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War Causes Religiosity:
Gravestone Evidence from the Vietnam Draft Lottery[a]

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Abstract

Does war make people more religious? Answers to this classic question are dominated by the lack of causality. We exploit the Vietnam Draft Lottery – a natural experiment that drafted male U.S. citizens into military service during the Vietnam War – to conclusively show that war increases religiosity. We measure religiosity via religious imagery on web-scraped photographs of hundreds of thousands of gravestones of deceased U.S. Americans using a tailor-made convolutional neural network. Our analysis provides compelling and robust evidence that war indeed increases religiosity: people who were randomly drafted into war are at least 20 % more likely to have religious gravestones. This effect sets in almost immediately, persists even after 50 years, and generalizes across space and societal strata.

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Introduction

In the aftermath of World War II, Gordon Allport conducted his classic survey among U.S. veterans to understand how the horrors of the war affected veterans' religiosity (*1*). At least since then, the question of war's effect on religiosity has occupied social scientists, policymakers, and the general public, as testified by the popular aphorism that "there are no atheists in foxholes." The answer to the question of war and religion has far-reaching consequences: Religion can create violent intergroup conflict and war itself (*2, 3*). Consequently, if war also makes people more religious, a vicious cycle may unfold, which in all likelihood would be a major driver of the cultural evolution (*4, 5*) of both war (*6*) and religion (*7*). If war increases religiosity, it may explain why many wars in history have been fought under religious flags (*8, 9*): religions would have had an incentive to expand war in order to survive and spread. Similarly, a possible rise in religiosity among those who have been at war would increase the share of religious voters. And, as most religious voters side with conservative parties (*10, 11*), war would influence election outcomes.

Additionally, a rise in religiosity—whether driven by war or not—has a vast array of downstream consequences. For instance, religiosity can promote prosociality (*12, 13*), fairness (*14*), tolerance (*15*), humanitarian concerns (*16*), parochial altruism (*17, 18*), norm conformity (*2, 19*), and physical and mental health (*20, 21*). It can also reduce the cognitive impairment associated with old age (*22*) and the pains associated with poverty (*23*). All those benefits notwithstanding, religiosity comes with costs, too, like reduced cognitive flexibility (*24*), less trust in science (*25*), less educational mobility (*26*), slower economic growth (*27*), more prejudice (*28*), higher levels of aggression (*29*), and extremist intergroup violence (*30*), including support for suicide attacks (*31*). Understanding the causal effect of war on religiosity is, therefore, consequential and timely.

From a theoretical perspective, there are good reasons for why war should increase religiosity. Cultural evolution theory (*32, 4, 5, 33*) offers an ultimate explanation (*34, 35*) for such an increase: During times of violent inter-group conflict and war, chances for survival are best among those who react by strengthening in-group ties (*36*) via tighter norm adherence (*37, 38*), reciprocal altruism (*39, 40*), and altruistic punishment of defectors (*41, 42*). A particularly effective means to achieve that whole suite of actions at once is via religion (*2, 3*), which has been shown to precisely strengthen in-group ties (*43, 44*), further reciprocal altruism (*45, 46*), and result in punishment of defectors (*47, 48*). The proximate, psychological processes (*34, 35*) that motivate people to engage in religion in response to war is likely to include reductions in existential uncertainty (*49*), (death) anxiety (*50*), and despair in the face of trauma (*51*)—all distinctive characteristics of religious coping (*52*).

The existing research on the effect of war on religiosity is inconclusive (*7, 53, 1, 54, 55, 56*). Above all, this is the case because the available evidence is mostly cross-sectional (*1, 54, 55, 56*) and quasi-experimental, at best (*7*). Consequently, existing research is limited by reversed causality (not war causes religiosity, but religiosity causes war) and omitted variable biases (third variables, such as political instability, may influence both religiosity and war). Both biases are major concerns for our understanding of the effects of war on religiosity. Reversed causality is a particular threat to the validity of non-experimental research on the possible effects of war on religiosity. This is the case, as there is persuasive theoretical and empirical reason to assume that religiosity can cause war (*7, 8, 2, 3*). All in all, the current understanding of the effects of war on religiosity is tentative.

Strong experimental evidence is needed to unveil the causal effect of war on religiosity. Since war cannot be experimentally manipulated in the lab, a natural experiment is required.

To conclusively test the causal effect of war on religiosity, we make use of an ideally suited natural experiment, known since Joshua Angrist's break-through work in 1989—the Vietnam Draft Lottery (*57, 58*): In 1969, U.S. President Nixon commissioned a draft of men for induction in the Vietnam War by random chance alone. To this end, televised events were held in which lots (containing birthdates) were literally drawn out of a large glass bowl. Men with lottery numbers below a predetermined threshold (e.g., the first 95 randomly drawn birthdates of the birth cohort 1952) were drafted; men from the same cohort whose birthdates were randomly drawn later (and, thus, received a higher lottery number) were not drafted to serve in the war. The Vietnam Draft Lottery is almost certainly the most famous and most telling natural experiment known in economics. Yet, the natural experiment itself is not sufficient to answer the question of how war affects religiosity. The unsolved challenge has been to assess the religiosity of the people who were up for the draft decades ago.

We provide a novel solution to the challenge and test — for the first time in an experimental setting — whether war causally affects religiosity. More precisely, we use gravestone information to assess draft lottery numbers and religiosity for a large, diverse population. Our approach is based on a substantial body of research across the social and historical sciences showing that peoples' religiosity is represented in gravestone imagery (i.e., religious people are more likely to be buried underneath gravestones with religious symbols such as crosses, praying hands, and angels) (*60, 61, 62, 63*). Gravestone imagery, thus, offers an unobtrusive measure of religiosity, eliminating researcher demand and social desirability issues, while capturing costly, irreversible, and long-lasting decisions about a person's most defining traits. Building on this interdisciplinary insight, we web-scraped hundreds of thousands of pictures from a website mainly used for genealogy. We then developed a tailor-made neural network (*59*), to automatically detect religious imagery on these gravestones (see Figure 1). In addition to automatically assessing religiosity from the gravestones, our data also provides information on deceased people's birthdates, hence, allowing us to reconstruct their draft lottery number (i.e., assigning people to the conditions drafted vs. non-drafted). We empirically check the representativity of our underlying sample by comparing it against known population characteristics (see SI A.1). Also, we assess the validity of our gravestone-based religiosity measure by relating it to several outcomes (e.g., church adherents, religious terms in obituaries, biblical names, see SI A.3.2) and via a survey with bereaved persons (see SI A.3.3). All these tests suggest that our empiri-

Figure 1: Illustrative examples of gravestone images with and without a cross detected by our tailor-made neural network.

The left picture shows an exemplary gravestone of a non-drafted person. The lottery number assigned to this birthdate (June 4th, 1952) in the 1971 lottery was 187, which was above the governmental predetermined threshold of 95 for this year. The picture illustrates a simple gravestone without any (religious) symbols. The picture on the right shows an exemplary gravestone of a drafted person. The lottery number assigned to this birthdate (May 19th, 1952) was 55, which was below the relevant threshold. The picture illustrates a simple gravestone with an engraved cross on it. The cross is detected by our tailor-made neural network (59). For privacy reasons, the names of both people are blurred.

cal approach provides an ecologically valid religiosity assessment within a large, representative population.

Our core analysis compares the religiosity of 40,646 men with drafted birthdates to the religiosity of 63,210 men with non-drafted birthdates. In our main model, we find robust evidence that being randomly drafted into military service during the Vietnam War increases religiosity by almost 20%. To validate the robustness of our core results, we conduct multiple robustness checks (see SI C for all these checks). Among other things, we use novel methods to confirm the validity of our religiosity measure and employ several variants of that measure, all confirming our main result. We also use alternative statistical models, which, too, arrive at conceptually identical conclusions. Likewise, we repeat our core analysis while excluding different subgroups of participants that possibly biased our results——again confirming our findings. For example, we make use of the 1977 war evaders' amnesty to assure that the subgroup of war evaders did not seriously affect our results (which they did not). We also show that the results hold when focusing exclusively on non-military graveyards, to address potential differences between military and non-military gravestones. Moreover, we apply our analysis to two non-treated placebo groups. More precisely, we find that women — who were never drafted — do not show any change in their religiosity based on the natural experiment. For men who anticipated induction, but were not drafted after all, we also do not observe any change in religiosity (highlighting that actual exposure to war, and not the fear of potentially having to go to war is driving the effect). Finally, we address the fact that our estimates are diluted due to individuals who did not follow their lottery outcome, in particular, those who were not drafted but still volunteered. Using an instrumental variable approach (*58*), we find that men who were drafted and went to war are more than twice as likely to display religious imagery than those who were not drafted and did not serve in the military.

To further bolster our core analysis and its robustness checks, we probe for several boundary conditions of our effect of war on religiosity in an effort to better understand the nature of the effect (see SI D). For instance, we examine whether the strength of the effect varies as a function of racial background. We also investigate whether the effect weakens as the time between serving in the Vietnam War and the individuals' date of death increases. We explore whether the effect is stronger in some U.S. states than in others, for example, in states that experienced high levels of anti-war protests, highly religious states, or highly conservative ones. We find that the religiosity-inducing effect of war was remarkably persistent across time, space, and societal strata.

Results

War-time military service induces religiosity.

To estimate the causal effect of war on religiosity, we compare the presence of crosses (i.e., the most ubiquitous symbol of the Christian religion) on the gravestones of people who were randomly drafted into war-time military service vs. those who were not drafted.

The Vietnam War lasted from 1955 to 1975. Between 1969 and 1975, several lotteries were carried out to recruit men based on their birthdate into military service (see SI A.4.1). We categorize the various lotteries into two windows with different characteristics. First, the birth cohorts 1950-1952 were drafted via the lotteries held in 1969-1971 (following the literature, we do not focus on the birth cohorts 1944-1949, as men could still volunteer to join the Vietnam War, diluting the effectiveness of the random assignment (*58, 64*)). In this window, the random lottery was effective in the sense that men who were "drafted" actually received a draft letter and had to report for military service (the effective window). Second, the birth cohorts 1953-1956 would have been "drafted" via the lotteries held in 1972-1975. In that window, a lottery took place, however the men never received a draft letter as the U.S. military transitioned to an all-volunteer force by that time. Thus, we expect the lottery to affect only men drafted in the first window (birth cohorts 1950-1952) and not men drafted in the second window (birth cohorts 1953-1956). Figure 2 shows the results.

The key insight is directly visible. For the effective lottery window (1950-1952), where we expected an effect, we see a clear and sizeable increase in religiosity as indexed by the presence of crosses on deceased people's gravestones. Specifically, we find a relative increase of 19% (from 26% to 31%) in the probability of crosses on gravestones (see Table 9 for a linear probability model (*65*)). This result provides support for the idea that being drafted into war causes people

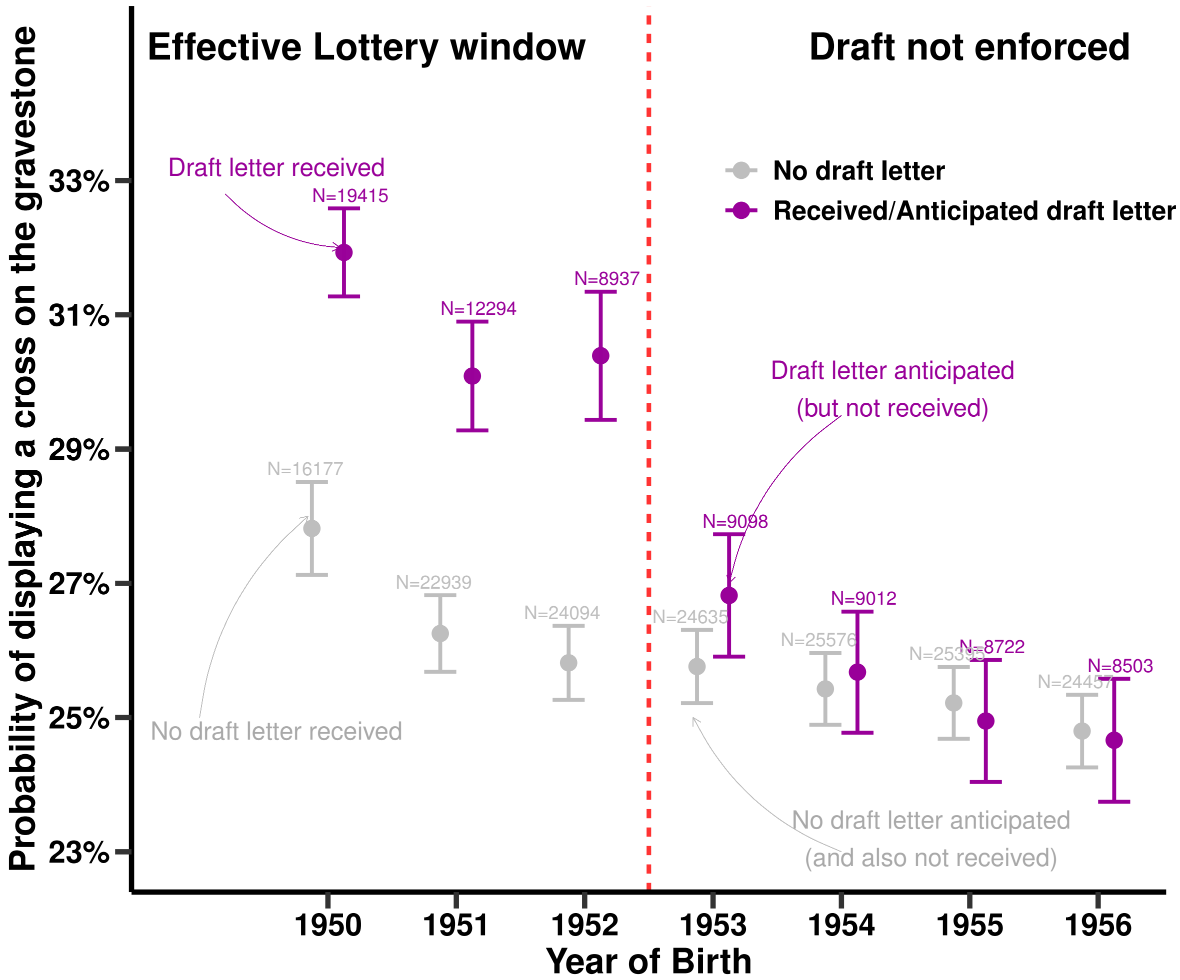

Figure 2: Probability of displaying a cross on the gravestone

Probability of displaying a cross on a gravestone between randomly drafted and non-drafted men by year of birth. The x-axis denotes the year of birth. Bars illustrate the 95% confidence interval of the probability of displaying a cross on a gravestone. Purple bars denote birthdays associated with a draft order (or anticipated draft order in the 1953-1956 cohort), while gray bars denote birthdays not receiving a draft order. The birth cohort of 1950 is part of the 1969 lottery. Men born in 1951 and 1952 are part of the 1970 and 1971 lotteries, respectively. Cohort 1953-1956 did not receive a draft letter.

to become more religious. In terms of effect size, our effect is larger than the effects of the Vietnam Draft Lottery on income and crime (*58*, *64*), but is within the typical range of causal effects of earthquakes and pandemics on religiosity (*66*, *67*).

