
Combat Casualties and Race: What Can We Learn from the 2003–2004 Iraq Conflict?

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Since the end of the draft in 1973, African Americans have been overrepresented among volunteers for the US Armed Forces.¹ While many commentators have hailed the military as a uniquely egalitarian avenue for social and economic advancement in a society beset with racial inequities, the high participation rate among blacks has periodically led to concerns that they (and more recently, other ethnic minorities such as Hispanics) would disproportionately suffer from casualties in the event of military hostilities.² However, after numerous US military engagements since the 1970s, these fears have not been borne out. In fact, African Americans seem less likely to die in combat than their overall representation in uniform would suggest. Taken at face value, the racial composition of US combat casualties stands in stark contrast to the racial pattern of morbidity and mortality in the larger society, where African Americans as a group fare worse than whites on measures such as death rates, infant mortality, and life expectancy.³

It would seem that, as a comparatively disadvantaged group, African Americans in the all-volunteer era have reaped the benefits of military service without unduly bearing its ultimate burdens. However, explanations for the unexpectedly low African American casualty rate have not been rigorously examined. Furthermore, assessing the racial equity of

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military service based on historical casualty patterns assumes that future combat operations will closely resemble those that have occurred since Vietnam—an assumption that in this new century looks increasingly untenable.

Extending the work of Martin Binkin and his collaborators,⁴ this study argues that the racial composition of combat casualties reflects three factors: the social processes that sort volunteers into various military units and occupational specialties; the mix of units and specialties that participate in military operations; and the battlefield conditions they encounter. Or put another way, given a particular environment within which armed conflict occurs, the probability of any person becoming a casualty is a function of their representation in those units most likely to make hostile contact with enemy forces. Following this, the underrepresentation of African Americans in the units most involved in combat operations since Vietnam may partly explain the disjuncture between their military participation and casualty rates. By extension, the higher propensity of whites to serve in combat capacities could explain their higher-than-expected, post-Vietnam casualty rate. The same may be true of ethnic Hispanics, who are also overrepresented in the combat arms, though their reasons for volunteering for such assignments may differ from those of their non-Hispanic white counterparts.

The short duration of post-Vietnam US ground combat engagements such as Panama and Somalia—as well as the prominent roles played by special operations and light-infantry units for which blacks are less likely to volunteer⁵—has thus far prevented a rigorous evaluation of such propositions. However, the 2003–2004 conflict in Iraq presents one opportunity to assess the race distribution of US casualties under varying combat conditions. First, compared to other combat engagements since Vietnam, many diverse military units have been operating in Iraq for a relatively long time. Second, the US military experience in Iraq has been, broadly speaking, marked by differing conflict environments. In the relatively brief opening period, coalition ground combat forces (mainly US and British infantry and armor) rapidly penetrated deep into enemy territory and carried out offensive actions primarily against Iraqi military forces. The subsequent—and ongoing—mission involves efforts by combat and noncombat personnel (e.g., intelligence, police, logistical, and civil affairs) to consolidate US control, restore civil order, pacify hostile forces, and administer occupied areas.

This study assesses the racial equity of military service by examining the racial distribution of US casualties in Iraq for the first twelve months

since the invasion by US and coalition forces. To better understand how different conflict environments impact racial and ethnic groups with different occupational patterns, the Iraq conflict is divided into two periods, delineated by President George W. Bush's declaration on May 1, 2003, of an end to "major" combat operations. This distinction is important because it signaled a shift in tactics by both coalition and hostile Iraqi forces, and thus altered the risk exposure of US troops with different operational missions. Moreover, in the latter period, the distinction between front lines and rear areas has been blurred, if not eradicated. The conflict environment, operationalized by the different phases of the US mission and by measures of combat intensity, is thus the major statistical control.

Data from the Iraq conflict also permit an analysis of casualties among Hispanics, a diverse group with growing significance within both US society and the military, but whose enlistment patterns and combat experiences have been underexamined and undertheorized, and for whom little prior casualty data exist. The analysis of Hispanic casualties may thus be considered largely exploratory, although some attempt is made to link the findings back to the theoretical discussion of the relative burdens faced by white and African American military personnel.

It bears repeating that casualties of the Iraq conflict do not collectively comprise a randomly drawn sample. Notwithstanding measurement error, the racial distribution of the individuals killed in Iraq has its own specific reality; enumerating their deaths directly reveals the comparative burdens of those in uniform. Nonetheless, a fundamental assumption of this study holds that casualties on any particular battlefield reflect the social representation of the troops who find themselves there. Observed casualties are therefore treated as a sample from which we may speculate about future US military engagements and about the final casualty distribution of the Iraq conflict.

The organization of the article is as follows: following a brief review of the literature on African-American military casualties, the intersection of enlistment patterns and battlefield conditions are discussed. A third section further extends the argument to Hispanics. These conceptual sections are followed by formal hypotheses, a description of the data and analytical results, and concluding remarks.

African Americans in Uniform: Benefits and Burdens

African Americans have served in the US Armed Forces since the Revolutionary War. Prior to the Korean War, blacks' military partici-

pation was intermittent; they were drafted or recruited into uniform only when available white manpower dwindled, and were typically assigned to noncombat support duties. African American combat casualties have thus historically been much lower than their representation in either US society or its armed forces. This pattern changed dramatically during the Vietnam War. African Americans accounted for almost 21 percent of the combat casualties in 1965–1966, but only about 12 percent of the US Army and Marine Corps. In response to public criticisms over these high casualty rates, the Pentagon redistributed some African American troops away from front line units.⁶ By the war's end, black casualties were proportional to their representation in those units that saw most of the fighting on the ground.

With the end of conscription in 1973, commentators both within and outside of the armed forces expressed concerns about the potential overreliance on African American labor. On one hand, commanders and military planners worried about the effects of racial discord within the ranks and an influx of substandard recruits on the readiness of military

Table 1

Blacks killed in action since Vietnam

Military operation	Total killed	Blacks killed	Blacks as percentage of total killed
Mayaguez (1975)	14	1	7.1
Lebanon (1983)	254	46	18.1
Grenada (1983)	18	0	0
Panama (1989)	26	1	4.3
Gulf War (1991)	182	28	15.4
Somalia (1992–93)	29	2	6.9
Total	520	78	15.0

Source: Moskos and Butler (1996), table 1.2, p.8

units.⁷ On the other hand, some leaders of the black community expressed concerns that African Americans pursuing military careers in the absence of better civilian alternatives would bear a disproportionate burden of any US combat engagements. While African Americans did volunteer in relatively large numbers, the institution of policies designed to promote racial harmony within the ranks, and the overall performance of African American, largely mitigated concerns about the erosion of military readiness.

