Encouraging Others: Punishment and Performance in the Royal Navy[*]

Joachim Voth
University of Zurich
& CEPR

Guo Xu
UC Berkeley,
Haas School of Business

This version: March 7, 2020

Abstract

Can severe penalties "encourage the others"? Using the famous case of the British Admiral John Byng, executed for his failure to recapture French-held Menorca in 1757, we examine the incentive effects of judicial punishments. Men related to Byng performed markedly better after his unexpected death. We generalize this result using information from 963 court martials. Battle performance of captains related to a court-martialed and convicted officer improved sharply thereafter. The loss of influential connections was key for incentive effects – officers with other important connections improved little after Byng's execution or other severe sentences.

Introduction

In 1756, a British fleet under the command of Admiral John Byng was sent to recapture the Mediterranean island of Menorca from French forces, which had recently occupied it. After an indecisive naval battle, the British fleet withdrew to Gibraltar. In the court-martial that followed, Byng was charged with neglecting his duty – he had failed to "do his utmost" to recapture the island. In accordance with the Articles of War, he was convicted and sentenced to death. To the astonishment of almost all observers, King George II refused to pardon Byng. He was shot on board *HMS Monarch* on March 14, 1757. Voltaire's novel *Candide* describes the event in a fictionalized exchange: Candide asks "And why kill the Admiral?"; Martin replies "...he did not kill a sufficient number of men himself... It was proven that he was not near enough [the French Admiral]. In this country, it is thought wise to kill an admiral from time to time *to encourage the others*." (Voltaire, 1759/2005) [our emphasis]

The phrase "pour encourager les autres" has passed into everyday parlance. It is typically used ironically, to argue that someone is being punished to spur greater efforts by others. While the phrase and concept are famous,[1] there is little evidence that "encouraging the others" through exemplary punishments works – either in the 18th century Royal Navy or in general. Altruistic punishment may play an important role in sustaining cooperation (Fehr and Gächter, 2002). At the same time, punishment and other negative rewards can crowd-out intrinsic motivation (Fehr and Rockenbach, 2003; Gneezy and Rustichini, 2004). When it comes to crime, harsher punishments should deter offenders (Becker, 1968).[2] However, the evidence that poor prison conditions reduce crime rates is mixed, and the disincentive effect of the death penalty is arguably weak (Chalfin and McCrary, 2017).[3] In the military itself, there is also no clear support for the notion that "encouraging the others" results in better performance (Chen, 2016).

In this paper, we first examine the effect of Admiral Byng's execution on the behavior of British naval officers. Using newly-collected data on the combat performance of more than 3,000 captains, we show that men with close ties to Admiral Byng fought much harder after

---

[1]Google lists 598,000 results for "pour encourager les autres", 6.8 million for "encouraging the others", and Google Scholar references more than 1,600 academic writings using the phrase.

[2]The idea that punishment serves a utilitarian purpose goes back to the philosophical and legal writings of Bentham (1830) and Blackstone (1767/2017).

[3]See Katz et al. (2003); Mocan and Gittings (2006); Chen and Shapiro (2007); Donohue and Wolfers (2006). One important exception is evidence that greater strictness in sentencing influences criminal behavior by members of family and criminal networks (Bhuller et al., forthcoming).

his execution than before it. We then use newly-digitized data on 963 court martials of other officers to show that "guilty" verdicts in general spurred greater action by those connected to the officer in question. This holds both for family relations and professional "followers" (i.e. men who had served with or under the court-martialed officer previously).

Two mechanisms could be at work. Either the punishment is more salient for those connected to the court-martialed officer, convincing men to take more risks and fight harder – perhaps because they feel they might be next. Alternatively, the loss of an influential patron could mean that they have to rely more on performance (and less on connections) for career progression.[4] To pin down mechanisms, we collect data on *other* patrons of treated officers. Captains who were connected to other influential officers did not change their behavior after a connected officer's court-martial; but those that had no other obvious patron suddenly began to distinguish themselves markedly more than before. Similarly, if the court-martialed officer with whom they were connected was more senior, subsequent performance improved; but if he was junior to the officer in question, there was no change. These results suggest that "encouraging the others" worked, but for reasons that are distinctly different from the general deterrent effect implied by the phrase. Court-martials of mentors pushed (genetically or professionally) connected officers with few other patrons to perform because they nullified the value of pre-existing connections, increasing the incentives to win glory.[5]

1 Historical background

1.1 The Royal Navy and Naval Warfare during the Age of Sail

By 1815, the Royal Navy ruled the waves. From relatively modest beginnings in the 16th century, it had become by far the largest and most successful navy the world had ever seen, with close to a thousand ships sailing the seas, manned and maintained by over 125,000 men at its peak. During the Napoleonic Wars, it was crucial for Britain's eventual triumph. In naval battle after naval battle, it outfought its enemies, routinely inflicting losses on a scale of 7:1 or 10:1 on its enemies (Rodger, 2005; Allen, 2002; Robson, 2015). Between 1700 and 1900, the Royal Navy's victories were crucial in building the largest empire in world

---

[4]Some of the gain in performance may reflect a deliberate attempt to find new patrons.

[5]This finding is similar to the results in Bhuller et al. (forthcoming), but documents the incapacitation effect stemming from the loss of an influential connection.

history (Kennedy, 2010).

Many factors contributed to the Royal Navy's success – but technological advantage was not one of them. British-built ships were often inferior to French, Dutch or Spanish vessels; guns were near-identical. Human capital, however, was often superior. Naval officers – in contrast to those in the army – often came from middle class backgrounds, and had to pass exams before becoming captains. Noble blood – in contrast to the French Navy, or the British Army – counted for little in promotion decisions (Rodger, 1986). Britain's navy could also draw on large reserves of manpower in the merchant navy.

There is ample evidence that Royal Navy crews were more experienced, and better-disciplined, than those of other navies, showing superior seamanship and better gunnery (Allen, 2002; Robson, 2015; Rodger, 1986). Naval battles normally involved groups of battleships ("ships of the line") sailing close to each other. Such ships would carry from 50 to over 100 guns. In engagements at sea, often fought at distances of a few dozen yards, ships would use broadsides (the simultaneous discharge of cannons on one side) until one of the vessels was sunk or surrendered.

For an officer's prospects, both performance and connections mattered. Boys with "interest" (i.e. connections to high-ranking officers and admirals) would often start their careers as captain's servants, aged 12 or so. They would then progress to become midshipmen, and - after an exam emphasizing navigation, seamanship, and gunnery - be promoted to lieutenant. The key step in a naval career was promotion to post-captain – the commander of a large warship, of 20 guns or more (Pope, 2013; Rodger, 2005). Only about one third of lieutenants were eventually promoted. Once a post-captain, all assignments and promotions were principally based on seniority. Men with a poor reputation could, however, find themselves assigned to unattractive missions, sent to unhealthy islands, or on half-pay (i.e. as captains without a ship, receiving half their normal pay). Prior to promotion to post-captain, both employment and promotion prospects were highly uncertain. Performance mattered thereafter, too: Fighting prowess as a captain could accelerate promotion to commodore and admiral, as it did in the case of famous officers like Horatio Nelson. However, being connected to leading officers was also important for promotion (Voth and Xu, 2020).

1.2 The Battle of Menorca

After the outbreak of the Seven Year's War, French forces landed on Menorca. The Balearic island was a key outpost of the Royal Navy. The British forces retreated into their fortress, St. Philip's Castle. As soon as news of the landing reached London, the Admiralty dispatched a British fleet under Admiral Byng. Byng was born in 1704, the son of an admiral and naval hero, and joined the navy aged 14. Aged 23, he was promoted to captain of a ship with 20 guns. Thereafter, he commanded battleships for almost two decades, before becoming an admiral in 1745 (Robson, 2015; Baugh, 2008).