On top of this main effect, the unique setting of the Vietnam Draft Lottery allows for additional insights into the religiosity-inducing effect of the draft. First, the "not-enforced window" allows us to disentangle the effects of serving in the military vs. merely being at risk of serving (men in birth cohorts 1953-1956). Figure 2 shows that there is no significant effect for cohorts that were at-risk but never served, indicating that it is indeed exposure to war that drives our effect – rather than the fear of having to go to war. Second, women were not eligible for military service and, thus, form an ideal placebo group. Specifically, we can assign the women in our data to their hypothetical draft number according to their birth date (men in birth cohorts 1950-1956). For women, there exists no significant effect in any lottery year (see Figure 4 and Table 9 in SI C.1), further confirming that actual exposure to war explains our effect rather than being born on certain dates.

We conduct several robustness checks to ensure the validity of our core finding. In SI C.2 we re-estimate our main regression results including control variables (i.e., age at death, race, state born or died in). In SI C.3, we re-estimate our main model (a) using a continuous instead of a binary measure (i.e., how many crosses are displayed), (b) using a wider array of religious imagery (i.e., images of the bible or the book of life, doves, and praying hands), and (c) using a logistic regression model instead of a linear probability model. All results are robust to these alternative specifications. In SI C.4.1, we address the fact that people who served in the military are eligible to be buried under military gravestones. Specifically, we demonstrate that our findings are not a side effect of military gravestones that may be more likely to feature religious imagery. In SI C.4.3, we explore the concern that people who died in combat (or shortly after) might have different gravestone-display patterns. To this end, we exclude men who died in combat or shortly thereafter from our models and show that this group does not drive our result. In SI C.4.2, we refute the potential concern that pre-trends are driving our results. Specifically, we focus on men who died *before* the draft letters could have possibly been sent and show that prior to the draft, there was no difference in religious imagery. Finally, in SI C.4.5, we use the 1977 war evaders' amnesty to demonstrate that our findings are not driven by selective draft evasion through emigration. Taken together, these results provide consistent evidence that war exposure increases religiosity.

Religiosity-inducing effect is very large for those actually exposed to war.

We have so far presented a conservative set of analyses. Specifically, we have focused on the reduced-form evidence from the intention-to-treat by using the birthdate of a deceased person as an indicator for whether they were exposed to war or not (i.e., the average treatment effect). However, using this indicator likely underestimates the size of the true effect because not everybody who was drafted actually went to serve in the military (e.g., due to medical conditions). Likewise, not everybody who was not drafted did stay at home (e.g., because of voluntary enrollment). In order to better estimate the true effect, we can focus on those who complied. That is, we compare those individuals who were drafted and served, to those who were not drafted and stayed at home (i.e., the local average treatment effect (*58*)). We do so by leveraging two unique features of our data that provide strong indication of whether somebody actually went to war: (a) whether a name is accompanied by a military rank (e.g., Cpt. John Smith, Pvt. Richard Miles) and (b) whether an obituary (which is sometimes present in the data) includes

Panel A: 2SLS with Stage 1: Mention Vietnam

	Are any crosses displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	-1.557^{***}	-1.418^{***}	-1.532^{***}	-1.393^{***}
	[17.41]	[19.50]	[17.77]	[19.90]
	(0.086)	(0.060)	(0.066)	(0.030)
$\widehat{\text{Mention Vietnam}}$	7.256^{***}	7.069^{***}	11.614^{***}	6.562^{***}
	[82.26]	[80.15]	[82.22]	[79.54]
	(0.862)	(0.921)	(1.398)	(0.413)
Observations	35,592	35,233	33,031	103,856
Log Likelihood	−21,724.400	−20,724.590	−19,249.080	−61,715.540
Akaike Inf. Crit.	43,452.800	41,453.180	38,502.160	123,435.100

Panel B: 2SLS with Stage 1: Military Rank

	Are any crosses displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	-1.877^{***}	-1.633^{***}	-1.493^{***}	-1.524^{***}
	[13.27]	[16.34]	[18.35]	[17.89]
	(0.123)	(0.088)	(0.062)	(0.038)
$\widehat{\text{Military Rank}}$	47.600^{***}	43.180^{***}	40.387^{***}	35.556^{***}
	[86.73]	[83.66]	[81.65]	[82.11]
	(5.654)	(5.628)	(4.862)	(2.240)
Observations	35,592	35,233	33,031	103,856
Log Likelihood	−21,724.400	−20,724.590	−19,249.080	−61,715.540
Akaike Inf. Crit.	43,452.800	41,453.180	38,502.160	123,435.100
Notes:	$^{*}p<0.05;^{**}p<0.01;^{***}p<0.001;$			

Table 1: **Results of the second stage estimation.**

*Estimates show the results of the second-stage logistic regression estimation while using different first-stage treatments in each panel. Each panel shows the estimates for men in all the draft lotteries between 1969 and 1971. Lotteries with a draft call (1969-1971) are aggregated in the final column. The constant denotes the baseline probability of displaying a cross on the gravestone for the non-treated group. Panel A uses a dummy variable of whether "Vietnam" was mentioned in the short text provided by some entries as the first stage. Panel B uses a dummy variable of whether a military rank was mentioned in the name of the person as the first stage. Marginal effects (in %) are shown in brackets. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance:* $^{*}p<0.05;^{**}p<0.01;^{***}p<0.001$.

the term "Vietnam" (e.g., "[...] He served [...] two tours in Vietnam [...] "). As a first stage, we estimate how the lottery affects those definite markers of war. We find that both military rank and Vietnam mentions occur significantly more often (a 30% increase) for drafted than non-drafted people (see SI C.5 Table 16 for the first-stage results). As a second stage, we use the estimated effect of war exposure due to the lottery to predict changes in religiosity. We find that the relative effect increased from roughly 19 % in the diluted average intention-to-treat effect to about 100-400% in the more precise and focused estimations (for details, see SI C.5). In other words, men who were drafted and went to war were substantially more likely to display crosses than those who were not drafted and did not go. This war-induced effect on religiosity is placed relatively high within the range of effects observed in previous correlational work on the association of conflict and religiosity (ranging from 30% to 200%) (*68, 7*). In sum, these analyses consolidate that actively serving in the war had a substantial effect on religiosity.

Religiosity-inducing effect persists across time, space, and societal strata.

Finally, we study the extent to which the religiosity-inducing effect of war exposure is universal through several additional analyses. We explore if the phenomenon affects all individuals similarly regardless of when they died, where they lived, and who they were. Specifically, we focus on the temporal persistence of the effect (for details, see SI D.4), the generalization across race (for details, see SI D.1), and ubiquity across fundamental cultural factors that are significant for human cohabitation, including religiosity, economic activity, racial composition, and the political landscape (for details, see SI D.3 and D.2). Figure 3 reveals that the religiosity-inducing effect of war exposure is instantaneous (i.e., occurs directly after exposure) and persists over time (i.e., is detectable even decades after the war; see top left panel). Next, the effect holds for all men independent of their race (see top right panel). Finally, the effect also occurs for all men regardless of their cultural background (see bottom panel). Taken together, our results document not only the causal direction of how war affects religiosity, but also that the effect occurs immediately, is long-lasting, and affects all men irrespective of their race and cultural environment.

Discussion

We have reported the first-ever results of a natural experiment with a literal lottery on the effect of war on religiosity. To investigate the causal effect of war on religiosity, we leveraged the Vietnam Draft Lottery (*57, 58*), in concert with a novel machine learning methodology (*59*) to harness, at a large scale, the religiosity of deceased individuals from the imagery on their gravestones (*63, 60*). We trained our neural network based on data from human judges (*60*), who are able to detect deceased people's religiosity with high fidelity from gravestone imagery. (*61, 62, 63*) In effect, our core analysis included data from 103,856 people, 40,646 of whom were drafted for the Vietnam War and 63,210 were not drafted.

The results are unequivocal. War exposure increases religiosity. The size of the rise was already substantial in our core analysis (19%), but that analysis was deliberately conservative (i.e., it only showed the intention-to-treat effect) and almost certainly underestimated the true effect

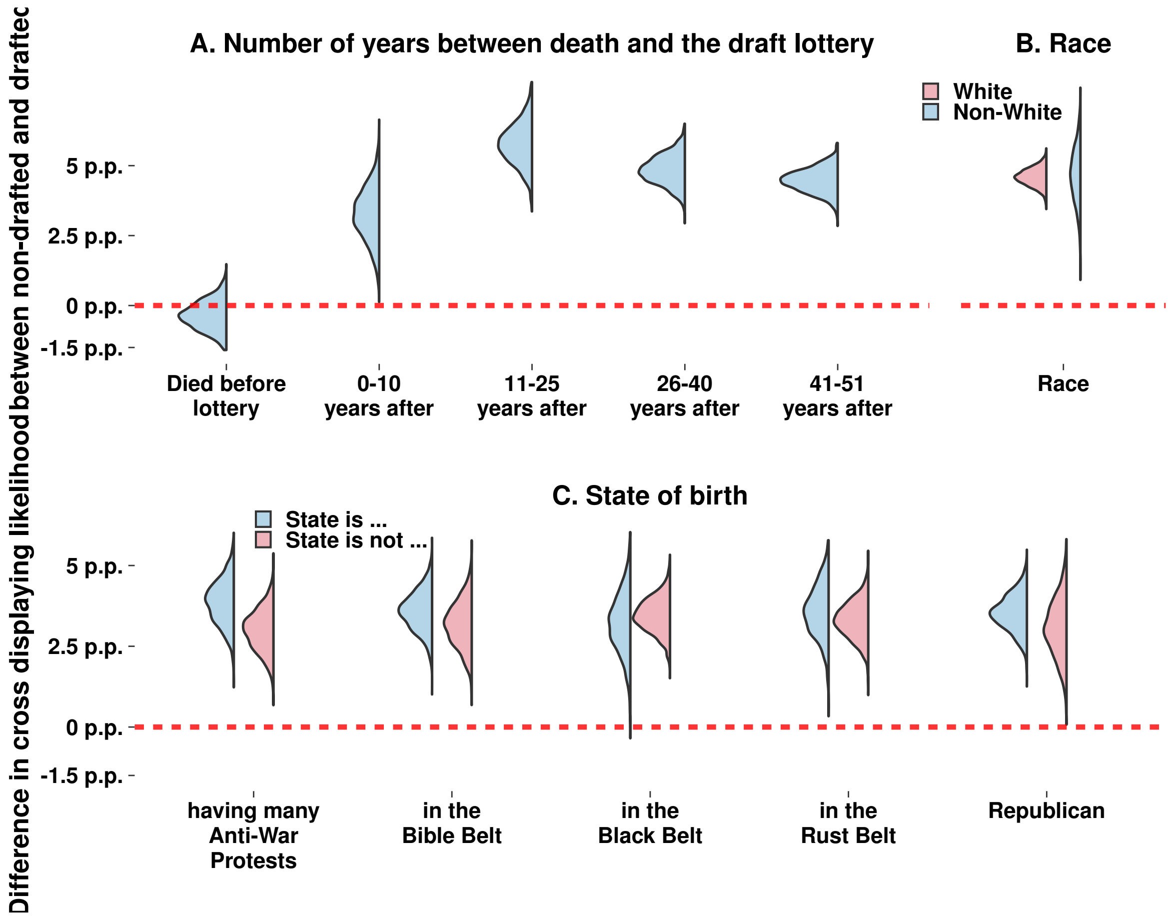

Figure 3: The estimated effect across time, space, and societal strata.

The effect of war on religiosity is stable across time, space, and societal strata. The y-axis depicts the bootstrapped difference in the probability of displaying a cross between non-drafted and drafted men. The horizontal line at zero denotes a null effect. ***The top left panel shows how the main effect establishes and develops over time.*** *The x-axis illustrates how many years before or after the lottery the man died.* ***The top right panel shows how the main effect differs between white and non-white men. The bottom panel shows how the main effect differs by the region of birth.*** *The x-axis illustrates multiple state characteristics the man was born in.*

size considerably. Zeroing in on the effect of those who actually went to war (i.e., the local average treatment effect) allowed us to estimate the true size of our effect much more accurately. The respective analysis revealed more than a doubling in the war-driven rise in religiosity.

The results are also robust. They hold despite using alternative measures of religiosity (continuous rather than binary, multiple religious symbols rather than the cross alone), alternative statistical models (logistic regressions rather than linear probability models), control variables (age at death, race, state born or died in), various placebo groups (women; men who died prior to the draft), and specific subsamples (exclusion of military gravestones, exclusion of participants who died during combat or shortly thereafter, and exclusion of potential war evaders).

The results are in line with—and, thus, fortify—cultural evolution theory (*32, 4, 5*). According to this theory, a rise in religion may well be an evolutionarily adaptive response to war (*7*), as religions culturally evolved a broad suite of behavioral norms that facilitate survival in the face of war (e.g., strong in-group ties (*43, 44*), tight norm adherence (*37, 38*), reciprocal altruism (*45, 46*), punishment of defectors (*47, 48*)). At the proximate, psychological level of analysis, our results bolster that part of the religious coping literature that considers religion a psychological resource, fending off existential uncertainty (*49*), (death) anxiety (*50*), and despair in the face of trauma (*51*).

In addition to the core analysis and its robustness checks, we also examined potential boundary conditions of our effect and find the effect to be persistent and general: It is evident among drafted regardless of whether they died directly after the war or 50 years later. In fact, using year-by-year analyses, we find the effect to be instantaneous and stable over time. The effect is also general in the sense that it is present and similarly strong among White and non-White people and among people from U.S. states that (a) heavily protested the war vs. not, (b) belonged to the Bible Belt vs. not, (c) belonged to the Black Belt vs. not, (d) belonged to the Rust Belt vs. not, and (e) were governed by the Republican party vs. not. This generalizability of our effect across all tested groups is relevant for at least three reasons.

First, it is consistent with the proposal that gene-culture coevolution (*69, 70*) has forged a universal and adaptive mechanism in response to violent intergroup conflict and war. (*7*)

Second, the generalizability of our results is indicative of the processes driving the effect of war on religiosity. One potential process is that war exposure drives people towards religion for "extrinsic" reasons (*71*), simply because religious engagement offers people a means for integration into the local community. Another potential process is that there is something special about religion, driving war-exposed people towards religiosity for "intrinsic" reasons (*71*). In our generalizability analyses, we found an effect of war on religiosity among people from U.S. states in which religion serves both, extrinsic and intrinsic functions (religious federal states) (*72*). But we also found an equally strong effect of war on religiosity among people from U.S. states in which religion primarily serves intrinsic functions, not extrinsic ones (relatively secular federal states) (*72*). This overall pattern of results is most consistent with the aforementioned intrinsic process, dovetailing the conclusions from recent survey data from wars in Uganda, Sierra Leone, and Tajikistan (*7*).

