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ABSTRACT

How do elites mobilize commoners to participate in a war? How does war mobilization affect elite power after the war? We argue that these two questions are interconnected, as elites mobilize war often because war benefits them. We demonstrate these relationships using the setting of the organization of the Hunan Army – an army organized by one Hunanese scholargeneral that suppressed the deadliest civil war in history, the Taiping Rebellion (1850–1864). We construct comprehensive datasets to depict the elites in the scholar-general's pre-war network as well as the distribution of political power before and after the war. By examining how pre-war elite connections affected where soldiers who were killed came from, and subsequent shifts in the post-war distribution of political power toward the home counties of these very elites, we highlight a two-way nexus of elites and war mobilization: (i) elites used their personal network for mobilization; and (ii) network-induced mobilization elevated regional elites to the national political stage, where they influenced the fortunes of the country after the war.

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Do not let me hear you talking together / About titles and promotions
For a single general's reputation / Is made out of ten thousand corpses.
— Cao Song (828–903)

The battle-plain is the harvest-field of the aristocracy, watered with the blood of the people.
— Richard Cobden (1804–1865)

1 Introduction

Elites play a critical role in mobilizing citizens to participate in conflicts that range from within-state ethnic conflicts to inter-state wars. Two important questions arise: How do they achieve mobilization? How does war mobilization affect the elite power after the war? For the first question, there is a burgeoning literature in which scholars have examined the roles of the media and propaganda (e.g., Yanagizawa-Drott 2014, Adena et al. 2015), social capital (e.g., Satyanath, Voigtländer and Voth 2017, Passarelli and Tabellini 2017), and leadership/role models (Acemoglu and Jackson 2015, Dippel and Heblich 2021, Rogall 2021) in war mobilization. In contrast, the second question about how war mobilization affects post-war elite power has been less studied. In this paper, we address these two questions as interrelated, as elites mobilize citizens in times of war often because war benefits the elites. Empirically, we demonstrate a two-way nexus of elites and war mobilization: Elites use their personal network for war mobilization, and war mobilization consequently increases elite power after the war by elevating regional elites to the national political stage.

Although we are not aware of any systematic studies on the nexus between elites and war mobilization, we believe that both relationships are relevant to understanding the mobilization and consequences of war in varied contexts. For instance, conflict scholars have noted that elites draw on kin and social networks to recruit participants in conflicts. Based on interviews of participants in the Rwanda genocide, Fujii (2009) concludes, "It was social ties, not ethnic membership, that patterned the process of recruitment and targeting".[1] Similar observations exist in regard to the organization of the *rondas campesinas* in Peru and armed organizations in Kashmir (see a review

[1]Recent studies on the genocide mobilization include those of Rogall (2021) on the role of armed groups, and Heldring (2021) on the interplay of pre-colonial state and government policy.

by Wood (2008) for additional cases). Despite such observations, there has been sparse quantitative investigation, likely due to the difficulty of measuring personal network in a conflict setting.

Moreover, it is a time-honored observation that elites can benefit from war mobilization. Observing the arms race among European powers in the decade before World War I, Gustave de Molinari forecasted, "A State of War continues to be profitable both to the governing class as a whole, and to those officials who administer and officer the army" (Molinari 1904). Although an extensive literature in the social sciences has documented the cost of war, who benefits from war has been less studied. Understanding how war mobilization shapes elite power not only helps to reveal who benefits from war but also sheds light on how war ultimately affects the state, which has been studied in the literature on war and state capacity, with evidence based mainly on European history (e.g., Tilly 1985, Besley and Persson 2010, Dincecco and Mauricio Prado 2012).

It is challenging to elucidate the relationships among elite networks, war mobilization, and post-war elite power. First, the measurement of each is non-trivial. Second, there may be omitted variables that are correlated with elite networks that affect war mobilization. Moreover, it is not easy to separate the roles of elite networks and war mobilization in determining post-war elite power. We leverage a context in which we can address these measurement and identification challenges. Our setting is the organization of the army that suppressed the Taiping Rebellion, a civil war waged in China from 1850 to 1864 between the peasant rebels of the Taiping Heavenly Kingdom and the Qing dynasty (1644–1911). This war is known as one of the deadliest civil wars in human history. To put it into perspective, the Taiping Rebellion coincided with the U.S. Civil War (1861–1865) in its final years, and its death toll – at least 20 million deaths – was more than 30 times higher than that of the U.S. Civil War (Platt 2012). One of the most striking aspects of this war is that the Taipings were defeated by a relatively small army,[2] known as the Hunan Army, commanded by one scholar-general from Hunan Province, Zeng Guofan. The Hunan Army was organized from existing militia that had fought with the Taipings during the period 1850–1852. After Zeng took power in 1853, he turned to his personal network to recruit soldiers from commoners in Hunan province. The organization of the Hunan Army has attracted much attention from historians, who provide rich information on the recruitment process of the Army (e.g., Wang 1881, Luo 1939, Kuhn 1970).

[2]During its prime time, the Army had approximately 130,000 soldiers. This size appears small relative to the civilian deaths because most of the civilian deaths were not caused by fighting between the Taipings and the state. Instead, many unarmed civilians were killed by either party of the war. Famine- and plague-triggered deaths were among the major causes of civilian deaths.

This context provides an ideal setting to investigate the links among elite networks, war mobilization, and post-war elite power. First, there exists a well-defined elite network institutionalized by the Civil Service Exam system. As the primary elite recruitment channel that produces the bureaucrats for the country, the system provides the opportunity for elites to forge a political alliance based on the exam (involving the link between the examiners and examinees and that between examinees). In addition, kinship, including marriages, has always provided an important link among the elites. We digitalize a large number of historical archives and construct a database that covers Zeng and 2,460 other elites (with 164 from Hunan) in his network, which gives us variation in pre-war connections with Zeng across 1,646 counties. Second, we can proxy war mobilization by the death of individual soldiers, the costliest form of war contribution. This information was recorded partly because the soldiers' family members were paid compensation. We digitize the records for 34,328 deaths with soldier names, their origin counties (a subset of 75 counties in Hunan), and the year and the battle in which they died. Finally, we are able to measure elite power based on the rich information on the bureaucracy. We are interested in the distribution of power that has the potential to influence a nation. To this end, we build a database on national-level (vice minister-level and above) offices during the period 1820–1910, which enables us to study the consequences of war mobilization on elite power in both the short and long runs.

To study how the elite network affects war mobilization, we employ a difference-in-differences strategy by exploiting county-level variation across 75 Hunan counties in elite connections and time variation in Zeng Guofan's appointment. As noted above, the existing militia had fought with the Taipings before Zeng took power in 1853. Based on soldier death records, we know the number of soldier deaths by county and by year from 1850 to 1864. Thus, we compare counties with more elite connections with those with fewer or no connections before and after Zeng took power. Our baseline network focuses on exam connections and blood relationships, which are not subject to individual choice. We measure elite connections of a county by the sum of direct and indirect connections inversely weighted by distance to Zeng and use the unweighted sum of connections as an alternative measure. We find that counties with one more elite connection with Zeng experienced 23% more soldier deaths, or over 6,600 more soldier deaths during the period 1854–64. This effect of elite connections occurred only after Zeng took power to organize his own army, implying no systematic differences across counties before the Army became organized.

Soldier deaths reflect both recruitment and death rates (which may be driven by strategic deployment or soldiers' own dedication to war participation). Three heterogeneous patterns shed light on these two interpretations. We find that the relationship between elite connections and soldier

deaths is weaker in counties with more alternative mobility opportunities (measured by entry-level quotas in the Civil Service Exam system), consistent with the importance of the recruitment channel. We also find that the connections-death relationship is even stronger for more important battles (those around cities), suggesting potential strategic employment. At the same time, the positive connections-death relationship holds regardless of the type of battles, which further reveals the importance of the recruitment interpretation. In addition, we find a significantly larger impact of elite connections on deaths for the soldiers from the same clan as the elites, consistent with the historical narratives that elites used clan relationships for recruitment. We conduct robustness checks on elite networks and soldier deaths in several ways, including using alternative definitions of elite network, utilizing placebo networks (which capture a county's general political importance) based on exam timing, and examining the social status of the soldiers.

We then turn to studying the impact of network-induced war mobilization on elite power after the war. An important challenge, however, is how to differentiate the role of network-induced war mobilization from that of network. To address this challenge, we use information on all 1,646 counties across the country. The non-Hunan counties also enjoyed different degrees of connections in Zeng's network but did not experience soldier deaths in the Hunan Army, which provides us with a comparison group to examine the impact of connections (without war mobilization) over time. Empirically, we use connections$\times$Hunan an instrument for soldier deaths during the period 1854–64 (i.e., after Zeng took power) and examine how the predicted soldier deaths of a county are associated with national-level offices held by that county during the period 1820–1910. In addition, to further check whether the instrument has any direct impact beyond war mobilization, we leverage the multiple sources of connections to conduct over-identification tests, which enable us to show the direct impact of different sources of connections.

We find that one direct elite connection with Zeng in a county is associated with approximately 256 more soldier deaths during the period 1854–1864, which increased the annual number of national-level offices held by that county by 0.048 (52% of the mean). These estimates imply that 1,000 soldier deaths of a county increased the number of national-level offices held by individuals from that county by over 200%. Year-by-year estimates show that no such an association existed between soldier deaths and elite power before the war. The over-identification tests further confirm that when using one component of elite connections to predict soldier deaths, the other component is not correlated with national-level offices. These results reveal that war mobilization provides an opportunity for the connected elites in Hunan that consequently increased their power. By further investigating who benefited in a county, we find that those in Zeng's personal network certainly

benefited. In addition, the benefits apply to some not in the network, suggesting that war created new elites in the home counties of those in the network. Thus, we observe that the impact, while exhibiting fluctuations, lasted until the end of the dynasty.

We also conduct checks on elite networks and soldier deaths for our finding on network-induced war mobilization and power. Again, we confirm that our finding is specific to the actual network rather than placebo networks that reflect a county's general political importance. We show that soldier deaths before Zeng took power do not exhibit a similar pattern to those that occurred after he took power. Moreover, our finding also holds if we restrict comparison provinces to different subgroups.

In terms of Tilly (1985)'s famous aphorism – "war made the state, and the state made war," our evidence suggests that *elites mobilized war and war benefited elites*. To the best of our knowledge, our study is the first to highlight the two-way nexus of elites and war mobilization. Our two main findings – how elites mobilize war and how war mobilization affects the elites – are interconnected, and there is feedback between elite power and war mobilization. This interconnection is useful to understanding war mobilization. Our setting shares similarities with those of a few studies that highlight the roles of leaders in war. For instance, Dippel and Heblich (2021) document that leaders of the failed German revolution of 1848–1849 were expelled to the United States and became antislavery campaigners who helped mobilize Union Army volunteers. Cagé et al. (2020) show that individuals who served under Philippe Pétain during the pivotal WWI battle of Verdun played a role in mobilizing Nazi collaborators during the Pétain-led Vichy regime. Most of the elites in our setting, however, did not directly fight the battles, implying that leadership and role models are less essential in our setting. Instead, historical narratives suggest that elites used their personal network in recruitment to screen soldiers and build trust.[3] More importantly, our evidence on how war mobilization benefited the elites implies that war mobilization provide incentives compatible with the self-interest of the elites. As noted by Myerson (2008), how to credibly motivate elites to help the ruler win and maintain power is a central issue in politics. Rewarding elites with power after the war works as a social contract that gives elites incentive to become involved in war mobilization.

Rewarding elites with power also has important consequences for state capacity. We know that the rise of the regional elites further weakened the Qing state after the war, which was considered to

[3]This interpretation of personal networks shares similarities with the importance of social capital (e.g., Satyanath, Voigtländer and Voth 2017, Passarelli and Tabellini 2017). Broadly speaking, our study is also related to König et al. (2017) on networks and conflict, who studies how the network structure affects the intensity of the conflict. Our focus is to understand the connections among pre-war elite network, war mobilization, and post-war elite power, where we use the most intuitive measure of networks.

be a contributor to the eventual downfall of the state in 1911 and foreshadowed the Warlord Era in 1916–1928 (McCord 1993). This observation adds a new perspective to the literature on how war affects state capacity. The current literature focuses on the importance of taxation capacity shaped by war (e.g., Besley and Persson 2010, Dincecco and Mauricio Prado 2012, Rodriguez-France 2016, Ch et al. 2018). Our study suggests that knowing how elite power changes (in comparison with the state) can be useful to understanding how civil war shapes the state.[4]

Our study adds to a general literature on conflict, to which we hope to offer two contributions (see Blattman and Miguel (2010) and Ray and Esteban (2017) for overviews). First, most of the studies on recruitment focus on non-state armed groups, assuming that the state has no difficulty in coercing citizens to participate in war. Our study shows that when the state is weak, even state recruitment reflects the underlying social structure. Second, we show that a small group benefits at the cost of many others, which appears to be common in conflict settings. The fact that elites enjoy the benefits of war while commoners bear the costs is one explanation for the central puzzle about war: Wars are costly but nevertheless occur (Fearon 1995).

It is worth noting an intriguing observation by historians (e.g., McCord 1993, Platt 2007): Political figures from Hunan started to play leading roles in major political events during the century after the war. During the 1860s to the 1890s, the Self-Strengthening Movement was led by individuals who appear in our network data, Zeng Guofan, Zuo Zongtang, and Li Hongzhang.[5] In the reform and revolution era during the 1890s to the 1920s, of the fewer than a dozen top leaders, Tan Sitong, Huang Xing, Song Jiaoren, and Cai E were all from Hunan. During the 1920s to the 1950s, the top two leaders of the Communist Party, Mao Zedong and Liu Shaoqi, were from Hunan. Our finding on how war mobilization helps to elevate some local elites to the apex of national political life and whose influence could endure for multiple generations is consistent with this observation.

[4]To finance the Army, the state introduced a new trade tax known as likin. Deng (2020) finds that regions with more Taiping battles experienced a larger increase in likin. Our study suggests that only looking at tax revenues might miss important changes in the power structure of a society.

[5]Li Hongzhang did not, however, come from Hunan though. He became a protege of Zeng because his father and Zeng succeeded in the same exam, an important type of link in our network data.

2 Context and Historical Narratives

First, we describe the historical context of the Taiping Rebellion and the Hunan Army in Section 2.1. Then, we provide a summary of historical narratives on the importance of elite networks in organizing the Army and the rise of Hunan elites after the war in Section 2.2.

