Segregation, Integration, and Death: Evidence from the Korean War*

Connor Huff
Harvard University

Robert Schub
University of Nebraska, Lincoln

March 10, 2019

Abstract

How does the design of military institutions affect the racial distribution of fatalities in war? We answer this question by studying the transformative shift from segregated to integrated US military units during the Korean War. We combine new micro-level data on combat fatalities with archival data on the deployment and racial composition of military battalions, and show that under segregation, black and white soldiers died at similar rates. Accordingly, the integration of the military mid-war, which tied the fates of soldiers more closely together, should not alter the relative fatality rates. The evidence is consistent with this expectation. We then demonstrate that, while aggregate fatality rates were equal across races, segregation enabled short-term casualty discrepancies. Under segregation there were high casualty periods for white units followed by high casualty periods for black units. Integration eliminated this variability. The paper highlights the battlefield consequences of states' discriminatory institutional policies.

*Connor Huff (cdezzanihuff@fas.harvard.edu, http://connordhuff.com) is a Ph.D. Candidate in the Department of Government at Harvard University. Robert Schub (robert.schub@unl.edu, https://robertschub.com/) is an Assistant Professor in the Department of Political Science at the University of Nebraska, Lincoln. We thank Laia Balcells, Jonathan Homola, Tyler Jost, Richard Lacquement, Noah Nathan, Ariel White, and participants at ISA 2017 and APSA 2018 for helpful feedback throughout the development of this project.

1 Introduction

In 1896 the Supreme Court case of Plessy v. Ferguson upheld the doctrine of "separate but equal." This principle laid the legal foundation for the segregation of political, economic, and social institutions throughout the United States, ranging from separate schools for black and white children to separate military units for black and white soldiers at war. Segregationist policies were not unique to the United States, with historical parallels ranging from the German Nuremberg laws prohibiting marriage between "Aryan" and "non-Aryan" individuals to the policies of apartheid South Africa. Militaries frequently enshrined similar divisions, whether along ethnic or class lines in India (Rosen 1996: p. 211-216), a Druze only battalion in the Israeli Defense Forces,[1] or the presence of ethnic militias operating separately from national forces as was the case in post-Saddam Iraq (Sharp 2006) or during the Second Chechen War (Lyall 2010).[2] How do differences in the way states design military institutions affect who bears the costs of war?

We answer this question by studying how the presence or absence of racial segregation in military units affects who dies fighting for their state in war. We do so by focusing on the case of the Korean War. This conflict provides a unique opportunity to evaluate not only whether segregation enabled a racial fatality gap to emerge between black and white combat soldiers, but also whether these fatality rates changed following the integration of military units mid-war, pursuant to President Truman's 1948 Executive Order 9981. We construct a micro-level dataset that combines individual-level information on the race and unit assignment of all US Army soldiers killed in Korea with information collected from the National Archives on the underlying racial composition of military units. We use the new source of data to answer three theoretically distinct questions.

First, were black soldiers more likely to die in combat roles when serving in segregated units than their white counterparts? Building on prior research about the historical role of black soldiers in the military, we highlight how the double-edged implications of racism produce a theoretical

[1] See `haaretz.com/.premium-idf-to-disband-druze-battalion-1.5363658`

[2] More generally, among pro-government militias, ethnicity is the most common membership characteristic (Carey, Mitchell, and Lowe 2013).

tension in the empirical predictions. On one hand, if commanders perceive black lives to be less valuable than white lives they will provide black soldiers with poorer training and assign them to more risky missions, effectively using them as "cannon-fodder." If true, black fatality rates will exceed white fatality rates. On the other hand, if commanders perceive black soldiers to be less competent, then they might relegate black units to strategically unimportant missions further from the front lines. Such behavior decreases black units' exposure to fighting and thus their casualty rates. Using the newly acquired historical data, we find that black and white soldiers died at essentially identical rates under segregation. Specifically, the average white battalion lost 0.89% of its soldiers each half-month of fighting. The comparable figure for black units was a very similar 0.84%. The null finding runs counter to our competing hypotheses. One potential explanation for the null result which is consistent with qualitative evidence, is that acute manpower demands during the segregated portion of the war necessitated sending military units wherever soldiers were needed regardless of their race.

Second, did black soldiers die at higher or lower rates than white soldiers when serving in integrated military units? We expect that fighting alongside one another links the fates of black and white soldiers more closely together. Moreover, since black and white combat soldiers were dying at similar rates under segregation, we expect the lack of divergent fatality rates to persist within integrated units. Employing the same micro-level dataset on the rates of combat fatalities in the Korean War as integration unfolded, we again find similar fatality rates across racial lines.

Third, how did the institutional shift toward integration affect the *short-term* variability in casualty rates between black and white solders? Though we find only minuscule aggregate differences in racial fatality rates under segregation and integration, the aggregate patterns mask important heterogeneity. Specifically, under segregation there are greater opportunities—whether intentional due to commanders' choices or by chance—for either black or white units to incur a disproportionately large number of fatalities in any given period. More concretely, when soldiers are fighting in either all back or all white units, a single high casualty battle or operation disproportionately affects the individuals in the engaged military unit. Since military units were single race, seg-

regation is permissive of large short-term racial fatality gaps. Under integration, the costs from high-casualty events (e.g., intense battles) are more likely to be evenly distributed. We provide evidence consistent with this argument, showing that some periods under segregation had large absolute discrepancies, sometimes with white soldiers dying at higher rates and other times with black soldiers dying at higher rates. Following unit integration, we observe essentially no such spikes of disproportionate burden sharing.

This paper's findings contribute to a voluminous literature exploring the causes and consequences of discriminatory institutional policies throughout the United States.[3] In line with much of this prior research, we focus on exploring differences in average outcomes between black and white individuals as a result of institutional policies, demonstrating that black and white combat soldiers died at roughly equal rates under segregation and integration. Despite a discriminatory institutional policy, black combat soldiers equally bore the costs of war throughout the entirety of the conflict in Korea. However, the increased variability in casualty rates under segregation provides evidence that segregated institutions create opportunities for at least short-term differences between groups. Enshrining "separate but equal" policies within a military creates permissive conditions for unequal outcomes. Our work thus reveals an additional pathway for how military institutional policies shape who bears the costs of war. This compliments prior work considering how the demographic composition of military fatalities varies between all-volunteer and conscript forces (Kriner and Shen 2010; Horowitz and Levendusky 2011; Fordham 2016) and how the balance between human and financial costs varies between human- and capital-intensive military strategies (Luttwak 1996; Caverley 2014). We contribute to this body of work by bringing the institutional choices of states and their wartime distributional consequences to the fore.

---

[3] On the relationship between political institutions and race, see, for example, White, Nathan, and Faller (2015). See Enos and Celaya (2018) on segregation and integration in particular. For recent political science research at the intersection of race, political institutions, and American history, see Acharya, Blackwell, and Sen (2016*a*,*b*); Hall, Huff, and Kuriwaki (2019). Balcells and Sullivan (2018) provides an overview of the promises and pitfalls of using historical data to learn about conflict behavior.

2 Historical Overview of Segregation and Integration in the Military

Before theorizing how these institutional choices affect racial fatality rates, we first turn to discussing the historical role of black soldiers in the US military. Black soldiers fought in every military conflict in US history, dating back to service in the American Revolution where they fought alongside white soldiers as members of militias.[4] In 1866, Congress formally established four all-black peacetime regiments, some of which would gain fame (positive and negative, deserved or otherwise) for service abroad, service at home as Buffalo Soldiers, and for prominent politicized incidents in Brownsville and Houston, Texas (MacGregor 1981: ch. 7). Many in the black community celebrated the creation of these four units, though they formally institutionalized segregation within the military. Segregation remained US policy for the next 82 years. Preceding US entry in World War II, the Assistant Secretary of War captured the general feeling and justification for segregated units, stating that "[t]he policy of the War Department is not to intermingle colored and white enlisted personnel in the same regimental organizations. The policy has been proven satisfactory over a long period of years and to make changes would produce situations destructive to morale and detrimental to the preparations for national defense" (Moskos and Butler 1996: p. 28).