Upon receiving orders to relieve the Menorca garrison and retake the island, Admiral Byng first sailed to Gibraltar, and then to Menorca. There, the British and French fleets met on the morning of May 20, 1756. From the outset, Byng had misgivings about the chances of success. The British had 13 ships of the line, the French 12. The British fleet manoeuvred into an advantageous position, and the leading ships started to exchange fire with enemy vessels. However, many of the British ships failed to close with the French after one ship suffered damage to its mast – following vessels stopped to avoid collision, and did not enter the battle. Byng's own flagship did not participate in the fighting at all (Dull, 2007).

The final outcome was that the French fleet withdrew – but Byng did not land the infantry intended to strengthen the Menorca garrison. At a council of war with his captains, he decided to return to Gibraltar. Eventually, the British fortress garrison on Menorca surrendered to the French. In Britain, there was public outrage at Byng's failure to recapture the island. Once in Gibraltar, he was arrested and sent to Britain. A court-martial in January 1757 found him guilty of not "doing his utmost" to defeat the French. At the same time, the court recommended him to the mercy of the King. After extended public debate, the King refused to commute the sentence, and Byng was executed aboard *HMS Monarch* on March 14, 1757.

1.3 Naval Discipline

In the Age of Sail, many engagements at sea were indecisive. In chance encounters between ships, captains trying to avoid battle often pointed to their disadvantageous position. In larger engagements, lines of ships were slow to form up, and battles could be cut short by the weather. Time and again, captains would decide not to engage because of concern about being outgunned, short of shot, or in a poor position relative to the wind. Attempts

to evade battle were common enough for the leading historian of the Royal Navy to observe:

> "The [Royal] Navy during the Seven Years' War had a real problem of cowardice. It was not so bad as it had been earlier in the century, but it remained a source of intermittent anguish... and was several times the cause of serious failures in action... the three ranks in question were admirals, commanders and masters." (Rodger, 1986, p.244)

Discipline in the Royal Navy – like all other navies in the Age of Sail – was harsh. Captains had extensive powers over their men. Floggings were a regular occurrence. Many violations according to the Articles of War carried the death penalty. Discipline for captains themselves was also severe. In contrast to common practice in other navies, Royal Navy regulations in general were carefully designed to force its captains to fight (Allen, 2011). The *Articles of War* laid down a set of fighting instructions compelling commanding officers to engage the enemy (see Appendix A.1 for an extract). British captains could be court-martialed if they failed to attack enemy vessels as long as they were not clearly out of their own class. While frigates were not required to engage battleships, British ships were expected to attack and defeat enemy ships even if the latter had 50% greater firepower (Allen, 2002). Captains who failed to engage in a naval battle without good reason were routinely court-martialed, convicted, and never served again at sea.[6]

Court martials were common throughout the age of sail. Loss of ship – whether to the enemy or shipwreck – automatically resulted in a trial (Hannay, 1914). The court – composed of Royal Navy captains – would question witnesses, hear evidence, and examine documents before pronouncing its verdict. Most of the accused would be exonerated – a reflection of a system stipulating automatic court martials for loss of every ship. Convicted captains could be sentenced to death. Most convictions resulted in milder sentences, but the captain would routinely be "broken" – he would lose his seniority, putting him at the bottom of the list of captains. In effect, he would be banned from ever commanding a navy ship again.

At his trial, Admiral Byng was judged to have violated the *Articles of War*. Historians have emphasized that the rules laid down in the *Articles of War*, and their stringent application to officers – including highly ranked ones like Byng – created

> "a culture of aggressive determination which set British officers apart from their for-

---

[6]A good example is Captain John Williamson, of the *Agincourt*, who failed to engage during the battle of Camperdown in 1797 (Robson, 2015).

eign contemporaries, and which in time gave them a steadily mounting psychological ascendancy. ... British officers encountered opponents who expected to be attacked, and more than half expected to be beaten, so that [the latter] went into action with an invisible disadvantage which no amount of personal courage or numerical strength could entirely make up for (Rodger, 1986)."

1.4   An illustrative example

The case of Admiral Byng's most prominent follower, his flag-captain Arthur Gardiner, illustrates how "encouraging others" worked. Gardiner commanded Admiral Byng's flagship *Ramillies* at the Battle of Menorca in 1756. He also gave evidence during the court martial, supporting Byng. Lord Anson, First Lord of the Admiralty, thought that both Byng and his officers had brought disgrace on the Royal Navy. After the guilty verdict and execution of Byng, Gardiner was in command of a smaller battleship, the *Monmouth*, with 64 guns. In 1758, his ship encountered a French vessel, the *Foudroyant*, with 80 guns (Rodger, 1986). To redeem his standing as a naval officer, and despite facing an enemy with almost twice the firepower of his own ship, Gardiner decided to attack.[7] Gardiner himself was shot and killed during the ensuing battle, but the *Foudroyant* eventually surrendered.

Captain Gardiner fought a much more powerful ship after Admiral Byng's conviction. This case demonstrates that, after Byng was made an example of, at least some of his followers fought harder. If connections and performance are substitutes, we should expect this reaction – an exogenous negative shock to a captain's position, influence, and prospects of attractive postings and promotions will incentivize him to find other ways of improving his standing.

2   Data

Personnel and performance. To construct our officer-level panel, we draw on data from Threedecks, a web resource featuring detailed information on vessels, crews, and naval actions. Threedecks constitutes the most comprehensive data source on the personnel and ships of the Royal Navy and on fighting events during the Age of Sail.[8] Threedecks has

---

[7]The *Monmouth* fired a broadside of 228 kilograms, whereas the *Foudroyant* had one of 440 kilograms.
[8]The Royal Maritime Museum in Greenwich lists it as a standard reference.

assembled data on 25,229 ships, 33,959 seamen, and 1,022 actions and battles among European sea powers (the major ones being British, French, Spanish, Dutch and Portuguese).[9]

Our core dataset is based on work by Voth and Xu (2020) and covers 5,848 British officers (lieutenants, commanders, post-captains and admirals) and their assignments to 3,904 Royal Navy ships during the years 1690-1849. Because we perform event studies, we limit the sample to a balanced panel of officers around the court-martials of interest. When studying the execution of Admiral Byng in subsection 3.1, for example, we transform the panel into a high-frequency monthly panel, focusing on the 206 officers active throughout the period 1756-58. For the analysis of all court-martials, the balanced panel covers 3,005 officers in three year windows around 963 court-martial events.

Outcomes can be readily measured in this setting. Our dataset contains detailed information on the number of enemy ships captured or destroyed, the number of military actions in which a ship participated, and whether the ship itself was captured, wrecked, or sunk. We follow Voth and Xu (2020) and combine the number of captures, ships destroyed, and actions joined into a composite measure of performance.[10]

Measuring connections. We measure connections using pre-determined family ties following the methodology of Xu (2018). In brief, we match the officers with the Peerage dataset, a genealogical database that contains the family tree data of the British elite. For any court-martialed officer, we compute the degrees of separation (by consanguinity) to all officers who are serving around the time of the trial. We define two officers to be connected if their degrees of separation is less than 16. This is the same cut-off used in Xu (2018) and Voth and Xu (2020). Results are robust to using alternative cut-offs.[11] Finally, we also leverage the rich personnel data to construct a measure of on-the-job ties. We define two officers to share a tie if they have previously served on the same ship in the same year.[12]

Table 1 provides descriptive statistics for the 206 officers for which we have data around the execution of Admiral Byng. We compare the differences between Byng's kins to non-kins pre-execution (up to 1756) and post-execution (1757-1758). By our measure, 19% of offi-

---

[9]These numbers are correct as of September 2018 – the date when we downloaded the relevant data.

[10]To validate this measure, Voth and Xu (2020) show that higher performing officers are promoted more quickly to post-captain.

[11]Xu (2018) contains a detailed discussion of the construction and interpretation of this measure. We later test the robustness of our findings with respect to this measure.

[12]Ager et al. (2016) use the same definition to establish ties between WW II fighter pilots.

cers are connected to Admiral Byng. Given his aristocratic background, this is a reasonable share.[13] On average, Byng's kins and non-kins have served a comparable number of years. Prior to his execution, they also do not differ significantly in their capture rate, the number of enemy ships sunk and actions participated in, or the combined measure thereof (battle performance). Post-execution, however, Byng-connected officers exhibit significantly higher capture rates and outperform unconnected kins. Connected captains command more frequently and are assigned slightly more powerful vessels before Byng's trial, but this is no longer true post-execution. Due to Byng's seniority and influence, his kins, however, hold higher positions in the navy: those connected to Byng are 18.3% points more likely to have become post-captains (i.e. be in independent command of warships).