2.1 The Taiping Rebellion and the Hunan Army

The Taiping Rebellion began in the southwestern province of Guangxi in 1850. Its causes share similarities with those of several major rebellions in Eurasia in early modern times, as described in Goldstone (1991): Overpopulation, misgovernment, and ethnic competition all contributed to the tensions in mid-19th century China. Under the famine conditions of 1849–1850, tensions exploded frequently into open warfare. The leader of the Taipings was Hong Xiuquan, a man who attended the Civil Service Exam four times but was unable to succeed. Transformed by illness and inspired by Christian missionary tracts, he started the God Worship Society in 1844, which was renamed the Taiping Heavenly Kingdom and became a regime that claimed dominion over all the empire.

The Taipings launched a crusade northward toward the rich provinces. The rebels were much more effective than the poorly organized and corrupt Qing armies. During the period 1850-1852, the Taipings fought battles in Hunan (neighboring Guangxi) and Hubei and conquered several prefectures. In March 1853, they conquered Nanjing (an important city in the lower Yangtze River) and declared the city its Heavenly Capital.

Realizing that the official armies could not contain the Taipings, the Qing government asked Zeng Guofan, a Hunanese scholar who had served in the central government and had wide influence in his home province, to organize an army to fight the Taipings. Underlying the choice of Zeng was the background of local militarization in the mid-19th century. Local militias emerged in several southern provinces in this era and represented the initially spontaneous militarization of the local elites who sought to protect their communities and their property, as the state was too weak to provide such public good. The militias in Hunan already were well known and were employed to fight with the Taipings in Guangxi and Hunan during the period 1850–1852.

The Hunan Army was organized from the existing militias. Commanded by Zeng, a scholar without any military experience, the Army was often defeated by the Taipings in the beginning. During the period 1853–1864, the Hunan Army and the Taipings fought more than 694 battles

across 11 provinces. In the summer of 1864, the Hunan Army finally conquered the Heavenly Capital, Nanjing, which ended the war.

2.2 Historical Narratives

Scholars have noted that personal networks played a critical role in organizing the Hunan Army. Luo (1939) provides the most detailed account of the organization of the Army, which is the primary source for other historians. According to Luo, the reliance on social networks is the most salient feature of the Army. As interpreted by Kuhn (1970), because the state was weak, the recruitment and command structure of the Hunan Army was a reflection of certain governing principles of the social structure in general: elite connections formed from the Civil Service Exam as well as kinship on the top and clan ties at the bottom.

Why did social networks matter? Although elites in Zeng's network played an active role in recruiting soldiers, most of these elites did not fight the battles. Thus, attracting soldiers by role models was less likely in this setting. Instead, historical discussion suggests that information and trust were relevant. On the demand side, network provides information for screening the soldiers. As explained in Kuhn (1978): "The Hunan Army ultimately swelled to a strength of some 132,000 men...not large by the standards of the day, exemplifies Zeng's emphasis of quality over numbers...Hunan Army units were distinguished for strict attention to details of recruitment, training, discipline and indoctrination in Confucian principles." Zeng himself wrote about the principle for screening soldiers in 1855: "Young, strong, simple-minded peasants are the most preferred...Carefree wanderers should be avoided." On the supply side, social networks facilitate trust. Soldiers were promised a monthly salary of four taels, twice that of the official troops, and the soldier's family was promised 50 taels, about twice the yearly income of an unskilled labor, if he died in battles. Sometimes, the elite also emphasized that fighting the war provided a good career path for commoners (Luo 1939). Trust is needed for such promises to be believable.

Historians also have noted that the success of the Hunan Army "launched the career of its leaders and secured fame for the Hunanese throughout the Empire" (Platt 2007). As stated by (Kuhn 1970), due to this war, the fortunes and personal interconnections of the Hunan gentry were to "shape the fortunes of the empire over the next generation."

3 Data and Measurement

3.1 Measuring Elite Networks

The Qing government, following precedent, relied on the Civil Service Exam system to recruit bureaucrats. As a result, the Civil Service Exam system served as the primary venue for social mobility and elite network formation. In addition, similar to other societies, kinship also was an important source of links. Below, we define elite networks and describe our elite network data and how we aggregate individual-level data to the county level.

Sources of Links. Our network data comprise three types of links: (1) those from the Civil Service Exams, including examiner-examinee and quasi-classmate relationships; (2) kinship, including blood and marriage relationships; and (3) other friends. We present the data construction process in Appendix A.1.

There are two important relationships specific to the exam system, particularly via the provincial-level and metropolitan (i.e., national-level) exams that produced bureaucrats for the state.[6] The first is examiner-examinee link. After each exam, the new graduates paid respect to the court-commissioned examiners (who were already high-level officials but whose identity was not disclosed until a few days before the exam), whom they considered their lifelong masters, and entered into "a firm master-disciple pledge to assist each other to weather the storms of political life" (Miyazaki 1981). The graduates called themselves disciples (*men-sheng*) of the examiners. In this way, Zeng was a disciple of Mu Zhang-e, who helped Zeng's career in the 1840s. In the words of Miyazaki, "The graduate felt very grateful for being appreciated by the court-commissioned examiner, who, free to determine who was qualified, had selected him among many competitors". The other link is quasi-classmates formed via the exam. The graduates who succeeded from the exam referred to each other as "quasi-classmates" (*tong-nian*, meaning "the same year"). For example, Zeng Guofan and Li Wen-an (Li Hongzhang's father) were quasi-classmates. Again, these quasi-classmate links are political, as they are expected to support each other in politics. Because the exams were carefully recorded, we digitize the exam record archives to capture these relationships. The data also allow us to observe indirect links with Zeng. For instance, his examiner, Mu

[6]The exam has three levels: prefecture, provincial, and national. Because passing the prefecture-level exam alone did not hold promise of a political career, we do not include prefecture-level links. It also is well known that the master-disciple and quasi-classmate links in the elite circle applied only to the provincial- and national-level exams.

Zhang-e, had disciples from other national-level exams. These disciples were linked with Zeng indirectly via Mu. We use information on all of the exams that took place during the three decades before the war (1820–1849) to construct the exam links. Our data sources are Jiang, Jing and Chen (2010) and Zhu and Xie (1980).

The second source of link was based on kinship. Blood relationships, such as brothers and sons, are certainly important, but marriage also provides the opportunity to connect with important families. For instance, Zeng and Guo Songtao were in-laws. Guo was already an important local elite before the war and became a national-level statesman after the war. Guo Songtao and Zuo Zongtang (who later also become an important national-level politician) also were in-laws. We obtain this information from *Zeng Guofan's Family Tree* (Cheng 1997).

The third source refers to the individuals covered in *The Chronicle of Figures in the Hunan Army* (Mei 1997) who can be considered as friends of Zeng and who helped him in war mobilization.

Defining Elite Network and County-level Connections. Because some of the links were not subject to personal choices (e.g., exam links) whereas others (e.g., marriages) were, we take this into consideration by defining elite networks in two ways, which we term *baseline networks* and *expanded networks*.

Our *baseline networks* include only exam links and blood relationships and are plotted in Figure 1A. These relationships could not be chosen by an individual and were thus exogenous to the war. In the figure, each big circle consists of successful individuals from one exam (which took place once every three years). The black dots indicate the individuals from Hunan. On average, only around 200 individuals succeeded in a national-level exam cohort, with three to eight from Hunan. All of these individuals were eligible for official positions and, hence, belonged to the elite class. Our baseline network covers 2,419 elites, 131 from Hunan.

Our *expanded networks* add marriage relationships and friends to the baseline network, as shown in Figure 1B. This definition covers 2,460 elites, 164 from Hunan. This alternative measure uses all of the available information but with the caveat that marriages and friends were subject to personal choices. Thus, we focus on the baseline network and use the expanded networks for robustness for our discussion below.

To measure a county's connections in the elite network, we need to transform the network above to a county-level variable. Our baseline measure for a county's connections is $\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$, where N refers to the number of elites originally from a county, and d indicates the steps to be

linked with Zeng. Table 1 presents the summary statistics for this variable. We also employ an unweighted measure by counting the number of connected elites from a county.

There is wide variation across counties in the elite network. To see this variation, we plot the spatial distribution of county-level (directly and indirectly) connected elites across the country and within the Hunan province in Figures 2(a)-(b). As shown, there is wide variation even within the Hunan province: 36 of all 75 counties had some connections in Zeng's personal networks, among which seven counties had more than five connections.

County-level Connections vs. Other Characteristics. A county's elite connections may be correlated with its other characteristics. We are concerned about whether our connection measure reflects a county's economic development, political importance, and its relationship with the Taipings. We collect ten variables that can be grouped into these three broad categories.

- (i) geography-economic factors: log area, whether the county has a main river, log calorie suitability, log population in 1820, and log urban population in 1850. These variables capture a county's productivity and economic advantages.
- (ii) political importance: whether the county is a prefecture capital or not, log quotas for the entry-level Civil Service Exam pre-Taiping, and log number of pre-Taiping Jinshi (i.e., who succeeded in the national-level exams).
- (iii) Taiping-related factors: whether the county was on the route of the Taipings to Nanjing and log distance to Nanjing.

We explain how we construct these variables and our data sources in Appendix A.2. We examine the correlations between our baseline measure of connections and these characteristics for both Hunan counties and all counties and report the findings in Appendix A.3. Two patterns are clear. First, county-level elite connections are not strongly correlated with geographical variables, economic factors, or the Taiping routes. Second, elite connections are positively associated with a county's political importance, proxied by being a prefecture capital and the number of Jinshi. Intuitively, politically more important counties tend to have more elites, in general, which correlates with our connections measure even though we focus on a specific network. This pattern begs the question of whether our results capture the general eliteness of a county, which we address in our analyses.

3.2 Measuring War Mobilization

We use soldier deaths to proxy war mobilization and consider the interpretations of recruitment and death rates in our later analyses. Specifically, we digitize the records of deaths of 34,328 soldiers with their names and origin counties from Provincial Gazetteers of Hunan (Zeng 1885). In Appendix A.4, we explain the data source for this variable and give an example to illustrate the information in the original archives. For 29,490 of these records, we also know the year and location (battle) of the soldiers' deaths.

Using the individual-level information, we construct a county-year panel of soldier deaths during the period 1850–1864 for all 75 counties in Hunan. The individual-level data provide some additional information on clan relationship (reflected by surnames) and social status (i.e., exam degree or not), which we use to address possible measurement error in our analyses.

3.3 Measuring Elite Power

To measure the distribution of political power before and after war, we construct a database on national-level offices and officials during the period 1820–1910, based on *The Chronicle of Officials in the Qing Dynasty* (Qian 2005). Much like previous dynasties, the Qing used an official rank system. The system had nine numbered ranks, each subdivided into upper and lower levels. Our focus are those with a rank of three and above (i.e., vice minister-level and above), which we refer to as national-level offices, as these officials' power went beyond provincial affairs. Our data cover 28,899 national-level offices held by 2,971 officials on an annual basis. On average, 221 officials held 318 offices for a given year. Of the officials, 67% were of Han ethnicity and held 65.6% of all positions (whereas the Han accounted for over 99% of the population). We focus on the offices held by the Han because the Manchu officials had a different career track, and all came from Manchuria, where there are less systematic historical data.

We present an example of the records and plot the yearly distribution of national-level offices (Appendix A.5), which shows fairly stable numbers of positions and officials over time. Using this position-level information, we construct a county-year panel of national-level offices during the period 1820–1910 for all 1,646 counties.

4 How Did Elite Networks Affect Soldier Deaths?

4.1 Motivational Evidence and Research Design

Did elite networks affect where soldiers who died came from? As motivational evidence, we plot the number of soldier deaths by year and by two groups of counties within Hunan: 36 counties with elite connections vs. the other 39 counties without connections (defined by our baseline network). As shown in Figure 3, before Zeng took power in 1853, the numbers of soldier deaths in non-connected and connected counties appear to be in parallel. In contrast, after Zeng took power, the number rose to a higher level for connected counties, which persisted until the end of the war in 1864. On average, the yearly soldier deaths pre- and post-1853 were 6.6 and 13, respectively, for non-connected counties, but 4.7 and 53.1, respectively, for connected counties, suggesting the importance of Zeng's network in war mobilization proxied by soldier deaths.

Based on this pattern, we use a difference-in-differences strategy by exploiting county-level variation across Hunan in elite connections and time-variation in Zeng's appointment in 1853. The data cover 75 counties during the priod 1850–1964, and the specification is as follows:

$$\begin{aligned}(\ln)\text{SoldierDeath}_{c,t} =& \beta \text{EliteConnections}_c \times \text{Post1853}_t + \alpha_c + \lambda_t + \theta \mathbf{X}_c \times \text{Post1853}_t \\ &+ \theta' \pi_{\text{pref}} \times \lambda_t + \epsilon_{c,t}, \end{aligned} \tag{1}$$

where $\text{SoldierDeath}_{c,t}$ refers to the number of soldier deaths in county c and year t. We measure $\text{EliteConnections}_c$ in two ways: (i) $\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$ where we discount the importance of links by distance; and (ii) N_c, where we do not weight the links.

We control for county-level characteristics that vary little over time and the factors that affect all counties over time by including county-level fixed effects (α_c) and year fixed effects (λ_t). In addition, we gradually control for the ten county-level characteristics introduced above and their interaction with post dummy ($\mathbf{X}_c \times \text{Post1853}_t$) and prefecture-by-year fixed effects ($\pi_{\text{pref}} \times \lambda_t$). All standard errors are clustered at the county level.

To facilitate interpretation of the coefficients, we use ln (Soldier deaths+1) as the dependent variable in our main estimates and present Poisson estimates to confirm that the log transformation itself is not critical for our estimations.

4.2 The Impact of Elite Networks on Soldier Deaths

Average and Year-by-Year Effects. We find that soldier deaths in counties with more connections with Zeng increased significantly after Zeng took power. In Column (1) of Table 2, we control only for county and year fixed effects and obtain an estimate of 0.214. In Column (2), we add prefecture-by-year fixed effects, and the estimate changes to 0.162. In Columns (3)–(5), we gradually add county-level characteristics and their interactions with the post dummy and obtain estimates around 0.239. We present the Poisson regression estimate in Column (6), which is 0.224, close to that in Column (5). In addition, Columns (7)–(9) present the results using an unweighted connection measure, which provides an estimate of 0.172. The standard deviations for the weighted and unweighted measures are 2.53 and 3.71, respectively. The estimates for the one-standard-deviation change for the two measures are thus comparable: 0.605 and 0.638, respectively.

Based on our preferred estimate in Column (5), one more elite directly connected with Zeng increases the number of soldier deaths by 23.9%. To put this number into perspective, a 23.9% increase in the number of soldier deaths implies 8.1 soldier deaths in one county-year, or 6,683 more soldiers during the period 1854–64 for the 75 counties.