The military began a reappraisal of its policies toward black soldiers following WWII's conclusion. Two factors drove the reappraisal. First, there was political pressure from civil rights organizations such as the NAACP, National Urban League, and the National Negro Congress, who had set their sights upon military integration as a central component of their broader drive toward racial equality. Second, there was recognition that black soldiers were being poorly utilized within the military (Moskos Jr 1966: 134). Two reports, one in 1945 and a second in 1950, both concluded

[4] Crispus Attucks, who was killed in the Boston massacre, is typically considered the first casualty in the American Revolutionary War. For a historical overview of the role of black soldiers in the United States military, see Foner (1974). For an overview of the role of black soldiers in the American Revolution see Quarles (2012), the American Civil War see Cornish (1966); Williams (2012); McPherson (2008), and World War 1 see Barbeau and Henri (1974).

that while racial integration was in principle a desired goal and opportunities for black soldiers in the Army should be improved, practical considerations required continued segregation of military units (Moskos Jr 1966: 134).[5] These "practical considerations" centered around the general perception that black combat units performed poorly compared to white units. Critics pointed to examples such as the performance of the all-black 92nd Infantry which fled during a German offensive during World War II and were also deemed unreliable during the Italian campaign (Moskos Jr 1966: 134).[6] Critics also noted that black enlistees generally performed poorly on the standardized military aptitude tests.[7] These two indicators were used to justify ongoing segregation as well as relegating black units to support, as opposed to combat, duties.

In an environment characterized by a growing civil rights movement pushing for racial equality in the armed forces on one side, and military resistance to racial integration on the other, on July 26, 1948, President Harry Truman issued Executive Order 9981 calling for equal treatment in the US military. This was widely understood to be a call for integration. Both domestic and international considerations compelled Truman's action (MacGregor 1981: 292). Domestically, the increasingly organized black vote represented a sizable voting bloc that was appealing for Democratic candidates. Before the 1948 presidential election, Truman's advisers persistently urged him to take concrete actions to court the black vote. Internationally, the emerging threat of the Soviet Union highlighted the importance of maintaining and strengthening the US military which

---

[5] The 1945 report, which was released by what was known as the Gillem Board, further favored the continued use of the quota system placing a limit on the number of Black soldiers that could serve in the army. The 1950 report was headed by Lieutenant General S. J. Chamberlin.

[6] Black soldiers also exhibited exemplary performances in combat. For instance, seven individuals received the Medal of Honor for service during WWII, though they only received the honor in 1990 due to a discriminatory policy that prohibited bestowing this honor on black soldiers. Vernon Baker offers a striking example. He was ordered to take an enemy position at Castle Aghinolfi, Italy, in April 1945. While his white commander fled the battlefield, Baker exposed himself to enemy fire to cover the evacuation of his wounded men.

[7] Later evaluations of these studies noted that they generally tested educational achievement rather than innate intelligence. See MacGregor (1981: 24–25) for a broader discussion of these tests.

was shrinking in the aftermath of World War II. Black individuals represented a sizable amount of both the potential, and current, US military manpower. Given the Soviet threat, the possibility of blacks boycotting a segregated military posed a dire potential manpower concern (MacGregor 1981: 291).

Despite Truman's executive order, actual policy implementation was slow with units remaining segregated through the remainder of 1948 and 1949. Even when the Korean War began on June 25, 1950, military units were *still* segregated. Commanders thus took on the task of integration during an active large-scale conflict.

3 Competing Logics of Race and Casualties Under Segregation

Drawing on historical evidence, we describe countervailing reasons to expect that unit segregation increased or decreased the relative fatality rate of black soldiers. We highlight two factors suggesting that black soldiers should die at *higher* rates, before turning to offsetting considerations.[8] First, perceptions that black lives are worth less than whites lives would lead commanders to assign black soldiers to difficult and dangerous tasks within war. Several events illustrate the prevalence of such beliefs throughout the history of the United States military. For instance, one account of the Union's attack on Fort Wagner in the American Civil War contends that the commanding officer let the all-black Massachusetts 54th Regiment lead the charge precisely because the fatalities would be high. The account describes Major General Truman Seymour stating, "Well, I guess we will let Strong lead and put those d—d niggers [sic] from Massachusetts in the advance; we may as

[8] We study divergent fatality rates conditional on serving in a combat role in a war zone. A related but distinct quantity is whether a demographic group's share of overall fatalities mirrors its share of the societal population, as studied in Kriner and Shen (2010). This latter quantity depends on numerous factors beyond the battlefield, including enlistment propensity, staffing quotas, and role assignments. For discussions of these factors in the context of black fatalities during the Vietnam War, see Moskos and Butler (1996: p. 8) and Maxwell (2018: p. 111). Black soldiers constituted 9.2% of all US Korean War fatalities while making up 10.0% of the US population according to 1950 census data.

well get rid of them one time as another" (Berlin, Reidy, and Rowland 1998: 101). Many decades later, a battalion commander echoes these sentiments during an interview for Project Clear, a major military opinion survey on attitudes to desegregation before the Korean War. He states:

> If we are going to have all-colored units, I would suggest they be assault troops and not defense troops. In defense they have to sit still day or night and the darkness finally gets them. They get to thinking too much and imagining too much and they're apt to get panicky so my idea is to use them as assault troops and when the attack is over take them out of the line (Bogart 1992: 11-12).

Second, black soldiers recounting their experiences serving in segregated units allege unequal treatment on and off the battlefield. Bogart (1992), summarizes their accounts, notes "The all-Negro unit is alleged to receive discriminatory treatment in equipment, supplies, recreational opportunities, promotions, tough unit assignments, rest rotation, food, clothing, PX rations, medical care, leadership, and publicity." He continues: "Calls by all-Negro units for airstrikes were ignored; they get more 'short rounds' from our artillery; their wounded must be carried off hills by other men, since they are not given helicopter evacuations (Bogart 1992: 53)." A black soldier fighting in a black unit recounts, "Another thing, in those white companies, when they get hit and the men get wounded, that's when you see all those helicopters taking them off. With us, some of the men die because they make us carry them down off the hill" (Bogart 1992: 55).[9] Moreover, some allege that poorly performing white officers were assigned to command black units, thus putting black soldiers at greater risk (Maxwell 2018: p. 72). More difficult assignments coupled with worse battlefield support suggests black soldiers in segregated units would die at higher rates than white counterparts.

In contrast to the reasoning above, several factors lead to the opposite empirical prediction: black combat soldiers should die at *lower* rates than white soldiers. Proponents of segregation justified the policy's continuation on the grounds that black soldiers were less competent soldiers

[9] Fazal (2014) documents the importance of medical practices in combat zones for explaining fatality to wounded ratios.

than their white counterparts. They also noted that black enlistees generally performed poorly on the standardized military aptitude tests. If deemed less competent, black units could be assigned trivial tasks away from the front lines.

These attitudes were present in both the enlisted and officer ranks of the military at the onset of the Korean War. One divisional deputy commander explains his preference for keeping black soldiers away from combat, "In my opinion, they serve better, they perform better, in service type units where they're not in physical contact with the enemy...They've been very successful as artillerymen, and I believe in antiaircraft. If I were just looking for efficiency, I would just put them in those types of units" (Bogart 1992: 33). A white enlisted service-member echoed these sentiments, "I think they all ought to be in Truck Companies. They're good at that. They can really drive them motherfuckers. They're no good in combat. We had to retreat through their position many a time because they bugged out" (Bogart 1992: 33).

The described attitudes suggest a preference for keeping black units away from strategically vital tasks. Assigned easier and less important missions, black fatalities would trail white fatalities. In the context of the Korean War, this could mean assignments away from likely North Korean attack points along the Pusan Perimeter where any weaknesses in the US response could allow North Korean forces to drive US forces off the peninsula. Such zones, for instance along the Naktong Bulge, were likely to see high fatality numbers. If commanders disproportionately assigned white units such tasks, they would die in higher numbers than black counterparts.

