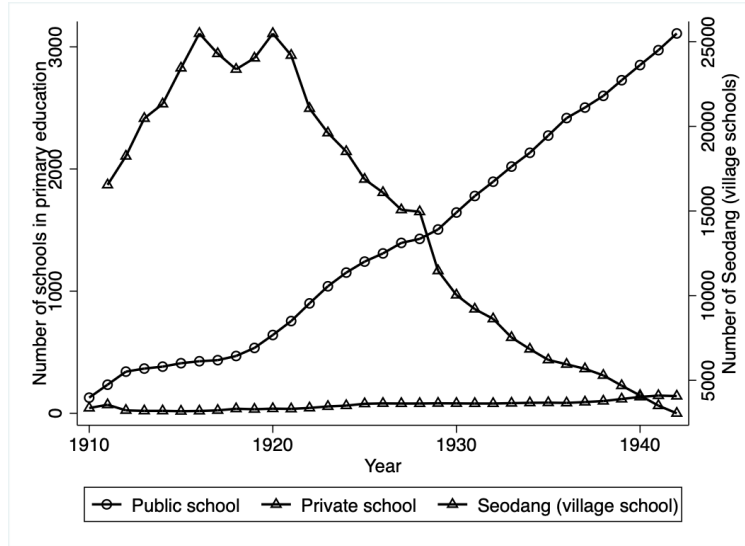
<sup>23</sup>The NGII data are available at <http://map.ngii.go.kr/ms/map/NlipMap.do>.



statistics on population, age, marital status, nationality, literacy, occupation (nine coarse-grained and 469 fine-grained categories), and size of households. We aggregate town-level statistics to the county-level for analysis.

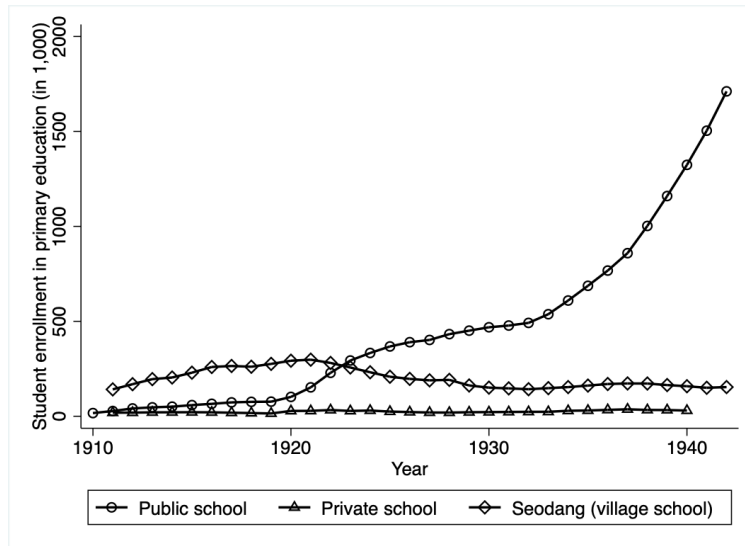
## B Appendix Figures and Tables

**Figure B1: Public and Private Primary Schools**



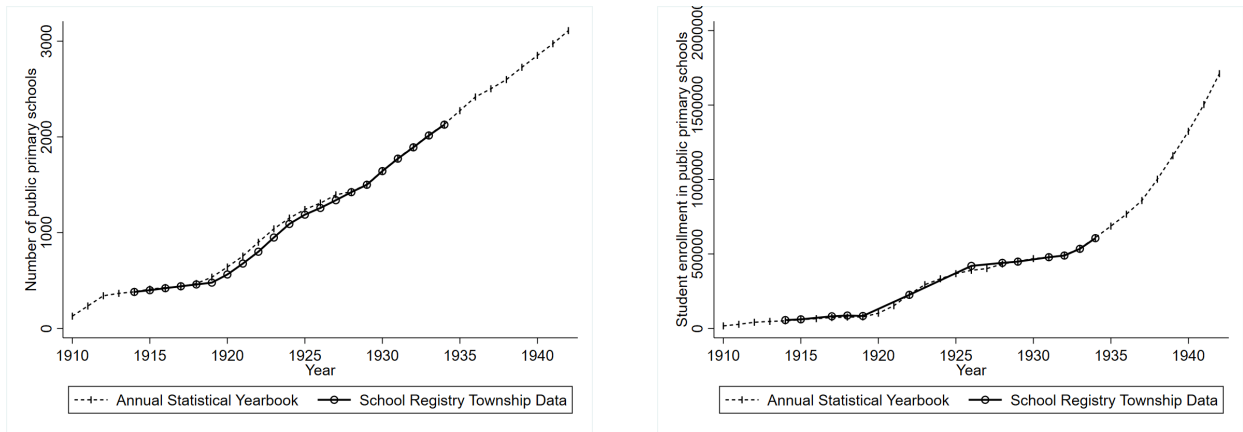
Source: Statistical Yearbook of the Colonial Government.