A key assumption for our difference-in-differences strategy is that counties were not systematically different before Zeng took power. To validate this assumption, we present the results year by year in Appendix B.1 and a visualization of the estimates in Figure 4. As shown, elite connections to Zeng were not correlated with soldier deaths before 1853, implying that the counties did not exhibit different trends before Zeng took power. After Zeng took power, however, we observe a large positive effect of elite connections that persisted until the end of the war.

Recruitment and Deployment. Because deaths are the costliest type of contribution to war, it is meaningful to study soldier deaths as the outcome of war mobilization. Nevertheless, soldier deaths are an outcome of war recruitment, and the death rate, the latter of which can be affected by strategic deployment or soldiers' own dedication. Below, we conduct two heterogeneous analyses to check the relevance of the two interpretations.

First, we exploit variation in the primary mobility channel, proxied by the entry-level exam quota for a county. If a county enjoyed a higher entry-level quota, we expect the impact of elite networks in *recruitment* to be smaller. This is, indeed, what we find. As seen in Columns (1)–(3) of Table 3, one standard deviation in quotas per capita (0.241) decreases the impact of elite

connections by 0.942, or 52% of the main effect of elite connections (1.793).[7]

Second, we exploit variation in the importance of battles. We assume that the battles around cities were more important ex ante and examine whether the impact of elite networks on soldier deaths is higher for the more important battles. Two patterns seen in Columns (4)–(6) are notable. First, the impact is even larger for more important battles, which is consistent with possible *strategic deployment*. Second, the impact of elite networks holds regardless of battle types. This further confirms the importance of the *recruitment* interpretation, as elite network increases soldier deaths, regardless of deployment incentives. Thus, we conclude that, although some deaths could come from strategic deployment, soldier deaths certainly reflect the importance of recruitment.

4.3 Additional Checks

Elite Networks. Measurement error in elite networks is likely. In addition, elite networks may be related to other unobserved county characteristics. Here, we present three results to show that such concerns are unlikely to be critical. First, our finding holds if we expand our definition of elite networks to the expanded networks. As reported in Columns (1)–(4) of Appendix B.2, the estimates are slightly smaller than those from our baseline definition. Moreover, because those who passed the national-level exam were promised a political career, we expect the links formed there to be more important politically. Indeed, as reported in Columns (5)–(8), the estimates based on the national-level exam network are more than two times higher than those from our baseline network.

Second, we cannot observe personal connections at the very bottom. For instance, the elites could employ clan connections for mobilization (Luo 1938). We proxy clan relationship by the surnames of the elites and the soldiers. Specifically, we assume that the elite-soldier belonged to the same clan if they came from the same county and shared the same surname. We find a significantly larger impact of elite connections for the soldiers from the same clan as the elites. Columns (1)–(3) in Table 4 present the results for 75 counties $\times$ 15 years $\times$ number of surnames (for each county). As shown, the impact of elite connections on the deaths of soldiers from the same clan is at least four times higher than that for a different clan. Thus, clan relationships mattered. Similar to the discussion of the historical narratives, clan relationships provided information and helped to build trust.

[7]This finding is consistent with the importance of perceived social mobility (proxied by quota per capita) in political stability, as studied by Bai and Jia (2016).

Third, we find that a county's elite connections are positively associated with its political importance, as discussed in Appendix A.3. By controlling for political importance measures and their interactions with the post dummy in Table 2, we show that our estimates are not driven by a county's political importance. To further validate the relevance of the networks that we have identified, we leverage the timing of the exams to construct the placebo networks. Specifically, we construct placebo networks by assuming that Zeng passed the 1836 or 1840 national-level exam, rather than the actual one (1838). Under such assumptions, his national-level exam networks would look different (as shown by the maps in Appendix B.3), even though the placebo networks would be correlated with the actual network and a county's general eliteness. We find that the placebo national-level exam connections did not exhibit similar findings once the actual one was considered, as reported in Columns (4)–(6) of Table 4. Thus, our findings are driven by the specific elite networks that we identified, rather than by a county's general political eliteness.

Soldier Deaths. We address measurement error in soldier deaths in two ways. First, in the death records, 14% did not report death year. Thus, it may be possible that elite connections are correlated with more precise information on deaths. As a check, we examine the relationship between elite connections and the probability of missing years by counties. As shown in Appendix B.4, there is no correlation between elite connections and missing information, suggesting that such a concern is not critical.

Second, 93 of the individuals in the soldier death records held exam degrees. When checking the correlation of such deaths and commoner deaths, we find a strong correlation (with a R-squared of 0.44). When examining how connections affect the deaths of the two groups, we also find comparable standardized coefficients, as shown in Appendix B.5. Because it is difficult to make mistakes on the degree holders, this result further suggests that our finding is unlikely to be explained by misreporting of soldier deaths.

5 How Did Network-induced Soldier Deaths Shape Elite Power?

5.1 Motivational Evidence and Research Design

How did war mobilization affect elite power after the war? In particular, we want to know the impact of *network-induced soldier deaths* documented above on elite power. The concern, however, is that

elite networks might affect war via channels beyond war mobilization. To address this concern, we use information on both Hunan and non-Hunan counties. The non-Hunan counties enjoyed different degrees of network connections but did not produce soldiers for the Hunan Army. Thus, elite power in non-Hunan counties gives us a sense of the role of elite networks in shaping elite power without war mobilization.

As motivational evidence, we plot the annual number of national-level offices held by four groups of counties – the connected and unconnected counties in Hunan and the connected and unconnected counties in other provinces, as seen in 5. Two patterns are apparent: First, the number of national-level offices held by individuals from connected counties in Hunan clearly increased in the later stage of the war and after the war. Second, there is no similar increase for connected counties in non-Hunan provinces, even though connected counties generally accounted for more national-level offices. These patterns suggest that, without war moralization, the association between elite connections and elite power was fairly stable over time.

Based on this evidence, we use Hunan $\times$ EliteConnect$_c$ to instrument soldier deaths after Zeng took power (i.e., during the period 1854–1864), while controlling for possible time-varying impacts of EliteConnect$_c$ and Hunan. The first-stage and second-stage specifications are as follows:

$$\begin{aligned}\text{SoldierDeaths}_{c,1854-64} \times \text{Post1853}_t =& \rho_1 \text{Hunan} \times \text{EliteConnect}_c \times \text{Post1853}_t + \rho_2 \text{Hunan} \times \text{Post1853}_t \\ &+ \rho_3 \text{EliteConnect}_c \times \text{Post1853}_t + \alpha_c + \lambda_t + \theta \mathbf{X}_c \times \text{Post1853}_t + \epsilon_{c,t},\end{aligned} \tag{2}$$

and

$$\begin{aligned}\text{NatlOffice}_{c,t} =& \gamma_{IV} \widehat{SoldierDeath_{c,1854-64} \times Post} 1853_t + \rho_2' \text{Hunan} \times \text{Post1853}_t \\ &+ \rho_3' \text{EliteConnect}_c \times \text{Post1853}_t + \alpha_c + \lambda_t + \theta' \mathbf{X}_c \times \text{Post1853}_t + \epsilon_{c,t}.\end{aligned} \tag{3}$$

where NatlOffice$_{c,t}$ indicates the number of national-level offices an connected county c held in year t. SoldierDeaths$_{c,1854-64}$ refers to the total number of soldier deaths in county c in the decade after Zeng took power. As above, we include county fixed effects α_c and year fixed effects λ_t as well as all of the county-level controls in equation (1). Again, all the standard errors are clustered at the county level.

In addition, we leverage different sources of elite connections and conduct over-identification tests, whereby we can check whether one component of elite connections has any direct impact on elite power when using the other component (interacting with Hunan and $\times Post1853_t$) as an

instrument.

5.2 The Impact of Network-induced Soldier Deaths on Elite Power

IV and OLS Estimates. We present the instrument variable (IV) estimate and compare it with OLS estimate in Table 5. Columns (1)–(2) confirm the motivational patterns in Figure 5: One direct elite connection in a Hunan county is associated with 0.044 more national-level offices after 1853, or around 47% of the county-year mean (0.093); in contrast, no such an association exists for counties in other provinces. Column (3) presents the reduced-form estimate, which is roughly equivalent to the difference between the estimates in Columns (1) and (2). Column (4) presents the first-stage estimate: One direct elite connection in a Hunan county increases soldier deaths during the period 1854–1864 by 256. The F-statistic of 249.2 indicates that the first-stage estimate is strong. The reduced-form and first-stage estimates imply an IV estimate of 0.189 (Column (5)), meaning that 1,000 more soldier deaths are associated with 0.189 more national-level offices, almost double the mean. As a comparison, we present the OLS estimate in Column (6), where the coefficient on 1,000 soldier deaths is 0.239, not significantly different from our IV estimate.

As suggestive evidence to check whether connections matter through war mobilization, we run a horse race between soldier deaths and Hunan $\times$ EliteConnect$_c$ in the OLS specification (Column (7)). The comparison between the results in Columns (4) and (7) is suggestive: Once we control for soldier deaths, the impact of Hunan $\times$ EliteConnect$_c$ no longer varies over time, suggesting that connections matter due to war mobilization.

As a further check on whether Hunan $\times$ EliteConnect$_c$ might have additional impacts on power beyond the channel of war mobilization, we rely on the multiple sources of links in the elite network and divide them into two components: the national-level exam connections and the rest. If one component has an additional impact on power beyond the channel of mobilization, we would expect to see a significant coefficient of this component when using the other as an instrument. This is not the case, as shown in Table 6, which again confirms that Hunan $\times$ EliteConnect$_c$ affects power via war mobilization. In other words, war mobilization provides an opportunity for those who are connected in Hunan, which consequently elevates their power.

Who Benefited? Having documented that the counties with more pre-war elite connections in Zeng's personal network produced more national-level officials thanks to war mobilization, we now

investigate who in these counties benefited. We are interested in knowing whether the benefits concern a fixed group (e.g., those in the network) or go beyond such a group, which is useful for shedding light on the long-run implications. If only a fixed group benefited, we expect their influence to decline over time. In contrast, if the benefits also applied to additional individuals from their home counties, the power impact is likely to persist.

We conduct two analyses. First, we study the dynamic pattern and present the year-by-year IV estimates during the period 1821–1910, using 1820 as the reference year (Figure 6). The dynamic pattern confirms that pre-trends are absent and that mobilization-power relationship appears in the later stage of the war and after the war. The 90-year panel also allows us to see the post-war dynamics in the long run. While we observe a persistent power impact for several decades, the power impact also exhibits fluctuations. In Appendix C.1, we take a closer look at the fluctuations and find that they are driven by individuals of different cohorts (rather than by the same group of individuals). This finding implies that the power impact concerns multiple cohorts, which explains its relevance in the long run.

As another way of examining this question, we decompose the individuals who hold national-level offices into those inside and outside the network (Table 7). Indeed, those in the network benefited: Per 1,000 network-induced soldier deaths increased the number of national-level offices held by those inside the network 3.2-fold. In addition, some not in the elite network also benefited: Per 1,000 network-induced soldier deaths increased the number of national-level offices held by those outside the network 1.7-fold. Together with the previously noted dynamic patterns, this result suggests the effects of war mobilization on elite power in two senses: First, war mobilization benefited those in the elite network. Second, war mobilization created new elites not in the elite network, and these new ones were more likely to come from the home counties of those in the pre-war elite network.

5.3 Additional Checks

Elite Networks. As in the analysis of how elite networks affect soldier deaths, we employ the same placebo networks (i.e., assuming that Zeng passed the previous and the next national-level exams) to illustrate that our findings on elite power are specific to the role of actual networks. For simplicity, we focus on the reduced-form estimates. As shown in Column (1) of Appendix C.2, the interaction of the Hunan and national-level exam connections exhibits a similar pattern as our main finding when using all baseline connections. In contrast, although the placebo national-level

exam connections are correlated with the actual national-level exam connections, they do not have the same effects as do the actual connections (Columns (2)–(4)). Again, these results confirm that our finding is specific to personal networks rather than a general eliteness of a county.

Soldier Deaths. Soldier deaths before 1854 were not driven by the elite network that we have characterized and, thus, do not reflect war mobilization by the elites in the network. If we find that soldier deaths before 1854 are not associated with an increase in elite power, our finding on the mobilization-power link would be strengthened. This is the case, as shown in Appendix C.3.

Comparison Provinces. The connected elites came from all 18 provinces in the Qing dynasty. Our finding holds even if we focus on a subgroup of provinces, as reported in Appendix C.4. We first restrict the comparison provinces to the five provinces along the Taiping route (Columns (1)–(2)). Then, we use Hunan's three neighboring provinces out of the five provinces along the Taiping route as the comparison and find similar first- and second-stage results (Columns (3)–(4)). Finally, we focus on the two provinces in the Huai River region (Anhui and Jiangsu) as the comparison provinces. Influenced by the Hunan Army, elites in this region established the Huai Army, which collaborated with the Hunan Army in some battles.[8] It is possible that the elites from the Huai region also benefited like those from Hunan. Such a provincial-level influence, however, should not affect our county-level research design. Indeed, we still obtain a similar pattern when using these two provinces as the comparison provinces (Columns (5)–(6)).

6 Conclusion

Our study highlights the nexus of elites and war mobilization: Elites use their personal network for mobilization, and network-induced mobilization further elevates elite power after the war. The first finding joins the existing efforts to open the black box of war mobilization. The second offers a new perspective to link war mobilization and elite power, which underscores that war mobilization can shape the state via the power structure. Equally important, the two findings can be interrelated in the same framework, which suggests a feedback between elite power and war mobilization.

As one of the most important wars in Chinese history, many historical narratives exist on

[8]We do not study the Huai Army because it was formed with the support of the Xiang Army and the data is less systematic than the Xiang Army.

the Taiping Rebellion. By constructing systematic data from over a dozen historical sources and employing different empirical strategies, we are able to bring these perspectives together to develop insights into elites and war mobilization. The Taiping Rebellion shares similarities with many other civil wars. For instance, the soldiers of both sides were peasants who were very much alike. The leaders of the Hunan Army were incumbent elites in the Qing government. The Taiping Heavenly Kingdom was founded by enterprising individuals, such as Hong Xiuquan, who attempted to find an alternative way to become an elite after repeatedly failing the Civil Service Exam. It would appear not to be an exaggeration to say that such a deadly war, like many others, was fought for the sake of the elites. Thus, our key insight – elites mobilized war and war benefited elites – is relevant to understanding war and conflicts in other contexts.