Finally, the effect of war on religiosity persists into old age, again consistent with recent survey data (*7*). This result highlights the fundamental effect of war on religiosity and speaks against a variety of short-term alternative mechanisms, which would all expect a decline of religiosity over time (e.g., differences in educational attainment between drafted and non-drafted; drafted men having traveled abroad).

While we describe the most unambiguous test on the effect of war on religiosity to date, some ambiguities remain. First, we operationalized war by means of the Vietnam Draft Lottery (*57,* 58). The impeccable reputation of that lottery as a natural experiment notwithstanding, this lottery concerns one specific war fought by two specific nations. Therefore, the generalizability of our findings to other wars and nations awaits testing in future research. For example, it is unknown in this regard whether war would also cause a rise in religiosity if the invaders were from a nation in which religion is not at all present (or very little present). Today, very few such nations exist, and for most of the time in which war and religion coevolved, no such nation existed. But religion declines in much of the Western world (*8*) and, thus, this question may become relevant in the future.

Second, we measured religiosity by means of gravestone imagery. This method has been validated in extant research across the historical and social sciences (*60, 61, 62, 63*) and the present research itself provided additional evidence for the method's validity, especially in the context of large-scale, automized assessment (Supplement A.3). Still, the measure captures religiosity at the time of death. It is possible that the effect of war on religiosity would have been even stronger if religiosity was measured at a time in which death was not close. After all, the immediate time prior to death can be like a personal war for the dying person, creating existential uncertainty and death anxiety for everyone, independent of whether they went to war or not. As a result, religiosity may have risen (*49, 50, 51*), and that rise may have somewhat leveled out the differences in religiosity between people who went to war and people who did not.

Third, we collected our religiosity data 50 years after the Vietnam War and due to the nature of our data, we could not include people who are still alive. As our participants were drafted at age 19, we only include those who died at the age of 69 or younger. As we observe a stable and long-lasting effect of war on religiosity throughout the time between war and today, issues of selection are unlikely. Nevertheless, a repetition of the present study in 20 years or so will be a useful supplement.

Finally, we base our predictions on cultural evolution theory. The rationale of that theory seems better suited to predict the effect of war on religiosity for people from the attacking nation than for people from the attacked nation. This is especially the case if cultural evolution theory is meant to explain the bi-directionality between war and religion, which is thought to kick off a vicious cycle that explains the prevalence of war and religion in many human societies (*7*). In line with that, we examined the effect of the Vietnam War on the religiosity of U.S. Americans, not Vietnamese people. In contrast, most prior research focused on individuals from the nation under attack (or lacked the means to clearly separate people from attacking and attacked nations). This difference between our experiment and extant studies renders ours all the more timely and useful. But it also means that strong experimental research on the effect of war on religiosity among people from attacked nations remains wanting.

In conclusion, we provide the first naturally occurring experimental evidence that war causes a rise in religiosity. We have done so by combining a prominent natural experiment (i.e., the Vietnam Draft Lottery (*57, 58*)) with large-scale religiosity information extracted from gravestones (*60, 61, 62, 63*). Our evidence has far-reaching consequences. War can strengthen religious belief. Strong religious belief, in turn, can cause violent intergroup conflict and war (*2, 3*). This bi-directionality creates the conditions for a vicious cycle to unfold—a process that can help explain the central role of religion and violent intergroup conflict throughout human (pre-) history (*8, 7*). Relatedly, our results also provide an explanation for why so many wars in history have been fought under religious flags (*8, 9*): Because war increases religiosity, war may have been of cultural-evolutionary value (*32, 4, 5*) for religions as a means to survive and spread. (*73, 74*) Finally, in the industrialized world (*75, 76*), religious people tend to vote for conservative parties (*10, 11*) and, thus, war's effect on religiosity conceivably influences elections, especially when small shifts in voting behavior can decide the overall outcome of an election. Scientists, policymakers, and the public need to be made aware of the causal effect of war on religiosity. The implications of the effect itself are vast, and so are the implications of knowing about the effect.

Materials and Methods

Gravestone data. We web-scraped photographs from real-life, physical memorials. The pictures were taken from the world's largest online graveside collection, *findagrave.com*. The collection includes an extensive coverage of graveyards in the U.S. The gravestone pictures are typically accompanied by basic personal information like name, dates of birth and death, and place of burial. Some entries also include additional details in the form of short biographies or obituaries. This unique dataset allowed us to access personal information not usually available in traditional survey studies, such as exact birth dates. We randomly scraped 100,000 memorials for each eligible birth year (1944-1956) for the Vietnam Draft Lottery, with an additional 5 million random memorials outside the draft period. We excluded memorials with birthdates outside 1940 and 1960, missing birthdates, and those where gender could not be determined based on first name(s). Our data closely matched the actual U.S. population, with similar state population shares and distribution of first names (see SI A.1).

Religiosity measure. To assess religiosity, we analyzed the presence of religious imagery on gravestones, a previously validated measure used in psychological, historical, and cultural studies (*62, 61, 60, 63*)(SI A.3.1 provides additional information on the measure's validity). We trained a convolutional neural network (*59*) using manually coded data (*60*) to identify common religious symbols like crosses, bibles or books of life, praying hands, and angels on gravestones (see SI A.2 for methodological details). The presence of crosses served as our main proxy for religiosity because many other religious symbols were not authorized for military-issued gravestones (SI A.2.2 provides a validation). However, we also explored alternative measures of religiosity (SI C.3). Supporting the validity of our gravestone religiosity measure (SI A.3.2), we found positive correlations between the proportion of religious gravestones and the share of church adherents in the U.S. religion census. Additionally, people with religious gravestones were often described with religious terms in obituaries/biographies, and those with biblical names displayed religious gravestones more frequently. Furthermore, we conducted a survey among bereaved individuals and found that persons described as religious are also buried underneath religious gravestones (SI A.3.3).

Natural experiment. To obtain causal insights into how war-time military service affects religiosity, we use the Vietnam Draft Lottery. Implemented in 1969 by Richard Nixon, the Vietnam Draft Lottery assigned a unique random number between 1 and 366 to each birthdate of a given year. A threshold, known as the administrative processing number (APN), was determined based on the estimated need for additional troops in the Vietnam conflict. Men with a number lower or equal to the APN received a draft order, while those with a higher number did not. Seven lotteries were conducted between 1969 and 1976, with the final draft orders ceasing in January 1973 when the U.S. military transitioned to an All-Volunteer Force, rendering the subsequent lotteries without draft orders (SI A.4.1). Supporting the lottery's validity, SI A.4.2, shows that the draft lottery affects war-related outcomes, such as receiving a medal, having a military cemetery, and mentioning Vietnam.

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A Extended information on the materials & methods

A.1 Data validation

To test the representativeness of our data, we compare our random sample to official data regarding the relative population size and the distribution of first names. More precisely, we first calculate a) the relative population per state of death (i.e., the state the person died in, N = 272,120) and b) the relative population per state of birth (i.e., the state the person was born in, N = 238,126) in our dataset. We then compare a) the U.S. 2010 census data, and b) to the U.S. 1950 census data.[1] Table 2 depicts this comparison. We find a correlation of r = 0.667, $p \leq$ 0.001 between the relative population per state of death in our sample and the relative population based on 2010 census data. We find a correlation of r = 0.761, $p \leq$ 0.001 between the relative population per state of birth in our sample and the relative population based on 1950 census data. This result suggests that the spatial distribution of the U.S. population is numerically well reflected in our sample.

Second, we compare whether the top 10 first names in our random sample match the top 10 first names in the U.S. population as reported by the Social Security Administration. Table 3 depicts the top 10 first names of people born in 1950 in our sample (N = 63,730) compared to the top 10 first names of people born in 1950 reported by the Social Security Administration.[2] For men, we find, that 9 out of the 10 most common first names in our sample are among the 10 most common first names of people born in 1950 as reported by the Social Security Administration. Likewise, for women, 9 out of the 10 most common first names in our sample are among the 10 most common first names of people born in 1950. In addition, we correlate the relative frequency of each first name of people born in 1950 in our sample with the relative frequency reported by the Social Security Administration. For male names, we find a correlation of r = 0.993, $p \leq$ 0.001 and for female names we find a correlation of r = 0.984, $p \leq$ 0.001. These results, again, suggest that our data reflects the U.S. population reasonably well.

A.2 Classification of gravestone imagery

A.2.1 Method

We use Python 3.6.2 to scrape the data from `https://www.findagrave.com/`. Only entries containing a gravestone picture are saved (around 40% of the entries have no image).

We train the neural network to detect the most commonly occurring religious symbols on gravestones, according to the literature Ebert2020,Zelinsky2007. Specifically, we focus on the fol-

[1] The data is obtained from the `https://www.census.gov/dataviz/visualizations/021/508.php`, which is the Census 2010 tables showing historical populations for states based on current boundaries.

[2] The data is obtained from `https://www.ssa.gov/oact/babynames/index.html` by selecting 1950 as the year of birth.

State	Our Data (State of Death)	U.S. Census 2010	Our Data (State of Birth)	U.S. Census 1950
Alabama	1.93	1.55	1.42	2.02
Alaska	0.18	0.23	0.09	0.09
Arizona	1.17	2.07	0.64	0.50
Arkansas	2.16	0.94	2.23	1.26
California	3.80	12.07	3.88	7.00
Colorado	1.09	1.63	0.89	0.88
Connecticut	0.65	1.16	0.70	1.33
Delaware	0.16	0.29	0.14	0.21
Florida	2.86	6.09	1.38	1.83
Georgia	2.69	3.14	2.11	2.28
Hawaii	0.23	0.44	0.24	0.33
Idaho	0.83	0.51	0.98	0.39
Illinois	4.27	4.16	5.65	5.76
Indiana	4.99	2.10	4.77	2.60
Iowa	2.75	0.99	3.47	1.73
Kansas	1.76	0.92	2.28	1.26
Kentucky	3.14	1.41	2.65	1.95
Louisiana	2.00	1.47	2.03	1.77
Maine	0.50	0.43	0.59	0.60
Maryland	0.86	1.87	0.80	1.55
Massachusetts	1.43	2.12	1.84	3.10
Michigan	3.20	3.20	3.80	4.21
Minnesota	1.94	1.72	2.21	1.97
Mississippi	1.36	0.96	1.19	1.44
Missouri	3.65	1.94	3.60	2.61
Montana	0.64	0.32	0.70	0.39
Nebraska	1.28	0.59	1.50	0.88
Nevada	0.56	0.87	0.17	0.11
NewHampshire	0.44	0.43	0.38	0.35
NewJersey	0.74	2.85	1.05	3.20
NewMexico	0.49	0.67	0.62	0.45
NewYork	2.34	6.28	3.76	9.80
NorthCarolina	4.52	3.09	2.16	2.68
NorthDakota	0.56	0.22	0.73	0.41
Ohio	5.54	3.74	6.03	5.25
Oklahoma	2.74	1.22	3.02	1.48
Oregon	1.00	1.24	0.93	1.01
Pennsylvania	4.70	4.11	5.74	6.94
RhodeIsland	0.21	0.34	0.28	0.52
SouthCarolina	1.58	1.50	1.41	1.40
SouthDakota	0.61	0.26	0.74	0.43
Tennessee	3.55	2.06	2.22	2.18
Texas	9.43	8.14	8.86	5.10
Utah	1.61	0.90	1.89	0.46
Vermont	0.45	0.20	0.53	0.25
Virginia	1.61	2.59	1.37	2.19
Washington	1.62	2.18	1.45	1.57
WestVirginia	1.44	0.60	1.91	1.33
Wisconsin	2.38	1.84	2.62	2.27
Wyoming	0.34	0.18	0.37	0.19

Table 2: **Relative population per state.**

Our Data (State of Death) denotes the relative population by state of death in our sample, while Our Data (State of Borth) denotes the relative population by state of birth in our sample. U.S. Census 2010 and U.S. Census 1950 denote the relative population share by state in the 2010 and 1950 U.S. census.

lowing classes: angels, bibles or books of life, crosses, praying hands, doves, and David's stars. In addition, we train the neural network to detect persons on the pictures, as a sizable portion of

	Our Data		SSA Data	
1	LINDA	JAMES	LINDA	JAMES
2	MARY	ROBERT	MARY	ROBERT
3	PATRICIA	JOHN	PATRICIA	JOHN
4	BARBARA	MICHAEL	BARBARA	MICHAEL
5	BRENDA	DAVID	SUSAN	DAVID
6	SUSAN	WILLIAM	NANCY	WILLIAM
7	SANDRA	CHARLES	DEBORAH	RICHARD
8	CAROL	RICHARD	SANDRA	THOMAS
9	DEBORAH	LARRY	CAROL	CHARLES
10	NANCY	THOMAS	KATHLEEN	GARY

Table 3: **Top 10 first names in our sample.**

Top 10 first names in our sample (left two columns) of people born 1950, and the top 10 first names reported by the Social Security Administration obtained from birth records (right two columns). Female first names are depicted in columns one and three, while male first names are depicted in columns two and four.

the pictures do not display a gravestone but rather a picture of the deceased person. To train the network, we segment 1,240 pictures using the VGG Image Annotator. 972 images are used as a training set and 268 as a first validation set. To improve the performance and versatility of our network, we augment each input image in several ways. First, we flip the image horizontally and vertically to account for images that may be shown incorrectly on the website. Second, we use a piecewise affine transformation to skew the image and a Gaussian blur to simulate lower-quality images. Third, we apply dropout to randomly drop a percentage of pixels and use a Canny edge detector to slightly highlight edges in the image. Finally, we manipulate the images' color to simulate grayscale images. These augmentations allow us to increase the number of segmented images and improve the applicability of our network.

We rely mostly on the Mask R-CNN He2017 convolutional neural network to classify images. The initial weights are taken from the pre-trained Mask R-CNN. We use a stochastic gradient descent, with a learning rate of 0.001 and a momentum of 0.9. The backbone of the network is a 101 ResNet of 101 layers, with two types of residual blocks.

Overall, the average precision is 82.5%. The network has the largest number of crosses and Bibles segmented, resulting in better performance for these two classes. The class of persons is detected perfectly, as we use the initial weights of Mask R-CNN which is trained with the goal to detect persons He2017. On the other extreme, the class of doves are performing the worst where almost a third of the detections are false positives. The difficulties in detecting doves (and angels) stem from the variety of different symbols resembling these two (e.g., other birds or floral depictions). The accuracy for all classes, and the absolute class of religious symbols being present is higher than 84%. The accuracy of predicting each separate symbol is above 90% for each class.