We stress that outcomes from segregation could look quite different in a military context compared to other contexts, such as schooling. In most contexts, the distributional consequences of discriminatory policies are clear: privileged groups benefit while targeted groups suffer. In many instances, anticipation of asymmetric outcomes likely motivates the implementation of discriminatory policies in the first place. However, the implications of institutional discrimination in the military, at least in the form of personnel segregation, are far more ambiguous in terms of its battlefield consequences. Unlike many domains, those imposing segregation in the military want something back from the underprivileged group—specifically, battlefield contributions that advance the US

war effort. This contextual difference generates theoretical reasons to expect that segregation could cause black soldiers to die at either higher or lower rates than white soldiers. Indeed, demands for contributions from all personnel could override other considerations. If the case, it would partly explain our finding, described below, of no racial fatality gap under unit segregation.

4 Micro-Level Data on the Racial Distribution of Combat Fatalities Under Segregation

The empirical approach to adjudicate between the theorized possibilities uses new micro-level data on the race, date of death, and military unit assignment of all US soldiers who died during the Korean War. When fully constructed, the data set includes an observation for each army infantry battalion deployed in Korea for each half month period of the segregated portion of the war. An observation captures the battalion's specified race and fatalities for that period. This section sets the temporal scope for the segregated period of the war, justifies the unit of analysis, and describes the multiple data sources.

4.1 The Infantry Battalion-Period as the Unit of Analysis

The segregated-era analysis runs from the start of the war until November 1, 1951. By this cut point, nearly 75% of units were integrated and the all black 24th Regiment was disbanded.[10] The

[10] Robustness tests in the Supporting Information (SI) show that results remain stable when using different cut points. Integration was an admittedly gradual process which complicates the analysis. Some understrength white units—such as the 1st and 2nd battalions of the 9th Infantry Regiment, 2nd Infantry Division (ID)—incorporated black soldiers as early as August 1950 due to manpower demands. However, the November 1, 1951 cut point remains promising as over 80% of black soldiers remained in segregated units as late as May 1951 and the all black 24th Regiment was only inactivated at the start of October 1951. Moreover, data granularity described below allows us to distinguish the race of each individual fatality, even conditional on a unit's putative racial distinction.

unit of analysis during segregation is the infantry battalion-period, which we adopt for three reasons. First, infantry units provide a natural analytical focus given that they bore the lion's share of the war's costs.[11] Second, among infantry units, we focus on the battalion because this was the lowest organizational level at which segregation occurred in infantry units. Infantry battalions were nested within regiments which were nested within divisions.[12] Third, the "period" portion of the infantry battalion-period spans half-month increments—i.e., there are separate observations for the first and second halves of September 1950. The temporal granularity mirrors the Army personnel reporting standards during the war. In particular, each half-month infantry units provided detailed manpower reports to G-1 staffs, which manage personnel issues and planning for the Army. Additionally, employing half-month increments allows us to account for time-varying factors that affect fatality rates. These include whether a given battalion was deployed in Korea, as opposed to stationed in the US or Japan, and the intensity of fighting on the ground which fluctuated wildly throughout the war.

4.2 Constructing the Data

Generating infantry battalion-period measures requires both individual and unit data. We collect the individual-level data from two sources. First, the National Archives maintains digitized files on all US military fatalities during the war.[13] These records detail each casualty's name, date of death or declared dead, race, and service number. The database includes 33,642 records for all those who died as a result of hostilities. The Korean War Project is the second individual-level data source. The Korean War Project is a privately maintained site that contains individual records for

[11] We include cavalry divisions which served similar functions in Korea despite retaining their historical designations.

[12] An even more micro-level approach might use the individual as the unit of analysis. Unfortunately, to our knowledge there is no complete list with demographic information for all individuals who served in the US military during the Korean War.

[13] "Korean Conflict Casualty File, 1/1/1950–2/7/1957." *Records of Military Personnel Who Died as a Result of Hostilities During the Korean War.* Record Group 330. National Archives.

war casualties which provide the soldier's name, service number, and date of loss.[14] Importantly, the vast majority of pages include the soldier's unit assignment, typically down to the company level, which is even more granular than the battalion level. We scraped the pages for all 36,896 individuals. The number exceeds that from the National Archives due to the inclusion of fatalities from non-battle causes—e.g., accidents and illness. We merged the National Archives and Korean War Project data using service numbers which uniquely identify each individual.[15] In total, the data set has 19,840 combat fatalities with known infantry battalion assignments, of which 15,188 occurred during the segregated period of the war.[16]

We aggregate all individual fatalities to the battalion-period level. At the unit level, for each battalion that fought during the segregated portion of the war, we collect its date of arrival (and departure if relevant) on the peninsula from an exhaustive chronology of the Korean War compiled by Hannings (2007). In total, 64 different infantry battalions fought during the segregated part of the war. Of these 64, five were black battalions: all three battalions of the 24th Infantry Regiment of the 25th Infantry Division (ID), the 3rd Battalion of the 9th Infantry Regiment, 2nd ID, and the 3rd Battalion of the 15th Infantry Regiment, 3rd ID. The final step calculates the fatality rate for each battalion-period, which we multiply by 100 to ease interpretation. For the denominator, we use the benchmark strength levels set forth in the Tables of Organization and Equipment (T/O&E) (Boose 2005), which stipulate that a battalion consists of 917 soldiers commanded by a Lieutenant

[14] Accessed 1/30/17: `koreanwar.org`. The National Archives includes the Korean War Project as a "Military Resource" as found on 1/30/15 at `https://www.archives.gov/research/alic/reference/military/korean-war.html`.

[15] Spot checks of the merged data revealed consistency in names across the two data sets, corroborating the merge approach. When no match was found, it was primarily due to the Korean War Project including non-combat fatalities which we exclude from the analysis.

[16] The sample declines from the total hostile-combat deaths in the war of 33,624 to the 19,840 for two reasons. First, service branches besides the Army, and thus outside the scope of our analysis, experienced approximately 6,000 fatalities. Second, within the army, roughly 8,000 fatalities do not have infantry battalion assignments because they (a) served in non-infantry units (e.g., field artillery), (b) served in a regimental or division headquarters without a specified battalion, or (c) have no or multiple battalion assignments listed on the Korean War Project site.

Colonel. Admittedly, there was variation in overall size—for instance, a battalion might be smaller after recent heavy battlefield losses. Additionally, some evidence suggests that black battalions were larger because of a relative dearth of units to which commanders could assign black combat soldiers.[17] While noting potential discrepancies, the SI shows that variation in unit size is highly unlikely to alter the findings. Substantive results remain similar even if battalions of one race averaged 100 more soldiers than battalions of the opposite race. The numerator for the fatality rate equals the number of fatalities within that battalion-period whose race matches the putative race of the battalion. Occasionally, some units contained soldiers of different races before the designated cut point between segregation and integration—such as white officers in black units. We exclude those fatalities whose race did not align with the designated race of the battalion (e.g., white soldiers who died while serving in nominally black units). Results are substantively and statistically similar when including those fatalities in the analysis, as shown in the SI.

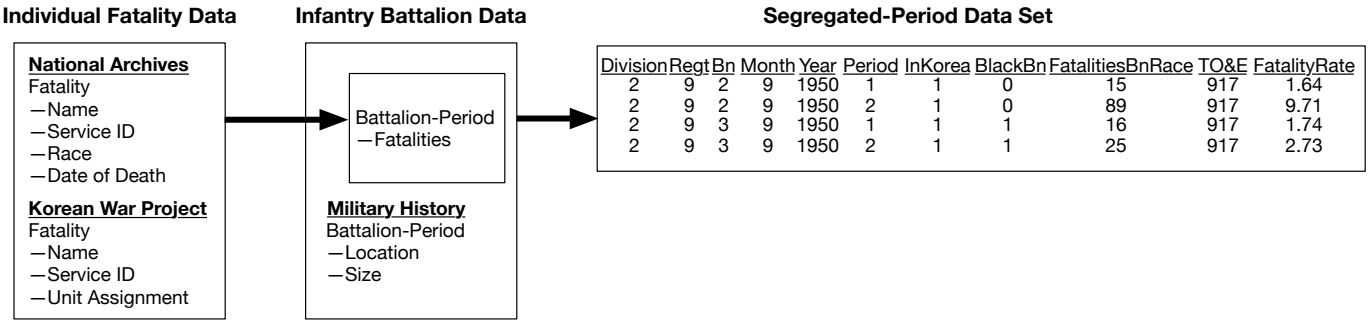

Figure 1 – We merge two sources of individual-level information to create a unique observation for each battalion for every half-month period.