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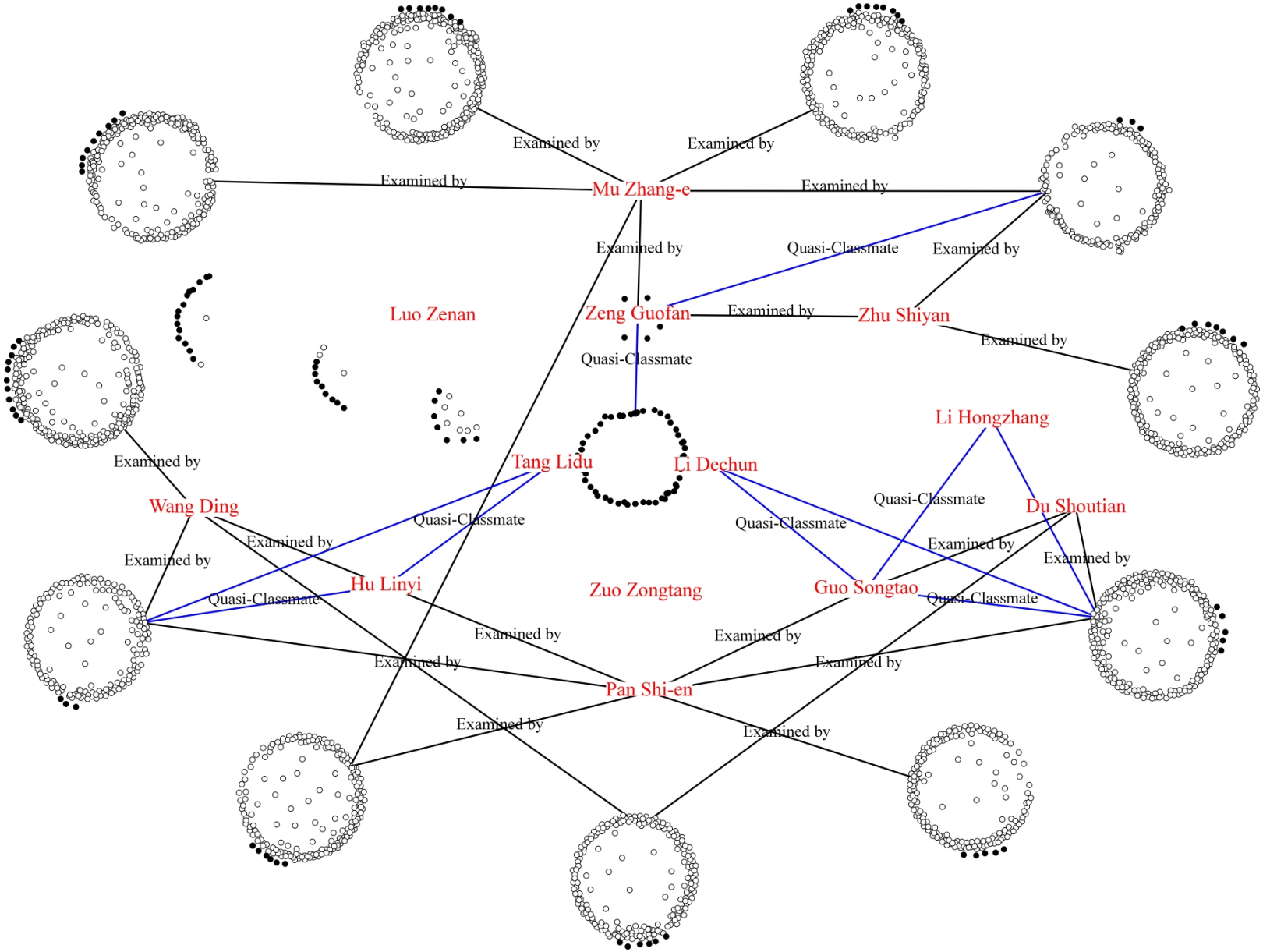
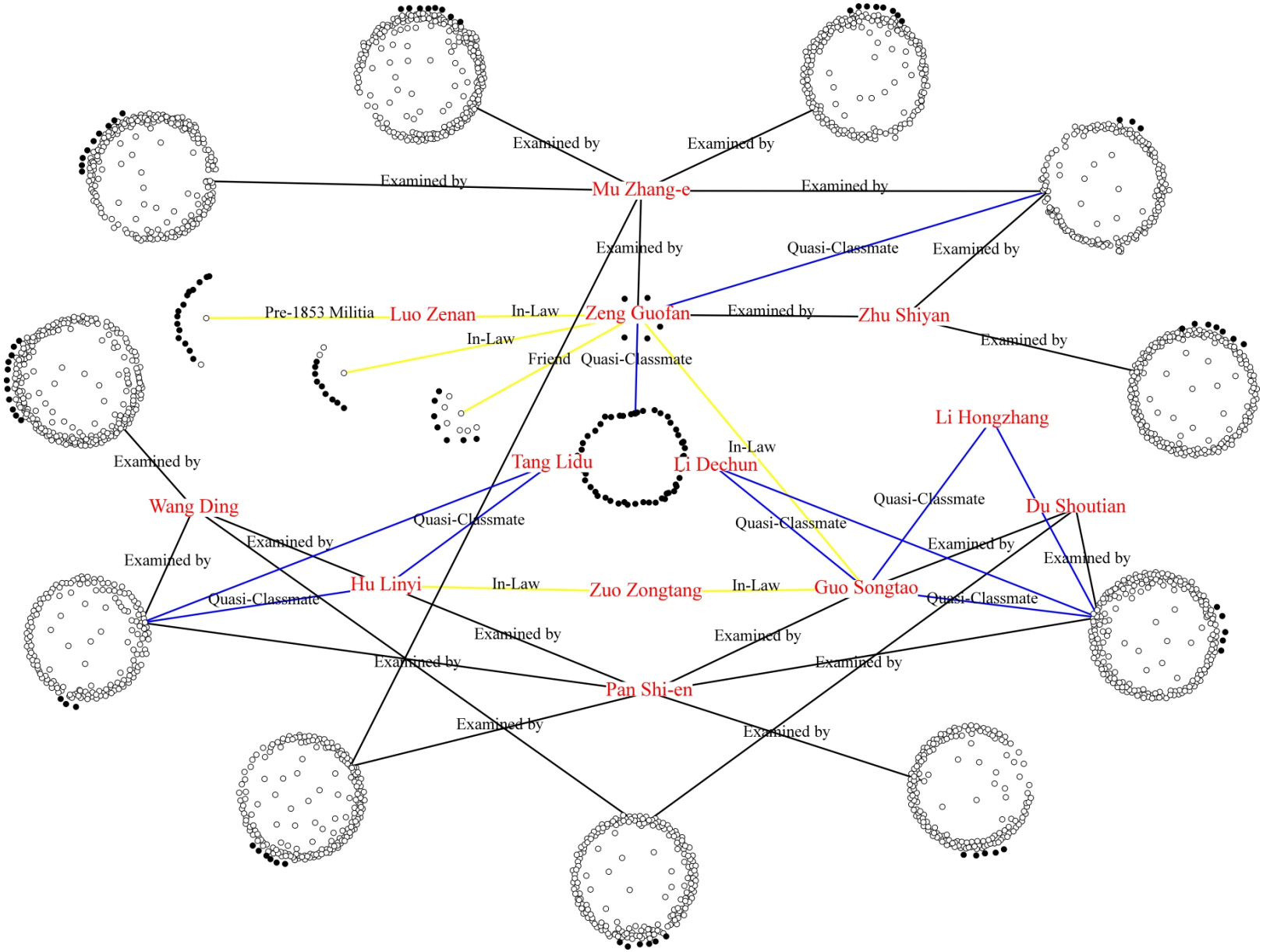
Figure 1A. Elite Network Definition: Baseline Networks



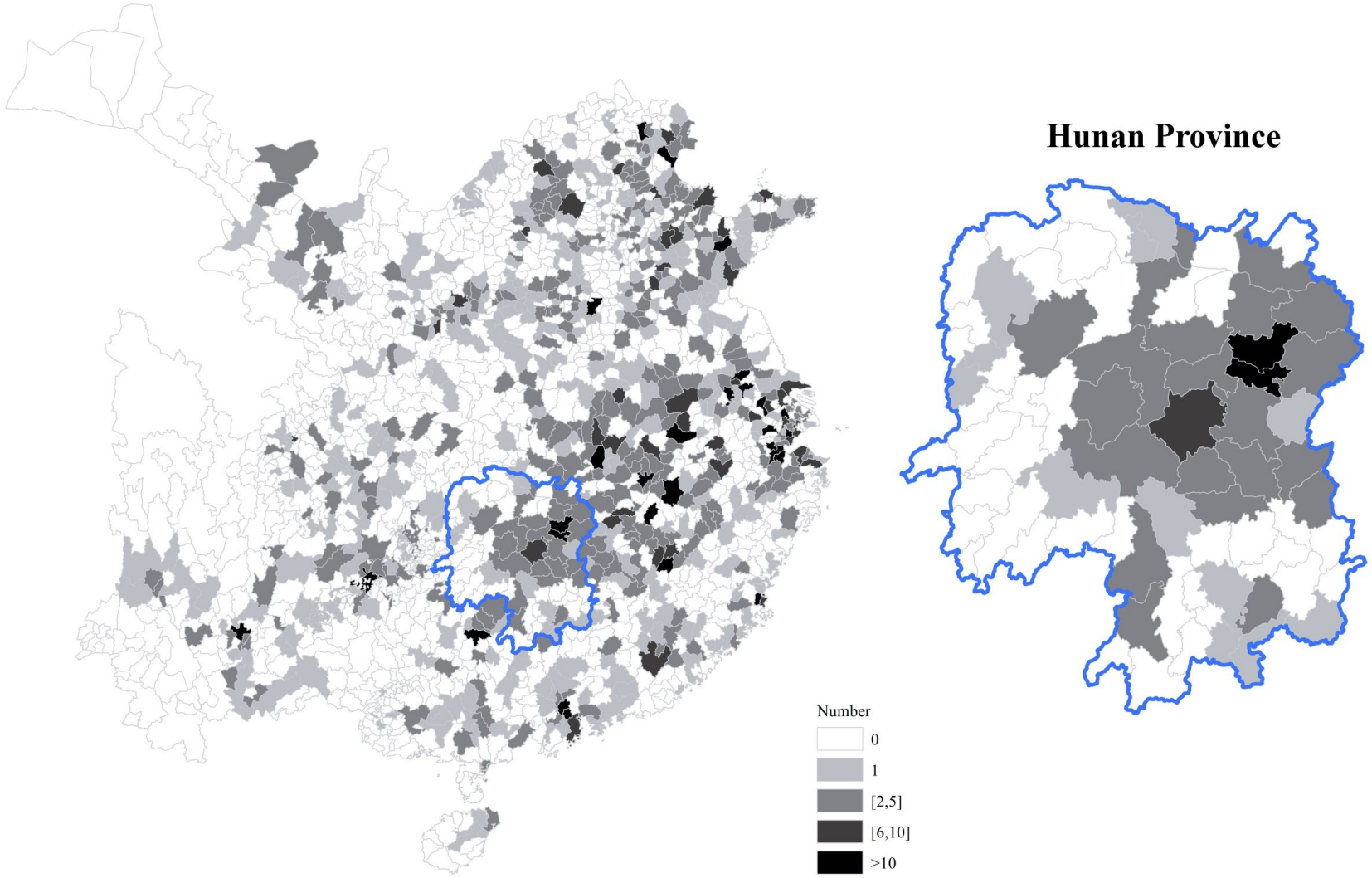
Note. This figure plots the elites in our baseline networks, defined by exam relationships and blood relationships. Each big circle consists the graduates from one exam. The black dots indicate the individuals from Hunan. Those are not linked are not in our baseline networks but in our expanded networks.

Figure 1B. Elite Network Definition: Expanded Networks



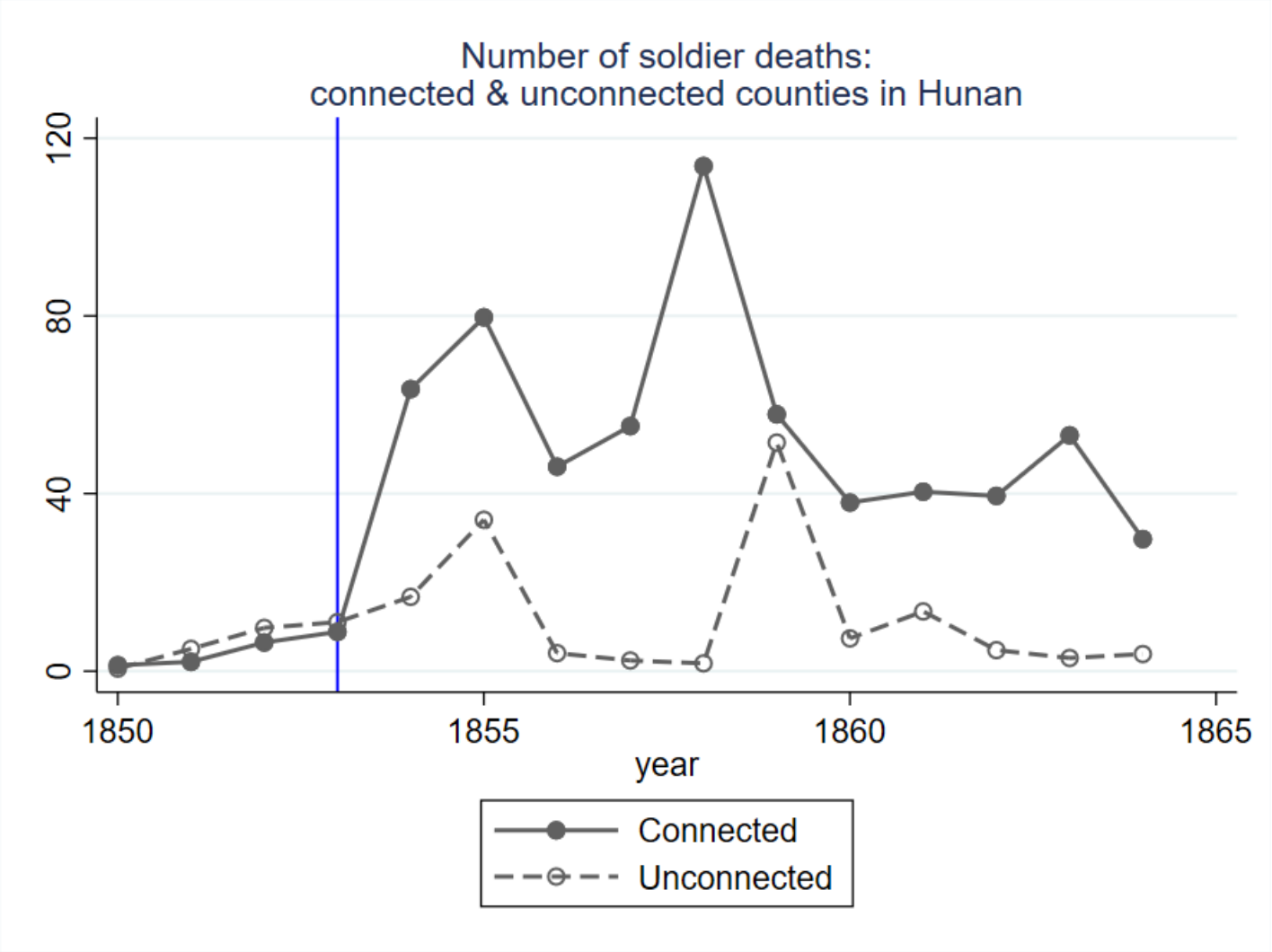
Note. This figure plots the elites in our expanded networks, i.e., adding marriages and friends to the baseline networks.

