

The Things They Carry: Combat, Disability, and Unemployment among U.S. Men¹

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Abstract

Sociologists have long recognized that historical events, such as wars, depressions, and natural disasters, influence trajectories of people's lives and reproduce or alter social structures. This article extends that line of research. Using data from the Panel Study of Income Dynamics, I test three accounts regarding how combat exposure in war affects men's ability to work. The direct cumulative disadvantage account posits that war negatively affects servicemen who see combat, regardless of their pre-combat characteristics. The moderated cumulative disadvantage account suggests that combat most negatively affects men who had lower status before they fought. The turning point account suggests the reverse: combat most negatively affects men who had greater status before they fought. Findings suggest that with regard to disability and unemployment, the effects of combat exposure in war are most consistent with the direct cumulative disadvantage account.

Keywords

military service, social inequality, life course

For the past eight years, U. S. armed forces have been at war, first in Afghanistan and then in Iraq. More than 5,000 troops have been killed and another 36,000 troops have been wounded. We know that historical events, such as wars, can influence individuals' life trajectories and reproduce or alter social structures (Collins 1989; Mills 1961). In examining various events such as the Great Depression and WWII, life course theorists have outlined these effects, suggesting that historical context combines with human agency and social relations to shape life course trajectories (Elder 1974; Elder and Johnson 2002; Elder, Shanahan, and Clipp 1994). I build on this research by examining the effect of a type of event, war, on a facet

of men's lives, their ability to work. How has war shaped the lives of those most closely involved, the soldiers who experienced combat? And how has war affected men who came of age across a broad sweep of history, the last half of the twentieth century?

Previous research has arrived at contradictory conclusions regarding how military service shapes veterans' socioeconomic attainment. The effects of military service

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vary with pre-service characteristics and type and era of service (MacLean and Elder 2007). On the one hand, men benefit, or at least do not suffer, from military service if they enter the armed forces with fewer advantages (Angrist 1990; Teachman and Tedrow 2004). Military service may thus reduce the gap between more and less privileged men. On the other hand, men also benefit from military service if they serve as officers, who tend to have higher average educational attainment than do enlisted service members (MacLean 2008). Military service may thus increase the gap between more and less privileged men.

Contradictory conclusions of previous research could be due to the examination of various historical contexts. Indeed, veterans who served in the 1970s assessed their service differently from those who served in the 1940s (Segal, Lynch, and Blair 1979). One distinction between eras is whether a nation is at war or at peace, which predicts whether service members have combat exposure. Combat could lead to divergent effects of military service in two ways. First, diverse effects of service could stem from variation in the likelihood of combat exposure. Service members may be more or less likely to be exposed to combat based on their pre-service characteristics. Second, diverse effects of service could stem from the fact that combat influences people differently according to their pre-service status. Yet no previous research examines whether the effects of combat on veterans' socioeconomic status are direct or are moderated by veterans' characteristics. Thus, I address two research questions: Does combat lead to higher rates of disability and unemployment? Do these relationships differ across socioeconomic groups and historical eras?

COMBAT AS A SCARRING EXPERIENCE

For thousands of years, going back to Homer's *Iliad*, authors have written of the

horrors of war, both the physical and the psychological consequences. Over those millennia, soldiers faced changing conditions as the technology of war altered. During the U.S. Civil War, for example, soldiers were more likely to die from disease than in battle (Department of Defense 2003). Today, soldiers are less likely to die of illness and more likely to die from accidents or hostile fire. They are more likely to survive with serious injuries that would have killed them in past wars (Gawande 2004). During all wars, however, soldiers have faced the possibility they may be injured, they may kill or be killed, and their fellow soldiers may be injured or die. Greek soldiers expressed the same feelings of grief and rage on the fields of Troy as did American soldiers in the jungles of Vietnam (Shay 1995), who, in turn, described their experiences using similar words as did soldiers who fought in the U.S. Civil War (Dean 1997). On the battlefield, soldiers face extreme conditions and are exposed to danger and disease. They are intermittently bored, frightened, enraged, miserable, and lonely. They are asked to violate social norms, carrying out orders to fire on the enemy (Marshall 1978). For all of these reasons, one may expect that combat veterans have worse physical and mental health, on average, than do people who never faced combat.