**Figure B2: Primary education student enrollment by school type**



Source: Statistical Yearbook of the Colonial Government.

**Figure B3:** School data cross-check: Statistical Yearbook and School Registry



(a) Primary school

(b) Student enrollment

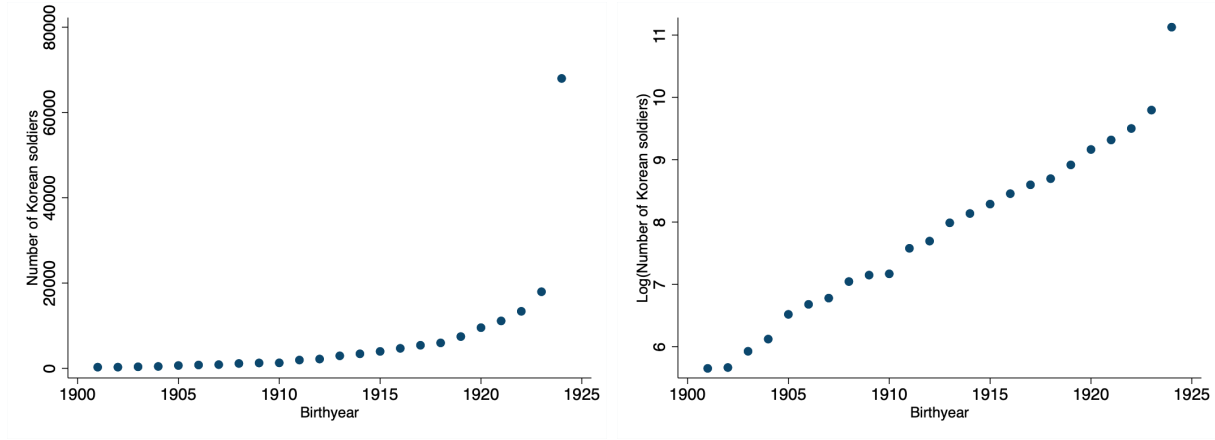
Source: Statistical Yearbook of the Colonial Government (dashed line); School Registry in Korea published by the Government-General of Chosun (1917-1934).

**Figure B4:** Jump in Enrollment in Public Primary Schools (1919-1926)



Notes: Binscatter plot with all 227 counties in the dataset where each county is weighted by its population in 1930. The solid line represents the linear fit. Enrollment rate is calculated by dividing the number of Korean students enrolled in public primary school by the number of school-age population in each county.