Figure 2. Spatial Distribution of County-level Elite Connections



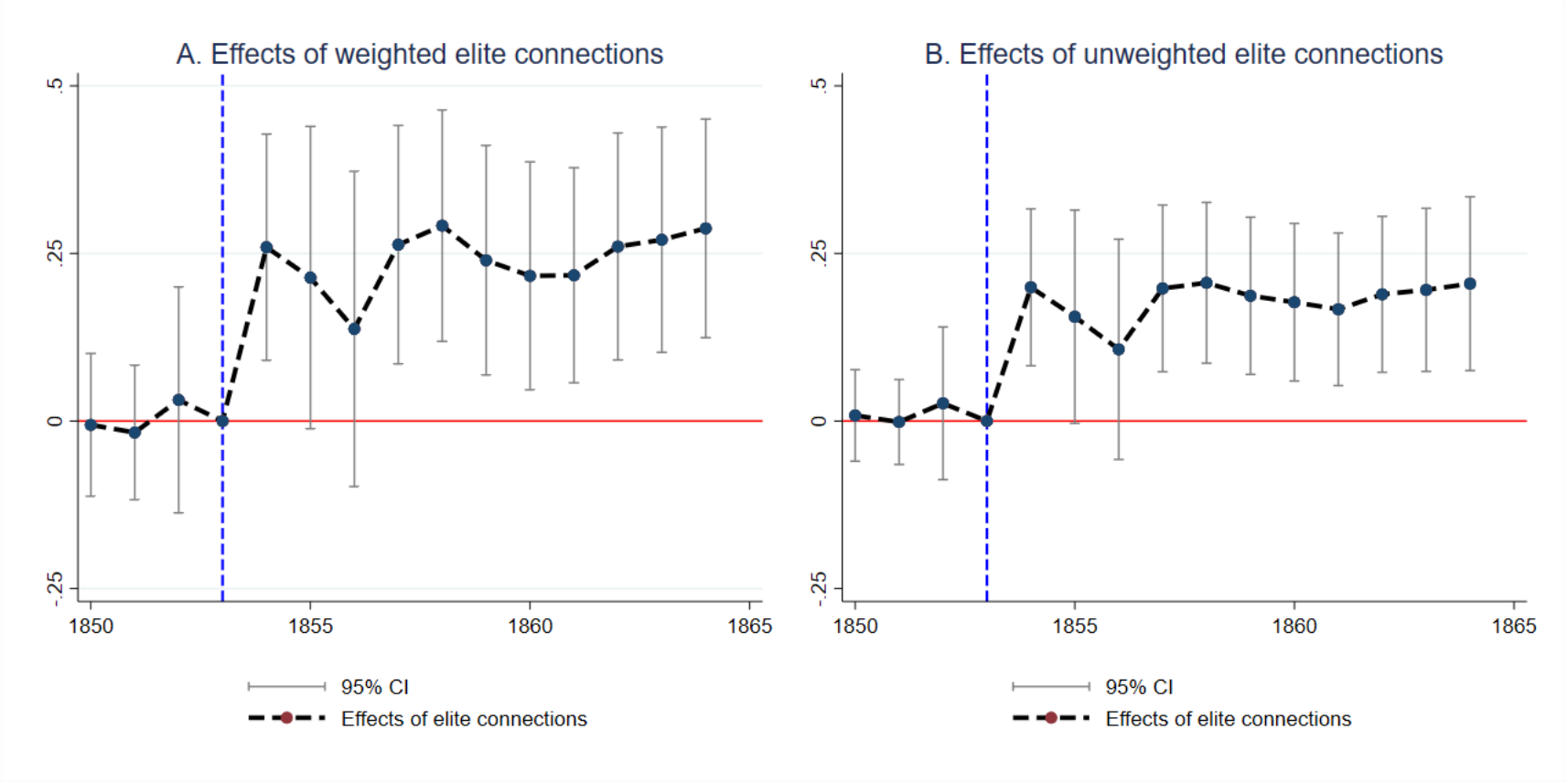
Note. The two maps illustrate a wide variation in the number of elites connected with Zeng Guofan across counties in Hunan and the whole country. For simplicity, the number of connections is unweighted.

Figure 3. Motivational Evidence on Elite Networks and Soldier Deaths: Raw Data



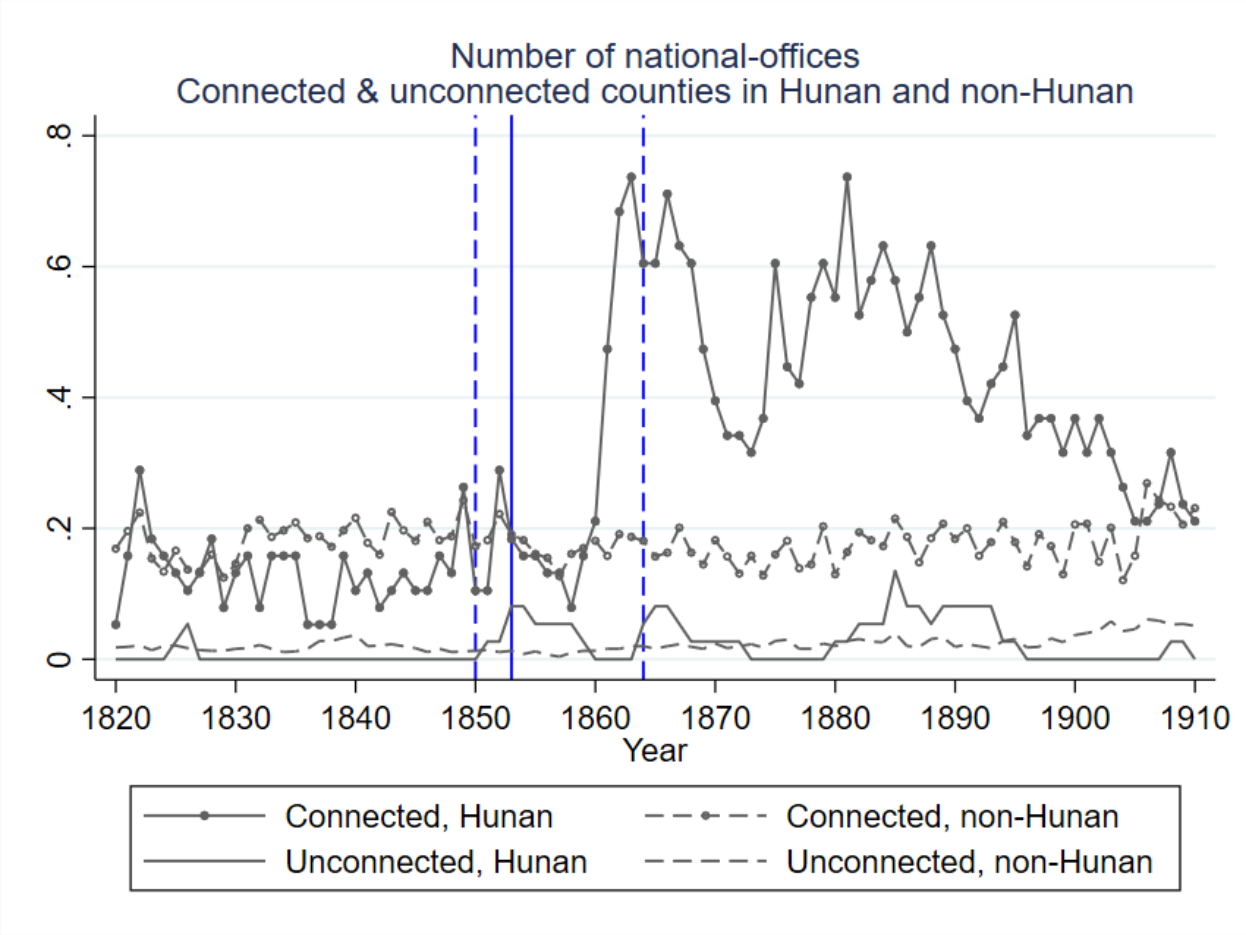
Note. This figure plots the number of soldier deaths by year in unconnected and connected counties (i.e., those with at least one elite in our baseline elite network.) The blue indicates the year Zeng was assigned to organize an army from existing militias.

Figure 4. The Impact of Elite Connections on Soldier Deaths: Year-by-Year Estimates



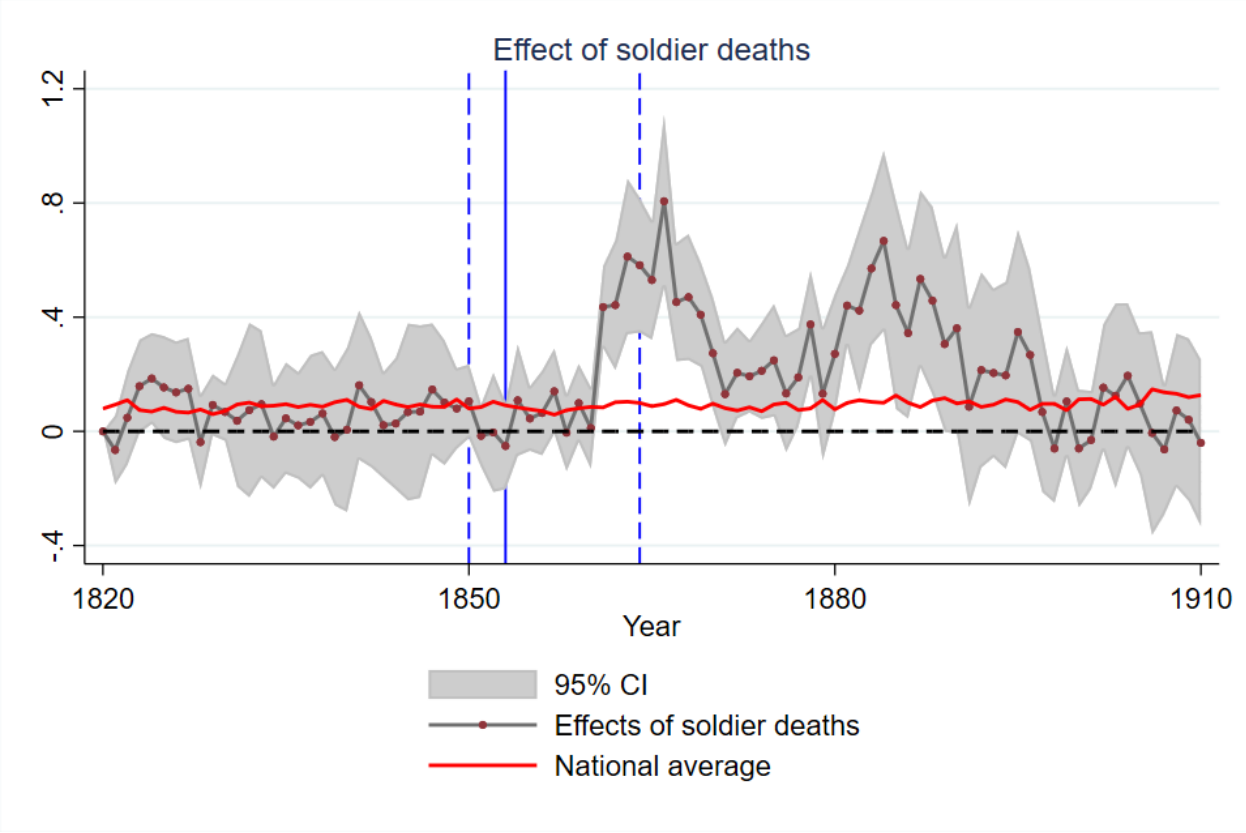
Note. This figure plots year-by-year estimates, using 1853 as the reference year. It shows that elite connections increased soldier deaths after Zeng took power in 1853.

Figure 5. Motivational Evidence for the IV Design: National-level Offices by Connection-Province



Note. This figure plots the number of national-level offices in four groups of counties. It shows that (1) connected counties in Hunan obtained more power in the later stage of the war and after the war, and (2) the role of connections in non-Hunan provinces was relatively stable over time.

Figure 6. The Dynamics Impacts of Network-induced Soldier Deaths on # National-level Offices: IV Estimates



Note. This figure shows that counties with more network-induced soldier deaths obtained more national-level positions during the last few years of the war and after the war.

Table 1. Summary Statistics

Sample	A. Hunan counties, 1850–1864				B: All counties, 1820–1910			
	Source	Obs.	Mean	S.D.	Source	Obs.	Mean	S.D.
Number of soldier deaths, by year	A	1,125	26.21	145.75				
Number of soldier deaths during 1854-64					A	149,786	27.51	462.82
Elite connections, Baseline networks (weighted)	B, C, D, E	1,125	1.23	2.53	B, C, D, E	149,786	0.68	2.02
Number of national-level offices					K	149,786	0.09	0.54
ln Area	F	1,125	7.84	0.48	F	149,786	7.40	0.89
ln Population	A	1,125	12.08	0.66	L	149,786	12.08	1.02
ln Calories suitability	G	1,125	11.12	0.50	G	149,786	10.48	1.44
Main river dummy	F	1,125	0.40	0.49	F	149,786	0.42	0.49
Prefecture capital	H	1,125	0.28	0.51	H	149,786	0.14	0.35
ln Urban population	H	1,125	8.53	1.48	H	149,786	7.70	2.76
ln Number of Jinshi	B, F	1,125	1.11	1.07	B, F	149,786	1.46	1.23
ln Quotas for the entry-level exam	I	1,125	2.63	0.36	I	149,786	2.50	0.84
ln Distance to Nanjing	F	1,125	6.75	0.15	F	149,786	6.64	0.67
Along the route of Taipings during 1850-53	J	1,125	0.12	0.33	J	149,786	0.04	0.19

Note. A. Zeng (1885); B. Zhu and Xie (1980); C. Jiang, Jing and Chen (2010); D.Cheng (1997); E. Mei (1997); F. CHGIS (2007); G. Galor and Özak (2016); H. Skinner, Yue and Henderson (2008); I. Kun (1899); J. Cheng and Hsu (1980); K. Qian (2005); L. Ge (2000).