However, this did not assuage underlying concerns about African American “cannon fodder” that publicly resurfaced with the massive buildup of force in preparation for the 1991 Persian Gulf War.⁸ Yet by and large, fears of excessive black casualties were not borne out; nor were they for other post-Vietnam military operations. Charles C. Moskos and John Sibley Butler⁹ analyzed US combat casualties between 1975 and 1993 and report that of five hundred twenty deaths in six hostile situations, only 15 percent were black—a figure slightly higher than their representation in the age-appropriate population, but lower than their percentage in the active-duty military (table 1 reproduces their findings). Moskos and Butler conclude that “no serious case can be made that Blacks suffer undue casualties in America’s wars and military interventions.”¹⁰

Environments of Conflict, Race, Military Specialty, and Combat Intensity

In effectively refuting the cannon-fodder argument, Moskos and Butler provide no explanation for the low rate of African American casualties relative to their overall participation in uniform. Unlike during the Vietnam War, there has been no explicit policy of equilibrating the risks among service members of various races and ethnicities.¹¹ What seems to matter is the composition of the forces used in the fight, and the battlefield conditions they encounter. Martin Binkin argues that the low African American casualty rate in the Persian Gulf War reflects its short duration and the limited exposure of US ground forces to intense combat conditions. He further proposes that, had Iraqi forces posed stiffer resistance, conventional ground units would have suffered higher casualties, which would have in turn driven up the proportion of black casualties.¹²

Binkin’s basic insight points to the importance of conflict environments—the political goals, battlefield missions and tactics, and degrees and types of enemy resistance—that expose military units to varying

levels of combat risk. For general theorizing, one useful conceptual distinction is between *high-intensity* and *low-intensity* conflict environments.¹³ High-intensity conflict environments bring to mind what most people think of as “war.” The immediate goal of cobelligerent armed forces is first and foremost the reduction of the other’s will and capacity to fight, usually through application of massed military firepower against enemy formations, fortifications, and matériel. Thus units and personnel primarily organized, equipped, and trained for lethal combat are most likely to make contact with enemy forces, particularly when executing offensive tactics.

By contrast, in low-intensity environments—referred to in the past as *limited war*, and which today often goes by the term *operations other than war*—both immediate goals and the means of achieving them are more ambiguous than what is observed in conventional war scenarios. While precise definitions of low-intensity conflict are highly contested, the term has come to denote a range of activities including peacekeeping and peacemaking interventions, occupation duties, internal security operations and counterinsurgency, counter- and antiterror efforts, and civil affairs operations designed to “win the hearts and minds” of indigenous populations. Military forces remain policy instruments, but military tactics frequently take a backseat to political considerations, and there are few clear distinctions between front line and rear areas. Intuitively, the expanded participation of noncombat forces in support and civil affairs activities increases their likelihood of making hostile contact with enemy forces.¹⁴

Explaining the low rate of post-Vietnam African American casualties thus entails understanding the units most involved in hostilities, the battlefield conditions they encountered, and the representation of African Americans within them. The engagements analyzed by Moskos and Butler (see table 1) were mostly short, intense operations conducted primarily by elite, lightly equipped, rapidly deployable light infantry and commando units (such as Army Rangers, special operations forces, paratroopers, and Marine expeditionary units). Moreover, the tactics employed by such units dictate that they operate with little direct support (at least in the short run) from noncombat units.

African Americans are typically underrepresented in these types of units and specialties, and have instead been more concentrated in noncombat support positions.¹⁵ For example, in 2001, only one in eight African Americans was in a combat specialty, compared to just under one in five whites. This pattern is not atypical of the all-volunteer era, and could explain African Americans’ low post-Vietnam casualty rates.

The possible exceptions to the near-exclusive risk exposure of elite combat personnel are Lebanon and the Persian Gulf War. In Lebanon, most of the US casualties occurred in one unprecedented terror attack against a Marine Corps barracks;¹⁶ in the Persian Gulf, heavy armored forces required extensive logistical support, and Iraqi missile attacks into coalition rear areas caused many casualties among support personnel. It is telling that these two engagements claimed both the majority of post-Vietnam casualties (until 2003) and saw the highest percentages of African American casualties.¹⁷

The low participation rate of African Americans in the most likely combatant units partly reflects the reasons for which they enter the military. The propensity to volunteer for the armed forces has been linked to individual socioeconomic circumstances and macroeconomic conditions.¹⁸ On the whole, military volunteers tend to have fewer educational and human capital advantages than their age-appropriate peers who do not join. Yet more so than their white counterparts, African Americans enlist in the armed forces for economic and social advancement¹⁹. For example, black youths are more likely to cite pay as a reason for considering military employment, and less likely to cite “other career interests” as a reason not to join.²⁰ Whites also cite “money for education” and “job training” as reasons to join more often than do blacks, perhaps signifying a preference for shorter enlistment commitments. This is further borne out by higher reenlistment rates among African Americans.²¹ Blacks are also almost twice as likely as whites to cite “threat to life” as a reason not to join. In short, combat specialties and rapidly deployable units—with their frequent deployments, high-stress environments, and occupational hazards such as training and combat injuries—may be less attractive to blacks pursuing a stable military career in the absence of more promising civilian alternatives. Ultimately, the social process that sorts military volunteers into various military units and occupational specialties plays a key role in the race distribution of casualties.

Hispanics in Uniform

In contrast to the well-researched military experiences of African Americans, we have much less systematic information on post-Vietnam era Hispanic American service members.²² Nor do reliable data on Hispanic casualties exist for past combat engagements. Although they represent a diversity of ethnic backgrounds, persons of Hispanic and Latino heritage now collectively comprise the largest and fastest-

growing minority group in the United States. They are therefore a potentially important source of military labor.

