One Question at a Time: The Impact of the American Civil War on Mobilization for Women's Suffrage*

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Abstract

This paper investigates how critical junctures reshape the dynamics of political mobilization. I study the impact of casualties in the American Civil War on support for the women's suffrage movement, constructing a novel, granular dataset of Union soldiers and their wartime experience. I locate these soldiers to their town of residence and show that people from towns with higher Civil War casualty rates were less likely to petition for women's suffrage in the following years. By comparing pre- and post war data, I show that the war shifted local political priorities and provide evidence of two mechanisms for this result. First, Northern towns with higher casualties became more attuned to the salience of Black rights, which the Civil War was fought over, resulting in a prioritization of this movement over women's suffrage. Second, the collective trauma of casualties and male sacrifice in the war reinforced pre-war gender norms of separate spheres, reducing support for women's political empowerment.

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I hope in time to be as bold as Stuart Mill and add to that last clause 'sex'! But this hour belongs to the negro. As Abraham Lincoln said, 'One War at a time'; so I say, one question at a time.

Wendell Phillips at the Annual Convention of the American Anti-Slavery Society, 1865

1 Introduction

Understanding the conditions that drive the political mobilization of groups is a central issue in political economy. Political participation is not equally accessible to all, and the incentives that encourage or hinder mobilization shape the trajectory of democratization, enfranchisement, and minority rights. While political theory often frames mobilization as a consequence of modernization, where structural shifts create new opportunities for marginalized groups to assert political agency (Deutsch, 1961; Opp, 2019; Robinson and Acemoglu, 2000), movements do not occur in isolation. The capacity to organize is constrained by finite attention, resources, and competing political demands, which are themselves shaped by the broader political environment, including major shocks and the rise of other contemporaneous movements. In this work I draw on the historical case of women's suffrage and the American Civil War to demonstrate how critical junctures, and their repercussions, can shift the incentives of populations to mobilize for particular causes.

This paper investigates the effect of Civil War casualty rates, encompassing both the loss of soldiers from communities, as well as those returning with wounds, disability, and trauma, on support for women's suffrage in the following decades. The scale of loss in the Civil War (1861-1865) and the political change it triggered make this a well-suited period for analysis. While one might expect such high male mortality to shift local sex ratios, with potentially important consequences for women's political mobilization, I show later that this was not the case, as large migration flows offset the demographic shock. In the aftermath of the war the Reconstruction era ushered in questions of how to define the citizenship and status of the millions of formerly enslaved people emancipated by the war. Simultaneously, tensions grew between the women's suffrage movement, abolition societies, and the Republican party over whether women's political rights should also be considered (DuBois, 2021). It would take another 55 years for women to get the right

to vote at the national level (Flexner, 1975). Given this context of political reform and societal trauma, but without the sex ratio shock typical after most conflicts, it is unclear what effect we might expect Civil War casualty rates to have on support for women's suffrage.

Quantifying the impact of the Civil War on women's suffrage is an empirical challenge due to limitations in available data to determine where soldiers lived prior to enlistment and therefore who would be effected by their death or injury. Previous work focusing on Union army veteran outcomes has paved the way by using Union Army Adjutant General Reports to create novel and comprehensive datasets on soldiers, focusing on those with sufficient detail to follow them post-War.[1] Following Walker et al. (2025), I construct a new dataset using digitized archive material that incorporates Union Army muster rolls, pension records, and Rolls of Honor, for all contiguous states in the Union.[2] These sources contain additional identifying details and information on soldiers not available in the Adjutant General Reports, such as place of birth and burial, that enable additional linkage of soldiers to likely towns of residence who have no other residential information. These records also include regimental assignments and casualty history. Using these multiple sources, I am able to link soldiers who are otherwise missing geographic identifiers in their muster rolls.

I combine this data with regimental histories giving detail on which battles soldiers fought in and the intensity of these battles as well as data from a rich variety of sources to understand the demand for women's suffrage. For my main outcome of interest, I use a dataset of all petitions sent to Congress that referenced women's suffrage in the period following the Civil War up until the 19th Amendment, created by Carpenter et al. (2018). I am able to allocate soldiers and their battle history, as well as petitioning outcomes, newspaper coverage, and a variety of demographic information to 6,604 towns across 16 states.[3] Although I use the term towns, in reality these are "places" and can be as small as rural townships with fewer than 100 people, this level of granularity is possible thanks to the census place project by Berkes et al. (2023).

The results provide evidence that wartime casualties depressed support for women's suffrage. A one standard deviation increase in the casualty rate is associated with a 31 percent reduction in total petitioning for women's suffrage in that town. To put this magnitude into perspective, a one standard deviation increase in the casualty rate

[1] These include Costa et al. (2018) whose data focuses on a sub-sample of veterans but includes detailed data on pensions and later-life outcomes, and Dippel and Heblich (2021) and Dupraz and Ferrara (2025) who draw on the Adjutant General Reports and census-linking to track individual soldiers post-War.

[2] These documents have been digitized and made public by Fold3, a company that archives and distributes military data. See Section 3 for further detail.

[3] These are Connecticut, Illinois, Indiana, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin. I exclude Kansas, which had only recently become a state, and the Western states of California, Oregon, and Nevada.

is equivalent to the men from a town spending one additional day in one of the 13 deadliest battles of the war. Given that on average one petition was sent from each town this reduction implies that one out of three towns would not have petitioned for women's suffrage because of the war. Historical accounts of the effect of the Civil War on the women's suffrage movement highlight the struggles faced by the movement in the Reconstruction era to generate popular support and the formation of deep divides in the movement over issues of race and gender (Dudden, 2011; DuBois, 1978; Davis, 2019; Etcheson, 2020).[4] I interpret this as evidence that communities with greater casualty rates were less likely to mobilize politically for women's suffrage.[5]

A key concern is that casualty rates are endogenous to unobserved town characteristics. For example, towns with stronger Republican and progressive traditions may have sent regiments that were more willing to take risks in battle for the Union. Such towns might both experience higher casualties and, independently, be more supportive of women's suffrage. In this case, OLS would attenuate the true negative effect of casualties on suffrage, since progressive towns contribute both high casualties and high suffrage support. My IV strategy addresses this concern by exploiting quasi-random exposure to exceptionally deadly battles, which generated variation in casualties that is orthogonal to towns' underlying political cultures.[6] Using soldier's regimental assignments and data on each regiment's battle history, I construct a measure of the average number of days soldiers from a given town were exposed to these deadliest battles.

While the instrument captures plausibly exogenous variation in battle exposure, I further condition the analysis on local factors that may have influenced military strategy and could independently correlate with suffrage outcomes. Because regiments were organized at the state level, I include state fixed effects to account for systematic differences in deployment and risk exposure across states. I also control for the share of a town's eligible male population that enlisted, which may reflect both local enthusiasm for the war and manpower availability, both of which could influenced the assignment of regiments. Additionally, I control for the share of soldiers who were assigned to the Eastern Theater, where battles were more deadly, as this assignment was largely determined by geographic location. Finally, I control for the average muster-in date of the soldiers of a town, to account for differences in enlistment timing that shaped battlefield assignment and risk.

[4]The insertion of the word "male" into the constitution in its definition of citizenship through the Fourteenth Amendment was seen as a bitter betrayal by many in the women's suffrage movement. (Free, 2015)

[5]While many wounded veterans did return to their hometowns, they were unlikely to lead suffrage activism. Of petitions that list a lead signer's gender, 94 percent were spearheaded by women. In Section 4.2, I show that the effects are primarily driven by the mortality component of casualties, not nonfatal wounds. Therefore, although these men likely influenced their communities, I am confident my findings are reflective of the impact of the casualty rate on citizens more broadly, rather than just veterans.

[6]I exploit the fact that some Civil War battles were particularly deadly, identifying all battles with over 10,000 Union casualties.

To provide additional evidence that exposure to the costs of the Civil War negatively impacted demand for women's suffrage I run a range of placebo and robustness tests. Using data on voter turnout and petitioning on unrelated topics I first show that casualty rates had no apparent effect on overall political activity, dispelling the concern that the results reflect a more general impact on capacity or desire to mobilize. Next, I show that my estimates are robust to using alternative functional forms as well as adjustments for spatial correlation. I also show that the negative relationship between casualty rates and demand for women's suffrage holds when using alternative measures of suffrage support, including state-level organizational data and newspaper data on local conventions. Finally I test my results using alternative treatments to measure the human cost of the Civil War including casualty and death rates as a share of the eligible male population (rather than enlistment), and a measure known as the casualty-fatality rate.

To explain my results, I investigate potential explanatory mechanisms through which the casualty rate might have influenced local demand for women's suffrage, I name these "issue prioritization" and "norm retrenchment". The first mechanism emerges from the historical literature: that high casualty rates increased feelings of sacrifice and heroism in the war, and therefore fostered a tighter link to issues of rights for the formerly enslaved, the central cause of the war (Manning, 2008; Silber, 2011). Limited capacity for political mobilization combined with the tensions between Black and women's rights movements therefore meant demand for women's suffrage was lower (DuBois, 1978; Dudden, 2011). These tensions are cited as a potential cause for the inability of the women's suffrage movement to capitalize on the window of opportunity the Civil War opened up (Free, 2015). I provide evidence of this mechanism using newspaper data to gauge public and media sentiment on these issues and by examining the effects of fighting in battles with Black regiments. While this mechanism is important, it is unlikely to fully account for the observed patterns. I also explore a complementary second mechanism: that towns with higher casualty rates experienced a more general tightening of pre-war norms, a common phenomena in communities attempting to cope with wartime trauma (Gelfand, 2018). I analyze shifts in newspaper articles before and after the war, finding that towns with higher casualty rates saw more negative and subjective language in articles about women's rights, I also find that girls' education decreases significantly more than boys in these towns. Finally, I present evidence that what I observe is not an example of demographic shifts significantly altering incentives, due to high levels of migration of the period which nullified any expected sex ratio shock (Abramitzky et al., 2012). I find that in towns with higher casualty rates there is an increase in out of state migrants and migrants from particular countries.

This paper contributes to two main strands of literature: one that attempts to understand political mobilization, with a particular focus on the role of conflict and competing social movements; and one that looks at the evolution and determinants of women's

rights, specifically the women's suffrage movement in the US. There is heterogeneity across countries in the timing of mobilization for different rights, and we know relatively little about what drives individuals to mobilize and demand these rights (della Porta, 2014). Existing empirical work looks at the motives for various forms of mobilization, such as voting (Ali and Lin, 2013); engagement in protest movements (Bursztyn et al., 2021); and engagement in other forms of collective action such as the woman's crusade for temperance (García-Jimeno et al., 2022). Theory posits that conflict in particular plays an important role in political change by shifting the range of issues and policy preferences that individuals can publicly adopt (i.e. *the Overton window*) (Kingdon, 1997; McAdam et al., 2001). Specifically for women's empowerment and pursuit of political rights, conflict can prompt grand social and institutional shifts that disrupt existing gender hierarchies (Webster et al., 2019; Bakken and Buhaug, 2021), but it can also lead to the entrenchment of gender norms of patriarchal control and militarization that work against movements that seek to empower women (Enloe, 2016). Research has shown that soldier and civilian experience during war has significant impacts for those involved, such as on their capacity for political organization and their values (Jha and Wilkinson, 2012; Acemoglu et al., 2022; Koenig, 2023). A number of papers have studied these phenomena in the context of the US Civil War (Dippel and Heblich, 2021; Feigenbaum et al., 2022; Dupraz and Ferrara, 2025; Weaver, 2019). My research adds to the strand of this literature that focuses on the experience of loss, coping, and recovery in the communities of disabled and fallen soldiers, and the effect of this on political mobilization in the context of the American Civil War (Walker et al., 2025) and other conflicts (Cagé et al., 2023; De Juan et al., 2024).

There exists a rich literature charting the history of the women's movement (DuBois, 1998; Free, 2015; Ginzberg, 2005) and scholars are increasingly paying attention to the tensions, challenges, and issues of gender, race, and class that characterized it (Sapiro, 2020). However, analytical work that exists, mainly in political science, largely studies how differences in the supply of, and to a much lesser extent demand for, suffrage interacted to bring about scattered achievements at the state-level over the 19th and 20th centuries as opposed to the dynamics of the movement itself (Teele, 2018b; McCammon and Campbell, 2001; Braun and Kvasnicka, 2013). On the supply side women faced institutional barriers from incumbent political interests unwilling to expand the electorate and risk losing their political power (Teele, 2018a; McConnaughy, 2013). These acted alongside demographic factors including sex (Jones, 1991; Braun and Kvasnicka, 2013) and race ratios (Braun and Kvasnicka, 2013; McConnaughy, 2013) that shifted the incentives of extending the franchise to women. Studies of the demand side focus on the organizations that campaigned for women's suffrage, documenting the tactics of the movement and framing of the suffrage argument (McCammon, 2003). Further work on demand looks at anti-suffrage groups, such as manufacturing, railroad, and liquor industries con-

cerned that women would vote against their interests (Jones, 1991). This same focus on incentives for the group in power to extend suffrage, rather than the demand of the disenfranchised, is also evident in work on suffrage for other groups and in other countries (Aidt and Jensen, 2014; Bertocchi, 2011). By divorcing mobilization for women's suffrage from its eventual political successes, it is possible to add to the understanding of this pivotal movement and the women and men who supported it. Similar work has been undertaken by Bateman (2020) on Black suffrage, who shows that it was not the potential to win votes alone that led to politicians extending the franchise, but the tireless work of the antislavery movement.

This paper makes several empirical contributions to these literatures. Firstly, it makes use of a novel data set that combines data on Union soldiers, geo-located to their town of residence, and their regimental histories with a rich variety of other data from newspaper archives, censuses, and political records. This complements, and was possible thanks to, the work of Walker et al. (2025) who constructed a similar dataset for the Confederacy. Secondly, it forms part of a relatively small literature in economics that focuses on the factors that influenced the *demand* for women's suffrage in the US, rather than factors that influenced the success of the movement. Since political success for the women's suffrage movement in the US did not necessarily happen in the places with the most mobilization of suffrage organizations this approach is particularly important (Banaszak, 1996). Finally, it is the first quantitative study of the impact of Civil War conflict exposure on women's suffrage in the US, the closest being Arnsbarger et al. (n.d.) which analyzes the relationship between the Civil War and women's political participation in the temperance movement.

2 Historical Background and Data

I construct a novel town-level dataset for all contiguous Union states in the US, excluding California, Oregon, and Kansas.[7] The dataset integrates information on the number of petitions for women's suffrage submitted to Congress, the demographic and socioeconomic characteristics of towns, enlistment and casualty rates in the Union Army, and measures of wartime exposure, including the intensity of battles (measured by casualty and fatality rates) in which a town's soldiers participated and the proximity of towns to Civil War battle sites. The primary data sources include: (i) a digitized dataset of all petitions submitted to Congress related to women's suffrage between 1870 and 1920 (Carpenter et al., 2018); (ii) Fold3 digital archives of Civil War military records for the Union Army; and (iii) the 1860 and 1870 Full-Count U.S. Census, aggregated to the town level (Ruggles

[7]These states are excluded for distinct reasons: California and Oregon, as West Coast states, granted women the right to vote earlier (in 1911 and 1912, respectively), while Kansas only became a state three months before the onset of the Civil War.

et al., 2021; Berkes et al., 2023).[8]

2.1 Women's Suffrage and Petitioning

The early history of the US women's suffrage movement held a close link with the abolition movement, particularly its more radical wing (Porter, 1918). Prominent abolitionists attended and spoke at women's suffrage conventions, and the abolition movement not only provided women with an opportunity to organize and orate, but for many it was also where they first encountered debates around natural rights and citizenship - it was a logical leap for women to then question their own diminished citizenship with regards to white men. Women's involvement in petitioning to end slavery was formative in the development of both petitioning skills and political character (Carpenter and Moore, 2014).