Figure 1 summarizes the data construction process. Merging two sources of individual-level data allows us to aggregate fatalities by race and date to the battalion-period. Reference guides for the military history of the Korean War provide arrival (and exit) dates for each battalion. Put together, we obtain an observation for each infantry-battalion period, along with its fatality rate, for each period when battalions were in Korea.

[17] For this reason, the all black 24th Infantry Regiment was at full strength with three battalions at the start of the war while nearly all other regiments began the war short one battalion.

5 Results for Casualty Rates Under Segregation

We now have all the data needed for the first of our three questions: did black infantry battalions deployed in Korea experience higher fatalities than white infantry battalions? Figure 2 provides descriptive evidence to answer this question. It plots the fatality rates for each battalion in Korea through the segregated portion of the war. Solid lines represent mean battalion fatalities for a given period, split by battalion race. Several takeaways emerge from the figure. First, in accordance with known combat patterns, the war's intensity fluctuated substantially over time. US fatalities spiked during the initial months as North Korean forces pushed opposition forces south and again in the final months of 1950 with China's full entry into the war. During these and other periods, costs were distributed unequally across battalions with some losing over 30% of their soldiers while others saw no losses.

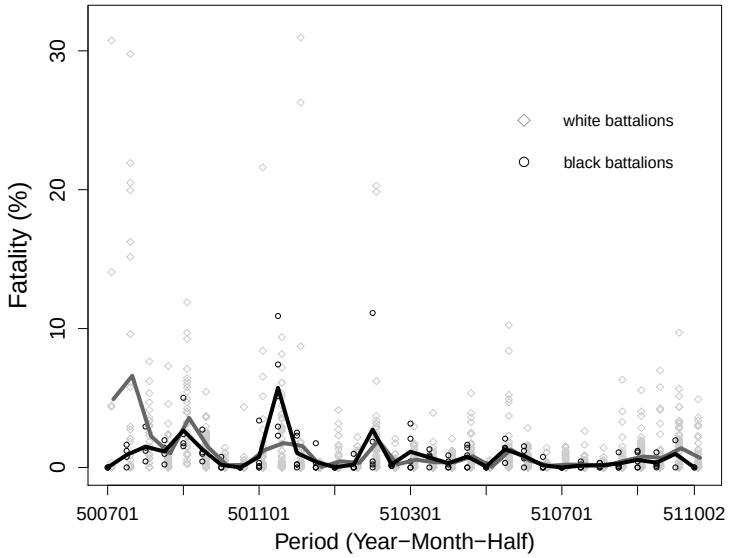

Figure 2 – US combat fatality rates by battalion through the segregated portion of the Korean War. Each point represents one battalion-period. Solid lines represent the average battalion fatality rate for that period, split by race.

Most saliently, the figure does not provide clear evidence of a racial fatality gap. Black and white battalion fatality averages largely track one another. However, sharp disjunctures punctuate the otherwise parallel pattern. Among these disjunctures, white units sometimes bore the heavier

costs and other times black units did. Thus, descriptively, there is no immediate evidence supporting a racial fatality gap in either direction. That said, the presence of disjunctures between fatality averages is noteworthy and a point to which we return.

Table 1 – Fatality Rate by Race: Segregation

	Battalions in Korea	
	(1)	(2)
Black Battalion	−0.05	−0.17
	(0.21)	(0.19)
Constant	0.89***	0.82***
	(0.06)	(0.29)
N	1,670	1,670
Period FEs	N	Y

$^{*}p < 0.1$ $^{**}p < 0.05$ $^{***}p < 0.01$

Notes: OLS regression with the battalion-period as the unit of analysis where each half-month is a period. Standard errors in parentheses. Period fixed effects not shown. Outcome is probability of fatality multiplied by 100.

Regression analyses in Table 1 corroborate overall impressions from the descriptive snapshot. All models use OLS with the battalion-period as the unit of analysis.[18] Only periods during which battalions were stationed in Korea, as opposed to staging in Japan, are included in the sample. Model 2 includes period fixed effects to capture any unmeasured time-specific factors that affect casualty rates, such as combat intensity. Consistent with the trends shown in Figure 2, the difference in fatality rates between black and white battalions is not statistically or substantively significant. In Model 1, for the average half-month period white units suffered fatality rates of 0.89%, which amounts to just over 8 deaths per half-month based on 917 soldiers per battalion. By comparison, the fatality rate for black units was only 0.05% lower, $\pm$ 0.41% at the 95% confidence level, which is equivalent to a range between 4.2 fewer deaths and 3.3 more deaths per period. In other words, the evidence does not support the conclusion that one race died at higher rates than the other. Including period fixed effects, shown in Model 2, yields generally similar results. While

[18] Results are robust to clustering standard errors on the battalion. Clustering shrinks standard errors; we report the more conservative standard errors in Table 1.

it shows a slightly larger gap in fatality rates (black battalion rate is 0.17% points lower than for white units), we again cannot preclude the null hypothesis of zero difference. While theorizing various reasons to expect divergent fatality rates, we intriguingly find no gaps.

5.1 Discussion of the Null: Highlighting Potential Mechanisms

Conditional on the battalion being in Korea, black and white battalions suffered similar fatality rates. This finding is consistent with at least two plausible explanations: either (1) none of the theorized mechanisms linking race to combat casualties is operative (i.e., commanders are deploying black battalions in a way that is race-blind), or (2) *offsetting* mechanisms are operative, with the dual race-based aspects largely canceling one another out.

To shed some light on these possibilities, we zoom in on the periods of the segregated portion of the war with the largest racial fatality gaps. White fatality rates greatly exceeded black rates in the first and second halves of July 1950, the initial month of the war. In contrast, black rates exceeded white rates in the second half of November 1950. Did those discrepancies emerge due to chance, race-based deployment decisions, or perhaps sheer logistical constraints?

We turn to the historical record to help answer this question. While admittedly speculative, it appears that logistics played a central role in driving the discrepancy in fatality rates during the first half of July. The three black battalions of the 24th Regiment were the only black units on the peninsula during the period. Having arrived on 11 July, there was simply less opportunity for combat compared to white units, some of which arrived more than a week earlier.[19]

There is similarly limited reason to believe that commanders' race-based choices created the racial fatality gap in the second half of July. US forces were on the defensive during the period. We theorized that if commanders believe black units to be less capable they may not assign them

[19] The choice of which battalions to deploy first to Korea, which created potential racial discrepancies under segregation, largely stemmed from geographic proximity. For instance, the 24th ID was the first to arrive on the peninsula because it was stationed nearby in southern Japan (Maxwell 2018: p. 57).

to critical defensive tasks. However, acute manpower likely overrode such considerations.[20] Consistent with war demands superseding commander dispositions on the optimal use of black units, elements of the 24th Regiment both attacked and defended during this two-week span. The 3rd Battalion, for instance, led the successful and highly-touted capture of Yechon (Bowers, Hammond, and MacGarrigle 1997: p. 91-93). In contrast, the full regiment was assigned to, and failed to, defensively hold off the North Korean assault on Sangju (Bowers, Hammond, and MacGarrigle 1997: ch. 5), with their battlefield performance receiving intense scrutiny (Hannings 2007). Commander of the Eighth Army General Walton Walker subsequently believed the 24th Regiment could serve only as a trip wire with additional forces behind them for reinforcement (Hastings 1988: p. 81). More to the point, black units in late July 1950 received offensive and defensive assignments with substantial risk of fatalities. Chance, rather than commander choice, seems to have caused the unequal burden during this fortnight with white fatality rates exceeding black rates.