Like African Americans, Hispanics tend to earn less and have less wealth and education than whites.²³ However, the economic similarities between African Americans and Hispanics have not translated into similar military participation rates or occupational patterns. Among US sixteen- to twenty-four-year-olds with no prior military service, Hispanics show the highest propensity to enlist in the armed forces, even when controlling for educational attainment. Like blacks, Hispanics were less likely than whites to cite “other career interests” as a reason for avoiding the military.²⁴ Yet Hispanics are more similar to whites in their attitudes towards pay, job training, educational benefits, and the life-threatening nature of military service. Of all three groups, Hispanics seem the least dissuaded by the military lifestyle. Important for this study, Hispanics volunteer for combat units and specialties—particularly those of the Marine Corps—at about the same rate as whites. For example, in 2001, 18 percent of all Hispanic military applicants attempted to enlist in the Marine Corps, a figure statistically higher than the proportions of any other racial group.²⁵

However, compared to the military-age population, Hispanics are underrepresented in the US Armed Forces as a whole. This partly reflects educational and language requirements that render many young Hispanics effectively ineligible for service. About one-half of enlistment-age Hispanics are immigrants, and they tend to attain less education than their native-born counterparts.²⁶ Such recruits would be in a disadvantaged position when taking the Armed Forces Qualification Test.²⁷ This makes it difficult to confidently assert that the structure of employment opportunities influences casualties among Hispanics in the same manner as African Americans; explaining their propensity toward combat specialties is also beyond the scope of this study. At best, we can postulate that the social processes that influence Hispanic enlistment patterns are different than those for either whites or blacks. Describing observed casualty rates is thus the first step in developing new theoretical insights about the Hispanic military experience in the all-volunteer era.

Hypotheses

To summarize, persons of different races and ethnicities exhibit different propensities to volunteer for the armed forces and to select combat specialties and units. In turn, in any given conflict environment,

military personnel serving in different units and trained in different skills will likely face varying levels of combat hazards. These propositions suggest specific testable hypotheses about the racial distribution of casualties under different conditions.

Hypothesis 1: The racial distribution of casualties will differ between the early phase of the Iraq conflict—when US personnel encountered high-intensity conditions resembling war—and the later phase, which is characterized primarily by low-intensity operations other than war.

Hypothesis 2: During the early phase of the conflict, the racial distribution of casualties will reflect the racial composition of ground combat forces.

Hypothesis 3: During the later phase of the conflict, the racial distribution of casualties will resemble the racial composition of the military as a whole.

Hypotheses 2 and 3 imply that blacks and whites will be overrepresented compared to the US population, while Hispanics will be underrepresented. However, hypothesis 2 implies that compared to the military overall, whites and Hispanics will be overrepresented, and blacks underrepresented. The relationships are reversed in hypothesis 3. Given that the majority of the casualties have occurred in this latter period, the total casualties for the Iraq conflict should follow the pattern described in hypothesis 3.

These hypotheses are offered with some important caveats. The latter portion of the Iraq engagement has been beset by continued casualties, caused mainly by insurgents' ambushes, bombings, and suicide attacks against coalition military forces and civilian targets. Coalition forces have periodically responded with aggressive air-supported ground assaults. The danger to combat troops thus remains high. On the other hand, unlike shorter, small-scale interventions such as Panama and Grenada, heavy armor and mechanized infantry units carried out the bulk of the initial ground assaults in Iraq. Providing these forces with fuel, rations, ammunition, and other matériel brought noncombat support troops into close proximity of battle areas, and required them to travel along extensive, vulnerable supply lines. Both of these situations could mediate differences in the casualty distribution

between the two phases. I therefore use quantitative measures of combat intensity across the phases of the conflict, and within the latter period to test the following hypothesis:

Hypothesis 4: As the intensity of conditions on the ground increase, casualties will resemble the racial composition of ground combat forces. This implies the racial casualty patterns described for hypothesis 2.

Data

The data come from the US Department of Defense's (DoD) Directorate for Information Operations and Reports, Statistical Information Analysis Division (DIOR/SIAD). They cover all casualties incurred in Operation Iraqi Freedom since the opening of the conflict on March 19, 2003, through April 8, 2004. Data were collected from the DIOR/SIAD Web site²⁸ on April 12, 2004. A list of all casualties provides basic information for each individual (such as name, age, branch, component, hometown), but no information on race. However, aggregated data are crosstabulated by race and branch, and by race and the date range in which the casualty occurred.

Casualty data include information on 3,276 wounded US personnel, as well as on 643 deaths. However, as is generally recognized in medical care and public health studies, deaths are a more reliable and easily interpretable measure of outcomes than most other health indicators. DoD reporting on the racial composition of deaths also appears somewhat more rigorous than for wounded. About 8.8 percent of wounded cases were listed as "multiple races, pending, or unknown," compared to only eight cases (1.2 percent) among deaths. The proportions in this category account for much of the variation between the two groups. When the "unknown" group is excluded, differences in the racial distributions among wounded and dead are reduced (the χ^2 shrank from 72.1 to 17). Therefore, only deaths among US personnel are analyzed. Deaths include those resulting from hostile enemy action (four hundred fifty) and from nonhostile causes (one hundred ninety-three, including accidents, illnesses, three homicides, and twenty-three confirmed suicides). Including both categories is necessary because the data do not crosstabulate race by casualty type.

DoD categorizes casualties by race/ethnicity. Values include "white," "black or African-American," "Hispanic or Latino," "Asian," "Ameri-

can Indian or Alaska Native,” “Native Hawaiian or Pacific Islander,” and “Multiple races, pending, or unknown.” Because they are relatively small in number, and to better compare with existing data on military populations, the latter four categories are aggregated into a single category, “other race.”²⁹ The data are cross-tabulated by the four major branches of the military: Army, Navy, Air Force, and Marine Corps. Large numbers of reserve and National Guard personnel have played a role in the Iraq theater (comprising perhaps as many as one-quarter of personnel in the later period),³⁰ but casualties among these troops are aggregated to their parent branches.

I compare the racial distribution of combat casualties to three populations: all US active-duty military forces, all personnel in US Army and Marine Corps occupational specialties listed as “infantry, gun crews and seamanship” (alternately referred to as “ground combat troops” or “Army/Marine Corps combat personnel”),³¹ and the US population between the ages of eighteen and thirty-four. It is important to compare to more than one relevant population because any given distribution of casualties has multiple implications for assessing the equity of military service. A casualty distribution that differs from the general US population may reflect both inequitable processes that sort people into the armed forces (such as economic and labor market inequities) and differences in preferences and eligibility for military service. Likewise, casualties may differ from the military as a whole to the degree that vocational preferences and aptitudes for differentially risky occupations and specialties are stratified by race. Finally, within particular occupational categories, casualties may reflect relative risks inherent to the military rank structure, between branches of service, and in the assignment of duties.