A.2.2 Cross-Validation

To further validate our approach, we randomly select 1,434 machine-coded gravestone pictures (roughly 200 from every decade between 1950 and 2010). We hand-code all classes found in these gravestone pictures (i.e., we exclude all pictures where a person instead of a gravestone was displayed) and compare them to the predicted classes obtained from the convolutional neural network. Table 4 reports the key results of the confusion matrix: the convolutional neural network does well. It has an accuracy of more than 90% for all classes, a specificity of 95% and better, and a decent sensitivity of more than 80% for most classes except doves.

Class	Accuracy	Sensitivity	Specificity	Prevalence
Crosses	93%	88%	95%	31%
Angels	97%	84%	97%	1%
Bibles	96%	88%	97%	9%
Doves	97%	44%	97%	1%
Praying Hands	99%	88%	99%	6%
David Star	99%	81%	99%	1%

Table 4: **Confusion matrix of the cross-validation.**

A.3 Measure of religiosity

In this section, we discuss the conceptual validity of our measure of religiosity (section A.3.1), an empirical validation of our measure of religiosity with other markers of religiosity (section A.3.2), and report validation checks from an original survey (section A.3.3).

A.3.1 Background

We assessed religiosity by analyzing the public display of religious imagery on the deceased person's gravestone. Gravestones are representations of one's history and function as a signal of oneself to future generations. Gravestone imagery has previously been used to study religiosity in historical sciences Saller1984, cultural studies Hijiya1983, and geographical research Zelinsky2007. Recent work provides a validity check of gravestone imagery, showing that religious imagery can be a valid measure of the deceased person's religiosity Ebert2020.

Using the display of religious symbols on gravestones as markers of religiosity comes with several benefits. First, the display of religious symbols on gravestones presents a methodological advantage in the sense that the vast majority of deceased Americans have a gravestone,[3] and thus, information obtained from gravestones is close to being representative of the deceased population. Second, the display of symbols on gravestones occurs in a natural field setting,

[3]See https://www.statista.com/statistics/882951/burial-rate-in-the-united-states/.

where no researchers are present or intervening, eliminating concerns of researcher demand, Hawthorne effects, and issues of social desirability. Third, unlike responses on a questionnaire (which only records rather short-term non-consequential answers), a gravestone is a costly, irreversible, and long-lasting decision (and, therefore, most likely well thought through). Fourth, the space on gravestones is limited, so only information on the most defining characteristics of a deceased person are usually displayed. In sum, while gravestone imagery might not capture the full religious depth of a person, it can function as a reasonable indicator of whether the person has any religious connection.

A.3.2 Validation

Next, we validate our main measure of religiosity — the display of crosses on gravestones — by comparing it to known markers of religiosity. First, we correlate the prevalence of religious gravestones (i.e., gravestones with engraved crosses) to 1) the 2010 Religious Congregations and Membership Study Grammich2022, and 2) church membership in 1971 Archives2022 in the respective counties.[4] Further, we correlate the presence of crosses on gravestones to the probability of 3) the deceased having a biblical name, and 4) mentioning specific religious words in the text.

As a first step, we examine county-level relationships. To do so, we correlate the relative church adherents obtained from the 2010 Religious Congregations and Membership Study Grammich2022 to the normalized relative display of crosses in our data aggregated to the county level.[5] The first column of Table 5 reports a standard linear regression. We see that a one-standard-deviation increase in the proportion of graves with crosses in a county increases the share of church adherents by 2% in 2010. As a next step, we correlate the proportion of graves with crosses in the birth county of our sample to the church membership in 1971 in the respective county Archives2022. The second column of Table 5 reports the OLS. We find that birth counties with more graves with crosses are also more likely to have had more church membership in 1971. These two population-level insights indicate that crosses are significantly positively associated with church membership.

Next, we move from county-level to individual-level relationships. For that purpose, we leverage two features of the data: the first names of the deceased and short texts that are sometimes provided in the data. Using the first names, we can correlate the probability of displaying a cross on the grave with the probability of having a biblical name.[6] The third column of Table 5 reports the OLS. We find that biblical names are highly correlated with the probability of

[4] We focus on these two different sets of religious measures as these are the two county-level data sets which are closest to the Vietnam Draft Lottery (i.e., the 1971 data set) and the present day (i.e., the 2010 data set).

[5] Note, that we restrict the sample to gravestones on non-military cemeteries only, as military cemeteries have a substantially higher chance of displaying crosses and as military cemeteries are mostly concentrated on particular counties, which distorts the findings.

[6] Available here: https://copylists.com/name-lists/list-of-bible-name-for-boys/ and here: https://www.behindthename.com/namesakes/list/biblical/alpha

displaying a cross on the grave.

Next, we test whether people who display a cross are also more likely to mention any religious word in the text.[7] Specifically, we focus on all people who have a gravestone picture in their entry and who have a text entry of 100 or more characters.[8] The fourth column of Table 5 reports the probability of using any religious word in the text entry as a function of whether a cross is displayed on the gravestone or not. Similarly, column five reports the relative frequency of religious words as a function of whether a cross is displayed on the gravestone or not. Columns six to eight report the probability of using the following specific religious words: *heaven*, *faith* and *Christ*. Having a cross displayed on the gravestone is associated with a substantially higher probability of using any religious word in the text, associated with more religious words, and a higher probability of using the words heaven, faith and Christ. These results support the idea that crosses displayed on gravestones are a valid measure of religiosity.

	Religion Census	Religion Census 1971	Biblical Name	Mention any relgious word	Relative religious words	Mentioned heaven	Mentioned faith	Mentioned Christ
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	512.482***	0.527***	0.197***	0.543***	0.014***	0.016***	0.050***	0.155***
	(3.195)	(0.006)	(0.002)	(0.002)	(0.0001)	(0.0004)	(0.001)	(0.001)
Cross present on the grave	9.292*	0.015**	0.030***	0.027***	0.001***	0.004***	0.003*	0.021***
	(3.961)	(0.005)	(0.001)	(0.003)	(0.0001)	(0.001)	(0.001)	(0.002)
F Statistic	8.15**	14.74***	985.84***	82.8***	38.33***	29.6***	5.23*	93.74***
Observations	3,075	2,360	982,993	135,689	135,689	135,689	135,689	135,689
Notes:				*p<0.05;**p<0.01;***p<0.001;				

Table 5: **Validation of the measure of religiosity.**

*Estimates show the association between crosses displayed on gravestones and other measures of religiosity. Each column displays a different dependent variable (and accordingly a separate regression). The first column reports the association between the normalized display of crosses per county and church adherents obtained from the 2010 Religious Congregations and Membership Study. The second column reports the association between the normalized display of crosses in the county of birth and church membership per county in 1971. The third column reports how the probability of having a biblical name is associated with the display of a cross on the gravestone. Columns four and five report how the probability of mentioning a religious word and the fraction of religious words in the text entry is associated with the display of a cross on the gravestone. Columns six to eight report the probability of mentioning heaven, faith, and Christ as a function of whether a cross is displayed on the gravestone. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *$^{*}p<0.05$;$^{**}p<0.01$;$^{***}p<0.001$.*

[7] To identify religious words, we rely on the Linguistic Inquiry and Word Count program (LIWC2015), which is a dictionary with, among other categories, a category for religious words Tausczik2009.

[8] We chose these cut-offs, because texts with less than 100 characters tend to have limited meaning and variation. We further restricted the sample to those entries that also include a gravestone, such that we can test whether a cross was used as a gravestone image. Further, we restrict the sample to entries where the picture does not show a person. In the main analysis of the paper we do not rely on this restriction as the results are robust to this restriction and, more importantly, only a subsample of the data has been classified on whether a person is visible in the picture. However, here we restrict the sample to pictures without a person as almost all the pictures with a person do not display a grave and entries with a pictures of a person seem to differ in their text from entries without a person in the picture.

A.3.3 Survey

To further scrutinize whether gravestones provide a valid measure of religiosity, we surveyed 300 people (recruited via Prolific Academic, an online-recruitment platform for participants) who were previously involved in the organization of a funeral. Among other things, we asked them to report on the religiosity of the deceased person for whom they organized the funeral (i.e., “How religious was XYZ throughout their lifetime?”). We then presented participants with a list of different religious gravestone elements (e.g., cross, hands in prayer, bible/book of life) and non-religious gravestone elements (i.e., military marker, patriotic symbol, occupation, hobbies, landscape, non-religious text, picture of the deceased, any other imagery). For each gravestone element, participants were asked to indicate if this imagery is present on the deceased person‘s gravestone. We found that the reported religiosity of the deceased person is highly predictive of the presence of crosses on their gravestone (β = 0.78, p < 0.001, 95% CI [0.49, 1.07], N = 255) or of any religious imagery (β = 0.75, p < 0.001, 95% CI [0.49, 1.01], N = 298). To illustrate, a person who is described as very religious has a 70% probability of displaying a cross on their gravestone, and a 79% probability of displaying any religious imagery. By contrast, a person who is described as not religious at all only has a 17% probability of displaying a cross on their gravestone, and a 27% probability of displaying any religious imagery. Thus, religious gravestone imagery provides a valid measure of religiosity that can discriminate well between religious and non-religious deceased persons.

A.4 The Vietnam Draft Lottery

A.4.1 Details on the institutional setting

We obtain causal insights into how war affects religiosity by using the Vietnam Draft Lottery. The Vietnam Draft Lottery was introduced through an executive order by Richard Nixon in 1969, in part to obtain more military personnel for the Vietnam War. Also, previous research has used the Vietnam Draft Lottery to obtain causal estimates for the effect of war on other relevant outcomes. For example, it has been used to study life earnings Angrist1990,Angrist2011, employment Siminski2013, mortality Siminski2011, crime Siminski2014,Rohlfs2010,LINDO2013, and even the labor market behavior of the descendants' generation Goodman2020.

The Vietnam War. The Vietnam War – also referred to as the 'Second Indochina War' or in Vietnam as the 'Resistance War against America' – denotes an armed conflict that took place in Vietnam, Laos, and Cambodia from November 1955 till April 1975 Tucker2011. The war was fought between South Vietnam, which was supported by the U.S. and other anti-communist allies against North Vietnam, which was supported by the Soviet Union and China. The U.S. involvement (which ended in 1973) was substantial: Over 3.4 million Americans were deployed to Southeast Asia with a peak of over half a million at a time in April 1969 Tucker2011. The overall death toll of the conflict is estimated to be between 1.3 and 4.3 million people VietnamWarEnc. Taken together, the Vietnam War, with a substantial involvement of U.S. troops, provides a relevant study ground for the effect of war on religiosity in the U.S. population Chambers1999.

Vietnam Draft Lottery 1969-1971. In 1969 Richard Nixon gave the executive order that prescribed a national draft lottery Abney. The lottery was installed to, first, increase the number of available military personnel for the Vietnam War and, second, reduce perceived inequities in the previous (non-random) drafting system. The Vietnam Draft Lottery had the goal to assign each birthday of a given year to one unique random number between 1 and 366. Specifically, each day of the year was printed on paper, placed in an opaque plastic capsule, mixed in a shoebox to be then dumped into a glass jar. The capsules were then drawn from the jar one at a time and opened. The lottery effectively reordered birthdays by a random mechanism. In the next step, the so-called administrative processing number (APN) was assigned by the government Rosenblatt1971. The APN was obtained by estimating the additional troops needed in the Vietnam conflict. All men born on a day that was assigned a number lower than (or equal to) the APN received a draft order. All men born on a day that was assigned a number higher than the APN did not. For example, in the lottery of 1969, the APN was determined as 195, and in the lottery of 1970, the APN was determined as 125.
To illustrate, people born on the 14th of January 1950 were assigned the number 238 (i.e., their birthdate was drawn as the 238th capsule), while people born one day later, on the 15th of 1950, were assigned the random number 17 (i.e., their birthdate was the 17th to be drawn). Thus, the assigned number for men born on the 14th of January 1950 was higher than the APN, which means they were not drafted. However, the assigned number for men born on the 15th of January 1950 was lower than the APN, which means that they were drafted. Between 1969 and 1971, three relevant lotteries (which we call the effective window) took place. The first lottery took place December 1, 1969, and determined the order of call to military service for men born from January 1, 1944 to December 31, 1950. Following the literature, we do not focus on the birth cohorts 1944-1949 in this lottery, as men could still volunteer to join the Vietnam War, diluting the effectiveness of the random assignment Angrist1990,LINDO2013. The second draft lottery took place July 1, 1970, and determined the order of call for men born in 1951. The third draft lottery took place August 5, 1971, and determined the order of call for men born 1952. Notably, the draft lottery only affected men, and, thus, women represent a natural placebo comparison as they have not been drafted, and, therefore, should not be directly affected by the draft lotteries.

Vietnam Draft Lottery 1972-1975. The fourth draft lottery determined draft priority numbers for men born in 1953. However, in January 1973 the Secretary of Defense announced that no further draft orders would be issued, basically ending the draft lottery, as the U.S. military moved to an All-Volunteer Force. However, in case the draft was to be extended (due to a too low number of volunteers), three more lotteries took place in 1973, 1974, and 1975 to determine draft priority numbers for men born in 1954, 1955, and 1956, respectively. However, the draft was not extended, and, therefore, no draft orders have been issued Abney. Thus, the draft lotteries of 1972-1976 function as a comparison to validate that the results are indeed driven by military service and not by the risk of potentially being drafted.

A.4.2 Validation

Due to the lack of publicly available official military records, we identify several proxies for war time military service to validate whether the draft indeed led people to serve in the military during the war. Specifically, we compare men born on a day that was assigned a number lower than (or equal to) the APN (henceforth: drafted men) to men born on a day that was assigned a number higher than the APN (henceforth: non-drafted men). We compare those two groups of men on the following variables: the probability of being buried on a military cemetery,[9] the probability of mentioning a military rank,[10] the probability of mentioning Vietnam in the short text entry, the probability of having died in the Vietnam-war-region (Vietnam, Laos or Cambodia), the probability of being mentioned on the Vietnam Veterans Memorial in Washington, DC,[11] and the probability of having received a military medal.[12]

We can see that being drafted into military service increases the chance of a) being buried on a military cemetery by 20%, b) mentioning a military rank by roughly 30%, c) mentioning Vietnam in the text entry by almost 40%, d) dying in the Vietnam-War-region by almost 40%, and e) being mentioned on the Vietnam Veterans Memorial by almost 40%. We do not find a significant increase in the probability of receiving a military medal.[13] These overall results suggest that the draft increases the probability of military service by roughly 20-40%, which is roughly in line with the literature Angrist1990,Goodman2020.

[9] We use the following two government lists of the National Cemetery Administration to determine whether a cemetery is a military cemetery (i.e., national and state veterans cemeteries): https://www.cem.va.gov/cem/cems/allnational.asp, and https://www.cem.va.gov/cem/cems/allstate.asp. We web-scraped all options from the graveside locator of the National Cemetery Administration https://gravelocator.cem.va.gov/. We classified all cemeteries who mention "National" or "Veteran" in their name, as a military cemetery.