**Figure B5:** Military Mobilization Count by Birthyear

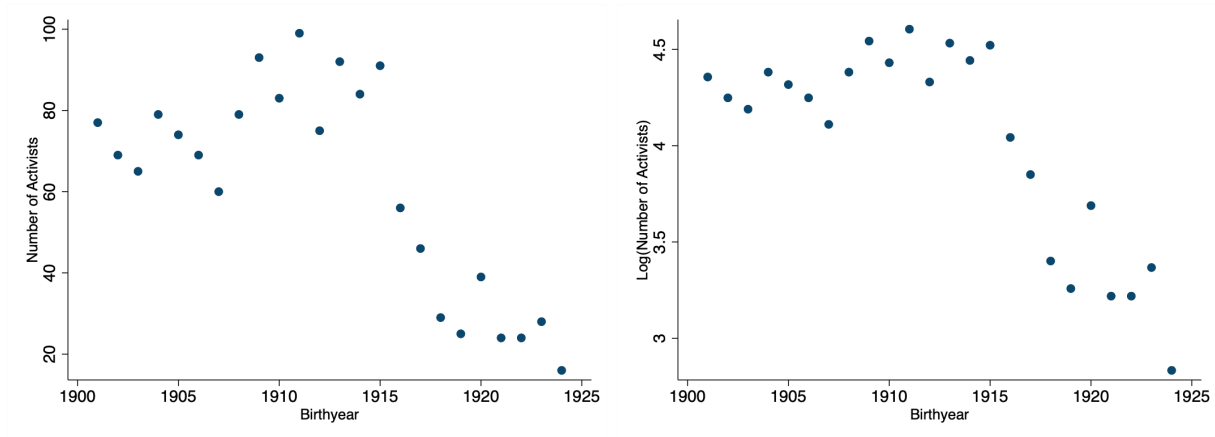


(a) Number of Korean Soldiers

(b) Log(Number of Korean Soldiers)

Notes: Aggregate individuals in mobilization data by birthyear.

**Figure B6:** Anti-colonial Activist Count by Birthyear



(a) Activist

(b) Log(Activist)

Notes: Aggregate individuals in mobilization data by birthyear.

**Table B1:** Korean Special Army Volunteers and Entrants into Training Centers

Year	Applications	Enlisted	Acceptance rate (%)
1938	2,946	406	13.78
1939	12,348	613	4.96
1940	84,443	3,060	3.62
1941	144,743	3,208	2.22
1942	254,273	4,077	1.60
1943	303,294	6,300	2.08
Total	808,779	17,664	2.18

Source: The Current Situation of Korea and Taiwan  
(*Chosen oyobi Taiwan no Genjo*) (1943)

**Table B2:** Korean Conscript Soldiers by Type

Classification	1944	1945
Infantrymen	29,388	29,780
Artillerymen	8,415	8,715
Air troops	2,050	1,100
Engineers	1,477	1,480
Radio operators	0	120
Railway troops	195	200
Shipping	600	700
Air technicians	250	250
Tank crews	2,030	2,060
Technicians	120	120
Cavalry transport	475	475
Total	45,000	45,000

Source: History of Korean Army  
(*Chosen-Gun Gaiyo-shi*) (n.d.)

**Table B3:** Labor Mobilization Plan

Year	Quota	Recruited
1939	85,000	53,120
1940	97,300	59,398
1941	100,000	67,098
1942	130,000	119,851
1943	125,000	128,354
1944	290,000	286,000
1945	50,000	10,622
Total	907,300	724,443

Source: The Labor Mobilization of Koreans in Japan (*Chosen-jin Romusha Tai-nihon Doin Shirabe*) (Ministry of Finance, 1947)

**Table B4:** Motivation of Korean Volunteer Soldiers Applicants in 1941

Age	True volunteers (%)	Coerced application (%)	Other (%)	Total
17	5,673 (33.5)	9,355 (55.2)	1,915 (11.3)	16,943
18	6,943 (34.6)	11,089 (58.2)	2,012 (10.6)	20,044
19	7,771 (35.0)	12,117 (54.6)	2,318 (10.4)	22,206
20	7,591 (35.2)	11,844 (55.0)	2,125 (9.8)	21,560
21	6,486 (34.3)	10,704 (56.5)	1,742 (9.2)	18,932
22	5,357 (33.7)	8,722 (55.9)	1,610 (10.3)	15,689
23	3,965 (28.2)	6,682 (61.4)	1,132 (10.4)	11,779
24	2,694 (33.0)	4,347 (53.1)	1,146 (13.9)	8,187
25+	3,704 (38.2)	4,812 (49.6)	1,190 (12.2)	9,706
Total	50,184 (34.6)	79,672 (55.0)	15,190 (10.4)	145,046

Source: Government-General of Korea (1941) “Chosen Sotokufu Teikoku Gikai Setsumeishi Shiryō”.

**Table B5:** Survey on Korean Special Volunteer Soldier Trainees (1941)

Reason	Percent
For earnest patriotism	40,453 27.9 %
For honors	33,454 23.0 %
From individual personal utilitarian motives	21,795 15.0 %
As a profession	15,081 11.4 %
Other	34,263 23.6 %
Total	145,046

Source: Government-General of Korea (1941) “Chosen Sotokufu Teikoku Gikai Setsumeishi Shiryō”