On the eve of Civil War the women's suffrage movement was well developed, at least in the North, with established and regular conventions, organizations in multiple states and a battery of capable writers and speakers (Porter, 1918). Women's rights activities were suspended during the war to focus on abolition, and Anthony and Stanton formed the Women's Loyal National League, collecting hundreds of thousands of signatures in favour of abolishing slavery, whilst also creating a pool of female activists they would draw from later (Venet, 1991).

The post-bellum period marked the beginning of deep divisions between women's rights activists and former abolitionists. Women's suffrage proponents who called for universal suffrage received increasing criticism from leadership in the abolitionist movement (which had become the chief proponent of Black rights post-war) and those in the Republican party who believed suffrage for Black men should be prioritized (Sapiro, 2020; Buhle and Buhle, 2005).[9] A particular blow was dealt to the women's cause when the 14th Amendment (which granted citizenship to people who were formerly enslaved) for the first time explicitly introduced the word "male" into the constitution in its definition of citizenship (Free, 2015). When it became clear that the 15th Amendment (suffrage for Black men), would not enfranchise women, further rifts errupted (Tetrault, 2017). Following a disastrous campaign in Kansas where both Black and female suffrage were defeated the women's suffrage movement split, forming the American Women's Suffrage Association (AWSA) willing to focus primarily on and prioritize Black suffrage, and the National Women's Suffrage Association (NWSA) insisting on universal suffrage and working for independence from the resources of the abolitionists.

[8]Fold3 is a digital repository of military records that provides access to millions of individual records, including photographs and personal documents. All records on Fold3 must be accompanied by scanned original documents or verified sources, making it a reliable resource.

[9]Such as Wendell Phillips who I quote at the beginning of this paper, as well as Horace Greeley, the prominent reform editor.

Despite rapid growth in support the women's suffrage movement was unable to capitalize on the (apparently limited) appetite for democratic reform of the time, which quickly stalled in the post-war years (Keyssar, 2009).

To measure demand for women's suffrage I use data on all documented petitions for women's suffrage submitted to Congress, as recorded in the Congressional Record between 1870 and 1920 (Carpenter et al., 2018). Petitioning Congress was a central part of the women's suffrage movement's strategy to make their demand for enfranchisement and one of their most widely used and effective tools (Flexner, 1975; Zaeske, 2003). Each petition had to be read aloud (at least partly) on the chamber floor and then tabled by referencing it to a committee or other body (Blackhawk et al., 2020a). For a more in-depth discussion of petitioning in the US at this time see Appendix section B.

Each petition is associated with the date of submission and the city of residence of the petitioner(s), allowing for town-level variation in petitioning activity.[10] In limited cases, the data also include additional information on the petitioners, such as the number of signatories, their gender composition, and whether the petition originated from a suffrage association, temperance union, or other advocacy group. The geographical distribution of petitioning activity is presented in Figure A6. While petitioning activity was particularly concentrated in urban centers such as Boston, MA and Hartford, CT, the data indicate widespread engagement with petitions originating from both rural areas and large towns and cities. Figure A7 shows the time variation of petitions by year. Clusters of petitioning occurred in the late 1870s when there were hopes that the political upheval of Reconstruction Era would benefit women's rights, and then in the final 10 years before the Nineteenth Amendment. Further petitioning data for other causes used in robustness checks is from Blackhawk et al. (2020a).

2.2 American Civil War Enlistment, Casualties, and Wartime Experience

The American Civil War began in 1861, following the secession of seven southern states (forming the Confederacy) from the United States (the Union) in reaction to the election of Abraham Lincoln.[11] The central cause of secession, and therefore for the following conflict, was the status of slavery. War was declared on April 12, 1861 and Lincoln issued the Emancipation Proclamation in 1863, abolishing slavery in all rebelling states,

[10] As city of residence given is often at a less granular level than the places available using the census place project (Berkes et al., 2023) which includes, for example, multiple city suburbs as separate places, petitions are assigned to places located within a 20km radius of the given location.

[11] The Union states were California, Connecticut, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, and Wisconsin. The Confederate states were Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

meaning the Union's eventual victory marked the end of slavery in the country.

During the American Civil War, the Union relied on a dual system of state and federal organization to recruit and assign men to regiments. States were tasked with meeting troop quotas set by the federal government, often through locally organized recruitment efforts. Prominent community leaders raised companies of approximately 100 men, who were then grouped into regiments and mustered into federal service. As a result these regiments, sequentially numbered within each state (e.g., the 20th Maine), often carried strong local identities. Early recruitment relied heavily on voluntary enlistment driven by patriotism, community ties, and financial incentives such as enlistment bounties (McPherson, 2003). The Enrollment Act of 1863 marked a shift toward federal conscription, however, conscription accounted for just over 2 percent of total Union Army strength (Murdock, 1980).[12]

The war's devastating toll, with over 360,000 Union military deaths and many more casualties, was compounded by modernizing weaponry and outdated tactics that emphasized head-on confrontations in dense, smoke-obscured battlefields (Hess, 1997; Chambers and Anderson, 1999).[13] Soldiers often described battles as chaotic, with bullets flying indiscriminately, and many expressed astonishment at their survival amidst the death of comrades (Hess, 1997). The war saw alternating victories and defeats for both sides, with heavy casualties incurred for small strategic gains (McPherson, 2003). The war had profound impacts on a generation, shaping social and political beliefs through exposure to trauma, collaboration with African Americans, and firsthand encounters with slavery (Dippel and Heblich, 2021; Weaver, 2022).

To calculate the casualty rate, my instrument, and military controls, I use individual-level data on Union Army enlistment, residence, and regiment history collected from Fold3 by Walker et al. (2025). This dataset contains some amount of information on just under 2,100,000 Union soldiers, virtually every enlisted soldier. After removing those not residing in the states I am studying, those with no residence, enlistment, or birth location information (or only their state of residence/enlistment/birth is recorded) I am able to geo-locate just over 1,180,000 Union soldiers from 16 Union states. For around 760,000 of these soldiers their residence is recorded, for 380,000 I infer their residence from their place of enlistment, and an additional 40,000 have place of birth information. The individual-level military records contain further detailed information on muster in and out dates, casualties, rank, and regimental assignments. These records are complemented by data on battle locations, battle dates, and casualty figures for the most significant engagements of

[12]Draftees could hire substitutes or pay commutation fees, so although 168,649 men were drafted, 117,986 employed substitutes, leaving only 50,663 directly conscripted.

[13]360,000 deaths out of roughly 2.2 million Union soldiers results in an overall death rate of about 15 percent. Total casualties, including deaths, are estimated at about 828,000 for the Union side, resulting in a casualty rate of about 37 percent (Rhodes, 1893; (DCAS), n.d.). This means that a very large share, roughly 43 percent, of casualties were fatal.

the Union Army from The American Battlefield Trust.[14] This allows for the construction of a town-level casualty rate, calculated as casualties from a town over total enlistment from a town, as well as a measure of the average number of days a town's soldiers spent engaged in the deadliest battles of the war.

2.3 Town and County-Level Socioeconomic and Geographic Data

To account for potential confounders, I integrate town-level demographic, economic, and geographic characteristics from the 1860 and 1870 U.S. Census (Ruggles et al., 2021; Manson et al., 2023). The data are aggregated to the town level using the crosswalks developed by Berkes et al. (2023). The dataset includes: population counts by age, sex, race, and nationality; literacy rates; educational enrollment; per capita real estate values; labor force participation rates; occupational scores; and geographic controls of latitude and longitude. The final dataset consists of 6,604 towns that I am able to link to Civil War enlistment and regiment data.

I also collect further variables, only available at the county level, from historical census data (Manson et al., 2023). These include: the number of churches per capita; manufacturing capital per capita; number of religious organizations and sittings; and a range of agricultural variables.

2.4 Additional Data Sources

To explore potential mechanisms underlying the relationship between wartime exposure and women's suffrage demand, I incorporate data from additional sources.

To measure media discourse on rights movements, I collect counts of newspaper references to "Black rights conventions" and "women's rights conventions" from newspapers.com for all newspapers published in the 16 states of interest between 1850 and 1870. These years allow for an examination of pre- and post-war coverage of both Black and women's rights movements, capturing shifts in public discourse.[15] Additionally, I leverage Chronicling America's historic newspaper archive to conduct sentiment analysis of coverage related to women's rights and suffrage movements.[16]

To assess potential backlash effects, I incorporate data from the Mapping the Klan Project (Kneebone and Torres, 2023), which documents the geographic distribution of second-wave Ku Klux Klan Klaverns across the U.S.

[14] The American Battlefield Trust is a charitable organization devoted to the preservation of historic American battlefields.

[15] Following the passage of the 15th Amendment, references to Black rights conventions decline sharply, while references to women's suffrage conventions increase.

[16] Chronicling America is used for sentiment analysis as it has better OCR quality than newspapers.com, which allowed me to extract the full text around mentions of women's suffrage and analyze its tone and content.

To evaluate whether changes in women's petitioning activity were associated with broader shifts in political demand, I analyze historical voting data from the United States Historical Election Returns, 1824-1968 dataset (ICPSR, 1999). This dataset allows for a comparison of turnout rates and vote shares across counties.

3 Empirical Strategy

To estimate the effect of Civil War casualty rates on women's suffrage petitioning I first calculate the share of casualties among the soldiers from town i. I use casualties over soldiers, rather than over the eligible male population, in order to capture the intensity of the war experience for the average soldier in a town (and thus also his relatives and friends back home) as well as to avoid differences in the casualty rate being driven by differences in the intensity of town enlistment or exemption rates.[17] I then estimate its effect on the demand for women's suffrage, measured by the number of petitions sent (between 1870 and 1920) from each town to Congress.

The primary estimating equation takes the form of a Poisson regression:

$$log(\lambda_i) = \beta_1 CasualtyRate_i + \mathbf{X}_i^{'}\beta_2 + \eta_s + \epsilon_i \tag{1}$$

Where $\lambda_i = \mathbb{E}[y_i|CasualtyRate_i, \mathbf{X}_i, \eta_s]$ denotes the expected count of petitions sent from town i, and y_i represents the observed count. The term $\mathbf{X}_i$ is a vector of town control variables, all measured in 1860, that capture other demographic and locational factors that potentially influenced casualty rates. The term η_s are state fixed effects and ϵ_i is an error term. The Poisson model is preferred since the outcome of interest is a count.

A key identification challenge arises because town-level casualty rates may be correlated with unobserved factors that also affect suffrage petitioning. Communities with more Republican or reform-minded political cultures may have raised regiments that fought more aggressively, believing in the cause, thereby incurring higher casualties. At the same time, those same political traditions could make such towns more inclined to support women's suffrage. This correlation would bias OLS estimates toward zero, as towns with both high casualties and high baseline suffrage support dilute the true negative effect of war losses. More generally, if there are unobserved town characteristics correlated with both casualties and petitioning, estimates of β_1 could be biased.

To address this concern, I employ an instrumental variables (IV) strategy, leveraging a measure of town-level exposure to the Civil War's deadliest battles as an exogenous predictor of casualty rates.

[17] I explore alternative measures of casualty and death rates in section 4.2.

3.1 Instrumental Variable Strategy

The empirical strategy exploits regimental records that document the movement of soldiers across battles, allowing for the construction of a town-level measure of battle intensity. Specifically, I calculate an instrument, $DeadlyBattleDays_i$, which represents the average number of days that soldiers from town i spent in battles with at least 10,000 Union casualties, thirteen battles in total.[18] This measure is constructed as:

$$DeadlyBattleDays_i = \frac{\sum_{j=0}^{J} \#DaysinDeadlyBattles_{ji}}{\sum soldiers_i} \tag{2}$$

where the numerator captures the total number of days that soldiers j from town i spent in the deadliest battles of the war, and the denominator represents the total number of soldiers enlisted from that town. The motivation for this instrument is twofold. First, participation in the Civil War's deadliest battles should strongly predict higher town-level casualty rates. Second, the assignment of soldiers to these battles is plausibly exogenous to local social and political conditions, as regiments were primarily mobilized based on geographic proximity and logistical expediency rather than underlying characteristics of soldiers or their home towns.

The first-stage equation is given by:

$$CasualtyRate_i = \beta DeadlyBattleDays_i + \mathbf{X}_i'\beta_2 + \eta_s + \epsilon_{is} \tag{3}$$

Table 2 reports the first-stage estimates, showing that exposure to the Civil War's deadliest battles is a strong predictor of town-level casualty rates. The instrument exhibits a Kleibergen-Paap F-statistic of approximately 131 when employing full controls, well above the conventional threshold for weak instruments. Figure A2 presents a bin scatter plot of the first-stage relationship, demonstrating that the association is not driven by a small number of outliers.

To clarify what dimension of wartime experience the instrument captures, Appendix Table **??** reports first-stage estimates using more granular measures of combat losses as dependent variables. Consistent with historical accounts of these engagements as exceptionally lethal, towns whose regiments spent more days in the deadliest battles exhibit significantly higher death, and wounded rates, as well as overall casualties. These patterns indicate that the instrument reflects a broad component of combat intensity rather than a narrow metric tied to any single type of loss. By contrast, deadly battle exposure has no detectable effect on changes in the town sex ratio, suggesting that the instrument

[18] The cut-off of 10,000 Union casualties can be varied with minimal effect on final results, see Appendix Table A7. These thirteen battles, out of 384 total battles classified in CWSAC's Report on the Nation's Civil War Battlefields, accounted for roughly 156,000 of the 596,000 in-battle Union casualties (killed, wounded, captured or missing in action) of the Civil War.

does not proxy for large-scale demographic re-sorting. Taken together, these results reinforce the interpretation of $DeadlyBattleDays_i$ as supplying exogenous variation in combat-induced losses that operates primarily through casualty rates.

A crucial assumption for identification is that, conditional on controls, exposure of a town's regiments to the deadliest battles affects suffrage petitioning only through its effect on casualty rates. This assumption is plausible in my setting for three reasons. First, battles were fought far from the home towns, so lethal battle exposure could not directly alter local institutions or infrastructure.[19] Second, I control for total days individual soldiers spent in battle (averaged to the town level), so my variation comes from differential lethality of otherwise similar combat exposure, rather than overall military participation. Third, historical accounts suggest that these battles mobilized exceptionally large numbers of soldiers—approximately 997,000 Union troops across the 13 deadliest battles—implying that selection into these battles was driven by logistical factors of proximity and speed of deployment rather than soldier or town characteristics (Hess, 1997). Relatedly, battle outcomes were often highly uncertain. For instance, the Battle of Gettysburg, ultimately a Union victory but devastating to both sides, was initially perceived by the Confederacy as an opportunity to strike a crippling blow to the North.

To further validate the exclusion restriction, Figure 1 examines the correlation between $DeadlyBattleDays_i$ and a broad set of prewar covariates. The instrument is uncorrelated with most socio-economic characteristics, as well as factors particularly relevant to women's suffrage, such as female labor force participation, Republican vote share, and fertility. The only statistically significant correlations emerge for latitude and the share of the county that is urban, suggesting that more northern towns may have been somewhat more likely to send troops to the deadliest battles. However, additional robustness checks in Appendix Figure A1 indicate no systematic rural bias in the instrument, and all specifications control for these characteristics. These patterns are consistent with the exclusion restriction that the instrument operates primarily through casualty-induced losses rather than alternative channels.

Figure 2 provides a visual representation of the geographic distribution of casualty rates. Panel (a) highlights substantial regional clustering in casualty rates, with certain areas experiencing disproportionately high losses. In contrast, panel (b) maps exposure to deadly battles, illustrating that this measure exhibits much less geographic clustering, thereby mitigating concerns that local social or economic characteristics drive the variation in the instrument.

[19] Of the 13 deadliest battles only one, Gettysburg, was fought in any state in my sample and although there was some damage to this small town of around 2,500 people this is unlikely to have a significant impact on my results.

3.2 Controls

While $DeadlyBattleDays_i$ is arguably independent of differences in casualty rates due to soldiers' lack of agency in choosing which battles they participated in, it is still possible that local characteristics determined military strategy. Historical accounts of Civil War battles and soldiers help to inform the selection of controls to be included in $\mathbf{X}_i$ to account for these characteristics. Controls fall into four main categories: military, economic, demographic, and geographic. Table 1 reports summary statistics.