Data on military populations come from DoD’s *Population Representation in the Military Services, Fiscal Year 2001*. Casualties are compared to the entire active-duty armed forces for consistency with other studies focusing on race in the military, even though the Navy and Air Force committed comparatively few troops on the ground.³² Data on the US population come from the US Census Bureau’s 2000 decennial census. Racial categories represent the proportions identifying themselves by one race. Census definitions allow Hispanics or Latinos to define themselves as any race. This confounds comparisons with casualties, who are categorized by one race only, or by an unspecified combination of racial or ethnic categories. Estimates of the US Hispanic population are derived by subtracting the proportional number of Hispanics from each racial category, and aggregating them into a

distinct Hispanic category. I use the age group eighteen to thirty-four for comparability with the estimates provided by Moskos and Butler.

For analytical purposes only, I label the period through President George W. Bush's declaration of an end to "major" combat operations on May 1, 2003, as the "war phase," and from May 2 onward the "occupation phase." These labels characterize the overall mission of US military forces in each period. In the war phase, US forces worked primarily toward the elimination of the existing Iraqi authority structure. In the occupation phase, the military supports a more diffuse project of administering Iraqi territory and promoting the conditions conducive to the reestablishment of Iraqi civil and political society.

The occupation phase has been marked by periodic, often large-scale clashes between coalition and insurgent guerrilla forces. I therefore examine the average daily casualty rate as an additional measure of combat intensity.³³ There was an average of 3.1 casualties per day in the war phase, compared to 1.5 per day between May 2, 2003, and April 8, 2004. Within the occupation period, the daily casualty rate climbed to 2.8 in October-November 2003—coinciding with the downing of three US helicopters and the commencement of an aggressive US counteroffensive dubbed Operation Iron Hammer—and climbed again to 3.5 in April 2004 as US forces confronted large-scale Shiite uprisings in several cities.

Table 2 summarizes the racial distribution of casualties for the distinct phases analyzed, and for the conflict as a whole.

Analysis

Total Casualties

We begin with an overview of casualties in the Iraq conflict. Table 3 presents the racial distribution of total US casualties incurred over the entire period from March 19, 2003, to April 8, 2004. These are compared to the racial composition of the age-appropriate US population and selected military populations. I first calculate chi squared (χ^2) values to assess whether the observed casualty distribution differs significantly from the comparison population. I then conduct standard-error-of-proportions tests to determine whether the observed proportion in each racial category differed significantly from the proportion in the comparison population.

Table 3 indicates that the percentage of total black casualties (14.0) exceeds the percentage of blacks in the eighteen- to thirty-four-year-old

Table 2

**Casualties by phases of the Iraq conflict and race,
March 19, 2003–April 8, 2004**

	<u>War Phase</u>	<u>Occupation Phase</u>	<u>Total Iraq Conflict</u>
	March 9, 2003	May 2, 2003	March 19, 2003
Race	May 1, 2003	April 8, 2004	April 8, 2004
White	84 60.9%	361 71.5%	445 69.2%
Black	26 16.7%	67 13.3%	90 14.0%
Hispanic	22 15.9%	50 9.9%	72 11.2%
Other	9 6.5%	27 5.3%	36 5.6%
<i>N</i>	138	505	643
Average casualties per day	3.1	1.6	1.8

Source: US Department of Defense

US population (13.4). The same is true of whites (69.2, compared to 63.9). Hispanics are comparatively underrepresented at 11.1 percent. If the Iraq conflict had ended on April 8, 2004, one could accurately state that whites and blacks disproportionately bore the burden of the fighting (assuming no measurement error of race).

However, the observed proportion of black deaths is not significantly different from the expected number of casualties based on the percentage of blacks in the US population, and falls significantly below their share of the overall military. The data do not suggest disproportionately high black casualties, either going forward in the Iraq conflict or in unspecified future military engagements. The values of χ^2 thus far do not support hypothesis 3; the racial distribution of total casualties does not resemble the active-duty military, but instead looks like the

Table 3

Percentage of total Iraq conflict casualties by race, compared to military and US populations, March 19, 2003–April 8, 2004 (N=643)

	% of total deaths	Comparison population		
		US population, ages 18-34	All active-duty military	Army/Marine Corps combat personnel
White	69.2	63.9**	65.2*	68.4
Black	14.0	13.4	20.3**	15.2
Hispanic	11.1	16.2**	8.6*	10.7
Other	5.6	6.5	5.9	5.7
	$\chi^2 (df=3)$	13.6**	19.2**	0.84

Two-tailed *p* values: * < .05, ** < .01

For US totals, Hispanics may be of any race

racial makeup of ground combat troops. Compared to the active-duty military, whites and Hispanics are overrepresented, while blacks are underrepresented.

Casualties by Phases of the Conflict

Table 4 shows the racial distribution of casualties by the two phases of the conflict, compared to the age-appropriate US population and selected military populations. As predicted by hypothesis 1, the data suggest that the tactical conditions faced by US military personnel influence the racial composition of casualties. The distributions differ between the war and occupation phases but the relationship is weak ($\chi^2 = 6.5$; $df = 3$; $p = .09$). This unanticipated similarity stems from the fluctuations in combat intensity during the latter phase (discussed below).