**Table B6:** Robustness Check: Independence Protests (March First Movement) in 1919

	Log(Number of mobilized Korean soldiers)			
	(1)	(2)	(3)	(4)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.237*** (0.354)	1.193*** (0.359)	1.203*** (0.364)	1.174*** (0.348)
Post reform cohort $\times$ Number of protests during MFM	-0.005 (0.005)			0.002 (0.008)
Post reform cohort $\times$ Number of protestors (1,000) during MFM		-0.011 (0.007)		-0.012 (0.011)
Post reform cohort $\times$ Number of protest-related deaths during MFM			-0.004 (0.007)	-0.002 (0.007)
County FE	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y
Geographics	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448
R-squared	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B7:** Robustness Check: Protestant churches and other religious institutions

	Log(Number of mobilized Korean soldiers)			
	(1)	(2)	(3)	(4)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.232*** (0.356)	1.264*** (0.358)	1.191*** (0.358)	1.266*** (0.348)
Post reform cohort $\times$ Number of Protestant churches	-0.003 (0.005)			-0.003 (0.005)
Post reform cohort $\times$ Number of Catholic churches		0.037 (0.025)		0.042* (0.025)
Post reform cohort $\times$ Number of Buddhist temples			-0.008 (0.010)	-0.009 (0.010)
County FE	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y
Geographics	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448
R-squared	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B8: Robustness Check: Firms and Labor Market**

	Log(Number of mobilized Korean soldiers)					
	(1)	(2)	(3)	(4)	(5)	(6)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.215*** (0.361)	1.166*** (0.344)	1.207*** (0.364)	1.179*** (0.351)	1.216*** (0.362)	1.265*** (0.351)
Post reform cohort $\times$ Number of firms in 1937	-0.000 (0.000)					
Post reform cohort $\times$ Number of Japanese owned firms		-0.002 (0.004)				
Post reform cohort $\times$ Number of Korean owned firms		0.005 (0.008)				
Post reform cohort $\times$ Number of firms in skilled industry			0.003 (0.004)			
Post reform cohort $\times$ Number of firms in unskilled industry			-0.014 (0.018)			
Post reform cohort $\times$ Number of Japanese owned firms in skilled industry				-0.003 (0.005)		
Post reform cohort $\times$ Number of Japanese owned firms in unskilled industry				-0.005 (0.024)		
Post reform cohort $\times$ Number of Korean owned firms in skilled industry				0.013 (0.009)		
Post reform cohort $\times$ Number of Korean owned firms in unskilled industry				-0.021 (0.027)		
Post reform cohort $\times$ Employment rate in 1930					0.029 (0.312)	
Post reform cohort $\times$ Employment rate in skilled industry						3.202 (2.014)
Post reform cohort $\times$ Employment rate in unskilled industry						3.771** (1.685)
County FE	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448	5448	5448
R-squared	0.89	0.89	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.



**Table B9: Robustness Check: Employment by Occupation**

	Log(Number of mobilized Korean soldiers)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.214*** (0.361)	1.214*** (0.361)	1.169*** (0.361)	1.221*** (0.362)	1.213*** (0.363)	1.238*** (0.358)	1.211*** (0.360)	1.207*** (0.362)
Post reform cohort $\times$ Employment rate in skilled occupations	-5.607 (4.439)							
Post reform cohort $\times$ Employment rate in finance		-25.486 (64.276)						
Post reform cohort $\times$ Employment rate in communication			-89.094 (57.045)					
Post reform cohort $\times$ Employment rate in government				-9.283 (10.687)				
Post reform cohort $\times$ Employment rate in legal					-712.990* (417.450)			
Post reform cohort $\times$ Employment rate in education						-76.680** (35.857)		
Post reform cohort $\times$ Employment rate in medical							-40.748 (32.884)	
Post reform cohort $\times$ Employment rate in administration								-16.064 (18.667)
County FE	Y	Y	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448	5448	5448	5448	5448
R-squared	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B10: The Effect of Primary Education on Mobilization of Koreans - Omit Outliers**

	Log(Number of mobilized Korean soldiers)						
	Baseline	Drop	Drop if	Drop if		Drop if	
		Major	Birthyear	Num. of mobilized Koreans		Primary schools in 1919	
	cities	is 1924	1st/99th pct.	3rd/97th pct.	1st/99th pct.	3rd/97th pct.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.215*** (0.362)	1.048*** (0.363)	1.252*** (0.359)	1.437*** (0.393)	1.311*** (0.391)	1.459*** (0.386)	1.514*** (0.395)
County FE	Y	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y	Y
Mean of dep.	38.38	37.04	22.08	37.12	35.75	38.64	38.22
S.D. of dep.	109.65	103.42	38.56	102.04	99.24	109.34	108.11
Observations	5448	5208	5221	5400	5304	5352	5160
R-squared	0.89	0.89	0.89	0.88	0.88	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B11:** Placebo Test: Increase in Public Primary Schools in 1929-1934