Court-martials. We systematically collected data on court-martialed officers. For each officer in our dataset, we searched the Oxford Dictionary of National Biography as well as John Marshall's *Royal Naval Biography* – the authoritative historical compilation of naval careers – for mentions of court-martials. For officers without entries, we conducted an extensive online search. Overall, we identify 186 court-martials (including the famous case of Admiral Byng). In 53 of the cases, the court-martialed officer was convicted. To these we add the large number of automatic court-martials due to loss of a ship.[14]

The resulting total number of court-martials is 963. Since we are interested in studying the spill-over effects of the trials on the relatives of court-martialed officers, the main analysis restricts the total number of court-martials to the subset for which we can compute the kinship networks. The resulting dataset contains 168 trials, covering the court-martials of well-connected and more prominent officers. We leverage the full sample when generalizing the results using on-the-job ties as an alternative measure of connections.

---

[13]Byng's father was George Byng, ennobled as the 1st Viscount of Torrington. He served as Admiral of the Fleet and Treasurer of the Navy, and was twice elected as the Member of Parliament for Plymouth.

[14]We assume that, in the absence of information to the contrary, these resulted in acquittals. This assumption does not change our results, and we also report in Table A6 the results without the acquittals following the loss of a ship.

3   Results

3.1   Encourager les autres - Admiral Byng

To examine if others were encouraged by punishments, we compare the performance of connected and unconnected officers, before and after a guilty-verdict and/or punishment by a court-martial in the Royal Navy. Figure 1 illustrates the effect in the case of Admiral Byng.[15] Prior to March 1757, naval officers related to Admiral Byng did not outperform their peers. Immediately after his execution, however, the performance of connected officers spiked, increasing by a factor of 10 for three months. While the differential declines thereafter, it remains sizeable for the rest of the year. As we know from the case of Captain Gardiner, tainted by his association with Byng, some officers even two years later tried to redeem themselves.

We perform a simple balanced difference-in-difference analysis for the period 1756-58 to quantify the magnitude and establish the statistical significance of our findings.[16] Specifically, we estimate for outcome y_{it} of officer i in year-month t:

$$y_{it} = \beta \times \text{Byng\_kin}_i \times \text{Post}_t + \theta_i + \tau_t + \gamma' x_{it} + \varepsilon_{it} \qquad (1)$$

where y_{it} is the combined number of captures, ships sunk and actions participated in. The dummy Byng_kin_i is 1 if the officer is connected to Byng.[17] Post_t is a dummy that is 1 in the month following Admiral Byng's court-martial and execution. θ_i are officer fixed effects and τ_t are year-month fixed effects. x_{it} is a vector of individual controls which we will discuss subsequently. We cluster the standard errors at the officer-level.

Table 2 shows the regression results. Byng-connected officers do not outperform before Byng's execution – nor is there a general change in performance after March 1757 (column [1]). For connected officers, however, the average performance per month is suddenly 64% higher than average. The results are similar if we control for year and officer fixed effects (columns [2] and [3]). As Table 1 shows, officers connected to Byng are more elite and

---

[15]The coefficients are estimated using a flexible version of the specification in Table 2, column [3] where we allow the effect of the connectedness to Byng to vary for each month.

[16]The results also hold in an unbalanced panel.

[17]The results are also robust to transformations of the dependent variable such as a dummy for any capture, ships sunk or action, and the inverse hyperbolic sine transformation to address the large number of zeros. We verified the robustness of our results using negative binomial count models (Table A1).

higher ranked. While the individual fixed effects absorb such time-invariant differences, these level differences could nonetheless interact with the execution of Admiral Byng. In column [4], we interact all baseline covariates from Table 1 with the Post$_t$ dummy. The results remain virtually unchanged. Finally, we also consider the possibility that the measure of connectedness to Byng is – at least in part – capturing the general connectedness to the elite. To that end, we limit the sample to only those officers who are listed in the elite Peerage dataset (column [5]). Assuringly, we find the same results *within* the sample of the British elite. In other words, there is no evidence that those born with high status in general felt that their standing and status had now suddenly become more insecure, leading to greater efforts. Instead, the change in performance is specific to men related to Admiral Byng.

Robustness. The results are robust to different cut-offs for defining connectedness to Admiral Byng. In Figure A1, we report the estimates of Table 2 for cut-offs ranging from 12 to 20 degrees of separation. As expected, the effect declines with the degrees of separation. The results, however, remain statistically and economically significant throughout. We also provide robustness checks to ensure that the results are not driven by confounders. In theory, the greater performance of Byng-connected officers could be driven by more favorable assignments – either to easier tasks or to more powerful ships. This, however, is unlikely – relatives of an Admiral executed for cowardice would hardly be favored in their *subsequent* assignments. As Table A2, Panel A, column [1] indeed shows, kins of Admiral Byng are statistically not more likely to command a ship post-execution than non-kins; furthermore, conditional on being assigned a ship, kins of Admiral Byng command equally powerful vessels, as measured by their gun count (column [2]). Allowing the performance difference between Byng's kins vs. non-kins to vary by being given command thus does not affect the estimates (column [3]).

Another concern is that the observed effect could be driven by the Seven Year's War (1756-1763), which falls into the time period of our study. Of course, for Royal Navy captains to fight successfully, the country had to be at war. But it could be that the inital bout of naval fighting biases results in our favor. While the fact that the effect only appears in the immediate aftermath of the court-martial helps alleviate such concerns, we go a step further and also control for monthly variation in the overall conflict intensity *during* the war. As Figure A2 shows, conflict events – as measured by the total number of enemy ship captures, ships sunk and actions participated – spike during wars but there exists substantial within-war variation. In Table A3, column [1] we thus allow the performance

gap to vary by the total number of conflict events in a month. Reassuringly, the results do not change substantially, suggesting that the effect is indeed driven by connections with Admiral Byng.

3.2 Court-martials and the encouragement of others

Is "encouraging others" only effective in famous cases like that of Admiral Byng? Byng was by far the most high-ranking officer to be convicted (and executed) in British naval history – and his convinction came as a surprise. It is an open question whether similar effects could follow from the conviction of less-elevated officers. To go beyond a single case study, we draw on all Royal Navy court-martials during the period 1690-1849. This also allows us to go beyond kinship connections, and to look at broader measures of social ties – e.g. whether two officers have previously served on the same ship. Overall, we identify 963 court-martial trials. While this allows us to generalize the findings, a drawback of using lesser known cases is that details about the trials are less abundant. For example, we do not have the exact dates of all court-martial trials, allowing us to only conduct the event study at an annual level.[18]

Empirically, we proceed as before, comparing relatives to non-relatives before and after the court-martial trial. We pool all court-martial cases by "stacking" each event study, which we confine to a balanced 3 year window around each trial. For court-martial case c, officer i and the year around the court-martial event $t = \{-3, -2, ...3\}$ we estimate:

$$y_{ict} = \beta \times \text{Kin}_{ic} \times \text{Post}_{ct} + \gamma \times \text{Kin}_{ic} \times \text{Post}_{ct} \times \text{Guilty}_c + \theta_{ic} + \tau_{ct} + \kappa_{K(i,t)} + \varepsilon_{ict} \quad (2)$$

where Kin_{ic} is now a dummy if the officer i is connected to the court-martialed officer c. Post_{ct} is a dummy that is 1 in the year of the court-martial trial and thereafter ($t \geq 0$). Guilty_c is a dummy that is 1 if the court-martial c resulted in a guilty verdict, and 0 otherwise. This distinction is important as the average effect of a court-martial trial will mask substantial heterogeneity. While Admiral Byng was found guilty and executed, the majority of court-martial cases ended in acquittals, providing an additional source of variation.[19]

---

[18] As Table A4 shows, however, the effects of Admiral Byng's execution also hold on the yearly-level. This alleviates concerns that the level of analysis might affect the results.