3.2.1 Military Controls

Most battles, and all of the deadliest, were fought in the Eastern Theater and as figure A8 shows, soldiers from more westerly states were significantly less likely to be deployed to the Eastern Theater.[20] To eliminate this potential source of bias, I control for the share of soldiers in each town sent to the Eastern Theater. Additionally I control for the average enlistment date for soldiers from town i. This is important because men are likely to have enlisted at different points in the war dependent upon their socioeconomic status. Bounties of $100 were introduced three months into the war, and got larger as the war went on, incentivizing wealthier individuals later in the conflict. Further military controls include the share of men who enlisted in the army and the average number of days spent in any battles.

3.2.2 Economic, Demographic, and Geographic Controls

I also control for a range of economic and demographic variables measured in 1860, including wealth (proxied by per capita real estate value), foreign-born share of the population, share of women in the labor force, and Black male share of the population. Geographic controls include latitude and longitude, which capture broad spatial patterns in town characteristics.[21]

4 Results

4.1 Main Results

Table 3 presents the estimated effect of Civil War casualty rates on petitioning for women's suffrage. Panel A reports OLS and 2SLS estimates, where the dependent variable is the inverse hyperbolic sin of total petitions, Panel B reports reduced form Poisson

[20] This includes battles fought in Virginia, West Virginia, Maryland, North Carolina, Pennsylvania, and the District of Columbia.

[21] Geographic location may be a significant predictor in where men were being sent to fight, e.g. drawing on closer troops first, as well as of differing social and political attitudes. For example people from places further West (closer to the Frontier) may exhibit more "rugged individualism" (Bazzi et al., 2020).

estimates, while Panel C presents Poisson and IV-Poisson estimates. For Panel B and C the dependent variable is the count of total petitions. In both cases, the petitions included in the analysis encompass all those submitted in support of women's suffrage up until the passage of the Nineteenth Amendment.

The first three columns of each panel report estimates without instrumenting for casualty rates, while the latter three columns employ the instrumental variable approach. Columns (1) and (4) include only state fixed effects. Columns (2) and (5) introduce controls for key military organization variables, including the share of soldiers from a town who fought in the Eastern Theater, the average muster-in date, and the enlistment rate. Columns (3) and (6) incorporate the full set of control variables, including geographic (latitude and longitude), demographic (Black male population share and foreign-born population share), and economic controls (female labor force participation, and average property values).

Across all specifications, the estimated effect of the casualty rate on suffrage petitioning remains consistently negative and statistically significant. The IV-Poisson estimate in Panel C, Column (6), which includes the full set of controls, suggests that a one standard deviation increase in the casualty rate reduces total petitioning by approximately 31 percent. Given that many towns did not submit a single petition, the mean petition count per town is relatively low (0.97), implying that at the mean, a one standard deviation increase in casualty rates corresponds to 0.30 fewer petitions per town. To give a sense of magnitudes, this effect is comparable to the men from a town spending one additional day engaged in one of the thirteen bloodiest battles of the war. Because the average town submitted roughly one petition, the estimated reduction implies that roughly one in three towns would have refrained from petitioning for women's suffrage as a consequence of wartime losses.

Taken together, these results indicate that towns with higher Civil War casualty rates exhibited lower levels of women's suffrage petitioning in the decades following the war. This suggests a persistent impact of wartime losses on political mobilization and reform efforts at the local level.

4.1.1 Poisson vs. IV-Poisson

Comparing the estimates from the first three columns of Panels A and C in Table 3 to the last three columns, it is evident that in both cases the estimates obtained using an instrumental variable strategy are approximately fifty percent larger than those obtained when using the casualty rate directly. This gap is consistent with several sources of bias. One possibility is that omitted variables attenuate the OLS coefficient: towns with stronger reformist or Republican traditions may have sent regiments that fought more aggressively, producing higher casualties, while simultaneously being more supportive

of women's suffrage. Such correlation would dampen the negative association in OLS, biasing the coefficient toward zero.

Measurement error in the historical records may also play a role, given the age of the sources and the likelihood that not all casualties were accurately recorded. I calculate the degree of attenuation implied by the signal-to-noise ratio and obtain a factor of $\lambda = 0.727$, which suggests that roughly 27 percent of the true variation in the casualty rate is lost to measurement error. At the same time, it is important to note that casualty rates are bounded variables, so the assumptions of classical measurement error do not strictly apply (Bingley and Martinello, 2017). Moreover, IV estimates may themselves be upward biased if the instrument captures additional channels beyond quasi-random exposure to exceptionally deadly battles. The larger IV estimates should therefore be interpreted as the result of both downward bias in OLS and potential upward bias in IV, rather than solely as attenuation due to mis-measurement.

Alternatively, the IV-Poisson estimates may reflect a local average treatment effect (LATE), capturing the causal impact for towns whose casualty rates were particularly affected by participation in the war's deadliest battles.[22] There are two plausible reasons why casualty rates stemming from these deadliest battles may exert a stronger effect on suffrage petitioning than those resulting from, for example, disease or smaller-scale combat.

First, the intensity and severity of battlefield injuries may have amplified the social and psychological impact on returning soldiers and their communities. Wounds sustained in large-scale, high-casualty battles were likely more severe, with medical treatment significantly delayed due to the sheer number of injured troops. Infections, amputations, and other debilitating long-term consequences of battlefield injuries may have contributed to heightened trauma among returning soldiers, thereby affecting social attitudes within their home communities. Many people exiting the Union Army with disabilities and major wounds are also likely to have died in the following months and even years due to complications. If these casualties were not only more frequent but also more severe, the collective memory of the war's brutality would have been stronger.

Second, the symbolic meaning attached to battle deaths and wounds likely differed from that of deaths due to disease or non-combat causes. For individuals on the home front, learning that a relative or community member had perished in a major, well-known battle (e.g., Gettysburg or Antietam) may have had a stronger psychological impact than learning that a soldier succumbed to malaria while encamped. The deaths of soldiers in widely publicized battles may have been perceived as acts of heroism or sacrifice, strengthening the idealistic feeling one attaches to the casualty and subsequent beliefs.

[22] Using LATE terminology, one could regard those who died or were injured in deadly battles as 'compliers' and those who died or were injured in smaller battles or outside of battle from disease, as 'always takers'.

Overall, the results highlight a robust and persistent negative effect of Civil War casualties on suffrage petitioning, with stronger effects among towns whose soldiers experienced high-intensity combat.

4.1.2 Placebo Tests on Political Participation

One potential concern is that the estimated effect of casualties on women's suffrage petitioning reflects a broader decline in political engagement rather than a specific effect on demand for women's suffrage. If towns with higher casualty rates were simply less politically active in general, the observed relationship could be driven by lower overall participation rather than a specific opposition to women's suffrage.

To test this hypothesis, I examine voter turnout in presidential elections for the 15 years before and 15 years after the start of the Civil War. I estimate the following regression:

$$y_{c,t} = turnout_{c,t} = \beta_1 \widehat{CasualtyRate}_i \times Period_t + \mathbf{X}'_{i,t}\beta_2 + \alpha_i + \mu_t + \epsilon_{i,t} \tag{4}$$

where county-level turnout in county c, year t is defined as the total number of votes cast in that county, over the eligible male population measured in the closest census. Town and year fixed effects, α_i and μ_t, account for time-invariant characteristics and aggregate electoral trends, while the coefficient of interest, β_1, captures the interaction between casualty rates and election year.

Figure A3 presents the results, showing no significant relationship between casualty rates and voter turnout. This suggests that the negative effect on suffrage petitioning does not reflect a broader decline in political participation but rather a specific reduction in demand for women's suffrage.

To further test this hypothesis, I examine whether casualty rates affected petitioning on an entirely unrelated issue. Using data from Blackhawk et al. (2020b), I identify all petitions sent between 1866 and 1920 on the topic of intellectual property—an issue with a comparable number of petitions to women's suffrage over this period. The final two columns of Table A2 report the results of re-estimating the main regression using these petitions as the outcome variable instead of those for women's suffrage. The casualty rate has no significant effect on intellectual property petitions, providing additional evidence that the estimated relationship is specific to women's suffrage rather than a broader decline in petitioning behavior.

4.2 Robustness

To ensure the validity of the main findings, I conduct a series of robustness tests, the results of which are reported in the Appendix.

Alternative model specifications: A key assumption in the analysis is that the number of suffrage petitions is an appropriate measure of suffrage demand. To assess the robustness of this choice, I estimate an alternative specification in which the outcome variable is a binary indicator for whether a town sent at least one petition. Given the binary nature of the dependent variable, I employ a 2SLS framework instead of the Poisson model. Results, presented in Table A3, confirm that the estimated relationship remains negative and statistically significant. Additionally in Table A5, I show that results are robust to using the log of total petitions + 1 as the outcome. Given the large amount of zeros in my outcome variable adding one will potentially make a large difference, meaning this is not a preferred specification, however, results remain negative and significant when using this measure. Finally, as the over-dispersion of my outcome variable (the variance is larger than the mean) violates the assumed mean-variance equality of the Poisson distribution, there is a concern that this will result in biased parameter estimates or underestimated standard errors. To accommodate this over-dispersion I estimate my main results using negative binomial regression as opposed to Poisson, results are displayed in Table A4. Results are very similar in magnitude to my main results and are statistically significant.

Alternative instrumental variable definitions: The instrument used in the main analysis is based on a threshold of 10,000 Union casualties to define major battles. To rule out concerns that this threshold was selected to generate a particular result, I re-estimate the main specification using an alternative instrument based on the 10 and 25 deadliest battles of the Civil War. Panel (a) of Table A7 presents the results, which remain negative, statistically significant, and similar in magnitude to the main estimates.

Additionally, I test whether any single battle is disproportionately influencing the results by re-estimating the main regression while sequentially omitting one battle at a time from the instrument. Figure A4 plots the resulting estimates, showing that the effect is stable across specifications. Taken together, these findings indicate that the main results are not driven by targeted selection of battles to be included in the instrument.

Spatial autocorrelation of the error term: I show in Table A6 that my results are robust for correcting standard errors for arbitrary spatial correlation of the error term within spatial clusters defined at 50km and 200km cutoffs (Colella et al., 2019). Standard errors are similar enough to maintain the same levels of statistical significance as in my main results, providing confidence that correlation in spatial noise does not drive my findings.

In my setting, even with clustering or using the above methods to correct for spatial correlation there may still be concern that spatial unit root processes induce spuriously

significant regression results. To check for this spatial correlation I follow the methods introduced by Müller and Watson (2024) and using the practitioner's guide and code from Becker et al. (2025). I test whether my main dependent variable, total petitions, contains a unit root. To do so, I examine whether I can reject that it is I(0), that is the null hypothesis of spatial stationarity, conducting the appropriate test from Becker et al. (2025) I obtain a p-value of 0.4837 meaning I cannot reject this null. Since non-stationarity is not detected this provides evidence that my dependent variable behaves as spatially stationary and therefore does not require a spatial unit-root correction in subsequent regressions.

Decade-by-decade analysis: The main analysis considers all petitions submitted between 1870 and the ratification of the Nineteenth Amendment (1920). While this approach avoids imposing an arbitrary endpoint, it includes petitions sent as many as 55 years after the war, and it may be informative to analyze more specific periods. To explore this, Figure A5 reports coefficient estimates from regressions disaggregating the effect by decade.[23]

The results show that the negative effect is generally persistent across decades, with the exception of the 1890s—a period commonly referred to as the "doldrums" of the suffrage movement. The magnitude is largest, though estimated with less precision, in the immediate postwar period, when the social and political ramifications of wartime losses were likely most salient. This suggests that the impact of casualties on women's suffrage petitioning was not a short-term phenomenon but persisted over multiple decades.

Alternative measures of women's suffrage support: Petitioning was a key tool promoted by women's suffrage organizations, but it was not the only form of mobilization. To verify that the results capture a broader decline in women's suffrage support rather than a specific reduction in petitioning for the cause, I examine the relationship between casualty rates and other measures of women's suffrage support.

Using state-year data from McCammon et al. (2001), I analyze the impact of casualty rates on the number of women's suffrage organizations, membership levels, the presence of men's or college suffrage groups, the circulation of suffrage newsletters, and the holding of suffrage conventions. Table A9 reports the results. Higher casualty rates are associated with a lower probability of men's and college suffrage organizations forming and a reduced likelihood of a convention for women's suffrage being held in a given state-year. However, women's suffrage newsletters are more likely to be circulated.

To further explore this relationship at a more granular level, I construct my own measure of the popularity of women's suffrage conventions in an area by scraping newspapers from newspapers.com for mentions of such conventions. Appendix Table A10 presents the results, which show a similarly negative relationship between casualty rates and coverage

[23]Due to the small number of petitions in the early postwar years, the first two decades are combined.

of women's suffrage conventions. These findings provide further evidence that wartime casualties led to a broad decline in demand for women's suffrage across multiple dimensions.

Alternative treatments to measure human cost of the Civil War: Finally, I explore whether alternative measures of the human cost of the Civil War produce similar results. While the main analysis defines the casualty rate as casualties over enlisted soldiers, alternative approaches would be to instead use deaths over enlisted soldiers or to scale casualties or deaths by the eligible male population of a town. Additionally, following De Juan et al. (2024), I construct a measure of the casualty-fatality rate, defined as deaths over casualties. This measure captures the severity of battlefield injuries, drawing on the experiences of towns were soldiers were sent to the most lethal battles.

Table A11 presents the results. Column (1) reports the coefficient on deaths over enlisted soldiers. The coefficient remains negative and statistically significant, albeit smaller in magnitude than the equivalent casualty-based estimate in Panel C, column (2) of Table 3. As expected, this finding implies that the mortality component drives part, but not all, of the negative impact of wartime casualties on petitioning behavior. This also bolsters the argument that it is not returning veterans having the largest impact on suffrage support. Columns (2) and (3) report estimates using casualties and deaths, respectively, scaled by the eligible pre-war male population, which yield negative coefficients, though only the coefficient on total casualties is statistically significant. The magnitudes are also smaller than in the main results. This suggests that the effect of wartime losses on suffrage petitioning is not simply due to a decline in the overall male population but rather reflects the specific combat loss among enlisted soldiers.

Columns (4) and (5) introduce two versions of the casualty-fatality rate: a binary indicator for above-mean lethality (column (4)) and the continuous fatalities over casualties ratio (column (5)). Both specifications yield negative point estimates, but again magnitudes are attenuated relative to the main results. This suggests that while higher battlefield mortality rates contributed to the observed decline in suffrage petitioning, non-fatal casualties also played an important role, consistent with the idea that injuries sustained in combat can have lasting impacts on the communities of those injured.

5 Mechanisms

I now turn to an examination of the mechanisms for the finding that Civil War casualties are associated with less women's suffrage petitioning. The primary mechanism which I term issue prioritization, posits that in towns that experienced greater human costs of war, heightened salience of Black rights, particularly the enfranchisement of formerly enslaved men, shifted political attention and organizational resources away from women's suffrage. The second, complementary, mechanism is norm retrenchment and suggests that

the collective trauma of the war reinforced pre-existing social norms, particularly around gender roles, prompting a retreat to more conservative visions of domestic and civic life. In such contexts, support for expanding women's political rights may have been viewed more negatively. Finally, I examine whether shifts in the sex ratio due to excess male mortality altered incentives for political mobilization among women, though I find no empirical evidence supporting this channel.