	Log(Number of mobilized Korean soldiers)				
	(1)	(2)	(3)	(4)	(5)
Post Reform Cohort $\times$ $\Delta$ Primary school per 1000 (1929-1934)	-0.564*	0.392	0.503*	0.363	0.355
	(0.293)	(0.271)	(0.272)	(0.226)	(0.226)
County FE	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y
Geographics	N	Y	Y	Y	Y
Demographics (1910, 1930)	N	N	Y	Y	Y
Distance to major cities and infrastructure (1918)	N	N	N	Y	Y
Police and military stations (1918)	N	N	N	N	Y
Mean of dep.	7.46	7.46	7.46	7.46	7.46
S.D. of dep.	11.65	11.65	11.65	11.65	11.65
Observations	3405	3405	3405	3405	3405
R-squared	0.82	0.84	0.84	0.85	0.85

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B12:** Placebo Test: Increase in Public Primary Schools in 1929-1934

	Activist rate (activists per 1,000 population)				
	(1)	(2)	(3)	(4)	(5)
Post Reform Cohort $\times$ $\Delta$ Primary school per 1000 (1929-1934)	-0.146	0.040	0.167	-0.066	-0.097
	(0.233)	(0.233)	(0.240)	(0.216)	(0.207)
County FE	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y
Geographics	N	Y	Y	Y	Y
Demographics (1910, 1930)	N	N	Y	Y	Y
Distance to major cities and infrastructure (1918)	N	N	N	Y	Y
Police and military stations (1918)	N	N	N	N	Y
Mean of dep.	0.50	0.50	0.50	0.50	0.50
S.D. of dep.	1.14	1.14	1.14	1.14	1.14
Observations	3405	3405	3405	3405	3405
R-squared	0.62	0.62	0.62	0.63	0.63

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B13:** Correlation between predicted expansion intensity and pre-policy county characteristics

	Policy predicted change in schools	
	(1)	(2)
Log(Land area)	1.305*** (0.307)	1.272*** (0.291)
Terrain ruggedness index	-0.000 (0.000)	-0.000** (0.000)
Average slope	0.002 (0.002)	0.005* (0.002)
Average crop suitability index	0.001 (0.001)	0.001 (0.001)
Longitude	-0.159 (0.177)	-0.348 (0.288)
Latitude	-0.704** (0.319)	-1.091** (0.553)
Average elevation	-0.000 (0.001)	-0.001 (0.002)
Proportion of elites in 1910	-26.067*** (6.915)	-21.964*** (7.633)
Log(Korean population in 1910)	0.081 (0.511)	-0.049 (0.568)
Population growth rate (1910-1925)	-0.149 (0.280)	-0.231 (0.312)
Distance to Seoul	0.005* (0.003)	0.008 (0.006)
Distance to Pyeongyang	-0.003 (0.003)	-0.006 (0.007)
Distance to train station	-0.007** (0.003)	-0.007* (0.003)
Distance to post office	0.068 (0.049)	0.035 (0.051)
Distance to telegraph office	0.008** (0.003)	0.004 (0.004)
Distance to road	0.040 (0.091)	0.077 (0.090)
Distance to seaport	0.010*** (0.003)	0.012*** (0.004)
Distance to coast	0.010** (0.004)	0.015*** (0.005)
Distance to water source	-0.025 (0.021)	-0.030 (0.021)
Number of military barracks in 1918	-0.957*** (0.321)	-0.933*** (0.317)
Number of prisons in 1918	0.472 (0.341)	0.241 (0.337)
Number of police stations in 1918	0.033 (0.047)	0.070 (0.057)
Province FE	N	Y
Mean of dep.	1.52	1.52
S.D. of dep.	1.63	1.63
Observations	227	227
R-squared	0.71	0.73

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1925. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B14:** Mechanism: Japanese and Korean Literacy