[19] Convictions are an endogenous outcome, but we do not find much evidence that – conditional on a court-martial – those connected to guilty officers look substantially different from acquitted officers (see Table A5.), other than that they tend to command smaller ships and are less likely to have lost a ship (most officers who

Since officers can be exposed to multiple court-martial trials, we constrain the comparison to each officer × court-martial trial using the officer × court-martial FEs θ_{ic}. τ_{ct} are court-martial specific fixed effects for each year around the court-martial trial. $\kappa_{K(i,t)}$ are fixed effects denoting the years of tenure $k = K(i,t)$ for officer i in year t. We cluster the standard errors at the officer × court-martial level.

The regression results are reported in Table 3. Kins of court-martialed officers outperform post-trial when the accused officer was found guilty (column [1]). In contrast, kins of court-martialed officers underperform when the accused officer was acquitted.[20]

Next, we go beyond the kinship connections by looking at on-the-job ties that were established through officers serving on the same ship. In the Royal Navy, the relationship between the captain and the first lieutenant was a key pathway for patronage.[21] The use of on-the-job ties also has the added advantage that we can extend our sample substantially, going beyond those for whom peerage data on family ties is available. As column [2] shows, our main results are confirmed using on-the-job ties as an alternative measure of social connections. The size of these effects are large, but smaller than in the case of Admiral Byng. There, the guilty verdict led to an average performance increase by 118%, relative to the mean of the dependent variable.[22] Here, the average gain for all court-martials for relatives was 20%, and 50% for professional "followers". Finally, we combine both measures – connectedness by kin and previous service – to construct a composite measure that takes the value of unity if the officer was *either* a relative *or* had previously served with the officer. As column [3] shows, the results remain comparable. As before in subsection 3.1, we provide robustness checks to ensure that the results are not driven by a more favorable assignment for kins of guilty officers post-execution (Panel B, Table A2, columns [1]-[3], or confounded by wars (Table A3, columns [2]-[4].)[23]

Mechanisms. Two mechanisms could explain the observed incentive effect. If punishment is more salient for those connected to the court-martialed officer, a guilty ruling may incentivize related officers to exert more effort. Alternatively, a guilty ruling may weaken –

---

lost a ship were acquitted).

[20]These results are consistent with models of career concerns where connections and performance are substitutes (Jia et al., 2015; Xu, 2018).

[21]Many ties were formed even earlier. Since captains were responsible for manning their own ships, they often took the sons of friends and relatives on board at an early age. We have no systematic data on such connections.

[22]To ensure the magnitudes are comparable, we use the annual specification (Table A4, column [3]) to compare the coefficients.

[23]Again, is unlikely that kins of guilty officers would be favored after the court-martial verdict.

or in the case of Admiral Byng even destroy entirely – the influence of an existing connection. The loss of a powerful patron may thus induce officers to exert more effort in order to distinguish themselves. To investigate the channels, we split the sample by whether the court-martialed officer is senior or junior to the officer he is connected with, as measured by the years of seniority. If the increased performance is driven by the loss of a patron, we expect the observed effects to be driven by those officers whose guilty kin is indeed in a position of power. Consistent with the favoritism channel, the effect of a guilty court-martialed kin is concentrated among officers whose senior kin was convicted (column [4]). In contrast, officers with convicted junior kin do not perform significantly better (column [5]).

If the greater performance is driven by an attempt to compensate for a weakened social tie, this incentive should be less for those who can draw on other, powerful connections. In columns [6]-[7], we split the sample by whether the officer is connected to the Admiralty in a given year – the apex of the naval hierarchy.[24] As predicted, the incentive effects are driven by officers not connected to the top of the Admiralty. In contrast, exposure to a court-martialed and guilty kin has no effect on performance of related officers who are themselves directly connected to the Admiralty. Figure 2 shows the effect visually: while there is an increase in performance for officers with no ties to the Admiralty who see a kin convicted, there is no effect for officers in the same situation, but with ties to the Admiralty.[25]

4   Conclusions

The Royal Navy in its heyday was a large and complex organization. While nominally run from the Admiralty in London, its ships sailed the seven seas, and often operated thousands of miles from home waters. Dispatches could take months to arrive. Under such circumstances, naval leaders in England were unable to control and direct naval warfare directly; instead, they had to rely on the judgement and motivation of men on the spot. Accordingly, the Royal Navy used both rewards and punishments to align incentives (Allen,

---

[24]Following Voth and Xu (2020), the measure is a dummy that is 1 if the officer is either connected to the Admiral of the Fleet or the First Lord Admiralty – the two highest ranked commanders – by less than 16 degrees of separation (by consanguinity).

[25]We are unable to conduct the same sample cuts as before using Admiral Byng alone. Due to his exceptional seniority, almost all connected officers are junior to him. As the fifth son of George Byng, 1st Viscount Torrington, Byng was also exceptionally well connected, thus providing too little variation.

2002).

Our evidence suggests that in settings with such severe principal-agent problems, strict punishment can "encourage others". Performance in general did not improve after court martials – only convictions are associated with greater performance, and only those captains related to the officer in question changed their behavior. This does not mean that there was no general effect of the navy's strict rules, but they were not heightened by making punishment more salient in general.

There is a second, less obvious channel through which exemplary punishments can "work". By removing any chance of support through connections and patronage by a senior officer, connected juniors were forced to prove their worth in battle – the positive effect on performance is strongest for those who do not have other influential acquaintances, who can substitute for the support of the court-martialed officer. Similar effects should be unsurprising in other organizations where informational asymmetries are large, and careers depend on the support and mentoring of senior colleagues – such as in academia, banking, and the law.

References

AGER, P., L. BURSZTYN, AND H.-J. VOTH (2016): "Killer Incentives: Status Competition and Pilot Performance during World War II," Tech. rep., National Bureau of Economic Research.

ALLEN, D. W. (2002): "The British Navy Rules: Monitoring and Incompatible Incentives in the Age of Fighting Sail," *Explorations in Economic History*, 39, 204–231.

——— (2011): *The Institutional Revolution: Measurement and the Economic Emergence of the Modern World*, University of Chicago Press.

BAUGH, D. A. (2008): "Byng, John (bap. 1704, d. 1757), naval officer," in *Oxford Dictionary of National Biography*, Oxford University Press.

BECKER, G. S. (1968): "Crime and Punishment: An Economic Approach," in *The Economic Dimensions of Crime*, Springer, 13–68.

BENTHAM, J. (1830): *The Rationale of Punishment*, R. Heward.

BHULLER, M., G. B. DAHL, K. V. LØKEN, AND M. MOGSTAD (forthcoming): "Incarceration Spillovers in Criminal and Family Networks," *Journal of Political Economy*.

BLACKSTONE, W. (1767/2017): *Commentaries on the Laws of England: Book IV: On Public Wrongs*, Jazzybee Verlag.

CHALFIN, A. AND J. MCCRARY (2017): "Criminal Deterrence: A Review of the Literature," *Journal of Economic Literature*, 55, 5–48.

CHEN, D. L. (2016): "The Deterrent Effect of the Death Penalty? Evidence from British Commutations during World War I," *mimeo*.

CHEN, M. K. AND J. M. SHAPIRO (2007): "Do Harsher Prison Conditions Reduce Recidivism? A Discontinuity-based Approach," *American Law and Economics Review*, 9, 1–29.

Donohue, J. and J. J. Wolfers (2006): "The Death Penalty: No Evidence for Deterrence," *The Economists' Voice*, 3.

Dull, J. R. (2007): *The French Navy and the Seven Years' War*, U of Nebraska Press.

Fehr, E. and S. Gächter (2002): "Altruistic Punishment in Humans," *Nature*, 415, 137–140.

Fehr, E. and B. Rockenbach (2003): "Detrimental Effects of Sanctions on Human Altruism," *Nature*, 422, 137–140.

Gneezy, U. and A. Rustichini (2004): "Incentives, Punishment and Behavior," *Advances in Behavioral Economics*, 572–89.

Hannay, D. (1914): *Naval Courts Martial*, University Press.