[10] To obtain this information we extracted all name suffixes which coincide with ranks mentioned on the website of the Department of Veterans Affairs obtained from here: https://www.va.gov/vetsinworkplace/docs/em_rank.html.

[11] To obtain this information we web-scraped the entries of the virtual Vietnam Veterans Memorial and matched this information to our dataset by first and last name.

[12] To obtain this information we matched the entries of the Awards and Decorations System (available at https://catalog.archives.gov/id/1937849) to our entries by first and last name.

[13] One possible reason for this null effect is that men who were forced to join the war did not put enough effort into it to receive a military medal (in contrast to those, who voluntarily joined the war). It is also possible that some kind of discrimination is at play in the sense that volunteers are more likely to be awarded a medal, keeping the behavior of the soldiers constant. Another explanation is spurious matching, as first and last names are not sufficient to cleanly match records.

	MilitaryCemetery	MilitaryRankMention	VietnamMention	DiedInWarRegion	VietnamVeteranMemorial	ReceivedMedal
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.133^{***}	0.014^{***}	0.057^{***}	0.005^{***}	0.005^{***}	0.146^{***}
	(0.001)	(0.0005)	(0.001)	(0.0003)	(0.0003)	(0.002)
Recruit	0.035^{***}	0.006^{***}	0.034^{***}	0.003^{***}	0.003^{***}	-0.003
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)
F Statistic	245.87***	59.31***	438.31***	37.77***	39.31***	1.52
Observations	103,856	103,856	103,856	103,856	103,856	103,856
Notes:	*p<0.05;**p<0.01;***p<0.001;					

Table 6: **Draft and war-related outcomes.**

Estimates show the impact of the draft on war-related outcomes. The sample is all men in all the draft lotteries where a draft order was issued (1969 and 1971). Recruit *denotes a dummy with value one if the person was drafted. Each column displays a linear probability regression with different dependent variables, with receiving a draft letter/not receiving a draft letter as the independent variable. The dependent variables for columns one to six are the dummy of whether the person (1) was buried on a military cemetery, (2) mentioned a military rank in his name, (3) mentioned Vietnam in the short text, (4) died in a Vietnam-war-region (Vietnam, Laos or Cambodia), (5) was mentioned on the Vietnam Veterans Memorial, (6) received a military medal. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: $^{*}p<0.05$;$^{**}p<0.01$;$^{***}p<0.001$.*

B Summary statistics

Below we report some basic summary statistics of our data. Table 7 reports the relevant variables from the whole sample (i.e., both men and women born between 1934 and 1963; N = 1,450,877). Table 8 reports differences between the main two groups (i.e., drafted and non-drafted men) for men born between 1950 and 1952, who did not die before the respective lottery (N = 103,856).

	% of non-empty entries	Min	Max	Median	Mean	variance
Male	100	0	1	1	0.64	0.23
Has a Picture on the website	100	0	1	1	0.70	0.21
Age at death	100	19	70	55	52.15	164.87
A cross is displayed	70	0	1	0	0.24	0.18
Any religious symbol is displayed	70	0	1	0	0.38	0.24
Buried on military cemetery	100	0	1	0	0.11	0.10
Vietnam mentioned in text entry	100	0	1	0	0.03	0.03
Military rank mentioned	100	0	1	0	0.01	0.01
No text entry on website	100	0	1	0	0.49	0.25
length of text entry on website	98	0	34,237	25	502.07	591,903.46
Born in bible belt	38	0	1	0	0.47	0.25
Died in bible belt	41	0	1	1	0.53	0.25
Shown on Memorial Wall	100	0	1	0	0.00	0.00
Received a Medal	100	0	1	0	0.09	0.08

Table 7: **Summary statistics of the primary data.**

	Drafted (N=40646)	Not drafted (N=63210)	Total (N=103856)	p value
Buried on military cemetery	0.17 (0.37)	0.13 (0.34)	0.15 (0.35)	< 0.001[1]
Military rank mentioned	0.02 (0.14)	0.01 (0.12)	0.02 (0.13)	< 0.001[1]
Age at death	51.91 (13.95)	51.31 (14.00)	51.54 (13.98)	< 0.001[1]
Vietnam mentioned	0.09 (0.29)	0.06 (0.23)	0.07 (0.26)	< 0.001[1]
Country died in				< 0.001[2]
N-Miss	22878	35025	57903	
other	563 (3.2%)	808 (2.9%)	1371 (3.0%)	
USA	16887 (95.0%)	27073 (96.1%)	43960 (95.7%)	
Vietnam/Laos/Cambodia	318 (1.8%)	304 (1.1%)	622 (1.4%)	
Country born in				0.247[2]
N-Miss	23964	36683	60647	
other	652 (3.9%)	979 (3.7%)	1631 (3.8%)	
USA	16030 (96.1%)	25548 (96.3%)	41578 (96.2%)	
Born and died in the same state?				0.047[2]
N-Miss	28600	43849	72449	
No	5104 (42.4%)	7963 (41.1%)	13067 (41.6%)	
Yes	6942 (57.6%)	11398 (58.9%)	18340 (58.4%)	
Born in bible belt	0.47 (0.50)	0.46 (0.50)	0.46 (0.50)	0.116[1]
Died in bible belt	0.52 (0.50)	0.51 (0.50)	0.51 (0.50)	0.247[1]
Shown on Memorial Wall	0.01 (0.09)	0.01 (0.07)	0.01 (0.08)	< 0.001[1]
Received a Medal	0.14 (0.35)	0.15 (0.35)	0.15 (0.35)	0.247[1]

[1] Linear Model ANOVA (Benjamini & Hochberg adjustment for multiple comparisons)
[2] Pearson's Chi-squared test (Benjamini & Hochberg adjustment for multiple comparisons)

Table 8: **Summary statistics for men in the 1969-1971 lotteries.**

C Regressions and additional results

In this section, we report different estimations and regressions to test for the causal effect of war on religiosity (i.e., the main effect of our paper). In section C.1, we estimate our main estimation (i.e., the effect of war on religious symbols on gravestones). In section C.2, we re-estimate our main estimation with several control variables. In section C.3, we use several different approaches to re-estimate our main estimation. In section C.4, we study multiple alternative explanations and challenges to our identification and show the robustness of our results. In section C.5, we use an IV-approach to estimate our results.

C.1 Main regressions

Our main approach to test the effect of war on religiosity is to estimate a linear probability model JoshuaD.Angrist2009 on the probability of displaying a cross on the gravestone as a function of whether the person was drafted. Table 9 reports the main regressions. Panel A of Table 9 shows the probability of displaying a cross for men in all draft lottery years, i.e., years in which draft orders were issued (1969-1971), as well as all non-relevant years, i.e., years in which a lottery took place, but no draft order was issued (1972-1975). Panel B shows the results for women. For the relevant draft lottery years, we can always see a significant increase in the probability of displaying a cross on the gravestone for men. On average, for the relevant lotteries, we find that being randomly drafted increases the probability of displaying a cross by 5 p.p. from 26% to 31%. Thus, we observe a substantial relative increase of 19% in the probability of displaying a cross. This effect is relatively constant between the three lotteries of 1969, 1970, and 1971 and is always highly significant.[14]

Focusing on the first placebo test — that is, the lotteries between 1972 and 1975, where no draft order was issued — we see no significant increase in the probability of displaying a cross for any of the lotteries.[15] These estimates are also close to zero and vary between a small negative and a small positive effect. Note, even the estimated effect of the lottery of 1972 (i.e., the descriptively largest effect in the first placebo group) is not statistically significant. Thus, we can conclude that the results are not driven by simply being assigned a low lottery number (as this effect would be picked up by the lotteries between 1972 and 1975) but rather by being drafted to the military during the war. To have an additional placebo test, we focus on women, whose birthdates were also drawn in the lottery, but who never received a draft order.[16] As expected,

[14] As discussed above, we follow the literature Angrist1990,LINDO2013, and do not focus on the birth cohorts 1944-1949, as many of these men joined the military voluntarily.

[15] As no APN was determined for these years (as no draft was issued) we follow the literature and use the APN of the 1971 lottery as the relevant APN LINDO2013,Angrist1990.

[16] There are, however, narratives of how women still might be influenced by the draft lottery. One such circumstance is for twins: while female twins might not directly be affected by the lottery, their male twin might. This could have a long-lasting effect on the belief in God of the women whose brothers were drafted into the Vietnam War. Notable, the number of these affected women should be sufficiently small to not bias our results.

we can see that there is no significant change in the probability of displaying a cross for women (see also Figure 4). Thus, we can conclude that the results are driven by men randomly drafted into military service during the Vietnam War.

Panel A: Men in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.278***	0.263***	0.258***	0.265***	0.258***	0.254***	0.252***	0.248***	0.253***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.001)
Recruit	0.041***	0.038***	0.046***	0.045***	0.011	0.003	−0.003	−0.001	0.002
	(0.005)	(0.005)	(0.006)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.003)
F Statistic	71.1***	59.04***	69.28***	252.91***	3.87*	0.22	0.25	0.06	0.83
Observations	35,592	35,233	33,031	103,856	33,733	34,588	34,117	32,960	135,398

Panel B: Women in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.180***	0.184***	0.179***	0.181***	0.175***	0.176***	0.173***	0.171***	0.174***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
Recruit	0.010	−0.004	−0.003	0.003	−0.003	0.003	0.005	−0.007	−0.001
	(0.006)	(0.006)	(0.007)	(0.003)	(0.006)	(0.006)	(0.006)	(0.006)	(0.003)
F Statistic	3.49	0.5	0.15	0.93	0.26	0.24	0.66	1.31	0.03
Observations	19,393	19,158	17,668	56,219	18,482	18,527	18,182	18,149	73,340
Notes:	*p<0.05;**p<0.01;***p<0.001;								

Table 9: **Main regression.**

Estimates show results from a linear probability model of being drafted on whether a cross is displayed on the gravestone. Panel A shows the estimates for men in all the draft lotteries between 1969 and 1975. Lotteries with a draft call (1969-1971) are aggregated in column 4 and lotteries without a draft call (1972-1976) are aggregated in column 9. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted. Panel B shows the estimates for women in all the draft lotteries between 1969 and 1975. As women have not been called for the draft in any of the years they serve as a placebo test. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

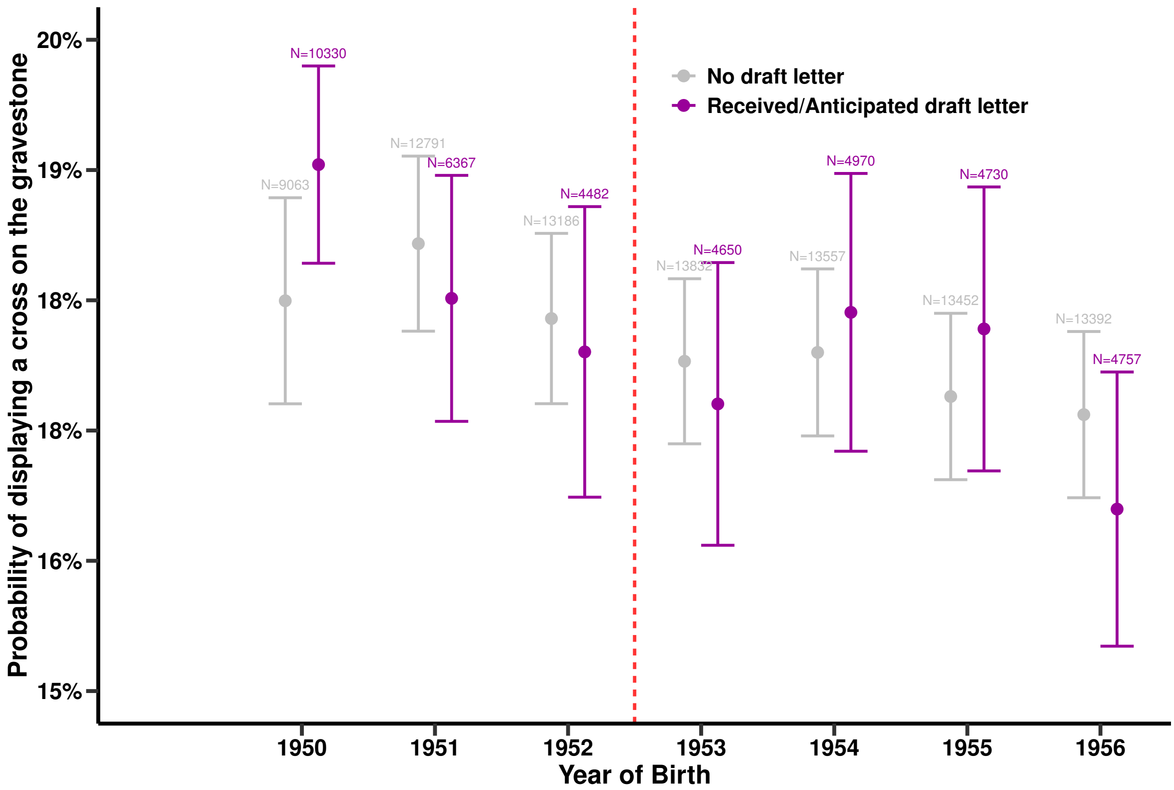

Figure 4: Probability of displaying a cross on a gravestone for women

Probability of ***women*** *displaying a cross on a gravestone by year of birth between birthdates associated with a drafted and non-drafted number. The x-axis denotes the year of birth. Bars illustrate the 95% confidence interval of the probability of displaying a cross on a gravestone. Purple bars denote birthdays associated with a draft, while gray bars denote non-drafted birthdates. The birth cohort of 1950 is part of the 1969 lottery. Women born in 1951 and 1952 are part of the 1970 and 1971 lottery, respectively. Cohort 1953-1956 did not receive a draft letter. Note, that women never received a draft letter, even in the 1969-1971 lotteries.*

C.2 Main regressions with controls

As we have seen in section B, there are differences between men who were drafted and those who were not. Most of these differences are directly linked to the draft (e.g., men who are drafted are also more likely to die in Vietnam, mention Vietnam, are being buried on a military cemetery). However, to account for (some) potential differences between men who received a draft number below and above the APN, which might not be driven by the draft we re-estimate our main estimation with several control variables. Table 10 reports our main estimation while accounting for the year of death, race, the state of birth, and the state of death. We see that all our results are robust to the addition of these controls.