	Log(Number of mobilized Korean soldiers)			
	(1)	(2)	(3)	(4)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.221*** (0.359)	1.214*** (0.356)	1.212*** (0.360)	1.233*** (0.357)
Post reform cohort $\times$ Literacy rate in Korean and Japanese in 1930	-0.027 (0.023)			
Post reform cohort $\times$ Male literacy rate in Korean and Japanese in 1930		-0.044* (0.026)		
Post reform cohort $\times$ Female literacy rate in Korean and Japanese in 1930		0.086 (0.084)		
Post reform cohort $\times$ Literacy rate in only Korean in 1930			-0.021 (0.020)	
Post reform cohort $\times$ Male literacy rate in Korean in 1930				-0.011 (0.010)
Post reform cohort $\times$ Female literacy rate in Korean in 1930				0.001 (0.019)
County FE	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y
Geographics	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448
R-squared	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B15: Mechanism: State Capacity and Mobilization**

	Log(Number of mobilized Korean soldiers)										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Post reform cohort × $\Delta$ Primary school per 1000 (1919-1925)	1.202*** (0.361)	1.216*** (0.361)	1.211*** (0.360)	1.207*** (0.320)	1.216*** (0.320)	1.213*** (0.319)	1.233*** (0.317)	1.221*** (0.318)	1.223*** (0.319)	1.222*** (0.319)	1.229*** (0.320)
Post reform cohort × Military exam passers in Chosun dynasty	0.052 (0.060)										
Post reform cohort × Preliminary exam passers in Chosun dynasty		-0.001 (0.007)									
Post reform cohort × Civil exam passers in Chosun dynasty			-0.034 (0.066)								
Post reform cohort × Government officials per 1000 in 1939				-0.536 (0.352)							
Post reform cohort × Korean officials per 1000 in 1939					-1.004* (0.567)						
Post reform cohort × Japanese officials per 1000 in 1939						-0.531 (0.557)					
Post reform cohort × Percent of Korean officials in 1939							-0.002 (0.005)				
Post reform cohort × $\Delta$ Gov't officials per 1000 (1919-1939)								-0.133 (0.523)			
Post reform cohort × $\Delta$ Korean officials per 1000 (1919-1939)									-0.101 (1.054)		
Post reform cohort × $\Delta$ Japanese officials per 1000 (1919-1939)										-0.235 (0.589)	
Post reform cohort × $\Delta$ Percent of Korean officials (1919-1939)											-0.004 (0.004)
County FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38	38.38	38.38	38.38	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65	109.65	109.65	109.65	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5208	5208	5208	5208	5208	5208	5208	5208
R-squared	0.89	0.89	0.89	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B16:** Heterogeneity Analysis: Rainfall Shocks and Mobilization

	Log(Number of Korean soldiers)		
	(1)	(2)	(3)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	3.739** (1.582)	1.555** (0.755)	2.026** (0.824)
Post reform $\times$ $\Delta$ School $\times$ Rainfall shock in summer (1935-1939)	-0.560* (0.320)		
Post reform cohort $\times$ Rainfall shock in summer (1935-1939)	0.201* (0.105)		
Post reform $\times$ $\Delta$ School $\times$ (Dummy) Scarce rainfall in summer		-0.247 (0.481)	
Post reform cohort $\times$ (Dummy) Scarce rainfall in summer (1935-1939)		0.032 (0.109)	
Post reform $\times$ $\Delta$ School $\times$ (Dummy) Excess rainfall in summer			-1.215 (0.839)
Post reform cohort $\times$ (Dummy) Excess rainfall in summer (1935-1939)			0.518** (0.207)
County FE	Y	Y	Y
Birthyear FE	Y	Y	Y
Geographics	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y
Police and military stations (1918)	Y	Y	Y
Mean of dep.	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65
Observations	5448	5448	5448
R-squared	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B17: Heterogeneity Analysis: Firm closure and Mobilization**