Table 2. The Impact of Elite Connections on Soldier Deaths: DID Estimates
Sample: Hunan counties, 1850–1864

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	ln (Deaths +1)					Deaths	ln (Deaths +1)		Deaths
Method	Linear					Poisson	Linear		Poisson
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post	0.214***	0.162**	0.199***	0.246***	0.239***	0.224**			
	(0.058)	(0.068)	(0.070)	(0.074)	(0.074)	(0.111)			
$N_c \times$Post							0.146***	0.172***	0.179**
							(0.042)	(0.054)	(0.082)
County FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pref. FE$\times$Year FE		Y	Y	Y	Y	Y		Y	Y
Geography-economic var.$\times$Post			Y	Y	Y	Y		Y	Y
Political var.$\times$Post				Y	Y	Y		Y	Y
Taiping var.$\times$Post					Y	Y		Y	Y
Observations	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125
R-squared	0.187	0.488	0.501	0.524	0.532		0.187	0.532	
Number of counties	75	75	75	75	75	75	75	75	75

Note. The table shows that elite connections increased soldier deaths of a county. The sample includes all 75 Hunan counties during 1850–1864. In the Poisson regression, 257 observations are either singletons or separated by a fixed effect.

Control variables include (i) Geography-economic factors: ln area, ln population, ln calorie suitability, and whether the county has a main river; (ii) Political importance: whether the county is a prefecture capital, ln quotas for the entry-level Civil Service Exam pre-Taiping, and ln number of pre-Taiping Jinshi (who succeeded in the national-level exam); (iii) Taiping-related factors: whether the county was on the route of the Taipings to Nanjing, and ln distance to Nanjing. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

Table 3. The Impact of Elite Connections on Soldier Deaths: Recruitment and Deployment
Sample: Hunan counties, 1850–1864; Dependent variable: ln(Deaths+1)

	(1)	(2)	(3)	(4)	(5)	(6)
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post	1.747***	0.379**	1.793**	0.039**	0.031**	
	(0.582)	(0.179)	(0.699)	(0.015)	(0.014)	
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post$\times$Quotas per capita	-3.456***		-3.613**			
	(1.218)		(1.691)			
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post$\times$Jinshi per capita		-0.669*	0.086			
		(0.354)	(0.470)			
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post$\times$ln Population	-0.776**	0.081	-0.818*			
	(0.322)	(0.120)	(0.434)			
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Battle around city					0.002	0.004
					(0.003)	(0.003)
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post$\times$Battle around city					0.015***	0.014**
					(0.005)	(0.006)
County FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Pref FE$\times$Year FE	Y	Y	Y	Y	Y	Y
Controls$\times$Post	Y	Y	Y	Y	Y	
Battle FE				Y	Y	Y
County FE$\times$Year FE						Y
Observations	1,125	1,125	1,125	52,050	52,050	52,050
R-squared	0.539	0.534	0.539	0.211	0.215	0.249

Note. Columns (1)-(3) show that the effect of elite connections is smaller for counties with higher exam quotas, suggesting that alternative opportunities mitigate the recruitment effect. Columns (4)-(6) show that the effect of elite connections holds within a battle, even thought it is larger for more important battles.
Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

Table 4. The Impact of Elite Connections on Soldier Deaths: Clans and Placebo Networks
Sample: Hunan counties, 1850–1864; Dependent variable: ln(Deaths+1)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Same-surname connections×Post	0.224***	0.247***	0.214***				
	(0.068)	(0.073)	(0.061)				
Diff.-surname connections×Post		0.056***					
		(0.015)					
National-level exam connect.×Post				0.582***	0.616***	0.611**	0.616***
				(0.202)	(0.228)	(0.246)	(0.229)
Placebo connections I×Post					-0.058		-0.023
(Assuming Zeng passed the previous exam)					(0.164)		(0.335)
Placebo connections II×Post						-0.048	-0.035
(Assuming Zeng passed the next exam)						(0.119)	(0.250)
County FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Pref FE×Year FE	Y	Y	Y	Y	Y	Y	Y
Controls×Post	Y	Y	Y	Y	Y	Y	Y
Year FE×Surname FE	Y	Y	Y				
County FE×Surname FE	Y	Y	Y				
Year FE×County FE			Y				
Observations	48,495	48,495	48,480	1,110	1,110	1,110	1,110
R-squared	0.477	0.482	0.616	0.532	0.532	0.532	0.532

Note. Columns (1)-(3) show that the impact of elite connections is larger for soldiers from the same clan as the elites. Columns (4)-(7) show that elite networks by assuming Zeng Guofan succeeded in the exam before and after the real one could not explain our finding.
Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

Table 5. The Impact of Network-induced Soldier Deaths on Elite Power: IV and OLS Estimates
Sample: All counties, 1820–1910

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sample	Hunan	Non-Hunan	All	All	All	All	All
Method				IV		OLS	
			Reduced-form	First-stage	Second-stage		
Dependent var	Natl-level offices	Natl-level offices	Natl-level offices	Soldier deaths$_{1854-64}$(1K)	Natl-level offices	Natl-level offices	Natl-level offices
Mean	0.093	0.093	0.093		0.093	0.093	0.093
Soldier deaths$_{1854-64}$(1K)×1854–1910					0.189***	0.239***	0.244***
					(0.052)	(0.057)	(0.061)
Connections×Hunan×1854–1910			0.048***	0.256***			-0.014
			(0.013)	(0.016)			(0.016)
Connections×1854–1910	0.044***	0.012	0.011	0.001	0.011	0.010	0.011
	(0.009)	(0.011)	(0.011)	(0.001)	(0.011)	(0.011)	(0.011)
Hunan×1854–1910			0.085	0.322**	0.024	-0.006	0.007
			(0.063)	(0.163)	(0.046)	(0.029)	(0.032)
County FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Controls×1854–1910	Y	Y	Y	Y	Y	Y	Y
Observations	6,825	142,961	149,786	149,786	149,786	149,786	149,786
R-squared	0.359	0.388	0.383	0.688	0.017	0.392	0.392
First-stage F-test				249.2			

Note. Columns (1)-(2) motivate the reduced-form estimate in Column (3). Columns (3)-(5) present the reduced-form, first-stage, and IV estimates using Connections×Hunan×1854–1910 to instrument Soldier Deaths× 1854–1910. Column (6) presents the OLS estimate, and Column (7) a horse-race test between Connections×Hunan× 1854-1910 and Soldier Deaths×1854–1910.
Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

Table 6. The Impact of Network-induced Soldier Deaths on Elite Power: Over-id Tests
Sample: All counties, 1820–1910; Dependent variable: Number of national-level offices

	(1)	(2)	(3)
Instruments	Expanded connections×	Natl-level exam connect.× Hunan×1854–1910	Other connect.×
Natl-level exam connect.×Hunan×1854–1910			-0.001
			(0.074)
Other connect.×Hunan×1854–1910		-0.000	
		(0.036)	
Soldier deaths$_{1854-64}$×1854–1910	0.228***	0.228***	0.228***
	(0.047)	(0.030)	(0.054)
Natl-level exam connect.×1854–1910	0.007	0.007	0.007
	(0.020)	(0.022)	(0.022)
Other connect.×1854–1910	0.019	0.019	0.019
	(0.031)	(0.040)	(0.040)
County FE	Y	Y	Y
Year FE	Y	Y	Y
Controls×1854-1910	Y	Y	Y
Observations	149,786	149,786	149,786
Over-identification test (p-value)	0.992		

Note. Column (1) presents the results using the expanded networks to define county-level elite connections. Then we separate all connections into two components: (i) those built via the national-level exams and (ii) the rest. Column (2) presents the result using component (ii) (interacting with Hunan and 1854–1910) as the instrument to check whether component (i) has any direct effect, and column (3) does the opposite.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

Table 7. The Impact of Network-induced Soldier Deaths on Elite Power: Inside and Outside the Network
Sample: All counties, 1820–1910

	(1)	(2)	(3)
Dependent var.	Total national-level offices / sample mean	Held by elites in the network / sample mean	Held by those outside the network / sample mean
Sample mean	0.093	0.018	0.076
Soldier deaths$_{1854-64}$×1854-1910	2.029***	3.205***	1.755***
(Instrumented)	(0.558)	(1.128)	(0.555)
Connections×1854-1910	0.119	0.225	0.095
	(0.122)	(0.185)	(0.128)
Hunan×1854-1910	0.262	-0.870	0.526
	(0.490)	(0.772)	(0.550)
County FE	Y	Y	Y
Year FE	Y	Y	Y
Controls×1854-1910	Y	Y	Y
Observations	149,786	149,786	149,786

Note. Column (1) presents the average impact relative to the mean. Then, we decompose the national-level offices for a county-year into two groups: those held by individuals in and outside the elite network. Columns (2) and (3) show that both groups benefited.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

Online Appendix

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A Data Construction

A.1 Elite Network

The Civil Service Exam Links Using information on all exams during 1820–1845, we define the exam links by four steps described below.

- Zeng Guofan passed the provincial-level exam in 1834 and the metropolitan (national-level) exam in 1838, based on which we identify the quasi-classmate relationships between other successful examinees and Zeng. We collect the list on *Juren*, successful examinees at the provincial exam, from Jiang, Jing and Chen (2010), and *Jinshi*, the successful examinee at the national-level exam, from Zhu and Xie (1980). Specifically, 53 *Juren* in 1834 and 182 *Jinshi* in 1838 were directly connected with Zeng via quasi-classmate links.
- We identify the examiners of Zeng in the national-level exam: Mu Zhang-e, Zhu Shiyuan, Wu Wenrong and Liao Hongquan, who were Zeng's masters.
- We track all the other exams Zeng's examiners had supervised, and define the examiner-examinee relationship between these examiners and the *Jinshi* from all the other exams. Out of the four examiners of the 1838 national-level exam, two of them had served as the examiners of the other five exams. Specifically, Mu Zhang-e supervised the national-level exams in 1823, 1832, 1835 and 1845, Zhu Shiyuan in 1829 and 1832. In total, 1,138 *Jinshi* connected with the two examiners via examiner-examinee links and were, hence, indirectly connected with Zeng.
- We track the political path of the quasi-classmates of Zeng Guofan at the 1834 provincial exam. Out of the 53 quasi-classmates, Tang Lidu and Li Dechun passed the national-level exams and became *Jinshi*. We repeat the three steps above to construct the exam links for these two individuals. Tang Lidu passed the national-level exam in 1836, which made him connected with 163 quasi-classmates and four examiners (masters), Pan Shi-en, Wang Ding, Wu Jie, and Wang Zhi. Out of these four examiners, Pan Shi-en also supervised the national-level exams in 1832, 1840, and 1847, and Wang Ding in 1826 and 1841. Li Dechun passed the national-level exam in 1847, which made him connected with 225 quasi-classmates and four examiners (masters), Pan Shi-en, Du Shoutian, Fu Ji and Zhu Fengbiao. Out of the four examiners, Pan Shi-en also supervised the national-level exams in 1832, 1840, and 1847, and Du Shoutian in 1841. All together, 1,235 individuals (198 individuals have been counted in step 3) got indirectly connected with Zeng via Tang Lidu and Li Dechun.

Some individuals appeared multiple times in the exam links. In total, 2,414 unique individuals were directly or indirectly connected with Zeng Guofan via these exam links.

Kinship We collect information on the blood and marriage relationships from Zeng Guofan's Family Tree (Cheng 1997). Overall, 5 individuals were connected with Zeng via blood ties and 12 via marriages.

Friends The friend network of Zeng is obtained from the Chronicle of Figures in the Hunan Army (Mei 1997). In total, 29 individuals were mentioned as friends who helped Zeng in organizing the Hunan Army.

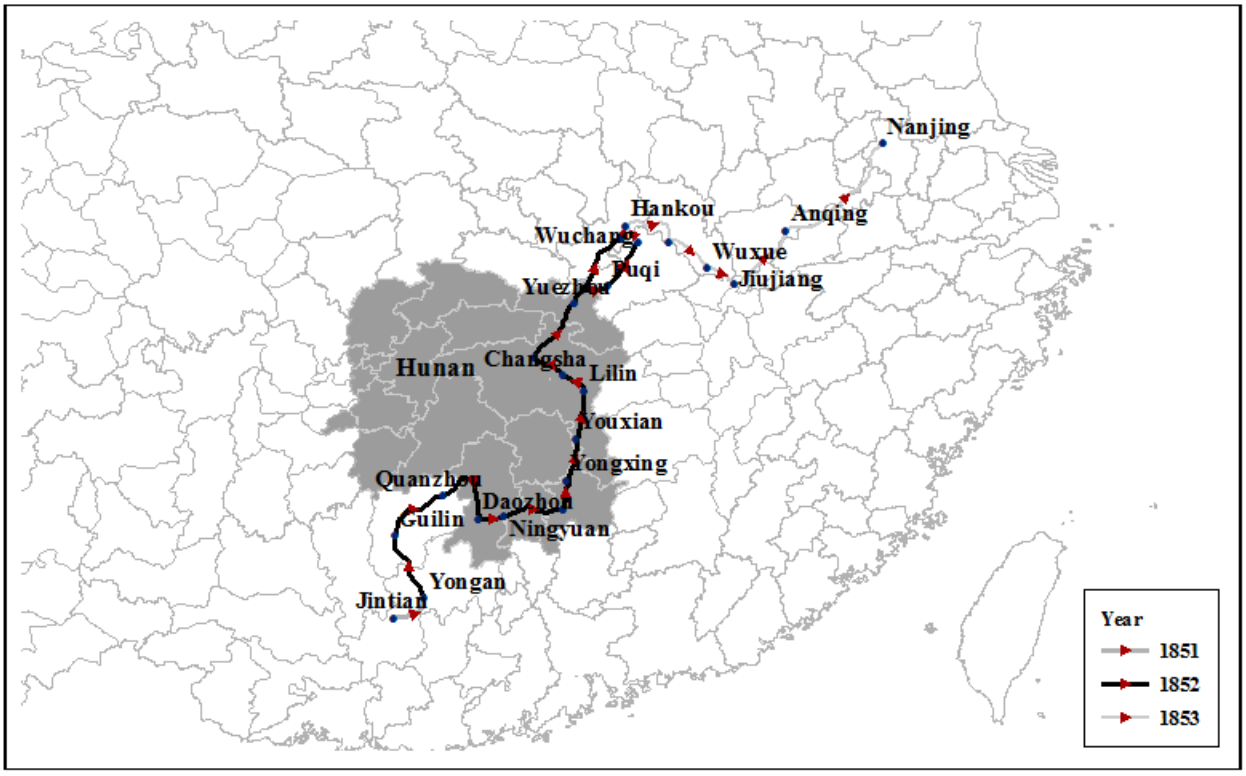
A.2 County-level Characteristics

Geography-economic factors By matching CHGIS V4 (2007) with county boundary in Qing Dynasty, we calculate the area of each county and construct a dummy indicating whether a county contains a major river using the ArcGIS software. Based on the calorie suitability index at 0.5-degree 0.5degree grid level from Galor and Özak (2016), we measure county-level calorie suitability as the average for all cells located in each county. For Hunan province, we collect the information on county population in 1820 from Zeng (1885). We obtain the county urban population in the mid-19th century from Skinner, Yue and Henderson (2008).