	Are any crosses displayed on the grave?							
	1969	1970	1971	1969-1971	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	0.417***	0.400***	0.447***	0.416***	0.018	0.411***	1.366***	0.684*
	(0.016)	(0.015)	(0.015)	(0.009)	(0.434)	(0.049)	(0.374)	(0.272)
Recruit	0.040***	0.041***	0.045***	0.047***	0.034***	0.031***	0.023*	0.036***
	(0.005)	(0.005)	(0.006)	(0.003)	(0.008)	(0.008)	(0.009)	(0.005)
F Statistic	61.63***	64.87***	108.13***	234.68***	2.6***	2.41***	2.77***	4.2***
Control for Age	✓	✓	✓	✓	✓	✓	✓	✓
Control for Race	✓	✓	✓	✓	✓	✓	✓	✓
Control for State of Birth	×	×	×	×	✓	✓	✓	✓
Control for State of Death	×	×	×	×	✓	✓	✓	✓
Observations	32,347	32,168	30,116	94,631	9,930	9,890	9,055	28,875
Notes:	*p<0.05;**p<0.01;***p<0.001;							

Table 10: **Main regression with controls.**

Estimates show results from our main estimation while accounting for controls. The table shows the estimates for men in all the draft lotteries where a draft order was issued (1969 and 1971). All lotteries with a draft call (1969-1971) are aggregated in columns 4 and 8. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted. Columns (1) to (8) control for the age o death, as well as the race of the deceased. Columns (5) to (8) additionally control for the state the person was born in, and the state the person died in. As only a fraction of the data contains information on the birth and death location of the person, we have a lower sample size in columns (5) to (8). Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *$^*p<0.05$; $^{**}p<0.01$; $^{***}p<0.001$.

C.3 Alternative estimations

In this section, we estimate several alternative models and show that our results are robust to these alternative specifications. Specifically, we re-estimate our main model (a) using not a binary but a continuous cross indicator, (b) using a wider array of religious imagery, and (c) using a logistic regression model instead of a linear probability model.

First, we estimate our main model, but instead of using the binary dummy of whether a cross was displayed, we rather use the continuous variable of how many crosses were displayed. Results are reported in Panel B of Table 11. These estimates are very similar to our main regression repeated in Panel A of Table 11, which is explained by the fact that typically only one cross is displayed (out of those gravestones that display a cross, only 12% display more than one).

Second, we estimate our main regression, but instead of the probability of displaying a cross on the gravestone, we focus on the probability of displaying any of our classified religious symbols (i.e., bibles or books of life, doves, praying hands, angels, crosses, and star of David) on the gravestone. Results are reported in Panel C of Table 11. We again see that the estimates are very similar to the main regression repeated in Panel A of Table 11.

Third, we estimate our main regression using a logistic regression instead of a linear probability model. Results are reported in Panel D of Table 11. We see that our results can be replicated and that the estimated probabilities (obtained from logit estimates) are very similar to the probabilities estimated with a simple linear probability model.

In sum, all of the additional models support our main conclusions.

Panel A: Men in lotteries 1969-1972 (OLS on dummy of crosses)

	Are any crosses displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.278***	0.263***	0.258***	0.265***
	(0.004)	(0.003)	(0.003)	(0.002)
Recruit	0.041***	0.038***	0.046***	0.045***
	(0.005)	(0.005)	(0.006)	(0.003)
F Statistic	71.1***	59.04***	69.28***	252.91***
Observations	35,592	35,233	33,031	103,856

Panel B: Men in lotteries 1969-1972 (OLS on continous measure of crosses)

	How many crosses are displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.310***	0.294***	0.290***	0.297***
	(0.004)	(0.004)	(0.003)	(0.002)
Recruit	0.041***	0.037***	0.047***	0.045***
	(0.006)	(0.006)	(0.007)	(0.003)
F Statistic	49.96***	37.87***	51.41***	175.69***
Observations	35,592	35,233	33,031	103,856

Panel C: Men in lotteries 1969-1972 (OLS on dummy of any religious symbols)

	Are any religous symbols displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.412***	0.399***	0.396***	0.401***
	(0.004)	(0.003)	(0.003)	(0.002)
Recruit	0.025***	0.030***	0.033***	0.032***
	(0.005)	(0.005)	(0.006)	(0.003)
F Statistic	22.78***	29.33***	30.16***	101.73***
Observations	35,592	35,233	33,031	103,856

Panel D: Men in lotteries 1969-1972 (logit on dummy of crosses)

	Are any crosses displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	−0.954***	−1.033***	−1.056***	−1.021***
	(0.018)	(0.015)	(0.015)	(0.009)
Prob.Constant	[27.82]	[26.25]	[25.82]	[26.49]
Recruit	0.197***	0.190***	0.227***	0.222***
	(0.023)	(0.025)	(0.027)	(0.014)
Prob.Recruit	[4.11]	[3.84]	[4.57]	[4.55]
Observations	35,592	35,233	33,031	103,856
Log Likelihood	−21,724.400	−20,724.590	−19,249.080	−61,715.540
Akaike Inf. Crit.	43,452.800	41,453.180	38,502.160	123,435.100

Notes: *p<0.05;**p<0.01;***p<0.001;

Table 11: **Main regression with different estimations.**

Estimates show results from our main estimation with some alternative estimation approaches. All tables show the estimates for men in all the draft lotteries where a draft order was issued (1969 and 1971). All lotteries with a draft call (1969-1971) are aggregated in column 4. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted. Panel (A) just replicates our main estimation. Panel (B) uses the continuous variable of number of crosses displayed on the gravestone as the dependent variable. Panel (C) also uses a different dependent variable than in A. Specifically, in Panel (C) we estimate whether any of our classified religious symbols was displayed on the gravestone. Panel (D) reports the same estimation as in Panel (A), with the exception that a logistic regression is performed instead of a linear probability regression. Marginal effects (in %) are shown in brackets. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

C.4 Robustness checks

So far, we have shown that being randomly drafted during the effective lottery window (i.e., 1969-1971) significantly increases the probability of men displaying a religious symbol (a cross) on the gravestone. In the following subsection, we deal with additional possible concerns. In particular, we investigate whether being buried on military cemeteries (systematic differences due to cemeteries, Section C.4.1), pre-trends (the effect precedes the lottery, Section C.4.2), dying at a younger age (systematic differences by age at death, Section C.4.3), mis-specified pictures (pictures not containing gravestones, Section C.4.4)[17], or draft evasion (self-selection out of the sample, Section C.4.5) drive our results. We find that our results are not driven by any of these issues.

C.4.1 Military cemeteries

One possible concern could be that men who were drafted are more likely to serve in the military and, after dying, they are more likely to be buried on a military cemetery, where displaying a cross may be more common.

Indeed, the average probability of displaying a cross on a military cemetery is 61% compared to 23% on a non-military cemetery. We argue that the concern is, nevertheless, unwarranted because (a) the bereaved are free to choose gravestone imagery on military cemeteries (including non-religious symbols)[18], and (b) our conclusions did not change when excluding gravestones from military cemeteries from the analyses. Panel A of Table 12 shows the estimation for gravestones on military cemeteries, whereas Panel B shows the estimation for on non-military cemeteries.[19] Our main result replicate within both subsamples. Indeed, the estimates are very similar between military and non-military cemeteries. Thus, we conclude that the results are not a artifact of drafted men being buried on military cemeteries.

C.4.2 Pre-trends

Another possible concern is that we are just picking up pre-trends (i.e., some birthdates, such as the 24th of December, may have a higher probability of displaying a cross ex-ante). If that was the case, our results might be driven mainly by a few outliers, which, just by chance, have been assigned a low number in the lotteries. We argue that the concern is unwarranted as a) it is statistically very unlikely and b) it empirically does not hold up:

[17]We conducted such a classification only for a subsample of the data. In the main part of the paper, we use the full dataset to have higher power.

[18]Soldiers and their bereaved can choose from multiple possible symbols (more than 70) to be displayed on the grave — including the option of not displaying any symbol. These options include multiple symbols that are not directly linked to religion (like sandhill cranes, an atom, and a landing eagle). Hence, this concern is of only limited importance.

[19]See Footnote 9 for our classification of military and non-military cemeteries.

Specifically, this concern has only limited bite as we would need to presume that these special days 1) have sufficient impact on the results, 2) have randomly been assigned a low draft number in all of our three relevant lotteries, 3) have not been assigned a low draft number in the lotteries without a draft call (1972-1976), and 4) that these pre-trends only affect men, but not women. Meeting all these prerequisites is statistically highly unlikely.

Empirically, we can focus on all men who would have been affected by the 1969, 1970, and 1971 draft lotteries, but, already died before the respective lottery had even taken place. This way, we can see whether men who would have been drafted differ from men who would have not been drafted before they could have been impacted by the lottery. Panel C of Table 12 reports on the results. We see no consistent or significant effect for any of the three relevant lotteries. Thus, we conclude that pre-trends are not driving out results.

Panel A: Men in lotteries 1969-1971: buried on military cemeteries				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.599***	0.603***	0.580***	0.594***
	(0.010)	(0.009)	(0.009)	(0.005)
Recruit	0.020	0.032*	0.033*	0.029***
	(0.013)	(0.014)	(0.016)	(0.008)
F Statistic	2.47	5.22*	4.21*	13.18***
Observations	5,860	5,011	4,388	15,259
Panel B: Men in lotteries 1969-1971: buried on non-military cemeteries				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.222***	0.211***	0.213***	0.214***
	(0.004)	(0.003)	(0.003)	(0.002)
Recruit	0.033***	0.024***	0.034***	0.033***
	(0.005)	(0.005)	(0.006)	(0.003)
F Statistic	45.21***	23.4***	36.89***	128.13***
Observations	29,732	30,222	28,643	88,597
Panel C: Men in lotteries 1969-1971: died before the lotteries				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.137***	0.132***	0.150***	0.141***
	(0.007)	(0.005)	(0.005)	(0.003)
Recruit	−0.008	0.009	−0.002	−0.004
	(0.009)	(0.010)	(0.009)	(0.005)
F Statistic	0.81	0.86	0.03	0.48
Observations	5,389	5,753	7,327	18,469
Notes:	*p<0.05;**p<0.01;***p<0.001;			

Table 12: **Main regression for subsamples.**

Estimates show results from a linear probability model of being drafted on whether a cross is displayed on the gravestone. Panel A shows the estimates for men buried on military cemeteries in all the draft lotteries where a draft order was issued (1969 and 1971). All lotteries with a draft call (1969-1971) are aggregated in column 4. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted. Panel B shows the estimates for men buried on non-military cemeteries. Panel C shows the estimates for all men who died in the year before the respective lottery took place. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: $^{*}p<0.05$;$^{**}p<0.01$;$^{***}p<0.001$.*

C.4.3 Systematic differences due to differential age at death

Another concern might be that drafted men are more likely to display crosses because (a) they died earlier than non-drafted men and (b) the probability to show religious imagery generally declines over time (see Table 13 and Figure 2). In concert, this could offer an alternative explanation for our finding. However, this concern is not warranted because (a) in our data drafted men did not die younger than those that were not drafted (see Table 8) and (b) our results did not change when excluding/including only certain years after the war. Specifically, Table 13 reports a linear probability regression excluding or only including men who died within 5, 10, or 20 years after the corresponding lotteries. Our estimates are very robust to the variation of the threshold and the inclusion/exclusion of certain years. Thus, we can conclude that war years do not pose a threat to our estimation.

Panel A: Men in lotteries 1969-1971: died within 5 years of the lottery				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.264***	0.264***	0.269***	0.266***
	(0.015)	(0.012)	(0.011)	(0.007)
Recruit	0.014	0.053*	0.026	0.028*
	(0.020)	(0.022)	(0.022)	(0.012)
F Statistic	0.52	6.15*	1.45	5.55*
Observations	2,000	1,946	2,161	6,107
Panel B: Men in lotteries 1969-1971: died within 10 years of the lottery				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.297***	0.282***	0.281***	0.285***
	(0.012)	(0.009)	(0.008)	(0.006)
Recruit	0.015	0.044**	0.031	0.031***
	(0.016)	(0.017)	(0.017)	(0.009)
F Statistic	0.89	7.03**	3.67	11.62**
Observations	3,310	3,297	3,956	10,563
Panel C: Men in lotteries 1969-1971: died within 20 years of the lottery				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.301***	0.279***	0.290***	0.289***
	(0.009)	(0.007)	(0.006)	(0.004)
Recruit	0.025*	0.042***	0.052***	0.041***
	(0.012)	(0.012)	(0.012)	(0.007)
F Statistic	4.4*	11.79**	19.15***	36.09***
Observations	5,959	6,143	7,563	19,665
Notes:	*p<0.05;**p<0.01;***p<0.001;			

(a) **Men died shortly after the respective lottery**

Panel A: Men in lotteries 1969-1971: died 5+ years after the lottery				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.279***	0.262***	0.257***	0.265***
	(0.004)	(0.003)	(0.003)	(0.002)
Recruit	0.043***	0.037***	0.047***	0.047***
	(0.005)	(0.005)	(0.006)	(0.003)
F Statistic	72.21***	53.35***	68.79***	249.45***
Observations	33,592	33,287	30,870	97,749
Panel B: Men in lotteries 1969-1971: died 10+ years after the lottery				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.276***	0.261***	0.255***	0.263***
	(0.004)	(0.003)	(0.003)	(0.002)
Recruit	0.044***	0.038***	0.048***	0.047***
	(0.005)	(0.005)	(0.006)	(0.003)
F Statistic	73.14***	52***	66.92***	245.3***
Observations	32,282	31,936	29,075	93,293
Panel C: Men in lotteries 1969-1971: died 20+ years after the lottery				
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.274***	0.259***	0.249***	0.259***
	(0.004)	(0.003)	(0.003)	(0.002)
Recruit	0.044***	0.038***	0.044***	0.047***
	(0.005)	(0.006)	(0.006)	(0.003)
F Statistic	68.51***	47.63***	50.06***	220.99***
Observations	29,633	29,090	25,468	84,191
Notes:	*p<0.05;**p<0.01;***p<0.001;			

(b) **Men died long after the respective lottery**

Table 13: **Main regression shortly and long after the lotteries.**

Estimates show results from linear probability models of being drafted on whether a cross is displayed on the gravestone. All tables show the estimates for men in all the draft lotteries where a draft order was issued (1969 and 1971). All lotteries with a draft call (1969-1971) are aggregated in column 4. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted. Table 13a shows the probability to display crosses for all men who died within 5, 10, 20 years after the respective lotteries in panels A, B, and C. Table 13b shows the probability to display crosses for all men who did* ***not*** *die within 5, 10, 20 years after the respective lotteries in panels A, B, and C. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

C.4.4 Potential methodological artefact due to some pictures not containing gravestones.

Another concern might be that systematic variance is induced through pictures that do not contain gravestones. Specifically, some of the web-scraped pictures were merely photos of the deceased. Most of these photographs do not contain crosses and were, thus, categorized as not displaying religious symbols. If there was a systematic difference between drafted and non-drafted men in whether the web-scraped pictures include a gravestone or a photograph, this could induce a bias. We argue that this concern is unwarranted because our results hold when excluding cases where a person was detected in the picture. Specifically, we restrict the data to all those entries where an algorithm to detect persons was used, and no person was detected in the picture (see Table 14). We find that all results prevail. The baseline rate of crosses on gravestones increases, but so does the estimated effect, leaving the relative increase comparable to our main estimation.