Looking at casualties in the war phase (panel A), hypothesis 2 receives mixed support. Comparing χ^2 values, casualties resemble ground combat troops more than the military as a whole. However, the

Table 4

Percentage of Iraq conflict casualties by race and phase of conflict, compared to military and US populations

		Comparison population			
		% of deaths	US population, ages 18-34	All active-duty military	Army/Marine Corps combat personnel
Panel A: March 19–May 1, 2003 war deaths (N=138)	White	60.9	63.9	65.2	68.4†
	Black	16.7	13.4	20.3	15.2
	Hispanic	15.9	16.2	8.6**	10.7*
	Other	6.5	6.5	5.9	5.7
			$\chi^2 (df=3)$	1.30	9.98*
Panel B: May 2, 2003– April 8, 2004 occupation deaths (N=505)	White	71.4	63.9**	65.2**	68.4
	Black	13.3	13.4	20.3**	15.2
	Hispanic	9.9	16.2**	8.6	10.7
	Other	5.3	6.5	5.9	5.7
			$\chi^2 (df=3)$	17.8**	16.5**

Two-tailed *p* values: † < .10, * < .05, ** < .01
For US totals, Hispanics may be of any race

racial distribution of deaths differs dramatically from the expected outcome. Compared to their representation among Army and Marine combat troops, whites are underrepresented by about 11 percent of the expected value (*p* = .056). Black casualty figures exceed their percentage of ground combat troops by about 10 percent, but not significantly so.

By far, the most striking support for hypothesis 2 is the finding is that the casualty rate among Hispanics during the war is 49 percent higher than their representation in the ground combat forces would suggest (*p* = .002), and 85 percent higher than Hispanics on active duty (*p* = .044). As expected, Hispanic war casualties fall below their portion of the US population (though this may reflect circumstances that effectively render many young, non-English-speaking Hispanics ineligible for military service).

As was observed in table 3, panel B of table 4 provides little solid support for hypothesis 3. Again, casualties more closely resemble ground combat forces than they do the active-duty military as a whole. Compared to active-duty forces, whites are overrepresented by 10 percent ($p = .003$), but blacks are unexpectedly underrepresented by about 34 percent ($p < .001$). Nor are black casualties disproportionately high compared to the black US population. However, the observed pattern for Hispanics again conforms with hypothesized outcomes; the percentage of Hispanic casualties drops dramatically after May 1, 2003, and is consistent with their presence in both military populations.

We may largely exclude the rank distribution of casualties as an explanation for the observed racial patterns. As table 5 shows, Hispanics are overrepresented in the enlisted ranks of the Army and Marine Corps, blacks are overrepresented among noncommissioned officers (NCOs), and whites are overrepresented among officers. Table 6 further reveals that enlisted personnel made up the majority of casualties in the war and occupation phases, but their proportions did not appreciably vary, nor did they differ significantly from the Army and Marines as a whole. NCOs saw significantly lower-than-expected casualties during the war phase, while officer deaths were higher. Neither of these patterns supports the contention that the unexpectedly high rate of Hispanic war casualties reflects an inordinately high number of junior or senior enlisted casualties, nor did the high casualty rate among officers in the war phase translate into appreciably higher white casualties.

Casualties in High-Intensity and Low-Intensity Environments

Since the data are not crosstabulated by military specialties, it is not clear that combat troops suffer disproportionately high casualties in both periods. Furthermore, given their high propensity for combat specialties, the low rate of white deaths prior to May 1, 2003, contradicts this explanation, as does the low rate of Hispanic casualties after May 2. The proportional increase in white casualties during the occupation may reflect an increased involvement of reserve and National Guard Units drawn from regions with relatively small minority populations; the drop in Hispanic casualties coincides with the virtual withdrawal of Marine Corps units from the combat theater until late March 2004. More than half of all Marine casualties occurred prior to May 2, compared to less than one-eighth of Army casualties ($\chi^2 = 107.3$). About 29 percent of all Hispanic casualties were Marines, and about 62 percent of Hispanic Marine fatalities occurred prior to May 2. There may also be

Table 5**Race distribution of ranks (percentages), compared to total Army and Marine Corps personnel**

	Enlisted	NCO	Officer	Total Army and Marines
White	61.1	53.3	79.4	61.0
Black	21.1	31.3	10.8	23.3
Hispanic	12.3	8.8	4.5	10.0
Other	5.4	6.5	5.3	5.8

Source: US Department of Defense

Table 6**Percentage of Iraq conflict casualties by rank, compared to total Army and Marine Corps personnel**

	Total deaths	Pre May 1 war deaths	Post May 1 occupation deaths	Total Army and Marines
Enlisted	54.1	55.1	53.9	52.1
NCO	31.7	25.4*	33.5	35.2
Officer	14.2	19.6*	12.7	12.7
$\chi^2_{(df=2)}$	1.40	9.10*	0.50	
<i>n</i>	643	138	505	

Two-tailed *p* values:

† < .10, * < .05, ** < .01

race-specific differences in the nonhostile death rate within similar types of units and occupational specialties, although it is difficult to speculate why this would be the case.

More likely, using May 1 as the cutoff point between the war and occupation is a somewhat arbitrary delineation, even if the overall US mission effectively changed thereafter. As noted above, US troops faced

guerrilla tactics such as suicide bombs during the invasion, and continued to pursue enemy formations after the declared end of major combat operations. The point is underscored by comparing the racial distribution of casualties to the intensity of contact with enemy forces. Figure 1 shows the racial distribution of casualties incurred during each period for which DIOR/SIAD provided cumulative totals and the average daily casualties.³⁴ Hypothesis 4 receives mixed support. While there is evidence of temporal variation, in general, the proportion of white casualties tends to fall as the average daily casualty rate rises. Again, the patterns observed for the Hispanic group conform most closely to expected outcomes. Hispanic deaths tend to increase with average daily casualties; the same is apparent for blacks, though in a seemingly less linear fashion.

The racial distributions of the war phase and the periods in which US forces mounted major counterinsurgency efforts (Oct. 23–Nov. 20, 2003, and March 19–April 8, 2004) are essentially the same ($\chi^2 = 4.2$, $df = 6$). Taken together, these high-intensity periods differ significantly from the other periods as a whole ($\chi^2 = 13.9$, $df = 3$, $p = .003$). These results can not be easily dismissed with reference to the small sample sizes in the periods after August 2003 (which could result in fewer observed minority cases). Whites are overrepresented in the fourth bar of the chart, which has the most cases of all the periods. In short, the racial similarities between casualties and the military overall can be expected to ebb and flow with the intensity of the conditions on the ground, if not necessarily in ways predicted by existing theory.