5.1 Issue Prioritization: More Salient Issues of Black Rights Crowded out Women's Suffrage Mobilization

The Civil War was fundamentally fought over the question of slavery, not women's suffrage. Black men actively participated in the war effort and suffered casualties, whereas women did not. Consequently, towns that experienced higher wartime losses likely perceived the post-war struggle for Black civil rights as more immediate and pressing. Given the substantial reform fatigue in these communities, attention and political energy may have been directed toward Black rights at the expense of women's suffrage. As discussed in Section 2.1.1, tensions between the women's suffrage movement and the fight for Black male enfranchisement were well documented. The Republican Party, the progressive party of the time, refused to publicly support women's suffrage until decades after the War (DuBois, 2021). Leading suffragists, including Elizabeth Cady Stanton and Susan B. Anthony, vocally opposed the Fifteenth Amendment, which enfranchised Black men while excluding women. Further, some women's suffrage leaders allied with racist figures such as George Train, and others explicitly prioritized white women's enfranchisement over universal suffrage. The Reconstruction-era push for Black male suffrage framed voting as an inherently masculine right, reinforcing the notion of "universal manhood suffrage" and relegating women's political demands to the periphery (Free, 2015). Historical accounts of the women's suffrage movement's history repeatedly emphasize these tensions as central to both organizational strategy as well as public and political opinion.

To empirically assess whether higher Civil War casualties induced a substitution between support for Black rights and women's suffrage, I consider three pieces of evidence: (i) newspaper coverage of political movements, (ii) patterns of racial discrimination, and (iii) the interaction between casualty rates and exposure to Black soldiers in battle. Additionally, the stronger effect of the deadly battle instrument in my main results (Section 5.1.1) supports the idea that the political consequences of war casualties were linked to experiences of sacrifice and heroism rather than to broader demographic shifts from the death and disability of men from any cause.

5.1.1 Newspaper Coverage of Political Movements

Newspapers were a key medium for political mobilization in the nineteenth century, shaping public discourse and amplifying reform movements. A newspaper's editors refusing to cover certain topics was a political statement, and the silence of eastern liberal newspapers during the first campaign for women's suffrage in Kansas was considered a betrayal (Flexner, 1975). If Civil War casualties increased the salience of Black rights relative to women's rights, I expect to see a divergence in newspaper coverage.

To test this, I collect data from newspapers.com on mentions of movement-related events, including "women's rights convention," "women's suffrage convention," "anti-slavery society," "abolition convention," and "freedmen's convention."[24] I estimate the relationship between coverage of women's rights meetings per capita ($WomenMention$) and Black rights meetings per capita ($BlackMention$):

$$WomenMention_{c,t} = \beta_1 BlackMention_{c,t} + \alpha_i + \mu_t + \epsilon_{i,t} \tag{5}$$

in a county c, where t refers to the 5 years pre-war (1856-1860), during the war (1861-1865), or post-war period (1866-1870), and α_i and μ_t represent town and period fixed effects. Figure 3a reveals that prior to the war, coverage of the two movements was positively correlated. However, this relationship reverses during and after the war, suggesting that newspapers prioritized one issue over the other. To validate this hypothesis including variation in Civil War casualty rates, I estimate a version of equation (4) where $y_{c,t}$ is coverage of either women's or Black movement meetings per capita (as in equation 5), and where $Period_t$ is a binary variable taking on value 0 for pre-war and 1 for during and post-war. The results are presented in Figure 3b and show that in the post-war period towns with higher casualty rates saw an increase in newspaper coverage of Black conventions but a decrease in women's conventions.

5.1.2 Racial Discrimination and the Ku Klux Klan

If Civil War casualties intensified support for Black rights, we might expect lower levels of extreme racial discrimination in towns that experienced higher sacrifice. To test this, I use data on the establishment of Ku Klux Klan (KKK) chapters between 1921 and 1930, estimating equation (4) with KKK chapters in a town's county as the outcome. Table 4 shows a negative relationship between casualty rates and the presence of KKK chapters, indicating that in counties where towns endured higher wartime sacrifice there were lower levels of this type of extreme racial hostility. This finding is consistent with the hypothesis that exposure to Black soldiers and heightened sacrifice for the Union led

[24] I use these terms rather than just 'women's rights' or 'abolition' alone with the aim of focusing on the reporting of particular events, rather than just coverage of the movements which may well have been negative, however it remains an imperfect measure of support.

to greater post-war racial inclusion.

5.1.3 Battle Experience with USCT

If the trade-off between Black and women's rights was central to the observed decline in women's suffrage petitioning, I would expect the effect to be stronger in towns whose soldiers fought alongside Black troops. During the Civil War, regiments were segregated, allowing me to precisely measure the share of battles a town's soldiers fought in alongside United States Colored Troops (USCT). I re-estimate equation (1) first using this measure of share of battles fought with USCT troops, then adding the instrumented casualty rate back to the right hand side, and finally adding an interaction between the two.

Table 5 presents the estimated coefficients from these specifications. In columns (1)–(3), the parameter estimates on the share of battles fought by USCT units are negative and statistically significant, but of considerably smaller magnitude than the corresponding casualty rate coefficients reported in the main results. Once casualty rate is included (columns (4)–(6)) as an additional regressor, the USCT-share estimates become indistinguishable from zero while the casualty-rate coefficients are negative and significant. Finally, in the models, columns (7)–(9), that add the interaction between casualty rate and USCT share, the main effect coefficients on each variable individually lose statistical significance, whereas the interaction term itself is negative and statistically significant. These findings imply that the dampening effect of higher battlefield casualties on subsequent women's suffrage petitioning is concentrated in towns where local soldiers had directly witnessed the bravery and sacrifice of Black troops.

To strengthen these findings, I also run battle-level regressions to check whether being in battle with the UCST is correlated with the casualties in that battle. Taking the sample of all battles where at least 20 Union regiments fought I estimate regressions of numerous variables on the battle's casualty rate, including the share of USCT regiments in that battle.[25] Results are in Table A14 and show that the share of USCT regiments is uncorrelated with the battles casualty rate. Therefore I am confident that I am not finding the significant result on the interaction between the casualty rate and fighting alongside Black troops merely because battles with more Black troops were more deadly.

5.1.4 Pre-war Attitudes on Race

Finally, I verify that these towns were not simply more progressive on racial issues prior to the war and that what I find is not merely a continuation of pre-war attitudes. Using data from Blackhawk et al. (2020b) on pre-war petitions related to slavery (1789–1860), I find no significant relationship between Civil War casualties and pre-war anti-slavery

[25] This gives a sample of 190 battles. 20 regiments was chosen to ensure that the risk-taking behavior of soldiers from a few regiments isn't driving the overall number of casualties.

petitioning (Table A2). This alleviates concerns that the observed effects are driven by pre-existing racial attitudes.

5.2 Norm Retrenchment: Collective Trauma Entrenched Pre-war Norms of Separate Spheres

Psychological and sociological research suggests that collective trauma can reinforce pre-existing social norms, fostering greater conservatism and in-group cohesion (Gelfand, 2018; Hirschberger, 2018). In 19th Century USA the genders had their separate spheres, women the domestic and passive, men the public and active, and this distinction was carefully drawn (de Tocqueville, 1865). Observing a stronger adherence to such norms around gender, and other pre-war norms, suggests that the lack of support for women's suffrage in such towns may be driven by this traumatic experience. To test this hypothesis, I examine three pieces of evidence: (i) newspaper sentiment about women's rights, (ii) gendered educational outcomes, and (iii) religious adherence.

5.2.1 Newspaper Sentiment

Section 6.1 identified that newspapers covering towns with higher casualty rates were less likely to be writing about women's rights and suffrage conventions. However, rather than omitting these topics, some newspapers may have continued to discuss women's political rights but in a more negative or dismissive manner, reflecting a broader rejection of changing gender norms.

To assess this possibility, I analyze newspaper sentiment using historical archives from the Chronicling America database, covering the period 1850–1875, spanning ten years before and ten years after the Civil War. I extract text from every newspaper page that mentions "women's suffrage" or "women's rights" and isolate the surrounding sentences for analysis. Using the TextBlob Python library, I compute a sentiment polarity score, which ranges from -1 to 1 and captures the extent to which language is positive, negative, or neutral.[26] Additionally, I calculate a subjectivity score (ranging from 0 to 1) to assess whether the language reflects personal opinions rather than neutral, factual reporting. I match the locations of the newspapers to my town-level dataset assigning newspapers to towns within a 35km radius, and conduct a difference-in-differences analysis to measure how the sentiment and subjectivity of articles in towns shifted after the Civil War in towns with higher casualty rates. There are 20,316 articles for 481 towns.

The results, presented in Figure 4, indicate that higher casualty rates are associated with more negative sentiment toward women's political rights, as well as increased subjectivity in newspaper coverage. This suggests that in towns that bore greater wartime

[26]TextBlob's sentiment analysis relies on the Pattern library's sentiment model, which is a hand-constructed, human-annotated lexicon from the Pattern project.

sacrifice, discussions of women's rights were not only less frequent but also framed in a more critical or opinionated manner. Such findings are consistent with the hypothesis that these communities experienced a backlash against egalitarian gender norms, either as a direct consequence of heightened conservatism in the postwar period or as a result of the prioritization of other social and political concerns.

To further illustrate this pattern, I examine sentiment surrounding a specific suffrage-related event: the women's marches of 1912–1914. These highly publicized demonstrations received national coverage. Table 7 presents the results, which show a negative and marginally significant relationship between casualty rates and sentiment toward the marches. In towns that experienced higher wartime casualties, newspaper coverage of these prominent suffrage events was more likely to be critical, reinforcing the broader pattern of opposition or de-prioritization of women's political rights in these communities.

5.2.2 Education

The prevalence of traditional gender norms in communities experiencing high Civil War casualty rates is further evidenced by postwar patterns of school non-attendance. If beliefs dictated that women's place was in the domestic sphere, the perceived economic return to educating girls would be lower in communities where these norms were more strongly reinforced. I assess this hypothesis by estimating the effect of local casualty rates on the share of nonworking children out of school across age cohorts, comparing the share of children in relevant age groups in school in 1860 to the share in 1870.[27] Figure 5b displays these results.

Towns with higher casualty rates exhibit broadly diminished school attendance for both girls and boys who are not working, indicating a general devaluation of formal education relative to alternative opportunities or responsibilities. Importantly, the decline in school participation is larger for girls than for boys in the 11–14 and 15–18 age groups, and this difference is statistically significant. Vermont is not included in this analysis as compulsory schooling was adopted in the state in 1867 (the only state to do so between 1860 and 1870), results are slightly smaller if it is included, however, signs and the significance of the gender gap do not change. This gender gap suggests that, even if both sexes were required to take on additional domestic labor responsibilities at this time due to the loss of men in their household, girls' schooling was disproportionately sacrificed.

5.2.3 Religion

If the collective trauma hypothesis holds, one would expect a reinforcement of pre-war norms not only in gender roles but also in other domains, particularly religious practice. In

[27] Data on school attendance was recorded in the full-count census.

nineteenth-century America, religion and church attendance was dominant and religious institutions played a central role in shaping social norms.

To assess whether towns with higher casualty rates experienced an increase in religious engagement, I analyze census data on the number of religious buildings, the total value of religious property, and the number of available sittings by religion/denomination collected in 1860 and 1870.[28] The results, presented in Figure 5a, show that towns with higher casualty rates saw both an increase in the total number of religious buildings and higher overall religious property value, suggesting a shift toward religious institutions as a mechanism for coping with wartime loss.

Examining specific religions further supports this interpretation. I find a significant and positive effect of casualty rates on the number of Protestant sittings, while the effects for Judaism are insignificant and there are reductions for Catholic congregations. This pattern is consistent with the idea that communities turned to the dominant pre-war religious institutions as a source of stability. Protestantism was the most common religion in the United States at the time, with approximately 0.38 sittings per capita pre-War, making it the most accessible and familiar religious institution in many towns.[29] The growth of Protestant congregations in towns with higher casualty rates suggests that collective trauma reinforced pre-existing religious social structures rather than facilitating a shift toward new or more progressive forms of religious engagement, or away from religion altogether.

5.3 Immigration Muted Potential Demographic Shocks

A potential alternative mechanism driving the observed relationship between casualty rates and suffrage petitioning is the demographic shock induced by war-related mortality. Deaths are included in the casualty rate—along with wounded, missing, and prisoners of war— so higher casualty rates could have altered local sex ratios, which in turn may have influenced attitudes toward women's rights. There are two key challenges for this hypothesis. First, the theoretical predictions regarding the impact of a sex ratio imbalance on women's political participation are ambiguous. Second, the demographic impact of wartime casualties may have been mitigated by substantial migration flows during this period, counterbalancing any expected shifts in sex ratios. I examine both of these concerns in detail.

If the loss of men due to wartime casualties led to greater female participation in the workforce and household decision-making, it could have strengthened demand for

[28] For a few decades starting in 1850 the government gathered facts concerning religious organizations including the number of religious buildings and their seating accommodations. Sittings in this data thus refers to the number of seats available in places of worship or the number of congregants they could accommodate.

[29] For comparison, the national per capita figures were 0.04 for Catholic sittings, and 0.0003 for Jewish.

women's suffrage. Economic necessity may have compelled women to assume roles traditionally occupied by men, fostering a stronger recognition of their economic and social contributions and reinforcing claims for political representation (Guttentag and Secord, 1983; Ferber and Berg, 1991; Heer and Grossbard, 1981). Conversely, if male scarcity in the marriage market increased the relative bargaining power of men, women may have faced greater economic insecurity and social constraints, making political engagement more costly and reducing their likelihood of participating in suffrage movements (Abramitzky et al., 2011).

To assess whether towns with higher casualty rates experienced shifts in sex ratios, I conduct a difference-in-differences (DiD) analysis using census data from 1860 (pre-war) and 1870 (post-war). The results, displayed in Figure 5c, indicate that, if anything, towns with higher casualty rates saw a relative increase in male population shares rather than a decline. Additionally, I find no significant effects on outcomes associated with sex ratio imbalances, such as female labor force participation, share of female-headed households, or share of women who were married.[30] These findings suggest that a demographic shock related to the war is unlikely to be the primary mechanism underlying the main results.

The most plausible explanation for the absence of a sex ratio shift is the high level of migration, both domestic and international, during this period. Unlike in other historical contexts where sex ratio imbalances persisted due to limited mobility (Grosjean and Khattar, 2019), the post-Civil War U.S. experienced substantial population movements that could have offset any localized demographic distortions (Bazzi et al., 2023). Towns where men were killed or disabled would have seen a significant demand for labor, a key driver of migration (Borjas et al., 1992; Sjaastad, 1962). Given that my census data captures populations five years after the war's end, there was sufficient time for migration to have mitigated any initial sex ratio distortions.

To directly examine this hypothesis, I estimate a version of equation (4) in which the outcome variable is the share of different immigrant groups in a given town before (1860) and after (1870) the war. The results, presented in Table 8, reveal that towns with higher casualty rates experienced an increase in Canadian, British, Irish, and French immigrants, as well as a substantial rise in domestic migration from other U.S. states. These patterns suggest that migration selectively flowed into areas with high wartime losses, muting any demographic imbalances that might have otherwise emerged.

These migrants may themselves have influenced suffrage petitioning. If the newly arrived migrants held more conservative views on gender roles relative to the native-born population, their presence could have biased my estimates by reducing overall support for women's political rights. Conversely, if they held more progressive attitudes, the results

[30]The lack of an observed effect on marriage rates can be explained by an increase in the average age gap between spouses, suggesting that women in these towns were more likely to marry older men rather than forgoing marriage altogether, visible in Figure 5c.

could be understating the true effect of casualty rates. To evaluate this possibility, I follow Haddad (2022) and use data on female labor force participation (FLFP) in migrants' countries of origin, using data from Mitchell (1992), as a proxy for their attitudes toward gender equality. The results, shown in Figure 5d, indicate that towns with higher casualty rates experienced neither an increase or decrease in migrant shares from locations with above-average FLFP and a decline in shares from regions with below-average FLFP. This suggests that incoming migrants may have had relatively more progressive attitudes toward women's roles in society than the native-born men they replaced, if anything biasing my results downward rather than inflating them.

Taken together, these findings indicate that migration played a critical role in shaping postwar demographic dynamics. Rather than leaving a lasting imbalance in sex ratios that altered women's political opportunities, wartime casualties were followed by compensatory migration that restored population equilibrium. Unlike previous studies in which war-induced sex ratio shocks had direct effects on women's economic and political outcomes (Rogall and Zárate-Barrera, 2020; Boehnke and Gay, 2022), the mechanism at work here appears to be the impact of wartime experience itself—rather than the demographic consequences of male mortality. Thus, a shift in the sex ratio is unlikely to be the primary driver of the observed decline in suffrage petitioning.