Jia, R., M. Kudamatsu, and D. Seim (2015): "Political Selection in China: The Complementary Roles of Connections and Performance," *Journal of the European Economic Association*, 13, 631–668.

Katz, L., S. D. Levitt, and E. Shustorovich (2003): "Prison Conditions, Capital Punishment, and Deterrence," *American Law and Economics Review*, 5, 318–343.

Kennedy, P. (2010): *The Rise and Fall of the Great Powers*, Vintage.

Mocan, N. H. and R. K. Gittings (2006): "The Impact of Incentives on Human Behavior: Can We Make It Disappear? The Case of the Death Penalty," *mimeo*.

Pope, D. (2013): *Life in Nelson's Navy*, House of Stratus.

Robson, M. (2015): *A History of the Royal Navy: The Seven Years War*, Bloomsbury Publishing.

Rodger, N. (1986): *The Wooden World: An Anatomy of the Georgian Navy*, Collins.

——— (2005): *The Command of the Ocean: A Naval History of Britain, 1649-1815*, vol. 2, WW Norton & Company.

Voltaire, F. (1759/2005): *Candide: Or Optimism*, Penguin.

Voth, H.-J. and G. Xu (2020): "Patronage for Productivity: Selection and Performance in the Age of Sail," *mimeo*.

Xu, G. (2018): "The Costs of Patronage: Evidence from the British Empire," *American Economic Review*, 108, 3170–98.

Figures

Figure 1: The execution of Admiral Byng and the performance of his kins
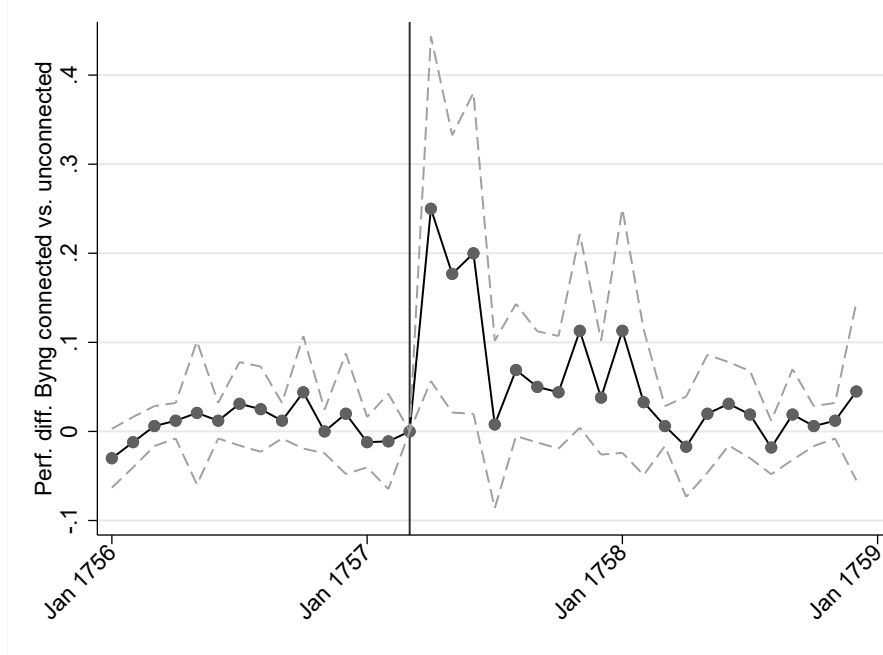
Notes: Reporting the performance gap between kins vs. non-kins of Admiral Byng in a balanced window around March 1757, the date Admiral Byng was executed. The coefficients are estimated using an augmented version of Table 2, Column [3] which allows the difference-in-differences to vary by month around the day of execution. The figure plots 90% confidence intervals. Standard errors are clustered at the officer-level.

Figure 2: Performance of kins of guilty court-martialed officers, by ties to the Admiralty

(a) Ties to Admiralty

(b) No ties to Admiralty
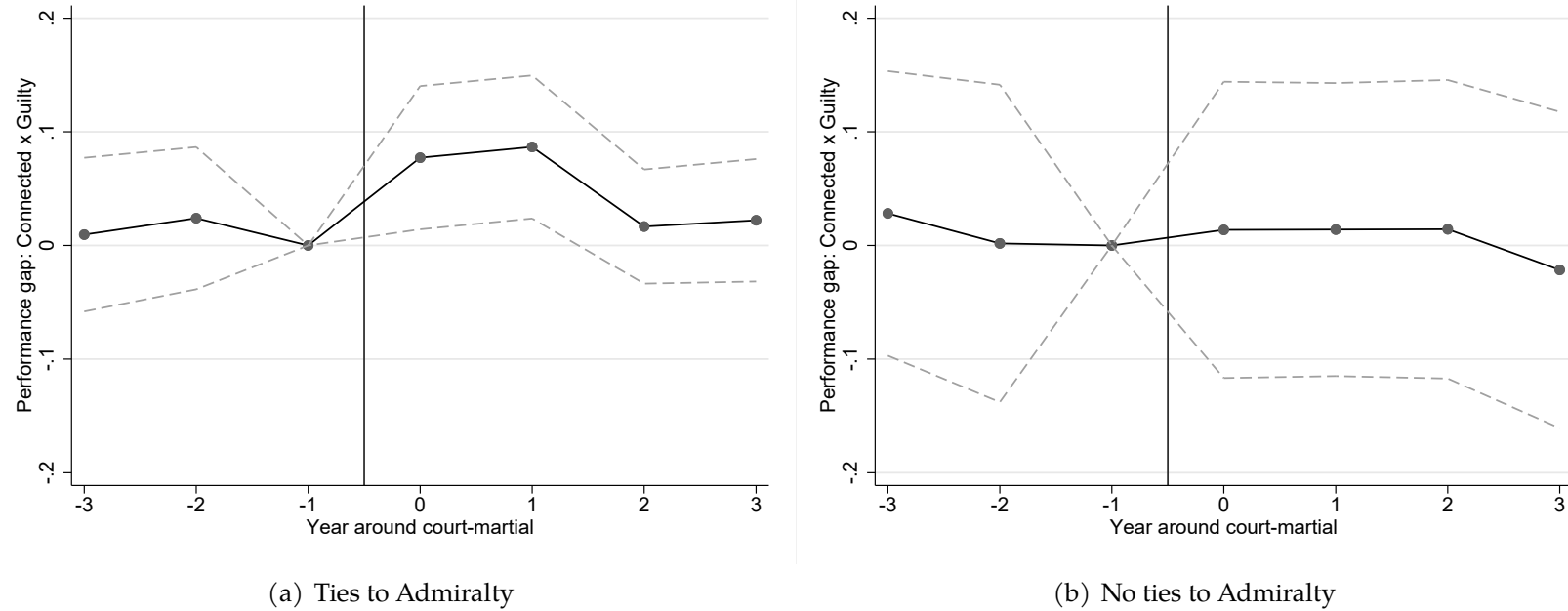
Notes: Reporting the performance gap between those connected vs. unconnected to guilty vs. acquitted court-martialed officers in a balanced three year window around the year of court-martial, broken down by those who held no ties to the Admiralty (Panel a) and those who held ties to the Admiralty (Panel b). Connected is defined as either holding kinship ties or having served together on a ship in the past. The coefficients are estimated using an augmented version of Table 3, Columns [6]-[7] which allows the triple differences to vary by each year around the court-martial trial. Reporting 90% confidence intervals. Standard errors clustered at the officer × court-martial level.