Panel A: Men in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.368***	0.346***	0.339***	0.349***	0.338***	0.334***	0.326***	0.327***	0.331***
	(0.005)	(0.004)	(0.004)	(0.002)	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)
Recruit	0.048***	0.050***	0.050***	0.055***	0.014*	0.003	−0.001	−0.006	0.003
	(0.006)	(0.007)	(0.007)	(0.004)	(0.007)	(0.007)	(0.007)	(0.007)	(0.004)
F Statistic	57.5***	58.92***	49.02***	218.37***	3.9*	0.19	0.02	0.72	0.62
Observations	23,855	23,741	22,399	69,995	22,846	23,619	23,493	22,667	92,625

Panel B: Women in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.248***	0.255***	0.251***	0.252***	0.244***	0.244***	0.239***	0.241***	0.242***
	(0.006)	(0.005)	(0.005)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.002)
Recruit	0.014	−0.009	−0.0004	0.003	−0.004	0.004	0.008	−0.010	−0.001
	(0.008)	(0.008)	(0.009)	(0.005)	(0.009)	(0.009)	(0.009)	(0.009)	(0.004)
F Statistic	3.13	1.08	0	0.4	0.23	0.21	0.79	1.26	0.02
Observations	12,430	12,329	11,113	35,872	11,839	11,905	11,743	11,716	47,203

Notes: *p<0.05;**p<0.01;***p<0.001;

Table 14: **Main regression while restricting to pictures where no person was detected.**

Estimates show results from a linear probability model of being drafted on whether a cross is displayed on the gravestone. Panel A shows the estimates for men in all the draft lotteries between 1969 and 1975. Lotteries with a draft call (1969-1971) are aggregated in column 4 and lotteries without a draft call (1972-1976) are aggregated in column 9. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted. Panel B shows the estimates for women in all the draft lotteries between 1969 and 1975. As women have not been called for the draft in any of the years they serve as a placebo test. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

C.4.5 Draft evasion and emigration.

Another concern is that draft evasion through emigration might lead to a selection out of the sample, which, in turn, might bias the results. Indeed, there are various reports of draft evasion. Of roughly 201,000 men accused of draft evasion about 9,000 were convicted baskir1978chance. It is also argued that mostly the poor and less educated had to comply with the draft, while those with good counseling were able to successfully evade the draft. However, this issue does not threaten our identification as we observe the gravestones of evaders as well as non-evaders as we sample the general population and do not focus only on military gravestones. Thus, while draft evasion might reduce our average effect it cannot explain it. Specifically, it might be that the poorer people were more likely to be sent to the Vietnam War, but we still observe an effect on average. Thus, as long as evaders do not self-select in or out of our sample, our identification should hold.

One case, in which evaders would have self-selected out of our sample is through emigration. Specifically, it is estimated that between 30.000 and 100.000 men evaded the draft by emigrating (mostly to Canada) baskir1978chance,cortright2008peace. These men's gravestones would not be included in our web-scraped data, which only focused on the U.S. This becomes a concern if non-religious men were more likely to emigrate, skewing the remaining gravestones of the drafted men towards higher religiosity.

One way to tackle this issue is to leverage the presidential pardon of 1977 given to anyone who had evaded the draft. Thus, if self-selection was a problem, the issue would be more pronounced before 1977, when punishment was possible, and would be resolved — at least in part — after 1977, when it was safe to migrate back to the U.S. without fear of punishment. Thus, we estimate our main model and compare men who died before 1977 to men who died after 1977. Table 15 reports the estimates.[20] First, we observe that the probability of displaying a cross on the gravestone reduces (however, not significantly so) for men who died after 1977 (speaking to general trends in religiosity). More importantly, we see that the difference between those who were drafted and those who were not is similar between those who died before and those who died after 1977. Thus, these results support the idea that emigration does not drive our results, and, therefore, selection plays no major role in our estimation.

[20]Note that we have only a rather small sample of men who died before 1977, which makes some of the estimates non-significant even though the estimate coincides with the estimates of our main estimation.

Panel A: Men in lotteries 1969-1972: amnesty of 1977	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	0.293***	0.269***	0.268***	0.275***
	(0.013)	(0.011)	(0.010)	(0.006)
Recruit	0.014	0.060**	0.034	0.037***
	(0.017)	(0.019)	(0.021)	(0.011)
DeathAfter1977	−0.016	−0.007	−0.011	−0.011
	(0.013)	(0.011)	(0.011)	(0.007)
Recruit x DeathAfter1977	0.029	−0.024	0.013	0.009
	(0.018)	(0.020)	(0.022)	(0.011)
F Statistic	24.59***	21.03***	23.45***	85.18***
Observations	35,592	35,233	33,031	103,856
Notes:	*p<0.05;**p<0.01;***p<0.001;			

Table 15: **Main regression by presidential pardon.**

Estimates show results from a linear probability model of being drafted on whether a cross is displayed on the gravestone. All lotteries with a draft call (1969-1971) are aggregated in column 4. The constant denotes the baseline probability of displaying a cross on the gravestone for men who died before 1977 (i.e., before the Presidential pardon of Jimmy Carter). Recruit *denotes a dummy with value one if the person was drafted.* DeathAfter1977 *denotes a dummy with value one if the person died in 1977 or after. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

C.5 Instrumental variable approach

In the main part of the paper, we have mostly focused on the average intention-to-treat effect. That effect very likely underestimates the true effect as not everybody who was drafted actually went to serve in the military. Similarly, not everybody who was not drafted stayed at home. To obtain the effect of people who actually served in the military during the Vietnam War due to the lottery, we can estimate the local average treatment effect (LATE).

One simple approach to obtain the LATE is by building on the established rate of compliers in the lottery (i.e., those who served **only** because of random assignment) and using the suggested multiplier. The rate of compliers is 15%. Specifically, Angrist — who was the first to make use of the Vietnam Draft Lottery — writes:

Applying this approach to our estimated main effect of 19% leads to a LATE of 127%. This implies that the true effect of military service on religiosity is more than a doubling of the probability of displaying religious symbols on the gravestone.

An alternative approach to obtain the LATE is to make use of our own data and to apply an instrumental variable approach. We can use two treatments to obtain the LATE: a dummy on whether the person mentioned a military rank in the name and a dummy on whether the person mentioned "Vietnam" in the short, text provided in some entries. The advantage of using these different treatments is that each treatment extracts information from different aspects of the data (i.e., the name, and the text in some entries). Further, both treatments are stronger markers of an active military past than the mere veteran status used in the literature Angrist1990,LINDO2013, which also captures people serving in the Reserve and National Guard. In particular, mentioning Vietnam serves as a strong signal of actually serving in the Vietnam War.

As an instrument, we use a dummy of whether the person was drafted (i.e., assigned a lottery number below (equal to) the APN). Table 16 reports the first-stage estimates. Men born in the relevant years of the draft lotteries where a draft order was issued (1969, 1970, and 1971) have a higher chance of mentioning a military rank in their name and a higher chance of mentioning Vietnam in the text. The first-stage estimates are positive and highly significant, with F-statistics between 50 and 400.

Interpreting these estimates in the context of compliance, we find a high degree of never-takers (between 90.94 and 97.96%), a rather high proportion of always-takers (between 1.41 and 5.67%), and only a small rate of compliers (between 0.63 and 3.39%). As expected, the rate of compliers is substantially smaller than the rate of mere military-service compliers in the literature, as men mentioning Vietnam are a subsample of men serving in the military. Therefore, the LATE of Vietnam veterans is expectedly higher. Consequently, we easily see that our estimates of the main paper are substantially higher if we were to focus on war compliers only. Specifically, we expect a LATE of about $\frac{\text{0.19 (the average intention-to-treat effect)}}{\text{0.0339 (the number of compliers)}} = 5.6$, i.e., we expect that the probability to display a religious symbol on the gravestone for those who had actually served in the military during the war increase by 560%.

	VietnamMention	MilitaryRankMention
	(1)	(2)
Constant	0.057***	0.014***
	(0.001)	(0.0005)
Recruit	0.034***	0.006***
	(0.002)	(0.001)
F Statistic	438.31***	59.31***
Observations	103,856	103,856
Notes:	*p<0.05;**p<0.01;***p<0.001;	

Table 16: **First-stage results.**

Estimates show first-stage results of our IV regression. All tables show the estimates for men in all the draft lotteries where a draft order was issued (1969 and 1971). Recruit *denotes a dummy with value one if the person was drafted. Each column displays linear probability regression with a different dependent variable. Column one uses the dummy of whether the person mentioned Vietnam in the short text as the dependent variable. Column two uses the dummy of whether the person mentioned a military rank in the name as the dependent variable. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: $^{*}p<0.05;^{**}p<0.01;^{***}p<0.001$.*

Table 1 of the main paper reports the second-stage estimations using a two-stage least squares approach (2SLS). Table 17 further reports a two-stage residual inclusion estimation (2SRI) with Terza standard errors.[21] For both, we see that the LATE effect is positive, highly significant, and very strong for the two approaches we are using. Specifically, we see that the relative effect (i.e., the increase in the probability of displaying a cross on the gravestone) increases from roughly 19% in the average intention-to-treat effect to about 400% in the local average treatment effect.

[21] Note that a standard IV using 2SLS might lead to biased results as we have three binary variables: the dependent variable of the second stage (i.e., a dummy on whether a cross is displayed), the dependent variable of the first stage (a dummy on whether the person mentioned a military rank in his name, and a dummy on whether the person mentioned Vietnam in the short text) as well as the instrument (i.e., a dummy on whether the person was drafted). The literature suggests the use of a Two-Stage Residual Inclusion Estimation (2SRI) with Terza standard errors to obtain an unbiased result Blundell2004,Terza2008. Table 17 reports these results. Yet, there is no consensus in the literature on which approach (2SLS vs. 2SRI) yields the best results Basu2017. However, we see that the estimated effects are approximately the same for both approaches.

Panel A: 2SRI with Stage 1: Mention Vietnam

	Are any crosses displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	-1.850^{***}	-1.568^{***}	-1.768^{***}	-1.549^{***}
	[13.59]	[17.25]	[14.58]	[17.52]
	(0.145)	(0.103)	(0.118)	(0.051)
$\widehat{\text{Mention Vietnam}}$	6.012^{***}	4.913^{***}	7.606^{***}	4.729^{***}
	[75.38]	[69.34]	[82.53]	[67.35]
	(0.831)	(0.767)	(1.069)	(0.354)
Residual Stage 1	-2.074^{***}	-1.479^{***}	-2.323^{***}	-1.455^{***}
	(0.319)	(0.284)	(0.384)	(0.132)
Observations	35,592	35,233	33,031	103,856
Log Likelihood	−21,599.670	−20,529.020	−19,032.960	−61,215.300
Akaike Inf. Crit.	43,205.350	41,064.040	38,071.930	122,436.600

Panel B: 2SRI with Stage 1: Military Rank

	Are any crosses displayed on the grave?			
	1969	1970	1971	1969-1971
	(1)	(2)	(3)	(4)
Constant	-2.581^{***}	-1.981^{***}	-1.808^{***}	-1.856^{***}
	[7.04]	[12.12]	[14.08]	[13.52]
	(0.239)	(0.162)	(0.116)	(0.069)
$\widehat{\text{Military Rank}}$	25.115^{***}	18.432^{***}	17.128^{***}	16.061^{***}
	[92.96]	[87.88]	[85.91]	[86.47]
	(3.393)	(2.820)	(2.296)	(1.147)
Residual Stage 1	-8.231^{***}	-5.653^{***}	-5.070^{***}	-4.967^{***}
	(1.141)	(0.920)	(0.734)	(0.377)
Observations	35,592	35,233	33,031	103,856
Log Likelihood	−21,692.470	−20,651.470	−19,171.460	−61,558.060
Akaike Inf. Crit.	43,390.930	41,308.940	38,348.920	123,122.100
Notes:	*p<0.05;**p<0.01;***p<0.001;			

Table 17: **Second stage results of a 2SRI estimation.**

*Estimates show the results of the second-stage estimates of a two-stage residual inclusion (2SRI) estimator while using different first-stage treatments in each panel. Each panel shows the estimates for men in all the draft lotteries between 1969 and 1971. Lotteries with a draft call (1969-1971) are aggregated in column 4. The constant denotes the baseline probability of displaying a cross on the gravestone for the non-treated group. Panel A uses a dummy variable of whether "Vietnam" was mentioned in the short text provided by some entries as the first stage. Panel B uses a dummy variable of whether a military rank was mentioned in the name of the person as the first stage. Marginal effects (in %) are shown in brackets. We use Terza standard error. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: $^{*}p<0.05$;$^{**}p<0.01$;$^{***}p<0.001$.*

D Heterogeneity

In this section, we investigate whether we find heterogeneity in our results. Specifically, we study whether the effects differ by race in Section D.1, by county religiosity in Section D.2, by characteristics of the birth and death state in Section D.3, and over time in Section D.4.

D.1 Race

Here, we study whether our results vary by race. To obtain the race of the person in our dataset we leverage the first and last name of the deceased and use the *predict_race* function in R [which is based on][]Tzioumis2018 which implements the Bayesian race prediction method Imai2016. Table 18 reports the estimated differences of the effect of the war on religiosity by race. Further, Figure 3 of the main paper displays the results by race. We can see that the effect of war on religiosity is not significantly different between non-White and White men, indicating that the effect is persistent across ethnic groups.[22]

[22] Note, that our sample contains mostly White people, which is in line with the U.S. Census 2010 data (White people constitute about 82% of people born in the U.S. in 1950). To obtain the highest statistical power, we focus solely on the differences between White vs. non-White people (instead of focusing on specific races).