6 Conclusion

This study examines the impact of Civil War casualties on the demand for women's suffrage in the United States. The findings reveal that higher casualty rates are associated with a decline in petitioning for women's voting rights, consistent with the hypothesis that large-scale wartime sacrifice constrained the capacity for social and political reform. In areas with higher casualties, the issue of Black rights, directly linked to the war's underlying causes and consequences, appears to have captured attention and resources that might otherwise have supported the women's suffrage movement. Additionally, the trauma of the war reinforced "separate spheres" ideology around gender, further slowing political mobilization for women's rights.

These results highlight a broader and recurrent feature of social movements: the competition for public attention, political capital, and institutional reform. Throughout history, progressive causes have often found themselves in tension with one another, as movements seeking justice for one marginalized group have struggled to reconcile their priorities with those of others. The post-war suffrage movement, which at times found itself in direct conflict with Reconstruction-era debates over Black political rights, echoes later tensions in other movements. For example, women active in the civil rights movement of the 1960s were often relegated to subordinate roles within organizations like the Student Nonviolent Coordinating Committee (SNCC), prompting many to redirect their

activism toward second-wave feminism (Hole, 1971).[31] Similarly, debates over the prioritization of lesbian rights within second-wave feminism (Sapiro, 2020), or the inclusion of trans rights within broader LGBT movements (Lewis and Taylor, 2014), illustrate how internal divisions over strategy and priorities have shaped reform efforts across different historical contexts.

The slow and uneven progress of women's suffrage relative to other democratic reforms underscores the long-term consequences of conflict for political mobilization. While war and other major societal disruptions can serve as catalysts for change, they can also reorient priorities, entrench existing structures, and generate backlash against progressive movements. These findings contribute to our understanding of the determinants of political mobilization, demonstrating that local historical experiences shape the demand for reform in ways that are often overlooked. More broadly, they offer insight into contemporary struggles for political rights—both in countries where full enfranchisement has yet to be achieved and in modern democracies where movements continue to compete for public attention and institutional action.

[31] The Student Non-Violent Coordinating Committee was the primary student group for civil rights.

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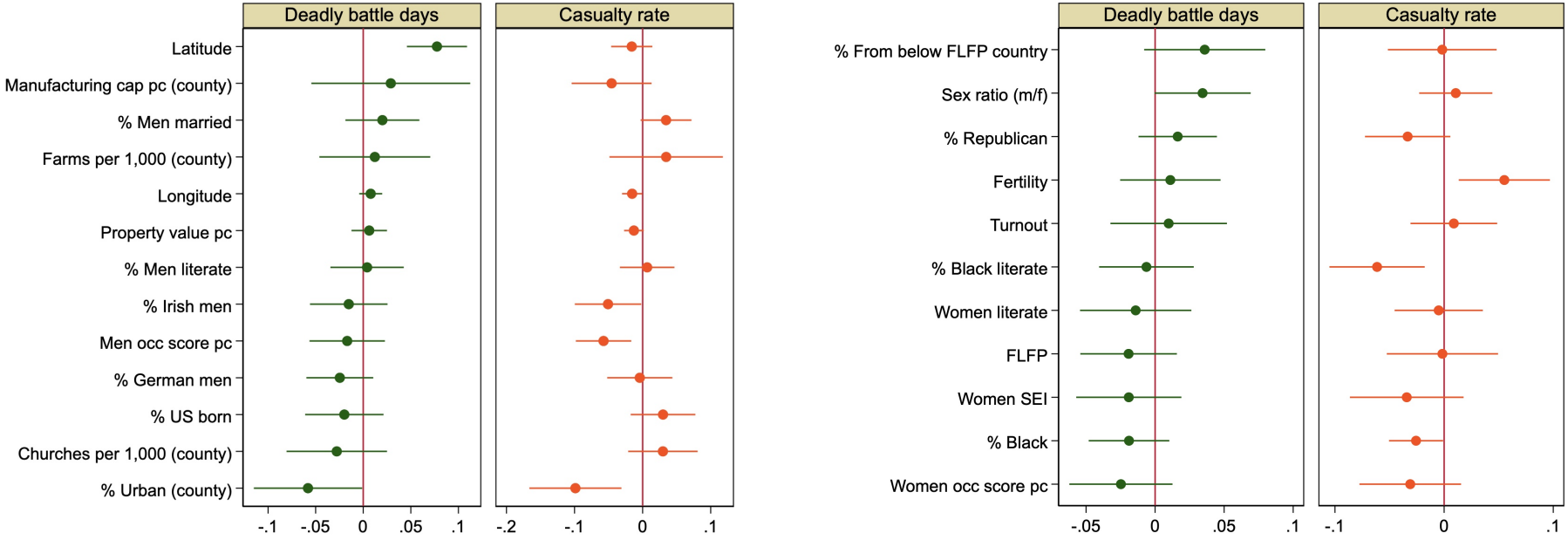
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7 Figures

Figure 1: Balance Test for Pre-Civil War Characteristics

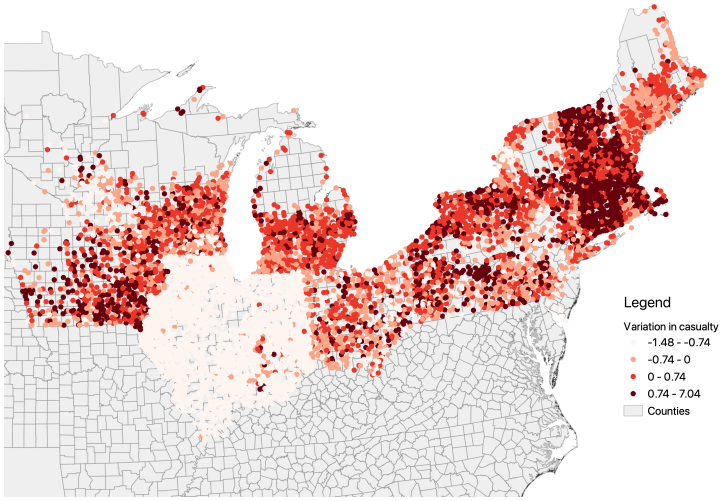
(a) Socio-economic Characteristics

(b) Characteristics Related to Progressive Ideology

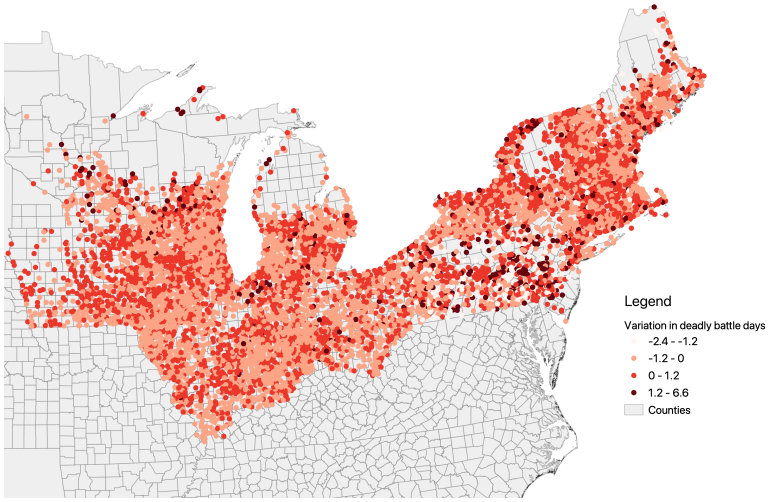


Estimates for the effect of deadly battle days (green lines, left) and casualty rate treatment (red lines, right) on outcomes measured prior to the Civil War in 1860. Effect estimates are y-standardized. All models control for total battle days and state fixed effects. 90% confidence intervals.

Figure 2: Map of Variation in Treatment



(a) Variation in Casualty Rates



(b) Variation in Deadly Battle Days

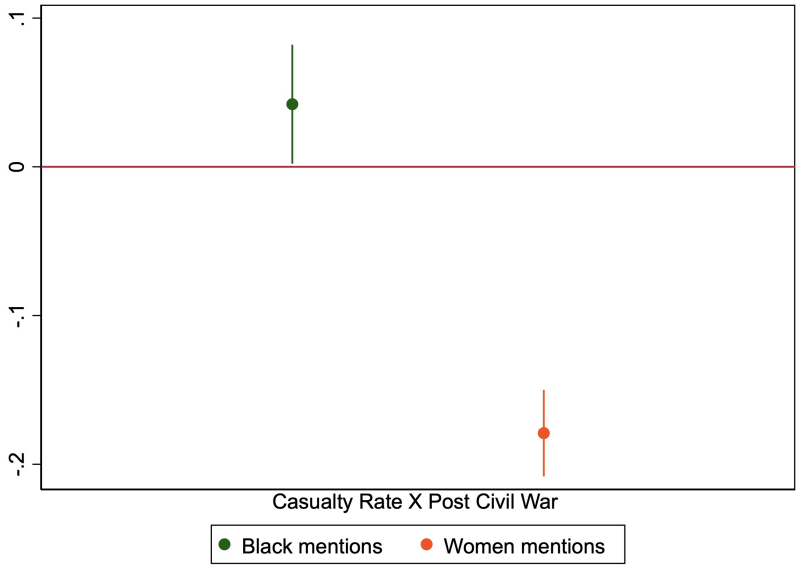
Panel (a) displays variation in each town's casualty rate. Panel (b) displays variation in deadly battle days after controlling for total battle days and state fixed effects. Darker colors indicate higher values.

Figure 3: Newspaper Convention Mentions

(a) Relationship Between Newspaper Coverage of Women's Conventions and Black Conventions: Estimates from Equation (5)



(b) Newspaper Convention Mentions and Casualty Rate



Panel (a) shows the correlation between mentions of women's rights/suffrage conventions and Black rights conventions before, during and after the Civil War. Panel (b) displays the effect of higher casualty rates on newspaper coverage of Black and women's rights conventions respectively after the Civil War compared to before.
In both panels I control for period and county fixed effects. Observations are towns and newspaper mentions are per capita and standardized. See Appendix Table A12 and A13 for detail.

Figure 4: Newspaper Sentiment Analysis

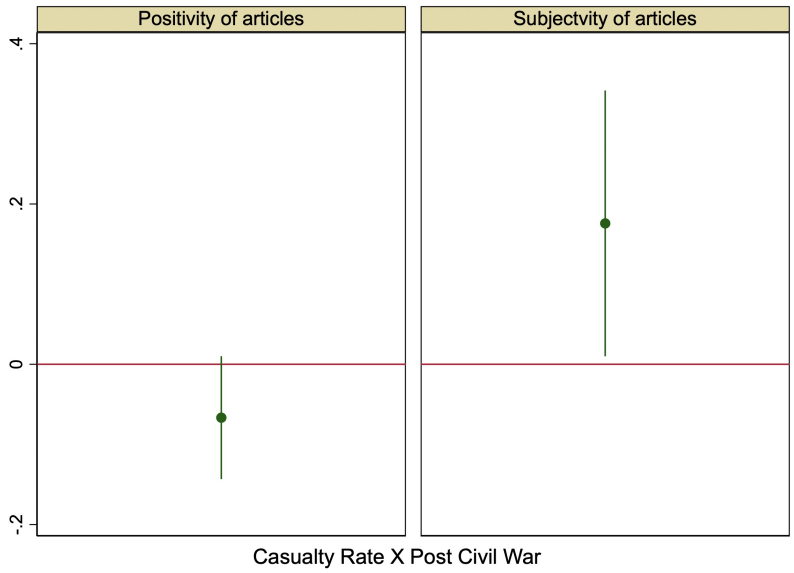
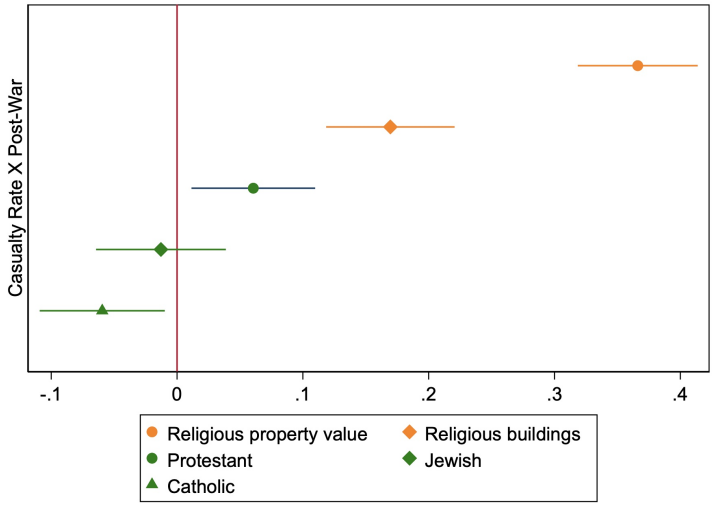


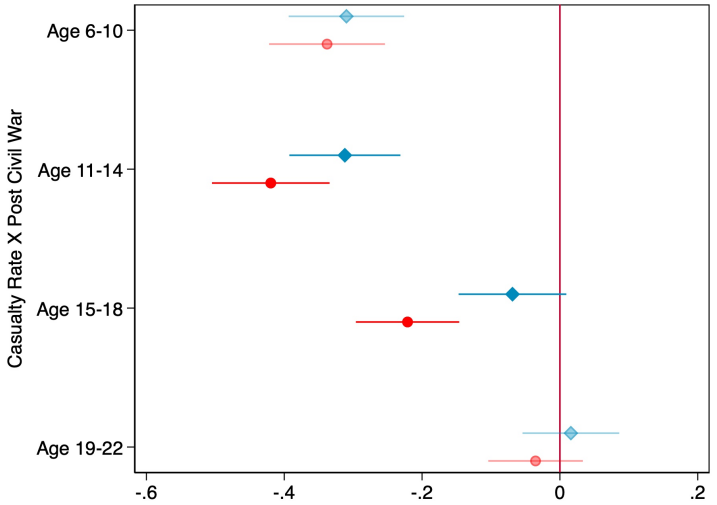
Figure shows estimates of the impact of casualty rates on positivity and subjectivity of newspaper articles written about women's suffrage and women's rights. Town and period fixed-effects are included and a control for the total number of articles. Observations are towns. See Appendix Table A15 for detail.

Figure 5: Diff-in-Diffs, Casualty Rate × Post Civil War

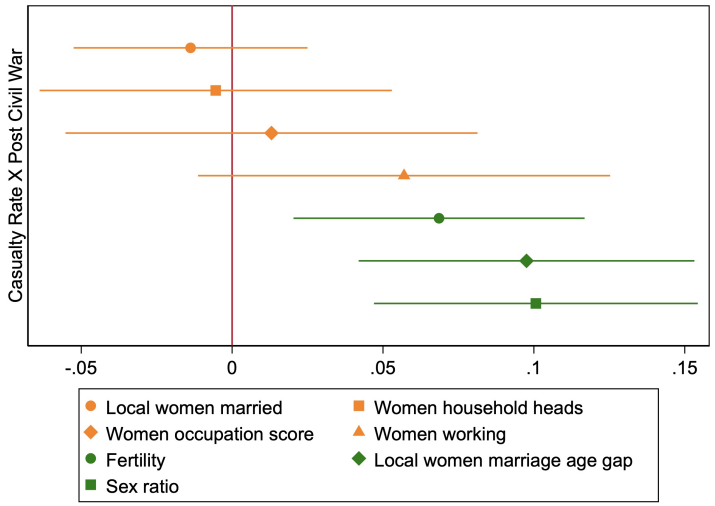
(a) Religion



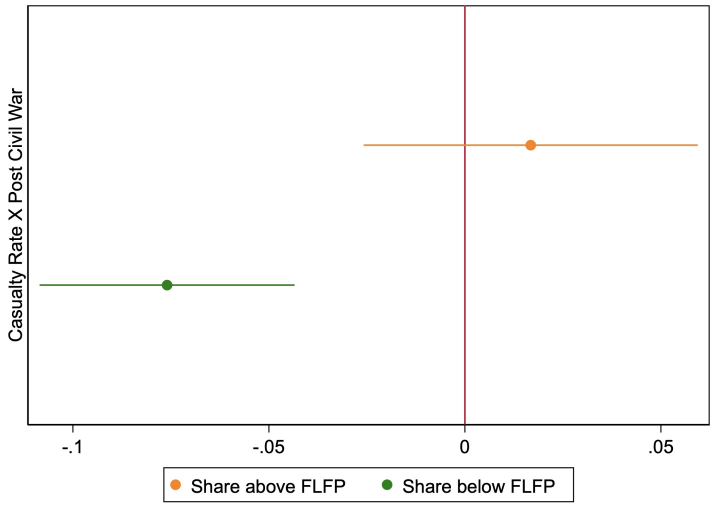
(b) Education



(c) Demographics



(d) Immigrant Background



All results in standard deviations. Observations are towns. Period and town fixed effects. Standard errors clustered at the town level. Religion variables measured as number of seats for individuals in their places of worship. For (b) Education, red circles are female and blue diamonds male, and bold results as opposed to faded are statistically significant.