Table 1: Officer characteristics - Byng kin vs. non-kin

	[1]	[2]	[3]	[4]	[5]	[6]
		Pre-execution			Post-execution	
	Unconnected	Connected	Diff.	Unconnected	Connected	Diff.
	($N = 166$)	($N = 40$)	[2]-[1]	($N = 166$)	($N = 40$)	[5]-[4]
Years of tenure	16.596	15.925	-0.671	18.584	17.925	-0.659
			(1.471)			(1.471)
Post-captain	0.499	0.682	0.183**	0.798	0.941	0.142**
			(0.074)			(0.061)
Years commanding	6.048	8.575	2.526***	2.493	2.625	0.131
			(0.926)			(0.170)
Ship guns	30.619	36.117	5.498*	43.281	47.546	4.264
			(3.124)			(4.164)
Capture rate	0.188	0.151	-0.037	0.311	0.795	0.483***
			(0.072)			(0.122)
Actions seen	0.057	0.116	0.058*	0.103	0.082	-0.020
			(0.031)			(0.048)
Ships sunk	0.001	0.000	-0.001	0.006	0.016	0.010
			(0.001)			(0.009)
Battle performance	0.155	0.185	0.030	0.385	0.875	0.490***
			(0.048)			(0.121)

Notes: Comparing individual characteristics of officers by connectedness to Admiral Byng, before (pre 1757) and after the execution (1757-1758). The sample comprises all serving officers who are active around the execution of Admiral Byng (1756-1758). The *years of tenure* is the total number of years served in the Royal Navy. *Post-captain* is a dummy that is 1 if the officer is a post-captain. *Years commanding* is the total years an officer has commanded a ship. *Capture rate* is the average number of enemy ship captures per year. *Actions seen* is the average number of actions participated per year. *Ships sunk* is the average number of enemy ships sunk per year. *Battle performance* is the mean number of enemy ship captures, ships sunk and actions participated (average battle performance). Standard errors are clustered at the officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2: Execution of Admiral Byng and the performance of his kins

	[1]	[2]	[3]	[4]	[5]
	Battle performance				
Mean of dep. var	0.0285	0.0285	0.0285	0.0287	0.0417
Post execution	0.003				
	(0.005)				
Byng kin	-0.004	-0.004			
	(0.007)	(0.008)			
Byng kin × Post execution	0.047***	0.047***	0.047***	0.056***	0.058***
	(0.014)	(0.014)	(0.014)	(0.019)	(0.019)
Year × Month FEs		Y	Y	Y	Y
Officer FEs			Y	Y	Y
Baseline controls × Post				Y	Y
Sample		All naval officers			Peerage
Observations	7,416	7,416	7,416	7,344	1,944

Notes: Unit of observation is the officer × year × month. Balanced panel includes all officers serving between 1756 and 1758. *Post execution* is a dummy that is 1 after March 1757, the date Admiral Byng was executed and 0 otherwise. *Byng kin* is a dummy that is 1 if the officer is connected to Admiral Byng by less than 16 degrees of separation (by consanguinity) and 0 otherwise. Baseline controls comprise pre-execution characteristics as shown in Table 1. These are (all computed up to 1756, the year before Byng's execution): the years of tenure; a dummy for whether the officer is a post-captain; the total years an officer has commanded a ship; the mean number of enemy ship captures, ships sunk and actions participated (average battle performance). In Column [5], the sample excludes officers who are never connected by limiting the sample to only those officers who are listed in the Peerage dataset. The dependent variable *Battle performance* is the sum of enemy ship captures, enemy ships sunk, and the number of actions an officer participated in in a given month. Standard errors are clustered at the officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: The performance and ties to court-martialed officers

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
			Battle performance				
Mean of dep. var	0.301	0.179	0.179	0.191	0.174	0.146	0.324
Kin × Post court-martial	-0.034***						
	(0.012)						
× Guilty	0.066**						
	(0.029)						
Job tie × Post court-martial		-0.050***					
		(0.013)					
× Guilty		0.093**					
		(0.038)					
Connected × Post court-martial			-0.036***	0.003	-0.056***	-0.019*	-0.020
			(0.007)	(0.013)	(0.008)	(0.010)	(0.017)
× Guilty			0.059***	0.050*	0.039	0.062**	0.015
			(0.018)	(0.029)	(0.024)	(0.024)	(0.049)
Court-martial FEs							
× Year around court-martial FEs	Y	Y	Y	Y	Y	Y	Y
× Officer FEs	Y	Y	Y	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y	Y	Y	Y
Sample		Pooled sample		Court-martialed is		Ties to Admiralty	
				Senior	Junior	No	Yes
Observations	157,927	3,251,468	3,251,468	960,117	2,264,608	2,631,894	610,624

Notes: Unit of observation is the officer × court-martial × year. Sample includes all officers serving in a three year window around the year of each court-martial (balanced). *Post court-martial* is a dummy that is 1 in the year of the court-martial and thereafter. *Kin* is a dummy that is 1 if the officer is connected to the court-martialed officer by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Job tie* is a dummy that is 1 if the officer and the court-martialed officers have served on the same ship in the past. *Connected* is a dummy that is 1 if the officer is *either* connected by kinship tie (*Kin*) *or* through a job connection (*Job tie*). *Guilty* is a dummy that is 1 if the court-martialed officer was judged to be guilty, and 0 if the officer was acquitted. The dependent variable *Battle performance* is the combined number of enemy ship captures, enemy ship sunk and actions participated in a given year. For column [1] the sample is restricted to only officers who are found in the Peerage dataset (and for whom we can therefore compute the kinship ties). In Columns [4]-[5], the sample is divided by officers who are of lower seniority than the court-martialed officer (court-martialed is senior) and those who outrank the court-martialed officer (court-martialed is junior). In Columns [6]-[7], the sample is divided by officers who are connected to the Admiralty (either to the Admiral of the Fleet or the First Lord Admiralty) by less than 16 degrees of separation (by consanguinity), and those who are unconnected to the Admiralty. Standard errors are clustered at the officer × court-martial level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Online appendix – not for publication

Figure A1: Execution of Admiral Byng and kin performance - by degree of separation
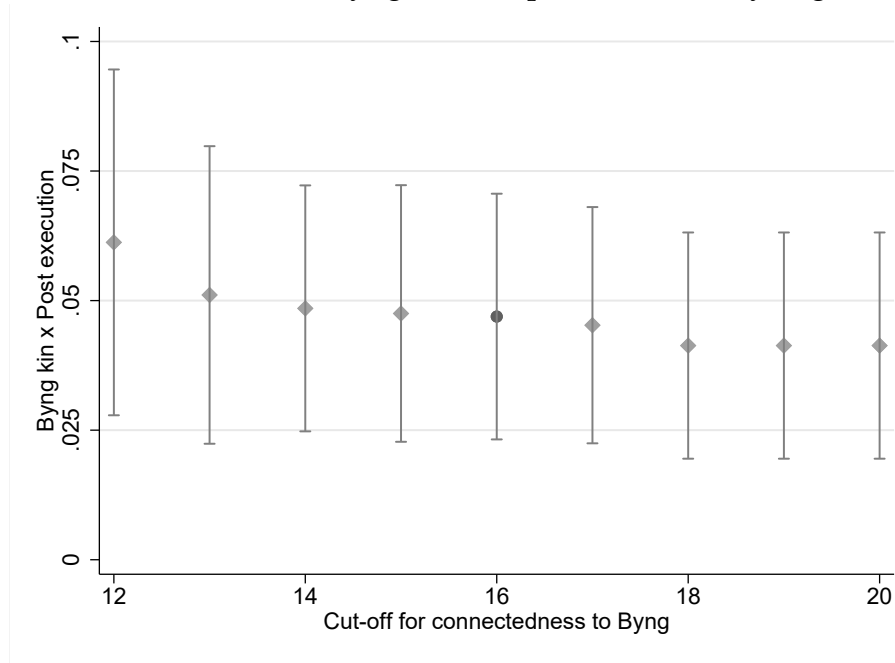
Notes: Estimating Table 2, column [3] using different cut-offs for maximum consanguinity to define Byng connectedness. Reporting 90% confidence intervals. Standard errors are clustered at the officer-level.