During the second half of November, when black units suffered disproportionately, Chinese forces dramatically halted and reversed the US push north toward the Yalu. Four of the black battalions—all three of the 24th Regiment and the 3rd Battalion of the 9th Regiment—incurred heavy casualties during the Battle of the Ch'ongch'on River (Hannings 2007). A posited theoretical mechanism suggests that commanders may have placed black units at the front of US movements north during this offensive phase of the war, ultimately causing them to suffer the worst fate in the event of a counter-attack.

While plausible, the evidence is mixed. On one hand, the entire Eighth Army made the push northwards, of which the four black battalions constituted a small fraction. On the other hand, holding the Infantry Division fixed, black battalions suffered higher fatalities. That is, while the Eighth Army suffered broadly, the black battalions within it suffered at a notably high rate. The average white battalion in the 25th ID suffered a 2.8% fatality rate whereas the all black 24th

[20] That said, some individuals do continue to racially discriminate despite steep costs to doing so (Edelman, Luca, and Svirsky 2017), suggesting that some commanders, despite pressing military needs, could still divide unit assignments in a discriminatory fashion.

Regiment within the 25th ID had a 6.3% fatality rate. The comparable fatality rates for white and black units in the 2nd ID were respectively 5.7% and 7.4%. Near the Ch'ongch'on River, black battalions fought alongside white battalions but incurred higher costs. While black units faced an onslaught from Chinese forces, the same was true of those white units flanking them. Unit positioning does not fully account for divergent fatality rates; rather, other factors partially explain the discrepancies. These include a communication failure which caused an all-black task force to miss the order to retreat and a poor-performing officer who led the 3rd Battalion of the 24th Regiment and subsequently was quoted disparaging his black soldiers (Bowers, Hammond, and MacGarrigle 1997: p. 199 218). It is open to debate whether racial animus or elements of chance intrinsic to war account for the disproportionately high black fatality rates around Kunu-ri in late November 1950. In sum, we do not observe a racial fatality gap under unit segregation. Black units suffered higher losses in some periods and lower losses in others.

6 Integration: Expectations, Data, and Results

After extensive delays, the Army began implementing Truman's Executive Order 9981 in the midst of the Korean War. As noted, 75% of units were integrated by November 1, 1951, which marks the starting point of our integration-period analysis. With integrated units, are there still reasons to expect a racial fatality gap? In short, we suggest there are not. Having soldiers of different races serving side-by-side renders many of the potential causes of disparate racial fatalities moot. Commanders' choices about positioning units, at least at the battalion-level, will not generate racially distinct outcomes. Issues of battlefield support, whether from flanking units or from the air, similarly lose potential racial implications with the end of unit segregation.[21] This occurs because issues capable of generating casualty discrepancies under integration, such as poor battlefield support, will affect black and white soldiers equally. For these reasons, we expect black and white

[21] Differential unit deployment to Korea also becomes moot with integrated units.

soldiers to die at similar rates in integrated units. The null result on mean differences during the segregated portion of the war only bolsters this expectation.

6.1 Data after Integration

Though similar in flavor, analyzing post-integration fatality rates requires amendments to the approach used for the segregated period of the war. All individual-level data still comes from the National Archives and the Korean War Project sites. The complication, as opposed to the earlier analysis, is establishing a denominator for each race within each battalion in order to calculate fatality rates. Before, we could use the TO&E specification of 917 soldiers per battalion. In contrast, the integrated period requires intra-battalion racial demographics. This is important since if, for example, we observe 10 black fatalities within a given battalion in a two-week period, we do not know whether this is a high or low fatality rate. If there were only ten black soldiers in the battalion, then this would mean that the fatality rate was 100%; by contrast, if there were 500 black soldiers in the battalion, this would imply a much lower fatality rate of 2%.

Given this empirical challenge, we collected new archival data from the National Archives in College Park, Maryland which provides information about both the ubiquity and degree of racial integration across battalions throughout the integrated period of the Korean War. Regular personnel reports provided to the G-1 staffs twice per month indicate overall manpower for each unit, typically down to the battalion level, as well as the racial breakdown of manpower. Table 2 depicts a typical report. It includes authorized and actual personnel levels, plus a column often labeled "Class II" personnel which reports the number of black soldiers. We collected and digitized all available personnel information on intra-unit racial breakdowns for infantry units across the integrated portion of the war. Data was available for 594 battalion-periods, which represents 19% of

total battalion-periods.[22] Based on the available data, black soldiers constituted 13.7% of battalion personnel on average (standard deviation 4.6%).

The unit of analysis after integration becomes the racial battalion-period. For each battalion-period we record total black and white soldiers and total black and white fatalities. For instance, the 1st Battalion, 17th Regiment, of the 7th ID in the first half of February 1953 has two observations—one for white soldiers and one for black soldiers. In the main analyses, we calculate total black and white soldiers assuming each battalion had the TO&E prescribed number of 917 total soldiers and that blacks represented 13.7% of the unit—i.e., the observed sample mean. Each observation has an implied number of soldiers, 126 black or 791 white. Secondary analyses limit the sample to only those observations with reported personnel strength levels—that is, the 594 battalion-periods for which we have data. Results are similar with either specification.

6.2 Results after Integration

We can now address the second of our three questions: did black and white fatality rates differ after integration? There are numerous reasons, outlined above, to expect they did not. Figure 3, which plots the probability of dying for each racial battalion-period, offers initial evidentiary support for the expectation. A given point represents, say, black fatalities in a battalion-period divided by the average observed number of blacks for a battalion during the integrated portion of the war. Solid lines represent the period averages by race. Two takeaways emerge. First, overall fatality rates for units deployed to Korea are lower during the integrated phase (0.15%) than during the segregated phase (0.89%). This accords with the known history where the war's final two years consisted of stalemate punctuated by sporadic fighting. Second, and crucially for this paper, the

[22] As Balcells and Sullivan (2018) emphasize, production and retention of archival records can vary across observations. In our case, recorded personnel levels split by race are widely available for six of the nine Army divisions in Korea from late 1952 through the end of the war in mid-1953. The fact that results are similar whether or not the analysis is restricted to this subset of observations assuages concerns that systematic differences in documentation drive the conclusions.

	14th Regiment			27th Regiment			35th Regiment		
	Authorized	**White**	**Black**	**Authorized**	**White**	**Black**	**Authorized**	**White**	**Black**
1st Battalion	887	718	52	887	716	67	887	727	65
2nd Battalion	887	707	71	887	728	64	887	760	41
3rd Battalion	887	778	75	887	719	70	887	709	57

Table 2 – Battalion Strength Report for the 25th Infantry Division as of February 1, 1953.

racial averages closely track each other across time with no sizable disjunctures between the black and white fatality rates. While variation across units is evident with some units losing nearly 12% of personnel in a given half-month, the aggregate patterns indicate no race-based fatality gap once units were integrated.

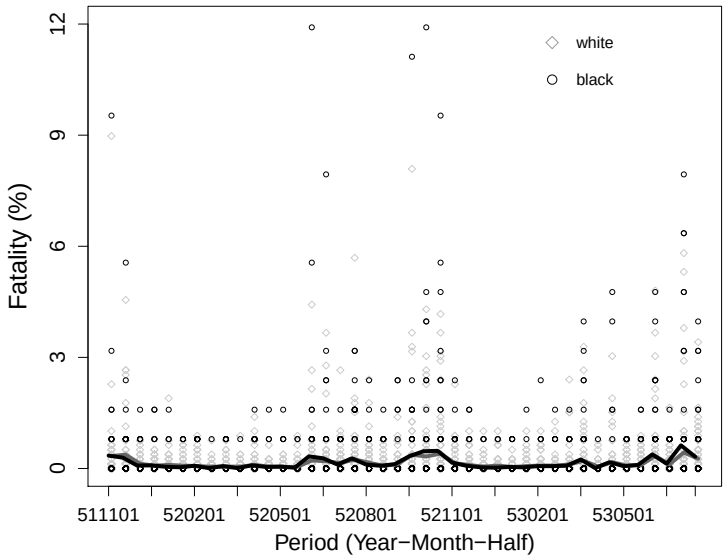

Figure 3 – Probability of US combat fatalities by race for each battalion in the integrated portion of the Korean War. Each point represents one racial battalion-period. Solid lines represent average racial battalion fatality rate for that period.