8 Tables

Table 1: Summary Statistics

	N	Mean	SD	Min	Max
Sex ratio (m/f)	6604	1.08	0.17	0.33	9.00
Population	6604	2226.22	12742.11	7.00	7.9e+05
Total battle days	6604	34.85	20.42	1.00	189.33
Deadly battle days	6604	0.29	0.28	0.00	2.50
Enlistment	6604	0.40	1.28	0.00	1.00
% Battles in eastern theater	6603	0.51	0.40	0.00	1.00
Latitude	6604	41.79	1.78	37.01	47.46
Longitude	6604	-82.08	7.44	-96.61	-66.98
% Black	6604	0.01	0.02	0.00	0.52
% US born	6604	0.80	0.19	0.00	1.00
% Women working	6604	0.13	0.15	0.00	1.00
Property value pc	6604	1280.86	3026.73	0.00	1.3e+05
Manufacturing cap pc (county)	6504	30.44	38.36	0.09	587.85
Farms pc (county)	6592	0.08	0.03	0.00	0.23

All measured in 1860, at the town level unless otherwise specified. Deadly battle days is (town average) count of days in battles with over 10,000 Union casualties. Enlistment is number of soldiers over eligible male population.

Table 2: First Stage

DV: Casualty Rate	(1)	(2)	(3)
Deadly Battle Days	1.082***	1.046***	1.061***
	(0.098)	(0.094)	(0.093)
Military controls:	N	Y	Y
All controls:	N	N	Y
K-P F-Stat	120.85	123.83	131.04
Observations	6604	6604	6604
R^2	0.65	0.67	0.67

* p< 0.10, ** p<0.05, *** p < 0.01. Estimates of equation 1. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table 3: Main Results

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: OLS						
DV: IHS(Total Petitions)				2SLS	2SLS	2SLS
Casualty rate	-0.053***	-0.068***	-0.065***	-0.116**	-0.147***	-0.113**
	(0.021)	(0.021)	(0.020)	(0.049)	(0.051)	(0.048)
Panel B: Poisson Reduced Form						
DV: Total Petitions						
Deadly battle days	-0.121**	-0.154***	-0.117***			
	(0.050)	(0.052)	(0.045)			
Panel C: Poisson						
DV: Total Petitions				IV	IV	IV
Casualty rate	-0.245***	-0.298***	-0.240***	-0.372**	-0.456***	-0.333***
	(0.079)	(0.077)	(0.059)	(0.147)	(0.146)	(0.121)
Military controls:	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y
Observations	6604	6604	6604	6604	6604	6604
Outcome Mean	0.970	0.970	0.970	0.970	0.970	0.970
Outcome SD	3.130	3.130	3.130	3.130	3.130	3.130

* p< 0.10, ** p<0.05, *** p < 0.01. Poisson estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table 4: KKK Chapters: IV Results

DV: Log count of KKK chapters	(1)	(2)	(3)
Casualty rate	-0.124**	-0.153**	-0.163***
	(0.056)	(0.062)	(0.058)
Military controls:	N	Y	Y
+ All controls:	N	N	Y
K-P F-Stat	131.53	123.83	131.04
Observations	6604	6604	6604
Outcome Mean	0.430	0.430	0.430
Outcome SD	0.580	0.580	0.580

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates using deadly battle days as instrument. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table 5: Results: Interaction USCT Exposure

DV: Total Petitions	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Share battles w/ USCT	-0.081*	-0.106**	-0.070*	-0.009	-0.048	0.003	-0.073	-0.082	-0.055
	(0.264)	(0.047)	(0.041)	(0.061)	(0.056)	(0.056)	(0.071)	(0.071)	(0.062)
Casualty rate				-0.352*	-0.408**	-0.335*	0.065	0.167	0.062
				(0.198)	(0.188)	(0.175)	(0.212)	(0.215)	(0.183)
Casualty rate × share battles w/ USCT							-0.247*	-0.302*	-0.261*
							(0.145)	(0.179)	(0.154)
Military controls:	N	Y	Y	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y	N	N	Y
K-P F-Stat				70.01	72.31	76.19	54.08	52.82	56.64
Observations	6604	6604	6604	6604	6604	6604	6604	6604	6604
Outcome Mean	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970
Outcome SD	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130

* p< 0.10, ** p<0.05, *** p < 0.01. USCT exposure calculated by share of battles fought with USCT regiments, averaged across the soldiers of a town. IV Poisson estimates using deadly battle days as an instrument. Casualty rate and share battles with USCT are both normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working. Standard errors are clustered at the county level in parentheses.

Table 6: Results: Split Sample on Emancipation Proclamation Desertion

DV: Total Petitions for WS	Below Median Desertion		Above Median Desertion	
Total petitions				
Casualty rate	-0.340*	-0.406**	-0.249	-0.336
	(0.176)	(0.185)	(0.215)	(0.214)
Military controls:	N	Y	N	Y
Observations	2887	2887	2617	2617
Outcome Mean	0.970	0.970	0.970	0.970
Outcome SD	3.150	3.150	3.150	3.150

* p< 0.10, ** p<0.05, *** p < 0.01. Desertion rate during the emancipation window measures desertions between Aug. 1862 and Jan. 1863. IV Poisson estimates using deadly battle days as an instrument. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. Standard errors are clustered at the county level in parentheses.

Table 7: Newspaper Sentiment on the Women's Marches

DV: News sentiment	(1)	(2)	(3)
Casualty rate	-0.063**	-0.063**	-0.059*
	(0.031)	(0.030)	(0.032)
Military controls:	N	Y	Y
+ All controls:	N	N	Y
K-P F-Stat	13.78	13.87	15.09
Observations	245	245	245
Outcome Mean	0.090	0.090	0.090
Outcome SD	0.120	0.120	0.120

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns in which newspapers covered the women's suffrage marches. All estimates control for state fixed effects. Robust standard errors in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) share of women working and per capita real estate value.

Table 8: Immigration

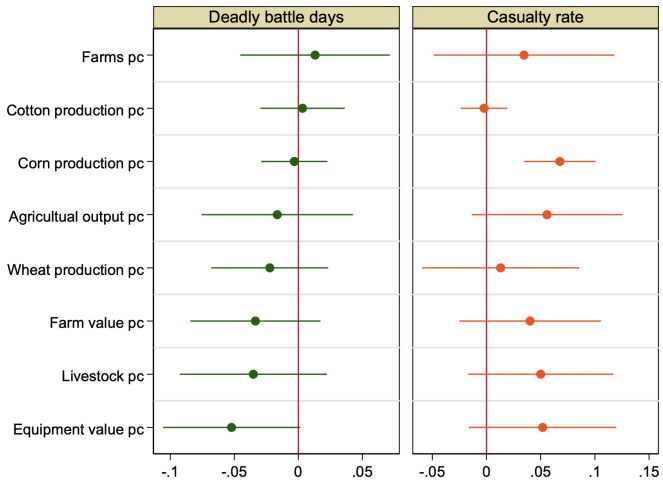
DV: Share ... men	Other state	Canadian	British	French	Irish	US	Italian	Norwegian	German	Swedish
Casualty rate × Post Civil War	0.219***	0.149***	0.071***	0.058***	0.051**	0.002	0.014	-0.035*	-0.105***	-0.155***
	(0.012)	(0.022)	(0.024)	(0.020)	(0.021)	(0.015)	(0.033)	(0.020)	(0.017)	(0.021)
K-P F-Stat	1062.75	1062.75	1062.75	1062.75	1062.75	1062.75	1062.75	1062.75	1062.75	1062.75
Observations	10460	10460	10460	10460	10460	10460	10460	10460	10460	10460
Outcome Mean	0.338	0.025	0.037	0.005	0.063	0.800	0.000	0.006	0.051	0.002
Outcome SD	0.283	0.059	0.058	0.018	0.082	0.194	0.001	0.046	0.096	0.026

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates using deadly battle days as an instrument. Unit of observation is a town. All estimates control for period and town fixed effects. Displays standardized coefficients from a regression of the share of each nationality on the casualty rate times Post Civil War. Standard errors clustered at the town level in parentheses.

A Appendix

A.1 Instrument Validity

Figure A1: Balance Test for Pre-Civil War Agriculture Characteristics



Estimates for the effect of the deadly battle days count measure (green lines, left) and casualty rate treatment (red lines, right) on outcomes measured prior to the Civil War in 1860. Effect estimates are y-standardized. All models control for total battle days, Eastern theater share, and state fixed effects.

Figure A2: Bin Scatter Instrument and Casualty Rate

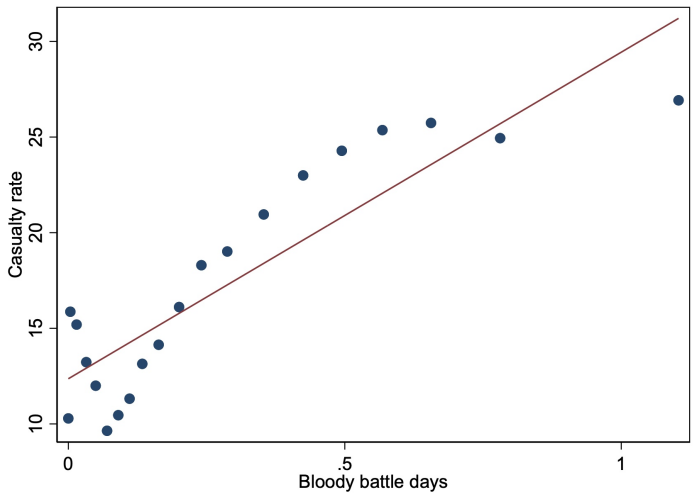


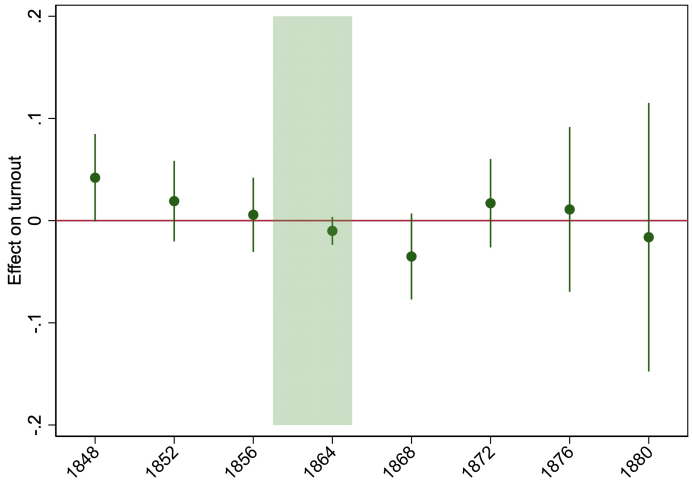
Table A1: Effects of deadly battle exposure on wartime losses and demographics

	Casualty Rate	Death Rate	Wounded Rate	Δ Sex Ratio (m/f)
	(1)	(2)	(3)	(4)
Deadly battle days	1.022***	0.191***	0.730***	-0.001
	(0.078)	(0.012)	(0.054)	(0.001)
All controls:	Y	Y	Y	Y
Observations	6601	6601	6601	4905

* p< 0.10, ** p<0.05, *** p < 0.01. OLS estimates. Observations are towns. Standard errors are clustered at the county level in parentheses. All estimates control for state fixed effects, total battle days, military controls, geographic controls, economic controls and demographic controls. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

A.2 Placebo Tests

Figure A3: Placebo Tests - Election Turnout and Casualty Rates



Notes: Estimates of impact of casualty rate on voter turnout, omitted year is 1860. Year and town fixed-effects. I control for military controls: average town muster date, enlistment, and Eastern Theater share; as well as total days in battle, each interacted with year fixed effects. Observations are towns, outcome is at the county level. Shaded area is Civil War years.

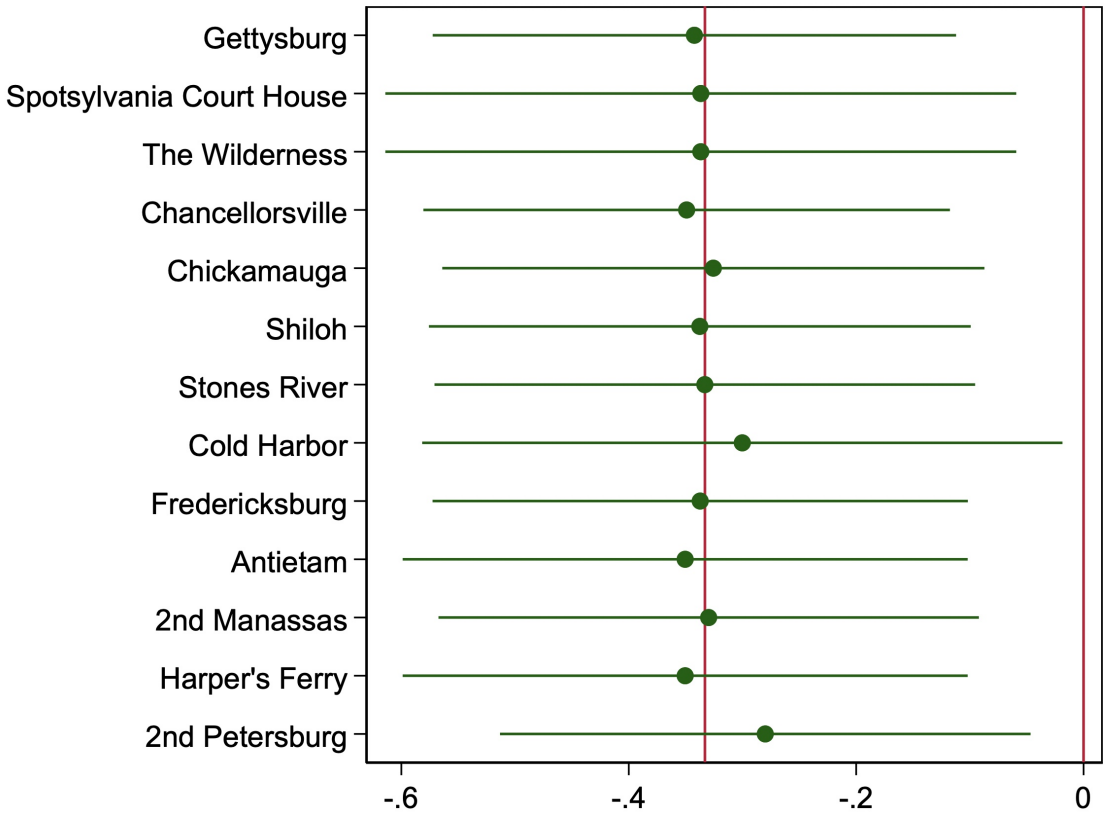
Table A2: Placebo Tests - Different Petition Causes