Figure A2: Fighting events over time
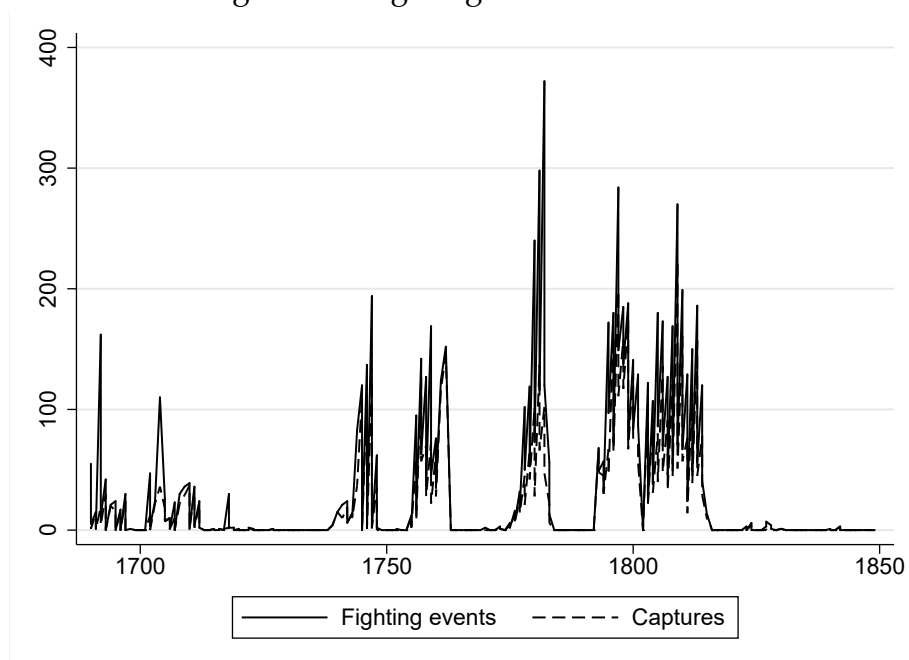
Notes: Showing the total number of fighting events (captures, ships destroyed and actions participated) over time. Fighting events cluster around naval wars, and variation in captures drives the overall pattern.

Table A1: Performance results – Transformations and negative binomial regression

	[1]	[2]	[3]	[4]	[5]	[6]
			Battle performance			
	Any performance		Inv. hyperb. sine		Neg. binomial	
Mean of dep. var	0.024	0.104	0.023	0.125	0.058	0.440
Byng kin × Post execution	0.032***		0.035***		0.907**	
	(0.010)		(0.010)		(0.355)	
Connected × Post court-martial		-0.016***		-0.023***		0.027*
		(0.003)		(0.004)		(0.015)
Connected × Post court-martial × Guilty		0.018***		0.031***		0.164***
		(0.007)		(0.010)		(0.042)
Year × Month FEs	Y	Y	Y	Y	Y	Y
Officer FEs	Y	Y	Y	Y	Y	Y
Sample	Byng	All	Byng	All	Byng	All
Observations	7,416	3,251,468	7,416	3,251,468	3,636	1,322,884

Notes: Unit of observation is the officer × year × month. In Columns [1], [3], and [5] the balanced panel includes all officers serving between 1756 and 1758. In Columns [2], [4], and [6] the balanced panel includes all officers serving around a three year window of each court-martial using the combined kinship and on-the-job tie. *Post execution* is a dummy that is 1 after March 1757, the date Admiral Byng was executed and 0 otherwise. *Byng kin* is a dummy that is 1 if the officer is connected to Admiral Byng by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Connected* is a dummy that is 1 if the officer is *either* connected by kinship tie (*Kin*) *or* through a job connection (*Job tie*). In Columns [1]-[2] the dependent variable is a dummy that is 1 if the officer captured, sunk or participated in *any* action in a given month. In Columns [3]-[4] the dependent variable is the inverse hyperbolic sine transformation of the combined number of enemy ship captures, enemy ships sunk, and the number of actions taken part. The dependent variable *Battle performance* is the sum of enemy ship captures, enemy ships sunk, and the number of actions an officer participated in in a given month. Standard errors are clustered at the officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A2: Performance of kins of court-martialed officers – Assignment

Panel A: Admiral Byng - family ties	[1]	[2]	[3]
	Command	Guns	Performance
Mean of dep. var	0.094	3.654	0.041
Byng kin × Post execution	0.046	0.086	0.069***
	(0.032)	(0.132)	(0.082)
Year × Months FEs	Y	Y	Y
Officer FEs	Y	Y	Y
Interacted control			Command
			× Byng kin
Observations	1,944	174	1,944
Panel B: All court-martials	[1]	[2]	[3]
	Command	Guns	Performance
Mean of dep. var	0.460	3.601	0.179
Connected × Post court-martial	-0.034***	-0.030**	-0.050***
	(0.009)	(0.013)	(0.013)
Connected × Post court-martial × Guilty	0.031	0.035	0.089**
	(0.033)	(0.052)	(0.037)
Court-martial FEs			
× Year around CM FEs	Y	Y	Y
× Officer FEs	Y	Y	Y
Tenure FEs	Y	Y	Y
Interacted control			Command
			× Conn. × Guilty
Observations	3,251,468	1,462,239	3,251,468

Notes: Unit of observation is the officer × year × month in Panel A and officer × court-martial × year in Panel B. Sample includes all officers serving between 1756 and 1758 (**Panel A**) and all officers serving around a three year window of each court-martial using the combined kinship and on-the-job tie (**Panel B**). *Post execution* is a dummy that is 1 from 1757 onwards, the year Admiral Byng was executed and 0 otherwise. *Byng kin* is a dummy that is 1 if the officer is connected to Admiral Byng by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Kin* is a dummy that is 1 if the officer is connected to the court-martialed officer by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Job tie* is a dummy that is 1 if the officer and the court-martialed officers have served on the same ship in the past. *Connected* is a dummy that is 1 if the officer is *either* connected by kinship tie (*Kin*) *or* through a job connection (*Job tie*). In column [1], the dependent variable is a dummy that is 1 if the officer was given command over a ship. In column [2], the dependent variable is the (log) total number of guns of the assigned ship. In column [3], the dependent variable *Battle performance* is the combined number of enemy ship captures, enemy ship sunk and actions participated in a given year. Standard errors are clustered at the officer-level in Panel A, and the officer × court-martial level in Panel B. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Performance of kins of court-martialed officers – War-interacted

	(1)	(2)	(3)	(4)
		Battle performance		
Mean of dep. var	0.0285	0.300	0.179	0.179
Byng kin × Post execution	0.069***			
	(0.020)			
Kin × Post court-martial		-0.033***		
		(0.011)		
Kin × Post court-martial × Guilty		0.056**		
		(0.028)		
Job tie × Post court-martial			-0.049***	
			(0.013)	
Job tie × Post court-martial × Guilty			0.093**	
			(0.037)	
Connected × Post court-martial				-0.036***
				(0.007)
Connected × Post court-martial × Guilty				0.048***
				(0.018)
Year × Months FEs	Y			
Officer FEs	Y			
Court-martial FEs				
× Year around CM FEs		Y	Y	Y
× Officer FEs		Y	Y	Y
Tenure FEs		Y	Y	Y
Interacted control	Total perf. × Byng kin	War × Kin × Guilty	War × Job tie × Guilty	War × Conn. × Guilty
Observations	1,944	157,927	3,251,468	3,251,468

Notes: Unit of observation is the officer × year × month in column [1] and officer × year in columns [2]-[4]. Sample includes all officers serving between 1756 and 1758 (Column [1]) and all officers serving around a three year window of each court-martial (Columns [2]-[4]). *Post execution* is a dummy that is 1 from 1757 onwards, the year Admiral Byng was executed and 0 otherwise. *Byng kin* is a dummy that is 1 if the officer is connected to Admiral Byng by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Kin* is a dummy that is 1 if the officer is connected to the court-martialed officer by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Job tie* is a dummy that is 1 if the officer and the court-martialed officers have served on the same ship in the past. *Connected* is a dummy that is 1 if the officer is *either* connected by kinship tie (*Kin*) *or* through a job connection (*Job tie*). In column [1], we interact the *Byng kin* dummy with the monthly total number of fighting events (combined number of captures, enemy ships sunk and actions participated). In columns [2]-[4], we (triple) interact a dummy that is 1 in a year of war with *Kin*, *Post court-martial* and *Guilty* (and job tie, and the combined connectedness measure, respectively). The dependent variable *Battle performance* is the combined number of enemy ship captures, enemy ship sunk and actions participated in a given year. Standard errors are clustered at the officer-level in column [1] and at the officer × court-martial-level in columns [2]-[4]. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4: Execution of Admiral Byng and the performance of his kins - Annualized data