Political importance We collect information on the geolocation of prefecture capitals . If a county contains a prefecture capital, we term it a prefectural capital county. We use the county level quotas at the entry level exam and the number of Jinshi, the successful candidates at the highest level exam, to measure the influence of civil service exam. The quota information is obtained from Kun (1899), and the number of Jinshi from Cheng and Hsu (1980).

Taiping related factors The Taipings started in Guangxi province in 1850 and launched a crusade northward towards the rich provinces. Figure A.2 maps the route before 1854, which comes from Cheng and Hsu (1980). We consider whether a county is on this route and calculate a county's great circle distance to Nanjing – the Heavenly Capital.

Figure A.2. The Routes of the Taipings 1850-53



A.3 Elite Connections and Other County Characteristics

We examine the correlations between county-level elite connections and other county characteristics in A.3. Two patterns are worth noting. First county-level elite connections are not correlated with geographical variables, economic factors, or the Taiping routes. Second, elite connections are positively associated with a county's political importance, proxied by being a prefecture capital and the number of pre-war national-level exam graduates (*Jinshi*). This pattern begs a question whether our results capture a general eliteness of a county, which we address in different ways.

Table A.3. Elite Connections and Other Characteristics cross Counties
Dependent variable: $\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$

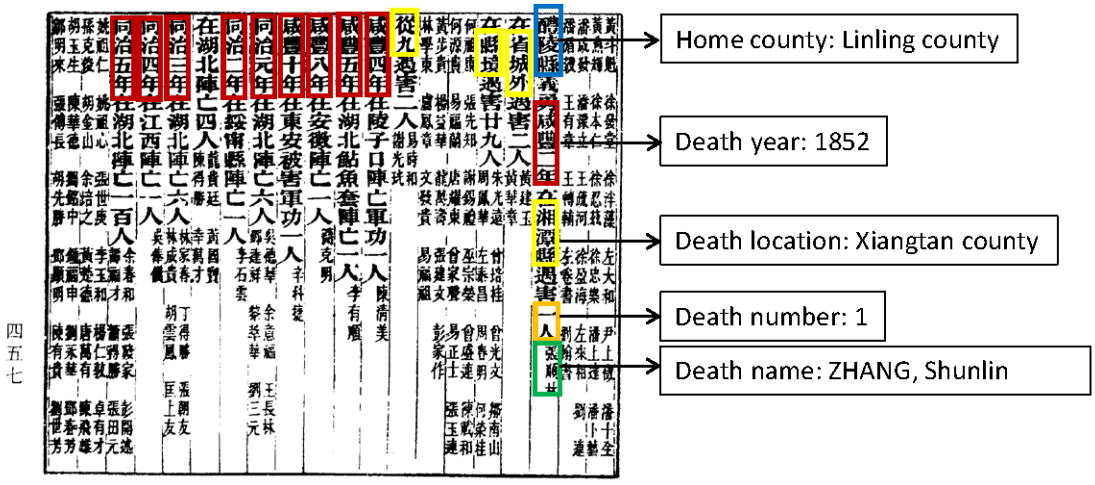
	(1)	(2)
Sample	Hunan	All
ln Calories suitability	-1.266	0.018
	(2.863)	(0.022)
Main river dummy	-0.171	0.083
	(0.514)	(0.187)
ln Area	1.000	-0.756
	(3.106)	(0.868)
ln Population	-0.424	1.177*
	(0.613)	(0.637)
ln Urban population	0.084	-0.071*
	(0.258)	(0.039)
Prefecture capital	3.123***	0.786***
	(1.104)	(0.225)
ln Number of Jinshi	0.674**	0.527***
	(0.336)	(0.164)
ln Quotas for the entry-level exam	-0.734	-0.385
	(1.131)	(0.698)
ln Distance to Nanjing	-0.356	-1.051
	(3.856)	(1.007)
Along the route of Taiping, 1850-53	-0.428	0.156
	(0.903)	(0.477)
Observations	75	1,646
R-squared	0.752	0.241

Note. All standard errors are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

A.4 Soldier Deaths

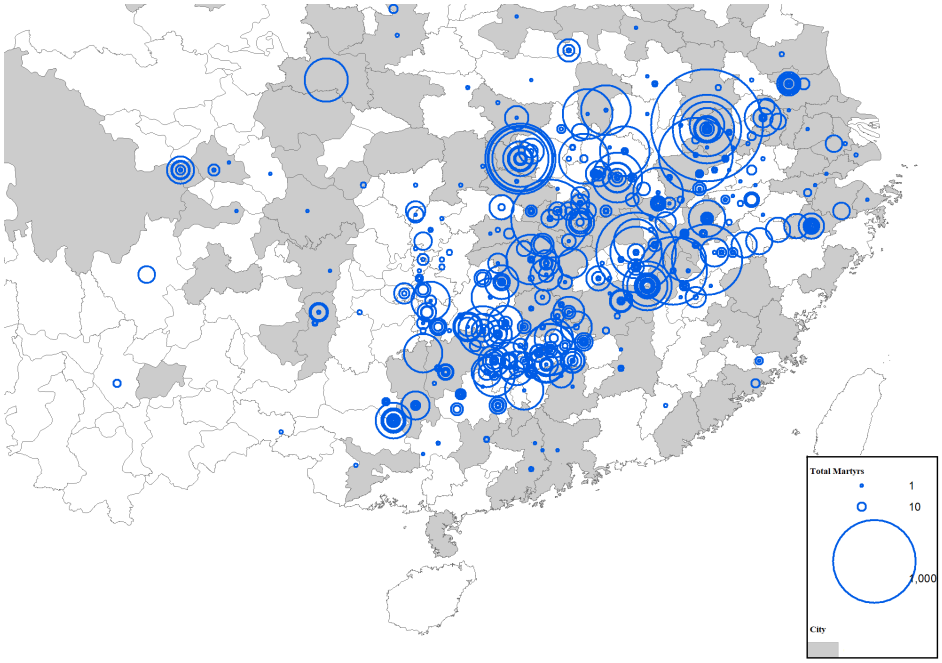
The Hunan Gazetteers (Zeng 1885) list all the soldiers who died during the Taiping rebellion by county and year. The figure below presents an example of the records.

Figure A.4. (a) Records on Soldier Deaths



We use this information in several ways. First, we calculate the total number of soldier deaths at the county-year level. Second, based on the surname information, we calculate the total number of soldier death at county-surname-year level. Third, using the information on battle location, we know the number of soldier death at county-battle level. During 1850-64, the Hunan Army and the Taipings fought at least 694 battles across 11 provinces, as mapped in the figure below.

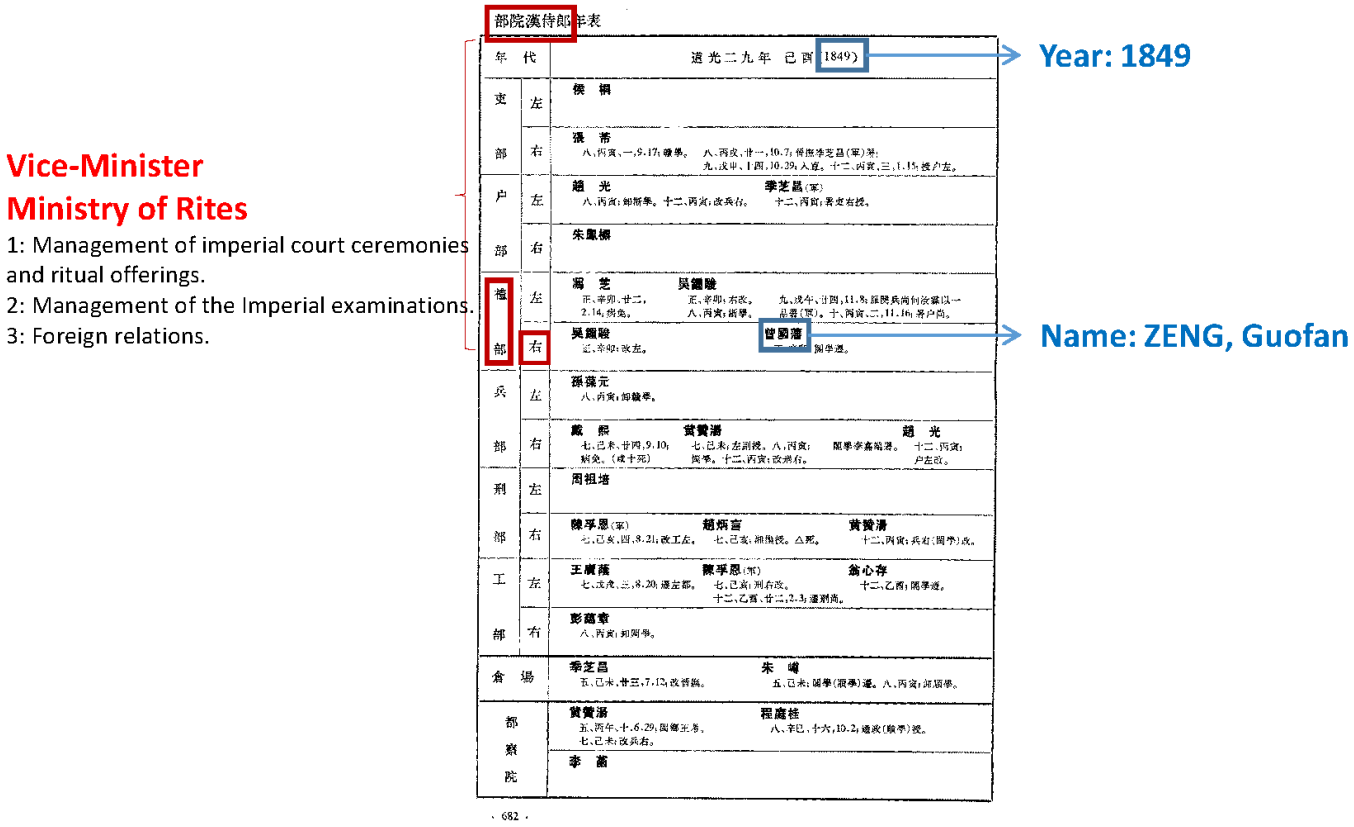
Figure A.4. (b) Map of the Battles 1850-1864



A.5 National-level Offices

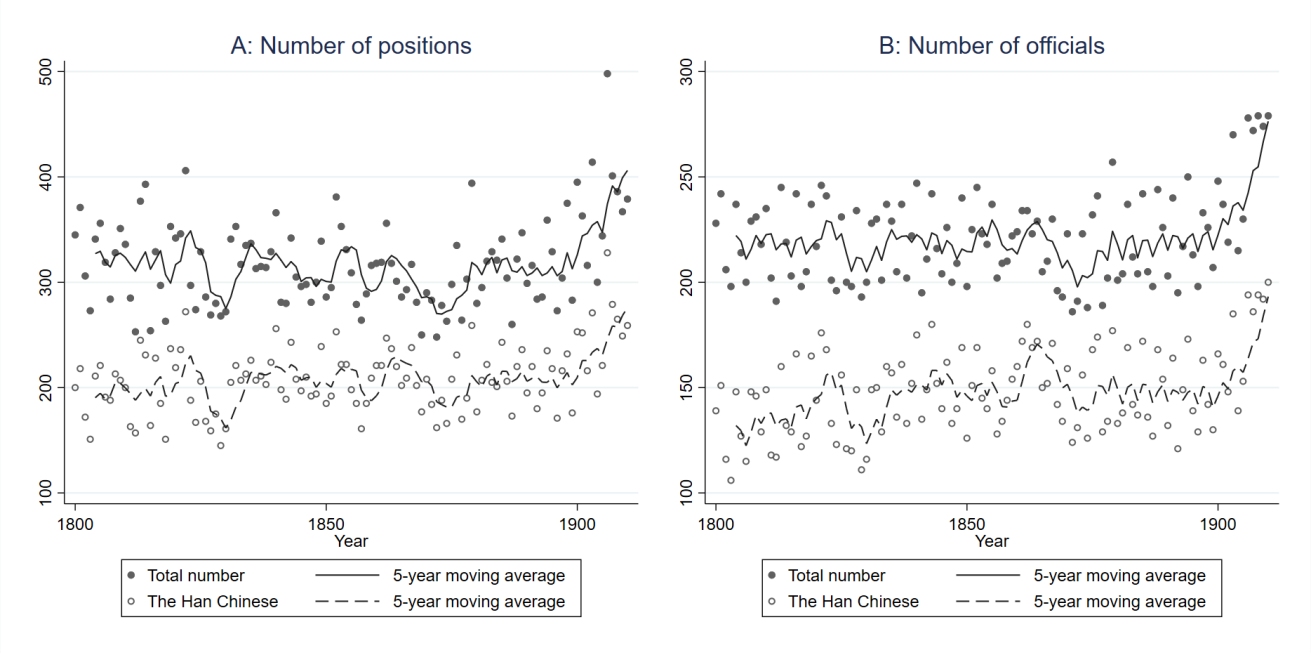
We collect data on national-level offices and officials from *The Chronicle of Officials in the Qing Dynasty* (Qian 2005). Figure A.5 presents an example of the records.

Figure A.5. (a) Records on National-level Offices



Based on the records, we construct a database for national-level offices during 1820–1910. As shown in A.5, the number of national-level offices was relatively stable over time. Based on the hometown county information provided in Qian (2005), we obtain the total number of offices at county-year level. Our analysis focuses on the Han officials for both data and conceptual reasons. On the data side, the Manchu officials originated from the Manchu region, which is not included in main analysis. On the conceptual level, the civil service exam was the channel to recruit Han officials, whereas the Manchu elites – a tiny share of the population – could gain power without taking the exam.

Figure A.5. (b) Number of National-level Offices and Officials Over Time



B More Results on Elite Networks and Soldier Deaths

B.1 Elite Networks and Soldier Deaths: Year-by-Year Estimates

We report the year-by-year estimates on how elite connections affect soldier deaths in Table B.1, using 1853 as the reference year. These estimates are visualized in Figure 4 in the main text.