Regression results reported in Table 3 confirm the substantive takeaways from the descriptive plot. Across multiple specifications, fatality rates are very similar for black and white soldiers. Models 1-3 include all racial battalion-periods from the integrated phase of the war. To facilitate interpretation, we multiply the outcome variable by 100.

Model 1 shows that 0.15% of white soldiers died in the average half-month period following unit integration. Black soldiers died at essentially identical rates (coefficient of 0.004%). The negligible marginal effect of moving from white to black soldiers holds steady across specifications including period or period and unit fixed effects. The latter specification (Model 3) compares black and white fatality rates within the same battalion during the same period. As theorized, the difference in fatality rates post-integration is statistically insignificant. Models 4-6, which restrict the sample to only those observations with available archival material on intra-unit racial breakdowns,

yield similar results.[23] The marginal effect of moving from white to black soldiers remains statistically insignificant, regardless of which, if any, fixed effects are included. In sum, fatality rates were similar for blacks and whites after integration, which accords with our expectation that their fates converged once serving in close proximity to one another.

Table 3 – Fatality Rate by Race: Integration

	Average Personnel			Actual Recorded Personnel		
	(1)	(2)	(3)	(4)	(5)	(6)
Black Soldiers	0.004	0.004	0.004	−0.04	−0.04	−0.04
	(0.02)	(0.02)	(0.01)	(0.04)	(0.04)	(0.04)
Constant	0.15***	0.34***	0.22***	0.24***	0.72***	0.56***
	(0.01)	(0.06)	(0.08)	(0.03)	(0.07)	(0.16)
N	6,162	6,162	6,162	1,110	1,110	1,110
Period FEs	N	Y	Y	N	Y	Y
Battalion FEs	N	N	Y	N	N	Y

$^{*}p < 0.1$ $^{**}p < 0.05$ $^{***}p < 0.01$

Notes: OLS regression with the racial battalion-period as the unit of analysis where each half-month is a period. Standard errors in parentheses. Period and battalion fixed effects not shown. Outcome is probability of fatality multiplied by 100. Models 1-3 use the observed average for unit sizes while Models 4-6 only include observations where archival personnel data was available and that had at least 50 black soldiers.

6.3 Fatality Gap Variance: Segregation and Integration

Black and white soldiers died at roughly similar rates regardless of whether fighting in segregated or integrated units. Aggregate parity in fatality rates, however, masks important heterogeneity in fatality patterns depending on racial military staffing policies. This section answers our third question: did the shift from segregation to integration change the variability of racial fatality rates? Our analysis highlights the *potential* for unequal distribution of costs in the short term under segregation which disappeared under integration.

[23] The analysis drops black battalion-periods with fewer than 50 black soldiers because a small dominator could produce large spikes in fatality rates. Results are similar with lower and higher cut points.

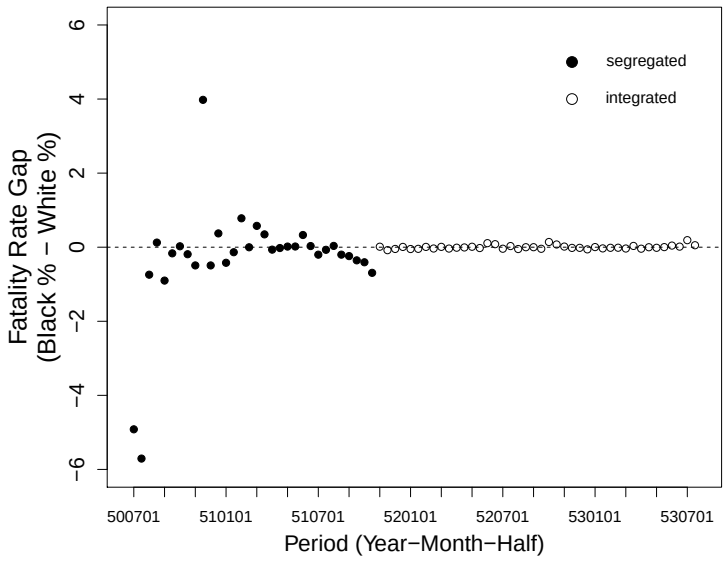

Figure 4 – Difference in racial fatality rates across the Korean War.

Figure 4 demonstrates how segregation affected fatality patterns. It plots the difference in mean fatality rates for black and white units in each period with positive values on the y-axis indicating that black units suffered higher fatalities. Clearly the variance of mean differentials was far higher under segregation than under integration with substantial fatality gaps occurring early in the war. In July 1950, white units bore the higher costs. In November 1950, black units did. The wild swings that occurred under segregation disappear after integration. Three statistical tests demonstrate that the difference in variances between segregation and integration is unlikely due to chance (results presented in the SI). The first is a simple regression with the absolute fatality rate difference for each period as the outcome variable and an indicator for segregation as the explanatory variable. As expected, absolute racial fatality rate gaps were higher during the segregated portion of the war ($p < 0.01$). The second is Levene's test for whether the variance of two vectors differs. The vectors contain the mean fatality rate differential for each period (black rate minus white rate) with one vector for under segregation and one for under integration. The difference in variances is indeed statistically significant ($p < 0.01$). A third test employs randomization inference which does not rely on distributional assumptions. We define a test statistic as the difference between the variance of fatality rates under segregation versus under integration. Next, we randomly reassign

each period as being during segregation or integration, which amounts to imagining that we could randomly assign staffing policies for all half-month periods. After each randomization (n=10,000), we calculate the test statistic based on the realized assignments. In total, two percent of the 10,000 iterations produce a larger gap in fatality rate variance than the one observed in the actual data.

Robustness tests in the SI confirm that the higher short-term fatality rate gaps under segregation cannot be attributed to the higher overall fatalities during that portion of the war. A critique might contend that lower combat intensity during the latter half of the Korean War, during which time US units were integrated, simply made it impossible for large fatality rate gaps to emerge between soldiers of different races. To account for this possibility, we conduct an analysis that inflates fatality rates under integration to match the rates under segregation (roughly a 6x increase in fatalities). Using these inflated numbers, we rerun the analyses from the prior paragraph. We continue to consistently observe substantively and statistically larger short-term inter-racial fatality discrepancies under segregation as compared to under integration.

The sacrifices soldiers paid in the Korea War happened to net out to roughly equivalent levels across racial lines during the segregated portion of the war. However, that should not obscure the imbalanced short-term consequences that segregation made possible. Segregating black and white soldiers provided a permissive environment for substantial inter-racial differences in the costs of war. In aggregate, these short-term differences offset one another. Nevertheless, the pattern highlights potentially steep consequences of institutional staffing policies.

7 Conclusion

Dying in combat is often heralded as the ultimate act of devotion to, and sacrifice for, one's state. Institutional policies of the armed forces—such as the use of conscription versus voluntary service (Kriner and Shen 2010; Horowitz and Levendusky 2011; Fordham 2016) or whether states deploy combat soldiers versus relying on combat strategies that do not necessitate boots the ground (Luttwak 1996; Caverley 2014)—shape who bears war's human and financial costs. Policies re-

garding ethnic or racial segregation present a less studied but potentially equally important driver of war's distributional consequences.

This paper examines the manifestation of these policies within the US military and their consequences as measured by the distribution of war's highest cost. We highlighted a tension in whether unit segregation would be associated with higher or lower black unit fatality rates. Using newly collected and constructed battalion-level data, we empirically assess these competing possibilities. Ultimately, black and white combat units suffered fatalities at roughly similar rates during both segregation and integration. Despite similar aggregate fatality rates, closer inspection reveals the highly contingent nature of that result during the period of the war with unit segregation. Racial fatality gaps fluctuated widely from short-term period to short-term period. In some months, white units bore the brunt of war's costs. In other periods, black units did. It seems at least partly due to chance that these fluctuations ultimately offset one another, yielding similar aggregate fatality rates. These fluctuations essentially disappear after the integration of units. Consequently, race-based personnel policies opened the door to a skewed cost distribution within the military.