Panel A: Men in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.272***	0.254***	0.249***	0.257***	0.250***	0.244***	0.242***	0.241***	0.244***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
Recruit	0.041***	0.040***	0.042***	0.046***	0.013*	0.003	0.003	−0.009	0.003
	(0.005)	(0.006)	(0.006)	(0.003)	(0.006)	(0.006)	(0.006)	(0.006)	(0.003)
Non-White	0.048***	0.062***	0.066***	0.060***	0.075***	0.084***	0.079***	0.058***	0.074***
	(0.012)	(0.011)	(0.010)	(0.006)	(0.010)	(0.010)	(0.010)	(0.010)	(0.005)
Recruit x Non-White	−0.007	0.003	0.033	0.001	−0.033	−0.003	−0.012	0.036	−0.004
	(0.017)	(0.018)	(0.020)	(0.010)	(0.019)	(0.019)	(0.019)	(0.019)	(0.010)
F Statistic	30.8***	40.42***	50.08***	134.08***	24.66***	37.71***	31.11***	26.51***	115.05***
Observations	32,347	32,168	30,116	94,631	30,827	31,680	31,198	30,187	123,892

Panel B: Women in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.176***	0.177***	0.169***	0.174***	0.169***	0.171***	0.167***	0.165***	0.168***
	(0.005)	(0.004)	(0.004)	(0.002)	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)
Recruit	0.008	0.002	−0.002	0.005	0.003	0.004	0.008	−0.007	0.002
	(0.006)	(0.007)	(0.007)	(0.004)	(0.007)	(0.007)	(0.007)	(0.007)	(0.004)
Non-White	0.004	0.032**	0.047***	0.030***	0.033**	0.036**	0.030**	0.040***	0.035***
	(0.014)	(0.012)	(0.012)	(0.007)	(0.011)	(0.012)	(0.011)	(0.012)	(0.006)
Recruit x Non-White	0.038*	−0.023	0.022	0.009	−0.046*	−0.025	−0.032	0.023	−0.019
	(0.019)	(0.020)	(0.024)	(0.012)	(0.023)	(0.022)	(0.022)	(0.023)	(0.011)
F Statistic	5.32**	2.73*	10.23***	13.65***	3.31*	3.83**	2.78*	8.44***	14.68***
Observations	17,564	17,284	15,894	50,742	16,692	16,726	16,352	16,334	66,104
Notes:	*p<0.05;**p<0.01;***p<0.001;								

Table 18: **Main regression by race.**

Estimates show results from a linear probability model of being drafted on whether a cross is displayed on the gravestone. Panel A shows the estimates for men in all the draft lotteries between 1969 and 1975. Lotteries with a draft call (1969-1971) are aggregated in column 4, and lotteries without a draft call (1972-1976) are aggregated in column 9. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted.* Non-White *denotes a dummy with value one if the person is non-White and zero otherwise. Panel B shows the estimates for women in all the draft lotteries between 1969 and 1975. As women have not been called for the draft in any of the years they serve as a placebo test. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

D.2 Prior religiosity

Here, we study whether our results vary by prior religiosity. Specifically, we match church membership in 1971 in the respective county[23] to the county of birth of the individuals in our sample and interact the effect of the lottery with the individuals' county religiosity.[24] Table 19 reports the estimation. First, we see that prior religiosity has a positive and mostly significant effect on the display of crosses. However, we can see that the effect of war on religiosity is not significantly different for people born in more religious counties.

[23]Available here: https://www.thearda.com/Archive/Files/Downloads/CMS71CNT_DL2.asp

[24]Note, that only a subsample of our data provides information on the county of birth. Thus, the sample size of our data reduces by more than fourfold.

Panel A: Men in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.167***	0.156***	0.167***	0.163***	0.159***	0.157***	0.159***	0.144***	0.155***
	(0.006)	(0.005)	(0.005)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.002)
Recruit	0.040***	0.029**	0.019	0.033***	−0.005	−0.009	−0.011	0.003	−0.006
	(0.009)	(0.009)	(0.010)	(0.005)	(0.010)	(0.010)	(0.010)	(0.010)	(0.005)
RateReli1971	0.001	0.010*	0.0004	0.004	0.015**	0.008	0.016***	0.013**	0.013***
	(0.006)	(0.005)	(0.005)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.002)
Recruit:RateReli1971	0.010	−0.005	−0.002	0.003	−0.009	−0.002	−0.015	0.009	−0.004
	(0.008)	(0.009)	(0.010)	(0.005)	(0.009)	(0.009)	(0.010)	(0.010)	(0.005)
F Statistic	7.74***	4.7**	1.16	14.35***	3.26*	1.41	4.31**	4.76**	11.72***
Observations	7,668	7,670	7,016	22,354	7,344	7,316	7,333	6,871	28,864

Panel B: Women in lotteries 1969-1975

	Are any crosses displayed on the grave?								
	1969	1970	1971	1969-1971	1972	1973	1974	1975	1972-1975
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.127***	0.124***	0.105***	0.118***	0.117***	0.115***	0.114***	0.114***	0.115***
	(0.007)	(0.006)	(0.005)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.003)
Recruit	0.008	−0.020*	−0.0003	0.001	−0.003	0.017	0.003	−0.001	0.004
	(0.010)	(0.010)	(0.011)	(0.006)	(0.011)	(0.011)	(0.011)	(0.011)	(0.006)
RateReli1971	0.009	0.023***	0.005	0.013***	0.013*	0.011	0.021***	0.010	0.014***
	(0.007)	(0.006)	(0.005)	(0.004)	(0.005)	(0.006)	(0.006)	(0.006)	(0.003)
Recruit:RateReli1971	−0.003	−0.018	0.012	−0.004	0.001	−0.002	−0.010	0.007	−0.001
	(0.010)	(0.010)	(0.011)	(0.006)	(0.010)	(0.011)	(0.011)	(0.011)	(0.005)
F Statistic	1.12	6.93***	1.29	5.49**	2.68*	2.28	4.84**	2.01	10.2***
Observations	4,670	4,604	4,250	13,524	4,527	4,415	4,273	4,226	17,441

Notes: *p<0.05;**p<0.01;***p<0.001;

Table 19: **Main regression by prior religiosity.**

Estimates show results from a linear probability model of being drafted on whether a cross is displayed on the gravestone. Panel A shows the estimates for men in all the draft lotteries between 1969 and 1975. Lotteries with a draft call (1969-1971) are aggregated in column 4 and lotteries without a draft call (1972-1976) are aggregated in column 9. The constant denotes the baseline probability of displaying a cross on the gravestone. Recruit *denotes a dummy with value one if the person was drafted.* RateReli1971 *denotes the normalized measure of church membership in the county of birth (note that only a subsample provides this information). Panel B shows the estimates for women in all the draft lotteries between 1969 and 1975. As women have not been called for the draft in any of the years they serve as a placebo test. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following α-levels of significance: *p<0.05;**p<0.01;***p<0.001.*

D.3 Location

Here, we study whether our results vary by different cultural settings. Our analysis focuses on fundamental cultural factors that are significant for human cohabitation, including religiosity, economic activity, racial composition, political diversity, and political movements. We study whether we find a heterogeneous result by some characteristics of the state the person was born in or died in. Specifically, we focus on whether the state is in the Bible Belt, the Rust Belt, or the Black Belt.[25] Further, we focus on whether the state has given its electoral votes to the nominee of the Democratic party in the election prior to the person's birth and at the time of the person's death.[26]

In addition, we study whether the societal changes at "home" – like the Hippie and anti-war movement – might drive our results. Specifically, one might be concerned that our results are not driven by the experiences made during military service but rather that men who were drafted missed the movements at home, which might have reduced the religiosity of non-drafted men. To deal with that issue, we compare the effect of war on religiosity between regions with more and less anti-war protests.[27]

Table 20 reports the estimation.[28] First, we see, again, that being drafted has a consistently significant and positive effect on the display of crosses. Additionally, we can see that the effect of war on religiosity does not significantly differ by the characteristics of the state the person was born or died in. The characteristics of the state do not interact with the effect of war on religiosity, indicating that the effect is persistent across space.

[25]States in the Bible Belt are Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia, Florida, Illinois, Indiana, Kansas, New Mexico, and Ohio. States in the Rust Belt are Michigan, Wisconsin, Indiana, Illinois, Ohio, Pennsylvania, West Virginia, and Kentucky. States in the Black Belt are Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

[26]The data is available here: https://www.presidency.ucsb.edu/statistics/elections/1968 MITEDASL2017.

[27]There are multiple additional arguments against this thesis. First, the Hippie and anti-war movement lasted for multiple years, which makes it likely that even drafted men were exposed to it. Second, if we were to assume that, indeed, drafted men were not exposed to these movements, we would expect the levels of religiosity to converge over time. However, as we have seen before, the effect of war on religiosity is instant and long-lasting, making the concern above improbable.

[28]Note that only a subsample of our data provides information on the state of birth and the state of death. Thus, the sample size of our data reduces substantially.

Panel A: Men in lotteries 1969-1971 by various location characteristics

	Are any crosses displayed on the grave?									
	Characteristics of state born in					Characteristics of state died in				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Recruit	0.032***	0.033***	0.035***	0.031***	0.032***	0.027***	0.033***	0.034***	0.032***	0.040***
	(0.007)	(0.006)	(0.005)	(0.009)	(0.006)	(0.008)	(0.006)	(0.006)	(0.006)	(0.007)
Born in Bible Belt × Recruit	0.004									
	(0.009)									
Born in Rust Belt × Recruit		0.003								
		(0.010)								
Born in Black Belt × Recruit			−0.002							
			(0.011)							
Born in Democratic State × Recruit				0.004						
				(0.010)						
Born in State with more Anti-War Protests × Recruit					0.005					
					(0.009)					
Died in Bible Belt × Recruit						0.012				
						(0.010)				
Died in Rust Belt × Recruit							0.004			
							(0.011)			
Died in Black Belt × Recruit								−0.002		
								(0.011)		
Died in Democratic State × Recruit									0.003	
									(0.011)	
Died in State with more Anti-War Protests × Recruit										−0.013
										(0.010)
F Statistic	24.94***	18.72***	23.84***	21.67***	37.06***	26.61***	15.99***	21.03***	31.75***	29.99***
Observations	29,585	29,585	29,585	29,478	29,585	25,662	25,662	25,662	23,839	23,839
Notes:	*p<0.05;**p<0.01;***p<0.001;									

Table 20: **Main regression by various location characteristics.**

Estimates show results from a linear probability model of being drafted in the lotteries with a draft call (1969-1971) on whether a cross is displayed on the gravestone. The constant and level effects are omitted for simplicity. Recruit *denotes a dummy with value one if the person was drafted.* Born in Bible Belt *and* Died in Bible Belt *denote a dummy variable with value one if the man was born or died in a state in the Bible Belt, respectively.* Born in Rust Belt *and* Died in Rust Belt *denote a dummy variable with value one if the man was born or died in a state in the Rust Belt, respectively.* Born in Black Belt *and* Died in Black Belt *denote a dummy variable with value one if the man was born or died in a state in the Black Belt, respectively.* Born in Democratic State *and* Died in Democratic State *denote a dummy variable with value one if the man was born or died in a state in which the Democratic party has won the electoral votes in the previous presidential election, respectively.* Born in State with more Anti-War Protests *and* Died in State with more Anti-War Protests *denote a dummy variable with value one if the man was born or died in a state in which there have been above median many Anti-Vietnam protests between 1969 and 1975. Robust standard errors are displayed (by estimating a heteroscedasticity and autocorrelation consistent (HAC) covariance matrix). * denote the following* α*-levels of significance:* $^{*}p<0.05$;$^{**}p<0.01$;$^{***}p<0.001$.

D.4 Time trends

Finally, we focus on whether the effect of war on religiosity persists over time and how it develops. To do so, we focus on the relative effect of being drafted on religiosity for each year of death (i.e., the year the person died) relative to the relevant year of the lottery (e.g., the person died five years after the lottery). Hence, we use an event-study design. Figure 5 displays how war affects religiosity by years passed between the lottery and death. First, it shows that before the lottery takes place, no significant effect of war on the probability of religious gravestones is found (neither in the intercept nor in the slope). This is reassuring as it suggests that our findings are not an artifact of pretends that already existed before the lottery (as already pointed out in Section C.4.2). More importantly, though, for the years after the lottery, we find a significant and positive effect. This positive effect sets in immediately after the lottery takes place and does not significantly reduce over time. Even people who died 50 years after the announcement of their lottery numbers had a higher probability of displaying a cross on their gravestones. In Figure 3 of the main paper, we further display the effect over time by pooling longer time periods, again showing that the religiosity-inducing effect of war does not change over time. Taken together, the religiosity-inducing effect of war exposure is instant (i.e., occurs directly after the draft) and persists over time (i.e., is detectable even decades after the war).

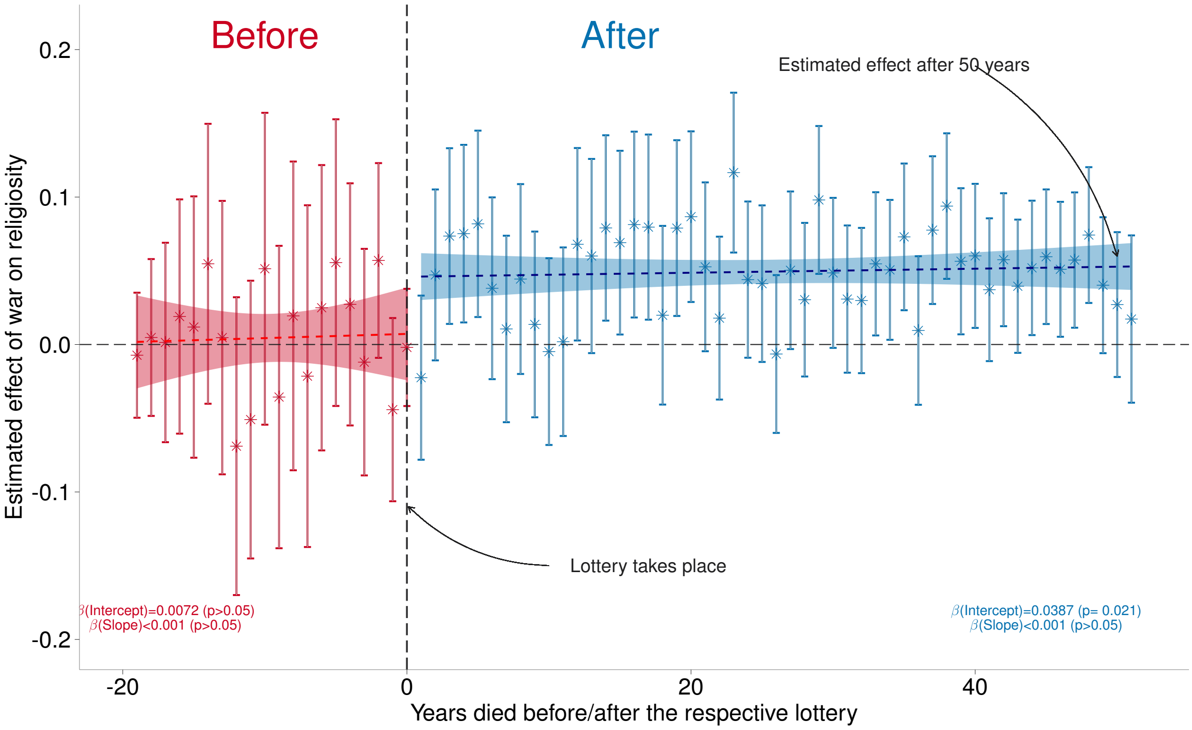

Figure 5: The main effect over time.

How the main effect establishes and develops over time. The x-axis illustrates how many years before or after the lottery the man died. Dots denote the estimated effects for each year of death relative to the respective lottery. Thus, a dot at 5 denotes the difference in the probability of displaying a cross on the gravestones of men who died five years after the lottery took place between men who were drafted and not drafted. The corresponding tunnels surrounding the respective dots represent the 95% confidence intervals. The dashed gray vertical line denotes the year the lottery took place (by definition, it is at zero). The horizontal line at zero denotes a null effect. The red and blue dashed lines illustrate the estimated effect for men who died before and after the respective lottery.