	Pre-War Abolition			Post-War IP		
DV: Total Petitions	(1)	(2)	(3)	(4)	(5)	(6)
Casualty rate	0.098	-0.078	0.075	0.170	-0.115	-0.400
	(0.231)	(0.218)	(0.256)	(0.419)	(0.460)	(0.563)
Military controls:	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y
K-P F-Stat	133.961	127.001	134.223	133.961	127.001	134.223
Observations	6604	6604	6604	6604	6604	6604
Outcome Mean	0.230	0.230	0.230	0.080	0.080	0.080
Outcome SD	1.920	1.920	1.920	2.090	2.090	2.090

* p< 0.10, ** p<0.05, *** p < 0.01. IV Poisson estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

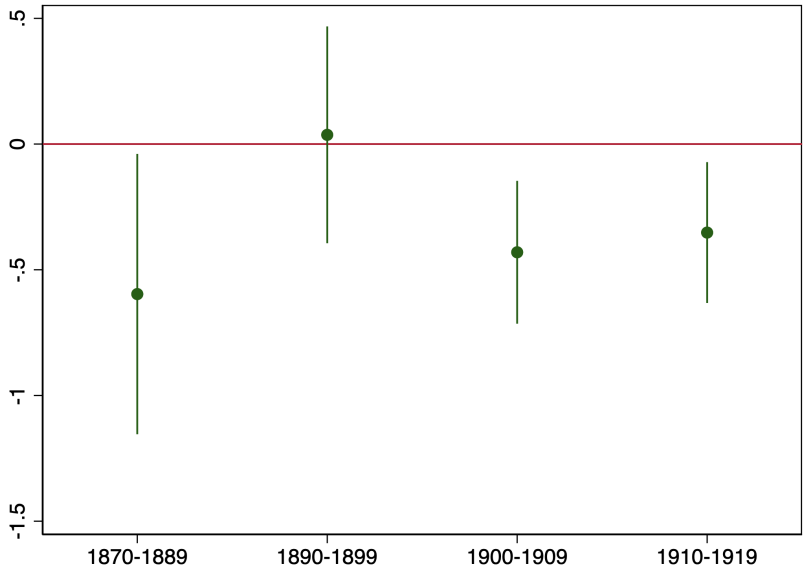
A.3 Robustness Checks

Figure A4: Robustness Checks - Coefficient Plot of Main Result from IV Poisson Regression, Leaving One Battle out of Instrument at a Time



Notes: Observations are towns. Central red line represents coefficient from main results. State fixed effects and all controls included: (military) average town muster date, enlistment, and share of soldiers exposed to the Eastern theater; (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) share of women working and per capita real estate value.

Figure A5: Robustness Checks - Individual Decade Petitioning Results



Notes: Observations are towns. State fixed effects and military controls included: average town muster date, enlistment, and share of soldiers exposed to the Eastern theater.

Table A3: Robustness Checks - Binary Results

DV: Any Petitioning	(1)	(2)	(3)
Casualty rate	-0.103***	-0.116***	-0.099***
	(0.033)	(0.034)	(0.033)
Military controls:	N	Y	Y
+ All controls:	N	N	Y
K-P F-Stat	120.84	123.82	131.02
Observations	6604	6604	6604
Outcome Mean	0.330	0.330	0.330
Outcome SD	0.470	0.470	0.470

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates using deadly battle days as an instrument. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table A4: Robustness Checks - Negative Binomial Results

DV: Total Petitions	(1)	(2)	(3)	IV (4)	IV (5)	IV (6)
Casualty rate	-0.162**	-0.213***	-0.142**	-0.394**	-0.493***	-0.376***
	(0.068)	(0.070)	(0.058)	(0.163)	(0.172)	(0.144)
Military controls:	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y
Observations	6604	6604	6604	6608	6604	6604
Mean dep. var.	0.970	0.970	0.970	0.970	0.970	0.970
SD dep. var.	3.130	3.130	3.130	3.130	3.130	3.130

* p< 0.10, ** p<0.05, *** p < 0.01. Negative binomial regression estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table A5: Robustness Checks - Log Results

DV: Log(Total Petitions + 1)	(1)	(2)	(3)	2SLS (4)	2SLS (5)	2SLS (6)
Casualty rate	-0.043***	-0.055***	-0.052***	-0.094**	-0.119***	-0.093**
	(0.016)	(0.017)	(0.016)	(0.038)	(0.040)	(0.037)
Military controls:	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y
K-P F-Stat				120.84	123.82	131.02
Observations	6604	6604	6604	6604	6604	6604
Outcome Mean	0.36	0.36	0.36	0.36	0.36	0.36
Outcome SD	0.62	0.62	0.62	0.62	0.62	0.62

* p< 0.10, ** p<0.05, *** p < 0.01. OLS estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table A6: Robustness Checks - Spatial Autocorrelation of the Error Term

DV: IHS(Total Petitions)	(1)	(2)	(3)
Casualty rate	-0.116**	-0.147***	-0.113**
	(0.049)	(0.051)	(0.048)
	[0.047]	[0.048]	[0.044]
	{0.054}	{0.053}	{0.051}
Military controls:	N	Y	Y
+ All controls:	N	N	Y
K-P F-Stat	120.84	123.82	131.02
Observations	6604	6604	6604
Outcome Mean	0.46	0.46	0.46
Outcome SD	0.78	0.78	0.78

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates. Observations are towns. All estimates control for state fixed effects and total battle days. Casualty rate is normalized to have mean zero, standard deviation one. Standard errors are clustered at the county level in standard parentheses. Standard errors corrected for spatial autocorrelation with a 50km bandwidth are reported in square parentheses. Standard errors corrected for spatial autocorrelation with a 200km bandwidth are reported in curly parentheses Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table A7: Robustness Checks - Different Battle Size Cut-Offs

	IV: Top 10 Battles			IV: Top 25 Battles		
DV: Total Petitions	(1)	(2)	(3)	(4)	(5)	(6)
Casualty rate	-0.268*	-0.390***	-0.287**	-0.454***	-0.508***	-0.383***
	(0.142)	(0.145)	(0.120)	(0.147)	(0.140)	(0.114)
Military controls:	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y
K-P F-Stat	128.907	104.841	110.444	77.781	78.889	85.728
Observations	6604	6604	6604	6604	6604	6604
Outcome Mean	0.970	0.970	0.970	0.970	0.970	0.970
Outcome SD	3.130	3.130	3.130	3.130	3.130	3.130

* p< 0.10, ** p<0.05, *** p < 0.01. IV Poisson estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table A8: Robustness Checks - Post March 1864 Battles Only in Instrument

DV: Total Petitions	(1)	(2)	(3)
Casualty rate	-0.383***	-0.470***	-0.369***
	(0.128)	(0.135)	(0.114)
Military controls:	N	Y	Y
+ All controls:	N	N	Y
K-P F-Stat	132.067	123.906	124.521
Observations	6604	6604	6604
Outcome Mean	0.970	0.970	0.970
Outcome SD	3.130	3.130	3.130

* p< 0.10, ** p<0.05, *** p < 0.01. IV Poisson estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working.

Table A9: Robustness Checks - Women's Suffrage and WCTU Data from McCammon et al. (2001)

	(1)	(2)	(3)	(4)	(5)	(6)
Organization	Suff orgs in state	Log suff memship	Men's suff orgs	College suff orgs	Newsletter circulated	Held convention
Casualty rate	0.070	-0.895	-0.055*	-0.079**	0.130**	-0.227***
	(0.051)	(1.429)	(0.030)	(0.039)	(0.065)	(0.075)
Observations	845	162	845	845	845	845
Politics	Democrat	Republican	Populist	Prohibition	Socialist	Newspaper endorse
Casualty rate	-0.045	-0.073**	-0.026	-0.051	0.016	0.020
	(0.028)	(0.033)	(0.019)	(0.044)	(0.038)	(0.059)
Observations	845	845	845	846	845	845
Temperance	Dues	Newspaper	Willard visit	Liqor value	Temperance coalition	Prohibition pass
Casualty rate	3.168	-0.046	-0.020	4163.387***	-0.273***	-0.079*
	(2.146)	(0.042)	(0.030)	(966.881)	(0.082)	(0.044)
Observations	715	848	848	848	845	848

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are at the state-year level (1866-1919). All regressions control for year fixed effects. I also control for the full set of military, economic, demographic, and geographic controls, each interacted with year fixed effects. Robust standard errors in parentheses. Organization variables: presence of a women's suffrage organization in the state; log of number of members in state women's suffrage organization; presence of a men's women's suffrage organization in the state; presence of a college women's suffrage organization in the state; whether a newsletter was published by state association or other movement leadership; and whether there were annual state conventions. Political variables: whether there were endorsements from political parties (Democrat, Republican, Populist, Prohibition, and Socialist); and whether newspapers endorsed suffrage or stated that women should receive the vote. Temperance variables: total dues paid to national WCTU per 100,000 in population; whether a WCTU newspaper existed; whether Frances Willard (WCTU president) visited the state; value of liquor products per 1,000; if there was a coalition between WCTU & suffragists; and whether the state passed a prohibition law.

Table A10: Robustness Checks - Women's Suffrage Conventions

DV: Total Petitions	(1)	(2)	(3)
Casualty rate	-0.388**	-0.430**	-0.440***
	(0.163)	(0.176)	(0.166)
Military controls:	N	Y	Y
+ All controls:	N	N	Y
K-P F-Stat	122.705	126.020	133.357
Observations	6605	6605	6605
Outcome Mean	1.170	1.170	1.170
Outcome SD	1.660	1.660	1.660

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working. Standard errors are clustered at the county level in parentheses.

A.4 Additional Tables

Table A11: Robustness Checks - Alternative Treatments

DV: Total Petitions	(1)	(2)	(3)	(4)	(5)
Deaths/soldiers	-0.196***				
	(0.063)				
Casualties/population		-0.046*			
		(0.025)			
Deaths/population			-0.037		
			(0.029)		
Deaths/casualties (binary)				-0.111***	
				(0.043)	
Deaths/casualties (continuous)					-0.094**
					(0.045)
Observations	6604	6604	6604	5898	5898
Outcome Mean	0.970	0.970	0.970	0.970	0.970
Outcome SD	3.130	3.130	3.130	3.130	3.130

* p< 0.10, ** p<0.05, *** p < 0.01. Poisson estimates. Observations are towns. Each RHS variable displayed is standardized to have mean zero, standard deviation one. All estimates control for state fixed effects and all military controls which are average muster date for soldiers, enlistment, and share of soldiers who fought in the Eastern theater. In each case population refers to eligible white male population. Standard errors are clustered at the county level in parentheses.

Table A12: Additional Tables - Results from Figure 3a: Relationship Between Newspaper Coverage of Women's Conventions and Black Conventions

DV: Mentions of women's conventions	
Black mentions × pre-war (1856-1860)	0.106***
	(0.012)
Black mentions × during-war (1861-1865)	-0.160***
	(0.011)
Black mentions× post-war (1866-1870)	-0.209***
	(0.013)
Observations	217440
Outcome Mean	-0.030
Outcome SD	0.800

* p< 0.10, ** p<0.05, *** p < 0.01. OLS estimates. News mentions are per capita and normalized to have mean zero, standard deviation one. Observations are at the town-year level, outcome is at the county level. All estimates control for year and town fixed effects. Standard errors are clustered at the town level in parentheses.

Table A13: Additional Tables - Results from Figure 3b: Newspaper Convention Mentions and Casualty Rate

DV: Mentions of ... conventions	Women's (1)	Black (2)
Casualty rate × post-war	0.042**	-0.179***
	(0.020)	(0.015)
Observations	137840	137840

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates. News mentions and casualty rate are both normalized to have mean zero, standard deviation one. Observations are at the town-year level, outcome is at the county level. All estimates control for year and town fixed effects.

Table A14: Additional Tables - Determinants of Battle Casualty Rate

Variable	Casualty rate
Share regiments USCT	0.052
	(0.065)
Battle length (days)	0.231***
	(0.086)
Deadly battle (instrument)	0.263***
	(0.086)
Year	-0.303***
	(0.070)

* p< 0.10, ** p<0.05, *** p < 0.01. OLS estimates. Observations are battles. Sample is the 190 battles involving at least 20 Union regiments. The numbers represent the standardized coefficients from a regression of the variable on the battle's casualty rate. Robust standard errors in parentheses. All variables are standardized to mean zero, standard deviation one.

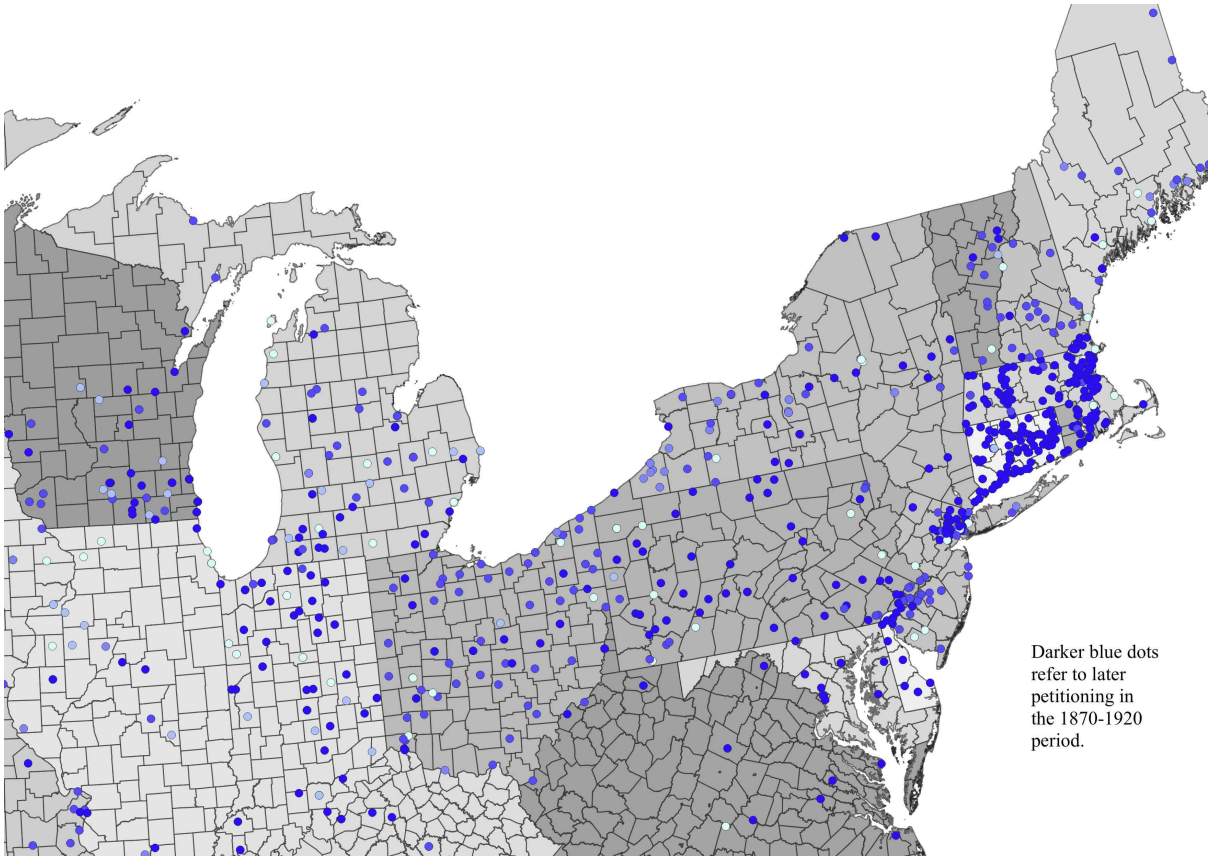
Table A15: Additional Tables - Results from Figure 4: Newspaper Sentiment Analysis

	Positivity Score	Subjectivity Score
Casualty Rate X Post Civil War	-0.067*	0.176**
	(0.039)	(0.084)
Observations	1093	1093
Outcome Mean	0.817	0.628
Outcome SD	0.387	0.483

* p< 0.10, ** p<0.05, *** p < 0.01. 2SLS estimates. Casualty rate is normalized to have mean zero, standard deviation one. Observations are towns where articles were published before and after the war on women's rights. All estimates control for period (pre or post-war) and town fixed effects, and total articles published. Standard errors are clustered at the town level.