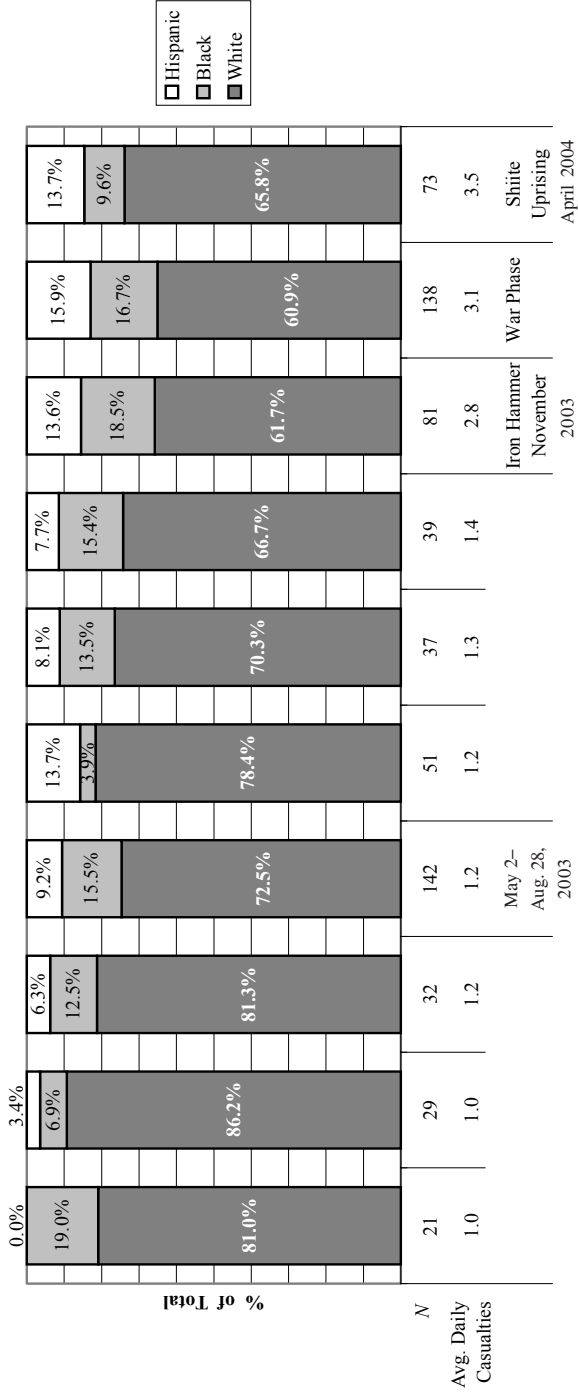
Discussion: Toward a New Discussion of Race and National Sacrifice

Concerns over the racial composition of the US armed forces reflect that society's ambivalence about the voluntary basis of military service itself. On one hand, deep and widespread antipathy towards compulsory military service has lingered since the Vietnam War. On the other hand, national security is a collective good. In a nation with tremendous income and wealth inequalities, many are uncomfortable with the idea that individuals who voluntarily provide this good do so in large part because they face comparatively few vocational and economic options. The recognition that many volunteers also come from historically disadvantaged racial and ethnic groups compounds this discomfort.

It is recognized here that death and physical injury represent merely the worst among a range of hardships faced by individuals at war. Separation from loved ones, loss of income (for many reservists and

Figure 1

Percentage of Iraq conflict casualties by race and average daily casualties



National Guard members), strained personal relations, and long-term psychological or emotional problems are all inequitably experienced when the military does not resemble society as a whole. Yet the results of this analysis conditionally support Moskos and Butler's (1996) position that African Americans do not disproportionately bear the *ultimate* burden of US military operations, nor do other racial or ethnic minorities. Whites comprise the majority of combat casualties, in keeping with their majority status on active duty and their high representation in US Army and Marine Corps combat specialties.

Binkin's proposition that combat casualties ultimately reflect the conditions faced by the units in the fight also receives some support from the temporal variation in casualty patterns, and remains a useful theoretical starting point. However, conceptualizing and measuring these conditions requires further analytical effort and richer data than were employed in this study. Additionally, while the data indicate that tactical conditions within different conflict environments produce different patterns of casualties, a too-narrow focus on white-black racial dichotomies contributed to erroneous predictions about relative military burdens. Blacks make up a larger percentage of the war deaths than they do the US population between the ages eighteen to thirty-four, but nonetheless fall within an expected range. In the occupation phase, they are underrepresented compared to the active-duty military.

If any group of minority service members faces an elevated risk of casualties, it is Hispanics under high-intensity combat conditions. Observed patterns of Hispanic casualties conform well to hypothesized outcomes, and generally follow what has been traditionally expected for whites: when US tactics dictate a more active, aggressive role in finding and attacking enemy targets, Hispanics incur casualties in excess of their participation in ground combat units. In less intense environments, the Hispanic casualty rate more closely resembles their presence in the military as a whole. Explaining these stark patterns will require studies that explicitly theorize the Hispanic military experience, rather than rely on insights from the white and African American experiences. If such research properly incorporates themes such as culture, geography, citizenship, and socioeconomics, bringing Hispanics into the debates about military benefits and burdens may shed some unique light on who chooses to serve, in what capacity, and why. Given that Hispanics now collectively comprise the largest minority group in the United States, such a research agenda is long overdue.

Notwithstanding the evidence that whites have borne excessive casualties in US post-Vietnam military operations, it is difficult to

ignore the high percentage of deaths incurred by minorities during the heaviest fighting in Iraq. Until the urban battles that characterized the Shiite uprisings of April 2004, few would have denied that the overthrow of the Hussein regime involved far greater risks for US troops than the subsequent occupation. The higher-than-expected minority death rate under conditions where US ground forces saw the most intense and prolonged large-scale fighting in over a decade poses a troubling puzzle that will only be solved when more information on individual casualties becomes available to researchers.

The racial breakdown of casualties may in fact measure the offensive capability of US forces relative to Iraqi defenders. Deaths among (disproportionately white) combat troops may have been minimal in the war phase, coupled with an unexpectedly high number of (disproportionately black) noncombat support casualties. Assaulting predetermined targets in force and being supported by considerable suppressive firepower (aircraft, artillery, mortars, cruise missiles, etc.) may enhance the survivability of combat-trained and equipped troops, while simultaneously contributing to conditions that endanger less-well-trained and less-well-armed noncombat personnel who support them. When contact with enemy forces becomes incidental and unexpected—as occurs frequently in the occupation phase—the advantage afforded to trained combat troops may diminish. Yet this explanation runs counter to an official army review of its conduct in the war phase, which documented shortages of both support troops and matériel through the opening offensives.³⁵ It also fails to explain the high Hispanic death rate during the war phase. For now, it is premature to conclude that minority combat troops were placed in inordinately risky situations—by mistakes of omission or commission—or that noncombat troops providing logistical support were inadequately prepared for the fluid violence that characterized the invasion phase of the Iraq conflict.