	(1)	(2)	(3)	(4)
	Battle performance			
Mean of dep. var	0.283	0.283	0.283	0.371
Post execution	0.403***			
	(0.047)			
Byng kin	0.040	0.042		
	(0.028)	(0.028)		
Byng kin × Post execution	0.292**	0.288**	0.336***	0.436**
	(0.132)	(0.131)	(0.126)	(0.199)
Year FEs			Y	Y	Y
Officer FEs			Y	Y
Sample	All naval officers			Peerage
Observations	1,391	1,391	1,391	420

Notes: Unit of observation is the officer × year. Sample includes all officers serving between 1756 and 1758. *Post execution* is a dummy that is 1 from 1757 onwards, the year Admiral Byng was executed and 0 otherwise. *Byng kin* is a dummy that is 1 if the officer is connected to Admiral Byng by less than 16 degrees of separation (by consanguinity) and 0 otherwise. In Column [4], the sample excludes officers who are never connected by limiting the sample to only officers who are found in the Peerage dataset. The dependent variable *Battle performance* is the combined number of enemy ship captures, enemy ship sunk and actions participated in a given year. Standard errors are clustered at the officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A5: Officer characteristics - All court-martials - Connected vs. non-connected

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
				Guilty (58 trials)			Non-guilty (905 trials)		
			Unconnected ($N = 23,496$)	Connected ($N = 1,927$)	Diff. [2]-[1]	Unconnected ($N = 427,533$)	Connected ($N = 12,166$)	Diff. [5]-[4]	DiD [4]-[7]
Years of tenure	Pre	18.522	20.143	1.621*** (0.267)	18.150	19.746	1.596*** (0.103)	0.025 (0.284)
	Post	22.486	24.115	1.629*** (0.267)	22.098	23.724	1.625*** (0.102)	0.003 (0.281)
Post-captain	Pre	0.595	0.790	0.194*** (0.011)	0.592	0.783	0.191*** (0.004)	0.002 (0.012)
	Post	0.681	0.873	0.192*** (0.010)	0.682	0.866	0.184*** (0.004)	0.008 (0.011)
Years commanding	Pre	1.266	1.530	0.264*** (0.030)	1.385	1.590	0.205*** (0.012)	0.058* (0.033)
	Post	1.722	1.913	0.191*** (0.039)	1.822	1.957	0.134*** (0.015)	0.056 (0.042)
Ship guns	Pre	47.680	54.690	7.009*** (0.694)	48.356	53.944	5.588*** (0.270)	1.421* (0.746)
	Post	49.912	59.267	9.354*** (0.683)	50.643	57.696	7.053*** (0.261)	2.301*** (0.727)
Capture rate	Pre	0.096	0.189	0.093*** (0.07)	0.126	0.226	0.100*** (0.003)	-0.006 (0.009)
	Post	0.095	0.218	0.123*** (0.006)	0.115	0.203	0.087*** (0.003)	0.036*** (0.008)
Actions seen	Pre	0.036	0.066	0.029*** (0.003)	0.053	0.093	0.040*** (0.001)	-0.010** (0.004)
	Post	0.044	0.084	0.039*** (0.003)	0.052	0.086	0.033*** (0.001)	0.005 (0.004)
Ships sunk	Pre	0.003	0.006	0.002 (0.001)	0.003	0.006	0.003 (0.001)	-0.001 (0.001)
	Post	0.003	0.006	0.003 (0.001)	0.003	0.006	0.002 (0.001)	0.000 (0.001)
Battle performance	Pre	0.135	0.261	0.126*** (0.009)	0.183	0.326	0.143*** (0.004)	-0.017 (0.011)
	Post	0.143	0.309	0.165*** (0.008)	0.171	0.295	0.124*** (0.003)	0.041*** (0.009)

Notes: Unit of observation is the officer $\times$ court-martial event. Comparing average individual characteristics of officers by connectedness to court-martialed officer (guilty vs. non-guilty), before (3 years) and after (3 years) the execution . The sample comprises all serving officers who are active around each of the 963 court-martial trials. The *years of tenure* is the total number of years served in the Royal Navy. *Post-captain* is a dummy that is 1 if the officer is a post-captain. *Years commanding* is the total years an officer has commanded a ship. *Capture rate* is the average number of enemy ship captures per year. *Actions seen* is the average number of actions participated per year. *Ships sunk* is the average number of enemy ships sunk per year. *Battle performance* is the mean number of enemy ship captures, ships sunk and actions participated (average battle performance). Finally, *peerage* is a dummy for whether the officer is in the peerage dataset (a measure of eliteness). Standard errors are clustered at the officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A6: Performance of kins of court-martialed officers – excl. acquitted for ship loss

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
			Battle performance				
Mean of dep. var	0.272	0.167	0.167	0.181	0.157	0.138	0.290
Kin × Post court-martial	-0.045**						
	(0.018)						
× Guilty	0.077**						
	(0.032)						
Job tie × Post court-martial		-0.055**					
		(0.027)					
× Guilty		0.099**					
		(0.044)					
Connected × Post court-martial			-0.003	0.043**	-0.035**	-0.020	-0.038
			(0.011)	(0.018)	(0.015)	(0.019)	(0.029)
× Guilty			0.026	0.010	0.018	0.064**	0.031
			(0.020)	(0.032)	(0.027)	(0.029)	(0.054)
Court-martial FEs							
× Year around court-martial FEs	Y	Y	Y	Y	Y	Y	Y
× Officer FEs	Y	Y	Y	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y	Y	Y	Y
Sample		Pooled sample		Court-martialed is		Ties to Admiralty	
				Senior	Junior	No	Yes
Observations	63,441	638,920	638,920	271,323	361,971	513,667	123,648

Notes: Unit of observation is the officer × court-martial × year. Sample includes all officers serving in a three year window around the year of each court-martial (balanced), but is now restricted to the subset of core court-martial trials and excluding the court-martials that resulted in an acquittal following the loss of a ship. *Post court-martial* is a dummy that is 1 in the year of the court-martial and thereafter. *Kin* is a dummy that is 1 if the officer is connected to the court-martialed officer by less than 16 degrees of separation (by consanguinity) and 0 otherwise. *Job tie* is a dummy that is 1 if the officer and the court-martialed officers have served on the same ship in the past. *Connected* is a dummy that is 1 if the officer is *either* connected by kinship tie (*Kin*) *or* through a job connection (*Job tie*). *Guilty* is a dummy that is 1 if the court-martialed officer was judged to be guilty, and 0 if the officer was acquitted. The dependent variable *Battle performance* is the combined number of enemy ship captures, enemy ship sunk and actions participated in a given year. For column [1] the sample is restricted to only officers who are found in the Peerage dataset (and for whom we can therefore compute the kinship ties). In Columns [4]-[5], the sample is divided by officers who are of lower seniority than the court-martialed officer (court-martialed is senior) and those who outrank the court-martialed officer (court-martialed is junior). In Columns [6]-[7], the sample is divided by officers who are connected to the Admiralty (either to the Admiral of the Fleet or the First Lord Admiralty) by less than 16 degrees of separation (by consanguinity), and those who are unconnected to the Admiralty. Standard errors are clustered at the officer × court-martial level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix

Extract from the *Articles of War*, Royal Navy, 1661-1866

A.1: Articles of War, No. 10 Every flag officer, captain and commander in the fleet, who, upon signal or order of fight, or sight of any ship or ships which it may be his duty to engage, or who, upon likelihood of engagement, shall not make the necessary preparations for fight, and shall not in his own person, and according to his place, encourage the inferior officers and men to fight courageously, shall suffer death or such other punishment, as from the nature and degree of the offense a court martial shall deem him to deserve; and if any person in the fleet shall treacherously or cowardly yield or cry for quarter, every person so offending, and being convicted thereof by the sentence of a court martial, shall suffer death.