B Petitioning

Figure A6: Map of Suffrage Petitioning

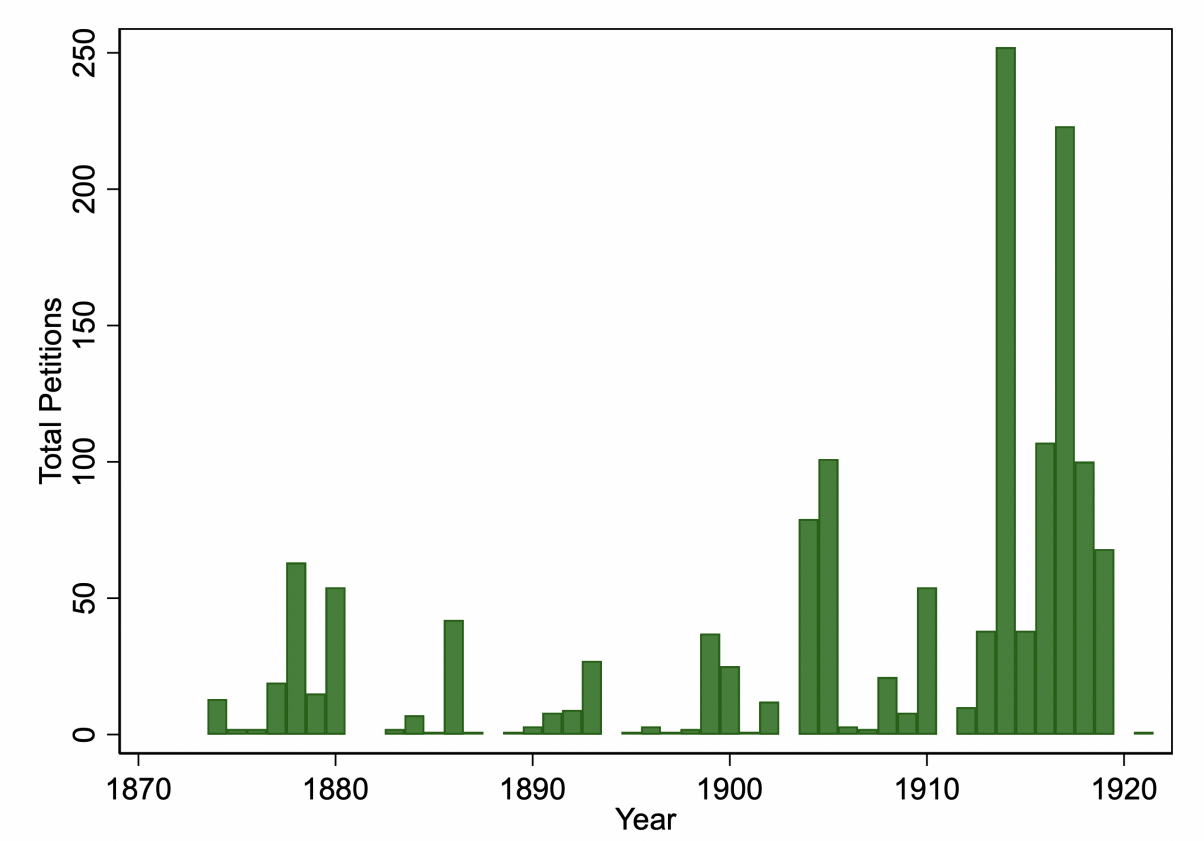


Map shows location of petitions sent for women's suffrage 1870-1920. Darker dots are later in date than lighter dots.

Petitioning was a fundamental mechanism of political engagement in U.S. history, particularly for individuals and groups excluded from formal electoral participation. For an excellent summary and study of petitioning in the US between 1789 and 1949, see Blackhawk et al. (2020a). Not only was petitioning a method through which to achieve legislate change, it was also tool of democratic mobilization, training activists and educating citizens about the cause (Verhoeven, 2023). Between 1870 and the passing of the 19th Amendment in 1920 women's suffrage activists sent at least 2,157 petitions to Congress, sometimes with many hundreds of signees on a single petition, in order to make their demands heard (Carpenter et al., 2018). Enshrined in the First Amendment, the right to petition served as a vital means of representation for women without the vote, as well as for other disenfranchised populations—such as Native Americans, and other marginalized groups.

The guidelines for handling petitions were outlined in the respective rules of the

Figure A7: Distribution of Suffrage Petitioning



House and Senate, with very few changes over time. Petitions were formally presented in Congress, where their contents were typically read aloud, documented in legislative records, and either referred to committees, deliberated upon, or tabled. The norm was for all petitions to be read aloud (at least partly), and there is no evidence that members of Congress systematically ignored or violated the rules on petitions by choosing to exclude petitions on certain topics (Carpenter et al., 2018; Blackhawk et al., 2020a; Carpenter, 2021). In some cases petition topics were refused in certain periods across the board, such as the Pickney Gag Rule which required petitions on the subject of slavery to be tabled, however, even these were still recorded. This institutionalized process underscores the centrality of petitioning as a procedural and representational tool, enabling broader participation in governance and contributing to the development of legislative agendas. Petitioning not only supplemented the franchise but also embodied a critical avenue for political expression and influence during formative periods of American political development, making it a significant outcome of interest.

C Soldier Experience in the Civil War

To further justify the use of deadly battle exposure as a good instrument for the casualty rate I provide here additional information on the organization and experience of the Union Army.

C.1 Assignment to Regiments

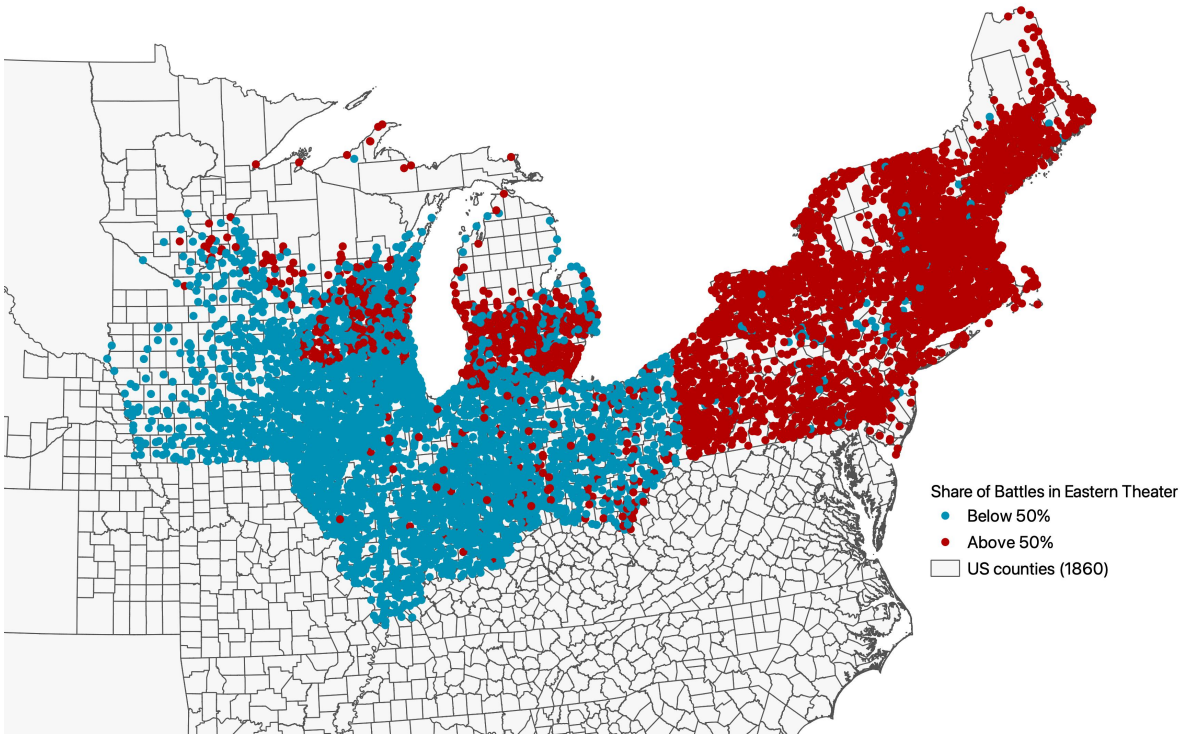
The Union relied on a combination of state and federal systems to recruit and assign men to regiments. Each state was responsible for meeting troop quotas assigned by the federal government, and recruitment was mainly organized at a local level. Community leaders, often prominent figures, raised companies of approximately 100 men from towns and counties, these companies were grouped into regiments and mustered into service. Consequently, regiments were frequently composed of soldiers from the same locality, reinforcing the town-level nature of wartime experience. Regiments were sequentially numbered within each state (e.g., the 20th Maine). Voluntary enlistment dominated early recruitment efforts for the Union, aided by financial incentives such as enlistment bounties (McPherson, 2003). Recruitment faced significant challenges as the war progressed and it became more difficult to raise the required amount of troops through volunteering alone.

The Enrollment Act of 1863 introduced federal conscription, marking a shift toward a more centralized system. Drafted men could either serve, hire substitutes, or pay commutation fees. Replacements and draftees were frequently assigned to existing regiments, especially to replenish losses from battle or disease. The establishment of the United States Colored Troops (USCT) after the Emancipation Proclamation in 1863 introduced federal organization for African American soldiers. Over time, the Union Army increasingly centralized its officer selection and regiment consolidation processes to ensure effective military command and organization (Hess, 1997).

C.2 Assignment to Battle

The largest battles of the Civil War, and those that I use to construct the instrument, involved tens of thousands of soldiers and battalions made up of regiments from a mix of states. Although strategically regiments led by more experienced commanders might have been given specific and difficult objectives once on the battlefield, the rush to bring in fresh troops, particularly to these largest battles, was often the priority (Hess, 2015). In many cases, regiments were assigned to battles first and foremost based on their geographical location and availability and units already stationed near the anticipated battlefield or along critical transportation routes were often called upon first, as evidenced by the rapid concentration of Union forces during the Gettysburg Campaign (Coddington, 1968).

Figure A8: Map of Eastern Theater Share



Map shows average share of battles fought in the Eastern Theater across all soldiers from a town.

Further, many of the bloodiest battles, such as Gettysburg, were not predicted ahead of time to be the hugely destructive clashes they ended up being and instead escalated from smaller-scale engagements (Eicher and McPherson, 2001). High casualties and the need for reinforcements disrupted regimental cohesion, leading to ad hoc assignments or the consolidation of units from different states. For example, during the Battle of Shiloh, regiments arriving late to the field were incorporated directly into active engagements with little preparation (McDonough, 1977).

C.3 Experience in Battle

The tactics used during the Civil War were a modification of linear tactics used in the French Revolutionary and Napoleonic Wars, where soldiers were organized into a line of battle (Hess, 2015). There were guides on either end and file closers behind to maintain the lines and prevent desertion. This rigid structure meant that once engaged, individual soldiers had limited ability to avoid combat, and casualties were distributed in a manner that was plausibly random (Hess, 2015).

D Additional Analysis of Suffrage Activity and Women's Mobilization

D.1 Suffrage Organization and Activity

Data on state women's suffrage movements collected by Holly McCammon (McCammon et al., 2001) can provide additional ways to understand the potential impact of Civil War exposure on women's suffrage. Table A9 shows the results of OLS regressions analyzing the impact of higher casualty rates on a range of outcomes at the state level. Analysis of these outcomes necessarily involves aggregating my data to the state level and thus a loss of information, but reveal some interesting trends, such as the reduction in Republican support and lower chance of a coalition with temperance organizations in states where casualty rates were higher. The data is recorded for each year between 1866 and 1919 for the 16 states I use, resulting in a maximum of $54 \times 16 = 864$ observations.

D.2 Other Post-war Mobilization of Women

Although the women's suffrage movement struggled to gain traction after the war, other women's groups had more success. Two of the most prominent post-war women's organizations, the Women's Christian Temperance Union (WCTU) and the Woman's Relief Corps (WRC) grew rapidly, perhaps helped by the fact that were more closely aligned

with traditional gender roles (Silber, 2011). Both organizations were radical in that they encouraged women's engagement in public affairs beyond the domestic sphere, however, they remained more closely aligned with ideas of what was considered acceptable for women. The WCTU focused on temperance, a cause framed as a moral and domestic issue, responding to the widespread problem of alcohol and drug dependency among Civil War veterans. Similarly, the WRC was dedicated to supporting Union veterans and commemorating the sacrifices of the war. Both movements gained considerable traction in the post-war period, while women's suffrage remained politically marginalized. The relative success of these movements after the war suggests that while women were engaged in civic life, their activities were largely confined to causes that were seen as an extension of their traditional roles as caretakers and moral guardians.

D.3 Women's Suffrage and the Temperance Movement

Table A16: Temperance Crusades

DV: IHS Total Petitions				IV	IV	IV
	(1)	(2)	(3)	(4)	(5)	(6)
(mean) regcr (standardized)	-0.047	-0.050	-0.052			
	(0.043)	(0.045)	(0.045)			
Temperance crusade				0.099***	0.098***	0.098***
				(0.025)	(0.025)	(0.025)
Military controls:	N	Y	Y	N	Y	Y
+ All controls:	N	N	Y	N	N	Y
Observations	6604	6604	6604	6608	6604	6604
Outcome Mean	0.490	0.490	0.490	0.490	0.490	0.490
Outcome SD	0.500	0.500	0.500	0.500	0.500	0.500

* p< 0.10, ** p<0.05, *** p < 0.01. OLS estimates. Observations are towns. All estimates control for state fixed effects and total battle days. Standard errors are clustered at the county level in parentheses. Casualty rate is normalized to have mean zero, standard deviation one. Military controls are average town muster date, enlistment, and share of soldiers exposed to the Eastern theater. All controls are: (geographic) latitude and longitude; (demographic) share of population born in the US and share of Black people in the population; and (economic) per capita real estate value and share of women working. Temperance crusade is a binary indicator for whether there was a temperance crusade in the county.

The temperance movement in the USA, which sought to curb or prohibit the consumption of alcohol, was active contemporaneously with the movement for women's suffrage. Although not all supporters of suffrage wanted temperance and vice versa the two movements did share many supporters.

Although early proponents of temperance did not mention suffrage, temperance Crusades[32] of the 1870s were seen as a movement for women's rights with women seen as the chief victims of intemperance (Blocker, 1985). Some figures in the women's suffrage movement felt uncomfortable with the supplicating tone of the Crusades whereas other saw it as a hopeless plight that would at least make women aware they needed the vote (ibid.). Both movements, however, asserted women's right to public and political activity.

The Crusades paved the way for the Women's Christian Temperance Union (WCTU) which, led by suffragist Frances Willard, having experienced the failure of the crusading strategy, added women's suffrage alongside temperance to its goals. The increased focus on temperance later in the history of women's suffrage correlates with its gradual shift from a movement founded in rights-based arguments (that as people and citizens women deserved the right to vote) to an argument that emphasized women's potentially purifying influence on politics.

I am able to use data collected by García-Jimeno, Iglesias, and Yildirim García-Jimeno et al. (2022) on the temperance Crusades to investigate the possible link between temperance and suffrage further. Table A16 displays results of two analyses. The first column is equation (4) where the outcome of interest is the count of total crusade events in a county and the main independent variable is the (instrumented) casualty rate. There does not appear to be significant relationship between the two, suggesting that the channel through which the negative effect of this exposure on demand for women's suffrage worked did not also affect women's interest in or capacity to organize for temperance. The second column shows results for a similar regression but where count of crusades in a county is now included as an independent variable and the outcome of interest is now total petitioning (all petitions were sent post-Crusades), these results show a significant positive relationship between crusade activity and petitioning. This may point towards the history and shared goals of the movements, or may indicate that later petitioners were inspired by the political actions of the crusaders.

[32] A series of protests by women outside of saloons that spread across the USA, demanding their closure.