It is impossible to speculate confidently about the character of the US military's future combat engagements. Yet as ongoing conflicts ebb and flow and other potentially hostile situations develop, understanding which segments of society will pay the ultimate price of US foreign policy decisions can facilitate honest debates about the equity of our system of military service. The current Iraq conflict provides a case in point. Now that Iraq's sovereignty has formally passed back to Iraqi officials, the support mission of the US military may involve intermittent combat engagements that claim the lives of personnel on a steady, if somewhat small-scale, basis. Under such circumstances, expectations of disproportionate minority casualties would be unwarranted. The

national dialogue on the equity of military service may shift back to the social process that impels whites—particularly those from the lower socioeconomic strata—into the ranks. However, should US troops resume large-scale offensive campaigns against a number of seemingly growing and increasingly well-organized insurgent threats, casualties among blacks and Hispanics may creep up to a point where the fairness of military sacrifice again becomes an uncomfortable racial issue.

On a final note, the findings of this study are not germane only to the military experiences of the United States. As of 2000, several advanced industrial democracies with long histories of conscription had abandoned the practice in favor of voluntary service, or had plans to phase it out by 2004.³⁶ Some nations with rising immigration rates have experienced increased racial and ethnic diversity in their volunteer militaries,³⁷ while others (such as Spain and France) actively recruit foreign volunteers. At the same time, conflicts such as Kosovo in 1999 and contemporary operations in Afghanistan and Iraq have subjected the militaries of many nations to their first hostile fire in decades (for example, coalition casualties in Iraq include personnel from Italy, Spain, Poland, Denmark, and Bulgaria). To the degree that ethnic enlistment patterns are similarly structured by socioeconomic factors, debates about military equity and recruitment policies in the US case may presage similar dialogues elsewhere.

Notes

Author's Note: I thank Jonathan Ketcham, Mark Sawyer, Thomas Rundall, and Dalton Conley for helpful comments and suggestions, and Roger V. Jorstad for data assistance.

1. See, for example, table D-17, US Department of Defense, *Population Representation in the Military Services, Fiscal Year 2001* (Washington, DC: Office of the Under Secretary of Defense, Personnel and Readiness, 2003).
2. See Martin Binkin, *Who Will Fight the Next War?* (Washington, DC: The Brookings Institution, 1993); Morris Janowitz, "The Social Demography of the All Volunteer Armed Force," *Annals of the American Academy of Political and Social Science* 406 (March 1973): 86-93; Charles C. Moskos, John Sibley Butler, Alan Ned Sabrosky, and Alvin J. Schexnider, "Symposium: Race and the United States Military," *Armed Forces & Society* 6, 4 (Summer 1980): 586-613; Martin Binkin, Mark J. Eitelberg, Alvin J. Schexnider, and Marvin M. Smith, *Blacks and the Military* (Washington, DC: The Brookings Institution, 1982); Robert K. Fullinwider, "Choice, Justice, and Representation," in *Who Defends America? Race, Sex, and Class in the Armed Forces*, ed. Edwin Dorn (Washington, DC: Joint Center for Political Studies Press, 1989); Ruben Castaneda, "War Would Hurt Minorities, Activists Charge," *Washington Post*, November 9, 1990; Juan Williams, "Race and the War in the Persian Gulf,"

- Washington Post*, January 20, 1991; David J. Armor, "Race and Gender in the US Military," *Armed Forces & Society* 23, 1 (Fall 1996): 7-27; Andrew Gumbel, "Pentagon Targets Latinos and Mexicans to Man the Front Lines in War on Terror," *The Independent*, September 10, 2003, 11.
3. See, for example, Institute of Medicine, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, ed. Brian D. Smedley, Adrienne Y. Stith, and Alan R. Nelson (Washington, DC: National Academies Press, 2002).
 4. Binkin, *Who Will Fight the Next War?*; Binkin et al., *Blacks and the Military*.
 5. See Margaret C. Harrell, Sheila Nataraj Kirby, Jennifer Sloan, Clifford M. Graf, Christopher J. McKelvey, and Jerry M. Sollinger, *Barriers to Minority Participation in Special Operations Forces* (Santa Monica, CA: Rand, 1999); Department of Defense, *Population Representation*, table B-30.
 6. Binkin, *Who Will Fight the Next War?*
 7. Charles C. Moskos, "The American Dilemma in Uniform: Race in the Armed Forces," *Annals of the American Academy of Political and Social Science* 406 (March 1973): 94-106.
 8. Castaneda, "War Would Hurt Minorities"; Williams, "Race and the War in the Persian Gulf."
 9. Charles C. Moskos and John Sibley Butler, *All That We Can Be: Black Leadership and Racial Integration the Army Way* (New York: Twentieth Century Fund, 1996).
 10. *Ibid.*, 9.
 11. In fact, during the Persian Gulf War, Gen Colin L. Powell, then Chairman of the Joint Chiefs of Staff, publicly expressed disdain for such policies, asking rhetorically, "if the whole force accepts casualties, what would you wish me to do? Move the blacks from the positions they're in so that they will have a lower percentage of casualties?" Cited in Arch Puddington, "Black Leaders vs. Desert Storm," *Commentary* 91, 5 (1991):28-34.
 12. Binkin, *Who Will Fight the Next War?*, p. 86. See also Binkin et al., *Blacks and the Military*.
 13. For general discussions of these categories, see M.L.R. Smith, "Guerrillas in the Mist: Reassessing Strategy and Low Intensity Warfare," *Review of International Studies* 29 (2003):19-37; J.J.A. Wallace, "Manoeuvre Theory in Operations Other Than War," *Journal of Strategic Studies* 19, 4 (1996): 207-226; Loren B. Thompson, "Low Intensity Conflict: An Overview," *Low-Intensity Conflict: The Pattern of Warfare in the Modern World*, ed. Loren B. Thompson (Lexington, MA: Lexington Books, 1989); Harry G. Summers, "A War is a War is War is a War," *ibid.* These categories are not exhaustive of all types of organized armed conflict, nor are they representative of all combatants' perspectives. They are theoretically rooted in the study of foreign policy options within a larger geopolitical context, and presuppose states' autonomous capacity for military action. In the contemporary context, the distinction is therefore most appropriate to interstate wars and the expeditionary activities of military and industrial powers.