Beyond contributing to historical understandings of the costs paid by black and white soldiers throughout the Korean War, our project highlights potential areas for future work. In our view, better understanding the causes and consequences of segregationist military staffing policies is a fruitful area for additional inquiry. Segregation within military forces was not unique to the pre-1952 US armed forces. Segregation was a historically common and ongoing practice, whether on the basis on race in the US, gender in WW1 Russia, class in India, sect in Iraq, or ethnicity in Chechnya, Israel, Imperial China, and the Union Army in the American Civil War.[24] Synthesizing research on race and ethnic politics with studies on force employment promises to yield new insights on who suffers the greatest costs of state policies.

This paper obviously cannot speak to each historical instance of segregated combat units. However, it does reveal how the mere presence of unit segregation creates permissive conditions for at least short-term divergences in burden sharing. Moreover, the Korean War case illus-

[24] An Irish Brigade figured prominently in the Union Army during the American Civil War.

trates that discriminatory policies need not produce unequal outcomes in the aggregate. Military considerations—such as a desire to maximally achieve victory and minimally avoid annihilation—impose constraints on how commanders position and employ segregated units. An improved understanding of who bears the costs of war offers potentially broader insights for international politics, especially for the conduct of democracies. The distribution of war's costs affects whether states take a rash or prudent approach to war (Caverley 2014; De Mesquita et al. 2005; Weeks 2008). Consequently, identifying who suffers the ravages of war is an important step toward understanding when states are more likely to wage it.

References

Acharya, Avidit, Matt Blackwell, and Maya Sen. 2016*a*. *Deep Roots: The Political Legacy of Southern Slavery*. Princeton University Press.

Acharya, Avidit, Matthew Blackwell, and Maya Sen. 2016*b*. "The Political Legacy of American Slavery." *Journal of Politics* 78(3): 44.

Balcells, Laia, and Christopher M Sullivan. 2018. "New Findings From Conflict Archives: An Introduction and Methodological Framework." *Journal of Peace Research* 55: 137—146.

Barbeau, Arthur E, and Florette Henri. 1974. *The Unknown Soldiers: Black American Troops in World War I*. Temple University Press.

Berlin, Ira, Joseph Patrick Reidy, and Leslie S Rowland. 1998. *Freedom's Soldiers: The Black Military Experience in the Civil War*. Cambridge University Press.

Bogart, Leo. 1992. *Project Clear: Social Research and the Desegregation of the United States Army*. Transaction Publishers.

Boose, Donald. 2005. *US Army Forces in the Korean War 1950-1953*. Osprey Publishing.

Bowers, William T, William M Hammond, and George L MacGarrigle. 1997. *Black Soldier, White Army: The 24th Infantry Regiment in Korea*. Diane Publishing.

Carey, Sabine C, Neil J Mitchell, and Will Lowe. 2013. "States, the Security Sector, and the Monopoly of Violence: A New Database on Pro-Government Militias." *Journal of Peace Research* 50(2): 249–258.

Caverley, Jonathan D. 2014. *Democratic Militarism: Voting, Wealth, and War*. Cambridge University Press.

Cornish, Dudley Taylor. 1966. *The Sable Arm: Negro Troops in the Union Army*. WW Norton.

De Mesquita, Bruce Bueno, Alastair Smith, Randolph M. Siverson, and James D. Morrow. 2005. *The Logic of Political Survival*. MIT press.

Edelman, Benjamin, Michael Luca, and Dan Svirsky. 2017. "Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment." *American Economic Journal: Applied Economics* 9(2): 1–22.

Enos, Ryan D, and Christopher Celaya. 2018. "The Effect of Segregation on Intergroup Relations." *Journal of Experimental Political Science* 5(1): 1–13.

Fazal, Tanisha M. 2014. "Dead Wrong? Battle Deaths, Military Medicine, and Exaggerated Reports of War's Demise." *International Security* 39(1): 95–125.

Foner, Jack D. 1974. *Blacks and the Military in American History: A New Perspective*. New York: Praeger.

Fordham, Benjamin O. 2016. "Historical Perspective on Public Support for the Draft: War Costs and Military Service." *Journal of Global Security Studies* 1(4): 303–322.

Hall, Andrew B, Connor Huff, and Shiro Kuriwaki. 2019. "Wealth, Slave Ownership, and Fighting for the Confederacy: An Empirical Study of the American Civil War." *American Political Science Review* .

Hannings, Bud. 2007. *The Korean War: An Exhaustive Chronology*. Vol. 1 McFarland & Co Inc Pub.

Hastings, Max. 1988. *The Korean War*. Simon and Schuster.

Horowitz, Michael C., and Matthew S. Levendusky. 2011. "Drafting Support for War: Conscription and Mass Support for Warfare." *Journal of Politics* 73(2): 524–534.

Kriner, Douglas L, and Francis X Shen. 2010. *The Casualty Gap: The Causes and Consequences of American Wartime Inequalities*. Oxford University Press.

Luttwak, Edward N. 1996. "A Post-Heroic Military Policy." *Foreign Affairs* pp. 33–44.

Lyall, Jason. 2010. "Are Coethnics More Effective Counterinsurgents? Evidence from the Second Chechen War." *American Political Science Review* 104(1): 1–20.

MacGregor, Morris J. 1981. *Integration of the Armed Forces, 1940-1965*. Center of Military History United States Army.

Maxwell, Jeremy P. 2018. *Brotherhood in Combat: How African Americans Found Equality in Korea and Vietnam*. University of Oklahoma Press.

McPherson, James M. 2008. *The Negro's Civil War: How American Blacks Felt and Acted During the War for the Union*. Vintage.

Moskos, Charles C, and John Sibley Butler. 1996. *All That We Can Be: Black Leadership and Racial Integration the Army Way*. BasicBooks.

Moskos Jr, Charles C. 1966. "Racial Integration in the Armed Forces." *American Journal of Sociology* 72(2): 132–148.

Quarles, Benjamin. 2012. *The Negro in the American Revolution*. UNC Press Books.

Rosen, Stephen Peter. 1996. *Societies and Military Power: India and its Armies*. Ithaca, NY: Cornell University Press.

Sharp, Jeremy M. 2006. *Iraq's New Security Forces: The Challenge of Sectarian and Ethnic Influences*. Congress Research Service.

Weeks, Jessica L. 2008. "Autocratic Audience Costs: Regime Type and Signaling Resolve." *International Organization* 62(01): 35–64.

White, Ariel R, Noah L Nathan, and Julie K Faller. 2015. "What Do I Need to Vote? Bureaucratic Discretion and Discrimination by Local Election Officials." *American Political Science Review* 109(1): 129–142.

Williams, George Washington. 2012. *A History of the Negro Troops in the War of Rebellion, 1861-1865*. Oxford University Press.

Supporting Information for "Segregation, Integration, and Death: Evidence From the Korean War"

Contents

1 Segregation Analysis: Results and Robustness 2

2 Segregation vs. Integration Analysis–Short-Term Differentials: Results and Robustness 6

1 Segregation Analysis: Results and Robustness

Standard errors. Results from segregation period analysis (Table 1, Models 1-2) with standard errors clustered on the battalion.

Table A1: Fatality Rate by Race: Segregation–Clustered SEs

	Battalions in Korea	
	(1)	(2)
Black Battalion	−0.05	−0.17
	(0.13)	(0.13)
Constant	0.89***	0.82***
	(0.08)	(0.15)
N	1,670	1,670
Period FEs	N	Y

$^{*}p < 0.1$ $^{**}p < 0.05$ $^{***}p < 0.01$

Notes: OLS regression with the battalion-period as the unit of analysis where each half-month is a period. Standard errors clustered on the battalion in parentheses. Period fixed effects not shown. Outcome is probability of fatality multiplied by 100.

Battalion size. The main segregation period analyses use the TO&E prescribed battalion size (917) as a denominator to calculate fatality rates. The analysis below examines whether systematic variation in battalion sizes such that either black or white units were larger than the other would alter the results. As shown, even if white or black units were on average 100 soldiers larger than the other, racial fatality rate gaps remain small and statistically insignificant. Analysis uses Table 1, Model 1 from the manuscript as the benchmark.