Table B.1. Yearly Effects of Elite Connections
Dependent variable: ln(Deaths+1)

Elite connections measured by:	$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$	N_c
	(1)	(2)
Elite connections×1850	-0.006	0.008
	(0.053)	(0.034)
Elite connections×1851	-0.017	-0.001
	(0.050)	(0.032)
Elite connections×1852	0.031	0.026
	(0.085)	(0.057)
Elite connections×1854	0.259***	0.200***
	(0.085)	(0.059)
Elite connections×1855	0.214*	0.156*
	(0.113)	(0.080)
Elite connections×1856	0.137	0.107
	(0.118)	(0.082)
Elite connections×1857	0.263***	0.198***
	(0.089)	(0.062)
Elite connections×1858	0.291***	0.206***
	(0.087)	(0.060)
Elite connections×1859	0.240***	0.187***
	(0.086)	(0.059)
Elite connections×1860	0.217**	0.177***
	(0.085)	(0.059)
Elite connections×1861	0.217***	0.167***
	(0.081)	(0.057)
Elite connections×1862	0.260***	0.189***
	(0.085)	(0.058)
Elite connections×1863	0.270***	0.196***
	(0.084)	(0.061)
Elite connections×1864	0.287***	0.205***
	(0.082)	(0.065)
County FE	Y	Y
Year FE	Y	Y
Pref. FE×Year FE	Y	Y
Controls×Post	Y	Y
Observations	1,125	1,125
R-squared	0.535	0.534
Number of counties	75	75

Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

B.2 Elite Networks: Alternative Definitions

Our finding holds if we expand our elite network definition to including marriages and friends, as reported in Columns (1)-(4) of Table B.2. Moreover, because those who passed the national-level

(metropolitan) exams were promised a political career, we expect the links formed there to be more important. Indeed, this is the case, as reported in Columns (5)-(8).

Table B.2. Expanded Network Connections and National-level Exam Connections
Dependent variable: ln(Deaths+1)

	Expanded networks				National-level exam only			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post	0.180***	0.171***			0.607***	0.757***		
	(0.031)	(0.039)			(0.144)	(0.275)		
$N_c \times$Post			0.126***	0.124***			0.292***	0.310**
			(0.022)	(0.027)			(0.070)	(0.144)
County FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Pref. FE$\times$Year FE		Y		Y		Y		Y
Controls$\times$Post		Y		Y		Y		Y
Observations	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125
R-squared	0.196	0.535	0.197	0.536	0.177	0.530	0.174	0.527
Number of counties	75	75	75	75	75	75	75	75

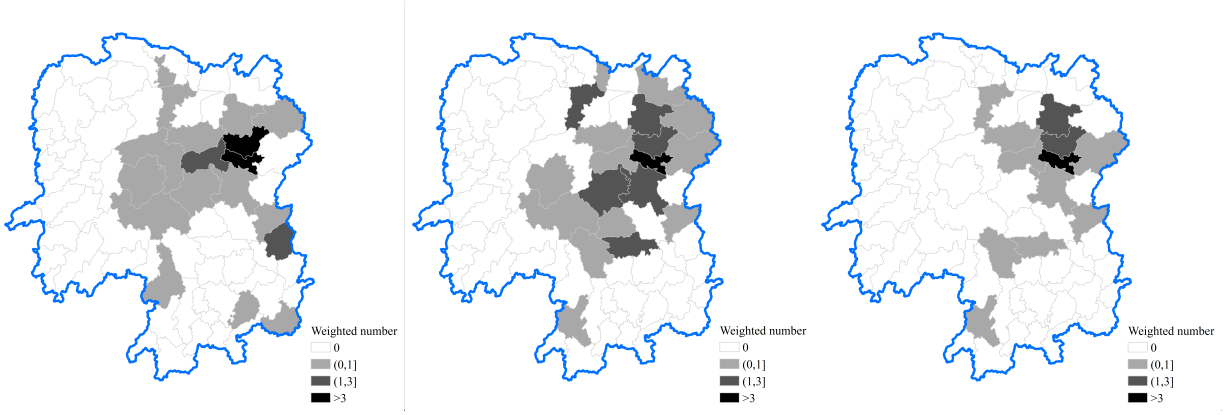
Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

B.3 Placebo Networks

The timing of the exam provides us natural placebo tests. Zeng Guofan passed the national-level exam in 1838. This exam took place twice every three years. We construct two fake networks, by assuming Zeng passed the previous national-level exam (1836) or the following one (1840). As shown in B.3, the county-level connections would be different.

Figure B.3. Maps of Real and Faked National-level Exam Networks

(a) Actual: passed in 1838 **(b)** Placebo I: passed in 1836 **(c)** Placebo II: passed in 1840



B.4 Soldier Deaths: Prob. of Missing Years vs. Elite Connections

In the soldier death records, 14% missed year information. We examine whether the missing probability correlates with elite connections and find it not to be the case. Table B.4 reports the results using the probability of soldier deaths with missing years to the total soldier deaths as the dependent variable.

Table B.4. Elite Connections and Data Missing
Dependent variable: Share of missing years

Elite connections measured by:	$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$				N_c			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connections	0.003	-0.003	0.014	0.010	0.002	-0.002	0.010	0.008
	(0.003)	(0.004)	(0.013)	(0.013)	(0.003)	(0.003)	(0.009)	(0.009)
ln (Total soldier deaths during 1850-64)		0.030***		0.022		0.030***		0.022
		(0.011)		(0.021)		(0.011)		(0.020)
Controls			Y	Y			Y	Y
Prefecture FE			Y	Y			Y	Y
Observations	74	74	74	74	74	74	74	74
R-squared	0.003	0.098	0.283	0.307	0.003	0.098	0.283	0.003

Note. Since one county has no soldier deaths during the Taiping Rebellion, the total observation number is 74.
Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

B.5 Soldier Deaths: Degree-Holders vs. Commoners

We find similar magnitudes on the deaths of individuals with and without exam degrees, as reported in B.5. Since those with degrees are unlikely to be missed, the finding suggests that measure error in soldier deaths is not a critical concern for our findings.

Table B.5. The Impact of Elite Connections on Soldier Deaths: Degree-Holders vs. Commoners

Dependent var. (standardized)	ln (Commoner deaths +1)		ln (Gentry deaths +1)	
	(1)	(2)	(3)	(4)
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times$Post	0.145***		0.132*	
	(0.045)		(0.071)	
$N_c \times$Post		0.105***		0.091*
		(0.033)		(0.054)
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Pref. FE$\times$Year FE		Y		Y
Controls$\times$Post		Y		Y
Observations	1,125	1,125	1,125	1,125
R-squared	0.532	0.532	0.348	0.347

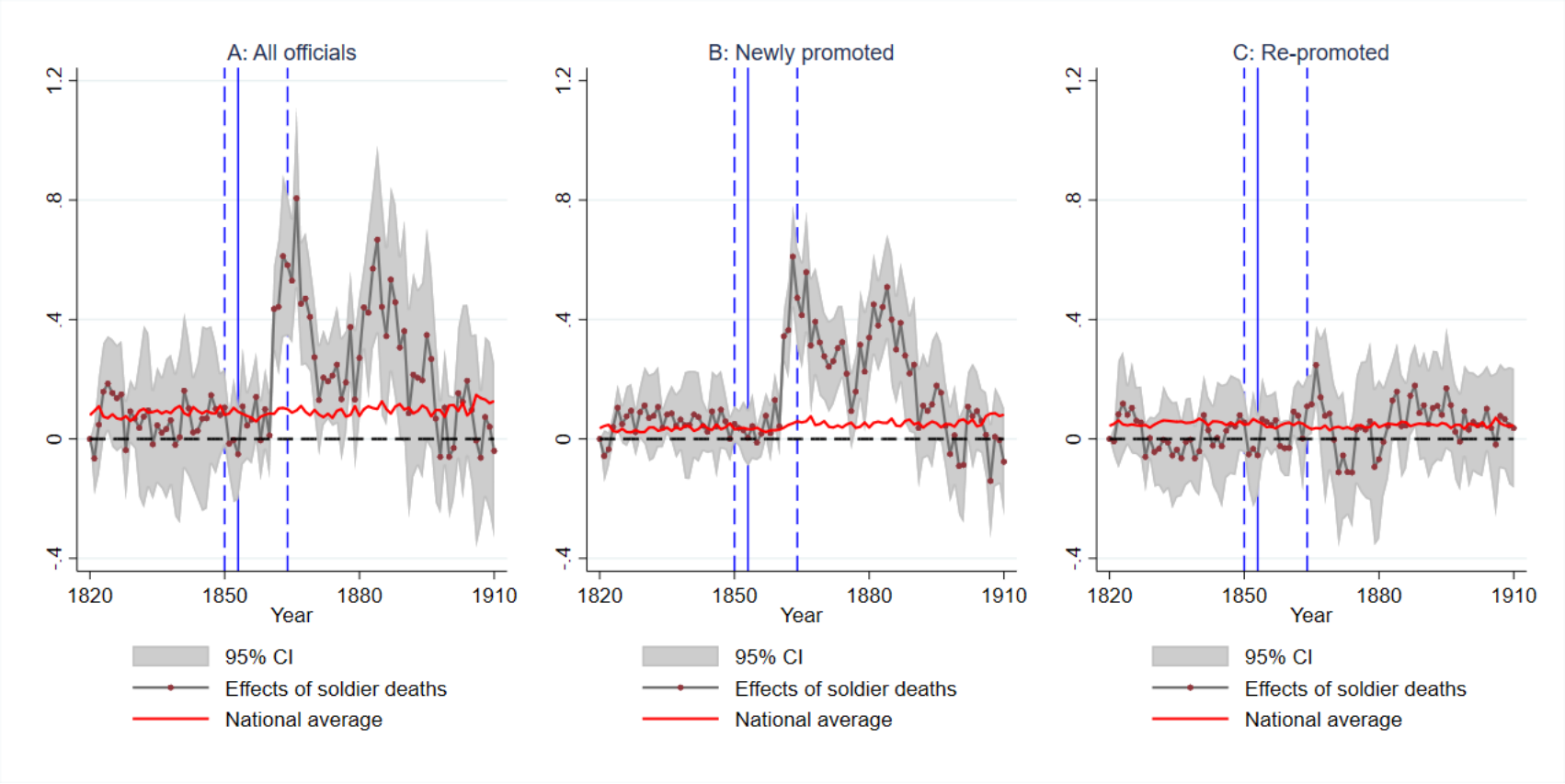
Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

C More Results on Soldier Deaths and Elite Power

C.1 Understanding the Fluctuation of the Power Impact

To examine whether the dynamic fluctuation pattern is driven by a fixed group or different cohorts, we differ two groups of individuals: (1) those who obtained national-level office only once, and (2) those with multiple switches. We find that our finding is driven by (1), implying that the fluctuating patterns are driven by multiple cohorts.

Figure C.1. Understanding the Fluctuation of the Power Impact



Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

C.2 Elite Networks: Placebo Networks

Our finding on how soldier deaths benefits the elites holds if we focus on the national-level exam connections, as shown in Column (1) of Table C.2. Columns (2)-(4) show that placebo connections by assuming Zeng succeeded in previous or next national-level exam cannot explain our finding.

Table C.2. The Impact of Network-induced Soldier Deaths and Elite Power: Placebo Networks
Dependent variable: Number of national-level offices

	(1)	(2)	(3)	(4)
Natl-level exam connect.×Hunan×1854-1910	0.195***			0.351***
	(0.042)			(0.107)
Natl-level exam connect×1854-1910	0.022			0.019
	(0.021)			(0.035)
Placebo exam connect. I×Hunan×1854-1910		0.563		0.609
(assuming Zeng passed the previous exam)		(0.487)		(0.496)
Placebo exam connect. I×1854-1910		0.020		-0.059
		(0.022)		(0.050)
Placebo exam connect. II×Hunan×1854-1910			0.013	-0.327***
(assuming Zeng passed the next exam)			(0.029)	(0.076)
Placebo exam connect. II×1854-1910			0.024	0.067
			(0.021)	(0.046)
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Controls×1854-1910	Y	Y	Y	Y
Observations	149,786	149,786	149,786	149,786
R-squared	0.383	0.384	0.383	0.385

Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

C.3 Soldier Deaths: Placebo Deaths

Soldier deaths before 1854 were not driven by the elite network we characterize, and thus, do not reflect war mobilization by the elites in the network. We find that soldier deaths before 1854 are not associated with an increase in elite power, as shown in Appendix Table C.3.

Table C.3. The Impact of Network-induced Soldier Deaths and Elite Power: Placebo Deaths
Dependent variable: Number of national-level offices

	(1)	(2)	(3)
Soldier deaths$_{1854-64}$ (sd)×1854-1910	0.502***		0.502***
	(0.119)		(0.119)
Soldier deaths$_{1850-53}$ (sd)×1854-1910		0.030	0.022
		(0.049)	(0.037)
Connections×1854-1910	0.010	0.014	0.010
	(0.011)	(0.011)	(0.011)
Hunan×1854-1910	-0.006	0.129	-0.013
	(0.029)	(0.089)	(0.028)
County FE	Y	Y	Y
Year FE	Y	Y	Y
Controls×1854-1910	Y	Y	Y
Observations	149,786	149,786	149,786
R-squared	0.392	0.383	0.392

Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.

C.4 Comparison Provinces: Alternative Groups

In our main analysis, the 2,282 connected elites come from all of the 18 provinces in the Qing dynasty. Our finding holds even if we focus on various subgroups of provinces as the comparison, as reported in Table C.4.

Table C.4. The Impact of Network-induced Soldier Deaths and Elite Power: Varying Comparison Provinces

	(1)	(2)	(3)	(4)	(5)	(6)
Hunan vs.	Other prov. along the Taiping Route		Neighbor provinces		Huai Region	
Dependent var	First-stage Soldier deaths$_{1854-64}$(1K)	Second-stage Natl-level offices	First-stage Soldier deaths$_{1854-64}$(1K)	Second-stage Natl-level offices	First-stage Soldier deaths$_{1854-64}$(1K)	Second-stage Natl-level offices
Soldier deaths$_{1854-64}$(1K)×1854-1910		0.317***		0.284**		0.328**
		(0.096)		(0.114)		(0.152)
Connections×Hunan×1854-1910	0.253***		0.254***		0.277***	
	(0.018)		(0.018)		(0.027)	
Connections×1854-1910	0.008	-0.021	0.013	-0.019	-0.004	-0.025
	(0.006)	(0.021)	(0.014)	(0.029)	(0.011)	(0.034)
Hunan×1854-1910	0.281**	-0.068	0.250*	-0.011	0.860*	-0.091
	(0.138)	(0.050)	(0.129)	(0.052)	(0.499)	(0.228)
County FE			Y	Y	Y	Y
Year FE			Y	Y	Y	Y
Controls×1854-1910			Y	Y	Y	Y
Observations	43,225	43,225	31,122	31,122	18,928	18,928
First-stage F-test	208.8		195.1		103.1	

Note. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. ***: significant at 1%, **: significant at 5%, *: significant at 10%.