14. The distinction between high- and low-intensity environments is seldom neat, and any particular conflict may contain elements of both types. For example, few hostile engagements have exhibited the clear distinction between war and operations other than war observed in the Second World War and the subsequent occupations of Japan and Germany. In Algeria during the 1950s and '60s, French military forces performed gendarmerie, occupation, and counterinsurgency duties in urban areas such as Algiers, while mounting conventional mountain and desert offensives against insurgents in the countryside. Thus the character of conflict may vary across both time and space.
15. See Harrell et al., *Barriers to Minority Participation*.
16. In 1983, blacks made up 18.9 percent of the US Marine Corps, compared to 28.7 percent of the Army. The corresponding percentages in 2001 were 14.9 and 26.2, respectively.
17. In fact, looking at these two engagements alone, African American casualties comprise about 17 percent of the total, a figure that is significantly larger than the 13.1 percent of the 1990 population of eighteen- to thirty-four-year-olds cited by Moskos and Butler for comparison ($z = 2.39, p = .017$), but still smaller than their presence in the ranks.
18. See Jerald G. Bachman, David R. Segal, Peter Freedman-Doan, and Patrick M. O'Malley, "Who Chooses Military Service? Correlates of Propensity and Enlistment in the US Armed Forces," *Military Psychology* 12, 1 (2000):1-30; David R. Segal, Thomas J. Burns, William W. Falk, Michael P. Silver, and Bam Dev Sharda, "The All-Volunteer Force in the 1970s," *Social Science Quarterly* 79, 2 (1998):390-411; Jay D. Teachman, Vaughn R.A. Call, and Mady W. Segal, "The Selectivity of Military Enlistment," *Journal of Political and Military Sociology* 21 (1993):287-309; Charles Dale and Curtis Gilroy, "Determinants of Enlistments: A Macroeconomic Time-Series View," *Armed Forces & Society* 10, 2 (1984): 192-210; Charles Brown, "Military Enlistments: What Can We Learn From Geographic Variation?" *The American Economic Review* 75, 1 (1985): 228-234.
19. Moskos and Butler, *All That We Can Be*; Moskos, "The American Dilemma."
20. Michael J. Wilson, James B. Greenlees, Tracey Hagerty, D. Wayne Hintze, and Lerome D. Lehnus, *Youth Attitude Tracking Study: 1998 Propensity and Advertising Report* (Arlington, VA: Defense Manpower Data Center, 2000).
21. Binkin, *Who Will Fight the Next War?*; Moskos and Butler, *All That We Can Be*; Brenda L. Moore, "African-American Women in the US Military," *Armed Forces & Society* 17, 3 (1991): 363-384.
22. However, see Javier Hernandez, "An Exploratory Study of Hispanic Officer Recruiting in the Mexican-American Community of South Central Los Angeles: Implications for the Officer Corps of the Future" (master's thesis, Naval Postgraduate School, 2003).
23. US Bureau of the Census, *Statistical Abstract of the United States 2002*. CD-ROM.
24. Wilson et al., *Youth Attitude Tracking Study*.

25. DoD, *Population Representation in the Military Services*.
26. Wilson et al., *Youth Attitude Tracking Study*; see also Pew Hispanic Center, "Fact Sheet: Hispanics in the Military," March 27, 2003.
27. Hispanics with low test-taking acumen may also be less likely to apply for enlistment. Hispanic applicants for enlistment in 2001 were 2.6 times more likely than whites to score in the two lowest AFQT categories. Black applicants were 3.1 times more likely than whites to score in these categories. See *Population Representation in the Military Services*.
28. US Department of Defense (DIOR/SIAD), "US Military Casualties—Operation Iraqi Freedom," <http://web1.whs.osd.mil/mmid/mmidhome.htm>, accessed April 12, 2004.
29. The category is retained for completeness. Nonetheless, the lack of theoretically developed propositions prevents any in-depth analysis of "other races" throughout this study.
30. See Global Security.org, "US Forces Order of Battle," http://www.globalsecurity.org/military/ops/iraq_orbat.htm, accessed December 2, 2003. See also Eric Schmitt and Thom Shanker, "Reserve and Guard Ordered to Alert More Troops for Iraq," *New York Times*, November 20, 2003.
31. Combat personnel comprise less than 17 percent of the active-duty enlisted members and noncommissioned officers. The category applies only to these ranks, which make up about 84 percent of the active-duty forces.
32. Given the breadth and scale of the mission in Iraq, and the diversity of military units participating, there is little reason to expect that the racial composition of US forces there differs from the active-duty forces as a whole. One mediating factor might be the regional character of reservists and National Guard units in the Iraq theater.
33. A second measure of combat intensity, the ratio of hostile to nonhostile casualties, was also tested. Results were similar. The analysis below is therefore limited to average daily casualties, which are subject to less measurement ambiguity and probably more reliable.
34. These data are not available on the DIOR/SIAD website, but were provided to the author by Roger V. Jorstad, Director of the Statistical Information Analysis Division. The pattern is similar when the number of average daily casualties is substituted with the alternate measure of conflict intensity, the ratio of hostile to nonhostile casualties.
35. Eric Schmitt, "Army Study of Iraq War Details a 'Morass' of Supply Shortages," *New York Times*, February 3, 2004, A1.
36. Christopher Jehn and Zachary Selden, "The End of Conscription in Europe?" *Contemporary Economic Policy* 20, 2 (2002): 93–100.
37. See, for example, Christopher Dandeker and David Mason, "The British Armed Services and the Participation of Minority Ethnic Communities: From Equal Opportunities to Diversity?" *Sociological Review* 49, 2 (2001): 219–235; and Christopher Dandeker and David Mason, "Diversifying the Uniform? The Participation of Minority Ethnic Personnel in the British Armed Services," *Armed Forces & Society* 29, 4 (2003): 481–507; Catherine Miller, "The Death of Conscription," BBC News Online, June 29, 2001, <http://news.bbc.co.uk>