Table A2: Fatality Rate by Race: Segregation–Variation in Battalion Size by Race

	Battalions in Korea										
Avg white bn size vs. avg black bn size	-100	-80	-60	-40	-20	0	20	40	60	80	100
Black Battalion	−0.14	−0.13	−0.11	−0.09	−0.07	−0.05	−0.03	−0.01	0.01	0.03	0.05
	(0.22)	(0.22)	(0.22)	(0.21)	(0.21)	(0.21)	(0.21)	(0.20)	(0.20)	(0.20)	(0.20)
Constant	0.94***	0.93***	0.92***	0.91***	0.90***	0.89***	0.88***	0.87***	0.86***	0.86***	0.85***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
N	1,670	1,670	1,670	1,670	1,670	1,670	1,670	1,670	1,670	1,670	1,670

$^{*}p < 0.1$ $^{**}p < 0.05$ $^{***}p < 0.01$

Notes: OLS regression with the battalion-period as the unit of analysis where each half-month is a period. Standard errors in parentheses. Outcome is probability of fatality multiplied by 100. Analysis varies the average size of black vs. white battalions.

Date integration period began. The main segregation period analyses use the start of November 1951 as the point at which units are integrated. The analysis below shows that results do not depend on using this date as the cut point. Early and later dates yield similar results. Analysis uses Table 1, Model 1 from the manuscript as the benchmark.

Table A3: Fatality Rate by Race: Segregation–Variation in Integration Cut Point

Integration start...	1H-09-51	2H-09-51	1H-10-51	2H-10-51	1H-11-51	2H-11-51	1H-12-51	2H-12-51	1H-01-52
Black Battalion	−0.01	−0.02	−0.03	−0.05	−0.05	−0.04	−0.03	−0.02	−0.002
	(0.23)	(0.22)	(0.22)	(0.21)	(0.21)	(0.20)	(0.20)	(0.20)	(0.19)
Constant	0.89***	0.89***	0.88***	0.90***	0.89***	0.87***	0.85***	0.83***	0.80***
	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)
N	1,436	1,496	1,556	1,613	1,670	1,727	1,784	1,844	1,910

$^{*}p < 0.1$ $^{**}p < 0.05$ $^{***}p < 0.01$

Notes: OLS regression with the battalion-period as the unit of analysis where each half-month is a period. Model headings indicate Month Half-Month-Year. Standard errors in parentheses. Outcome is probability of fatality multiplied by 100.

Include all fatalities. The main segregation period analyses only count fatalities when the individual's race matches the putative race assigned to that battalion. The analysis below shows that results are similar when including all fatalities in a battalion even when they do not match a battalion's assigned race. This includes white officers dying in black battalions as well as black soldiers dying in white battalions that experienced some integration before the November 1951 cut point. Analysis based on Table 1, Models 1-2 from the manuscript as the benchmark.

Table A4: Fatality Rate by Race: Segregation–All Battalion Fatalities Regardless of Individual Race

	Battalions in Korea	
	(1)	(2)
Black Battalion	0.07	−0.05
	(0.22)	(0.20)
Constant	0.98***	0.94***
	(0.07)	(0.31)
N	1,670	1,670
Period FEs	N	Y

$^{*}p < 0.1$ $^{**}p < 0.05$ $^{***}p < 0.01$

Notes: OLS regression with the battalion-period as the unit of analysis where each half-month is a period. Standard errors in parentheses. Period fixed effects not shown. Outcome is probability of fatality multiplied by 100. Includes all fatalities within a battalion-period regardless of whether an individual's race matches the assigned race of the battalion.

2 Segregation vs. Integration Analysis–Short-Term Differentials: Results and Robustness

Institutional policy and absolute racial fatality rate gap differential. Let $\bar{y}_t^b$ and $\bar{y}_t^w$ equal the mean racial fatality rate in period t for black and white units respectively. For each period t, we calculate an absolute racial fatality rate gap as $|\bar{y}_t^b - \bar{y}_t^w|$. This serves as the outcome variable for an OLS specification with *Segregation* as a binary indicator for whether that period had segregated or integrated units. Model 2 repeats this analysis but after inflating fatality levels under integration to match those under segregation. Fatality levels were lower in the latter portions of the war. Inflating fatalities insures that lower overall combat intensity cannot explain the near disappearance of short-term racial fatality rate gaps under integration as shown in manuscript Figure 4. Rather, integration itself accounts for the decline in short-term divergences.

Table A5: Short-Term Fatality Rate Differentials Under Different Institutions: Segregation vs. Integration—OLS

	Actual Fatalities	Inflated Integration Fatalities
Segregation	0.68***	0.48**
	(0.21)	(0.22)
Constant	0.04	0.24*
	(0.14)	(0.14)
N	74	74

*$p < 0.1$ **$p < 0.05$ ***$p < 0.01$

Notes: OLS regression with the period as the unit of analysis where each half-month is a period. Standard errors in parentheses. Outcome is absolute difference in black fatality rate and white fatality rate by unit in a given period, multiplied by 100. Larger racial discrepancies in a given half-month produces larger outcome values. Inflated model increases overall fatality rates under integration to match those of segregation to insure that a lower level of overall lethality in the latter phases of the war does not explain the decline in short-term racial fatality rate gaps.

Levene's test: institutional policy and variance differentials. Again let $\bar{y}_t^b$ and $\bar{y}_t^w$ equal the mean racial fatality rate in period t for black and white units respectively. For each period t, we calculate a racial fatality rate gap as $\bar{y}_t^b - \bar{y}_t^w$ and create two vectors of these gaps, one for under segregation and one for under integration. Levene's test establishes whether the variance in these two vectors differs. Model 2 repeats this analysis but after inflating fatality levels under integration to match those under segregation for the reasons discussed for Table A5.

Table A6: Short-Term Fatality Rate Differentials Under Different Institutions: Levene's Test

	Actual Fatalities	Inflated Integration Fatalities
Levene's Test (Mean)	$p < 0.01$	$p < 0.05$
Levene's Test (Median)	$p < 0.01$	$p < 0.05$

Notes: Levene's test compares the variance of two vectors: (1) a vector with the absolute inter-racial fatality rate differential in each period under segregation and (2) a vector with the absolute inter-racial fatality rate differential in each period under integration. Inflated model increases overall fatality rates under integration to match those of segregation to insure that a lower level of overall lethality in the latter phases of the war does not explain the decline in short-term racial fatality rate gaps.

Randomization inference: institutional policy and variance differentials. Again let $\bar{y}_t^b$ and $\bar{y}_t^w$ equal the mean racial fatality rate in period t for black and white units respectively. For each period t, we calculate a racial fatality rate gap as $\bar{y}_t^b - \bar{y}_t^w$ and create two vectors of these gaps, one for under segregation and one for under integration. Let v_s and v_i equal the variance of these vectors under segregation and integration respectively. We use $|v_s - v_i|$ as the test statistic for the randomization inference. Next, we randomly assign each $\bar{y}_t^b - \bar{y}_t^w$ to have occurred under segregation or integration, recalculate v_i and v_s given these assignments, and generate a test statistic based on these variances. We repeat this exercise for 10,000 iterations. Overall, just over 2% of these 10,000 iterations produce a test statistic as or more extreme than the one observed in the real data. Model 2 repeats this analysis but after inflating fatality levels under integration to match those under segregation for the reasons discussed for Table A5. In this reanalysis, 3.3% of the 10,000 iterations produce a test statistic more extreme than the one observed in the actual data.

Table A7: Short-Term Fatality Rate Differentials Under Different Institutions: Randomization Inference

	Actual Fatalities	Inflated Integration Fatalities
Randomization Inference (two-tailed)	<5%	<5%

Notes: Randomization inference (10,000 iterations) using a test statistic of the absolute difference of variance in the inter-racial fatality rate differential in each period under segregation vs. that same differential under integration. Inflated model increases overall fatality rates under integration to match those of segregation to insure that a lower level of overall lethality in the latter phases of the war does not explain the decline in short-term racial fatality rate gaps.