	Log(Number of Korean soldiers)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post reform cohort $\times$ $\Delta$ Primary school per 1000 (1919-1925)	1.273*	1.515***	1.615***	1.361***	1.392***	1.466***	1.369***	1.234***
Post reform $\times$ $\Delta$ School $\times$ Firm closure (1937-1942)	(0.754)	(0.358)	(0.373)	(0.354)	(0.363)	(0.355)	(0.345)	(0.369)
Post reform cohort $\times$ Firm closure (1937-1942)	-0.082							
	(0.820)							
Post reform $\times$ $\Delta$ School $\times$ High skill firm closure (1937-1942)	0.107	-0.054*						
	(0.229)	(0.031)						
Post reform cohort $\times$ High skill firm closure (1937-1942)		0.005						
		(0.003)						
Post reform $\times$ $\Delta$ School $\times$ Low skill firm closure (1937-1942)			-0.162*					
			(0.085)					
Post reform cohort $\times$ Low skill firm closure (1937-1942)			0.011					
			(0.012)					
Post reform $\times$ $\Delta$ School $\times$ Manufacturing firm closure (1937-1942)				-0.617				
				(0.414)				
Post reform cohort $\times$ Manufacturing firm closure (1937-1942)				0.059				
				(0.045)				
Post reform $\times$ $\Delta$ School $\times$ Transportation firm closure (1937-1942)					-0.138			
					(0.176)			
Post reform cohort $\times$ Transportation firm closure (1937-1942)					0.017			
					(0.022)			
Post reform $\times$ $\Delta$ School $\times$ Commercial firm closure (1937-1942)						-0.063*		
						(0.037)		
Post reform cohort $\times$ Commercial firm closure (1937-1942)						0.006		
						(0.004)		
Post reform $\times$ $\Delta$ School $\times$ Printing firm closure (1937-1942)							-0.805	
							(0.544)	
Post reform cohort $\times$ Printing firm closure (1937-1942)							0.080	
							(0.059)	
Post reform $\times$ $\Delta$ School $\times$ Electrical firm closure (1937-1942)								-0.509
								(1.245)
Post reform cohort $\times$ Electricity firm closure (1937-1942)								0.069
								(0.197)
County FE	Y	Y	Y	Y	Y	Y	Y	Y
Birthyear FE	Y	Y	Y	Y	Y	Y	Y	Y
Geographics	Y	Y	Y	Y	Y	Y	Y	Y
Demographics (1910, 1930)	Y	Y	Y	Y	Y	Y	Y	Y
Distance to major cities and infrastructure (1918)	Y	Y	Y	Y	Y	Y	Y	Y
Police and military stations (1918)	Y	Y	Y	Y	Y	Y	Y	Y
Mean of dep.	38.38	38.38	38.38	38.38	38.38	38.38	38.38	38.38
S.D. of dep.	109.65	109.65	109.65	109.65	109.65	109.65	109.65	109.65
Observations	5448	5448	5448	5448	5448	5448	5448	5448
R-squared	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by county's Korean population in 1930. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.

**Table B18:** Long Run Effects of Colonial Education on Korean's Perception of Chinese

	Can you accept Chinese as			
	close kin	colleague	neighbor	average
	(1)	(2)	(3)	(4)
Panel A. Respondent's age > 60				
Public primary schools per 1000 in 1934	0.452 (0.314)	0.278 (0.264)	0.080 (0.257)	0.264 (0.259)
Mean of dep.	0.42	0.61	0.66	0.56
S.D. of dep.	0.49	0.49	0.47	0.41
Observations	833	833	833	839
R-squared	0.11	0.06	0.09	0.10
Panel B. Respondent's age < 60 and $\geq$ 30				
Public primary schools per 1000 in 1934	0.084 (0.122)	0.116 (0.145)	0.029 (0.119)	0.057 (0.110)
Mean of dep.	0.50	0.76	0.79	0.69
S.D. of dep.	0.49	0.42	0.41	0.37
Observations	2297	2308	2295	2311
R-squared	0.16	0.04	0.05	0.08
Panel C. Respondent's age < 30				
Public primary schools per 1000 in 1934	0.183 (0.172)	-0.041 (0.166)	0.003 (0.142)	0.059 (0.118)
Mean of dep.	0.51	0.79	0.78	0.69
S.D. of dep.	0.49	0.41	0.41	0.36
Observations	883	882	881	885
R-squared	0.23	0.05	0.07	0.09
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Respondent charac.	Y	Y	Y	Y
Geographics	Y	Y	Y	Y
Distance	Y	Y	Y	Y
Demographics (1930)	Y	Y	Y	Y
Demographics (1995)	Y	Y	Y	Y
Road and nightlight (2006)	Y	Y	Y	Y

Notes: Standard errors are clustered by county and reported in parentheses. Observations are weighted by weights provided in KGSS. \* denotes statistical significance at 0.10, \*\* at 0.05, and \*\*\* at 0.01.