Indeed, combat veterans appear to have worse outcomes on a variety of health measures than do non-combat veterans. Many combat veterans suffer from post-traumatic stress disorder (PTSD), experiencing flashbacks and jumpiness. PTSD is a formal diagnosis developed by psychiatrists in response to the Vietnam War (Yager, Laufer, and Gallops 1984). Yet doctors and psychiatrists note that soldiers suffered from the experience of war throughout history. During the Civil War, doctors described soldiers as afflicted with "irritable heart"; during World War I, doctors labeled soldiers as suffering from "shell shock" (Dean 1997). In one of the oldest records of life after war,

Odysseus exhibits behavior that has been compared to that of U.S. Vietnam veterans (Shay 2002). Even if they do not have PTSD, combat veterans suffer worse physical and mental health than do people who did not see combat (Elder et al. 1994); combat veterans are more likely to die and to commit suicide (Fontana and Rosenheck 1995).

To date, only four studies evaluate whether combat negatively alters veterans' socioeconomic attainment; their findings are mixed. One study finds that combat did not affect Vietnam veterans' years of schooling and occupational status (Vogt et al. 2004). Two other studies, however, find that combat veterans are more likely than non-combat veterans to have difficulty finding work, to have lost a job, and to be unemployed (Prigerson, Maciejewski, and Rosenheck 2002; Savoca and Rosenheck 2000). Combat veterans from the Vietnam era earned less (Savoca and Rosenheck 2000) and had lower educational attainment (Lyons et al. 2006) than did veterans from that era who did not see combat. Only one of these studies examines combat veterans of several eras, but it does not evaluate whether effects of combat differ by era (Prigerson et al. 2002). Nonetheless, these findings suggest that veterans experience wars as traumatic events that may lead to unemployment and lower earnings.

If the negative effects on veterans' lives persist and increase over time, the longitudinal effect of combat could contribute to cumulative disadvantage directly. Merton (1968) developed the theory of cumulative advantage, or the "Matthew effect," to describe positive effects; scholars subsequently extended this concept to describe negative effects or cumulative disadvantage. Merton originally focused on the question of why some scientists get more credit than others for similar or collaborative work, arguing that disproportionate credit was based on scientists' reputations. According to this theory, people tend to continue on the path on which they start. During the

past four decades, scholars have extended this notion more broadly, arguing that some people have greater initial advantages that accumulate. Related research describes events or experiences that have negative effects as contributing to cumulative disadvantage through the same process. People suffer in their later work lives, for example, if they lose their jobs earlier in the life course. On this basis, researchers argue that early unemployment has a scarring effect (DiPrete 1981; Gangl 2006); some scholars use this theory to explain why populations or groups become more unequal over time (DiPrete and Eirich 2006). According to the theory, people's lives are directly shaped by early advantages or disadvantages. Combat could be similar to unemployment; it could have a direct negative effect on those who experience it. This chain of reasoning suggests the following prediction:

Direct cumulative disadvantage hypothesis: Service members exposed to combat are more likely to be disabled and unemployed than are service members who were not exposed to combat.

EFFECTS OF COMBAT MAY DIFFER

While the scarring account suggests that combat's effects are randomly distributed across the people exposed to it, combat may affect people from different types of families or neighborhoods differently. On the one hand, veterans may experience combat as an event that contributes to already existing disadvantages. For example, soldiers from poor or minority families may be more negatively influenced by combat. On the other hand, soldiers from wealthy or otherwise privileged backgrounds may be more negatively changed by combat exposure, experiencing combat as a negative turning point. Despite these possibilities, little research examines whether combat affects diverse types of people differently.

Combat as an Added Disadvantage

War may have more negative effects for less privileged people than for more privileged people. Black and low-income veterans, for example, may have fewer resources to deal with the mental and physical injuries associated with war (Nayback 2008). By contrast, more privileged people can draw on family resources to ensure they are positively, or at least less negatively, influenced. Indeed, consistent with this view, Vietnam veterans were more likely to behave antisocially and to experience stress as a result of combat if they had pre-service school and emotional problems (Gimbel and Booth 1994); people from poor and minority families are more likely to have such problems (Choi et al. 2005). Combat may thus widen preexisting inequality.

If the negative effects of combat are most noticeable among disadvantaged veterans, these effects would be similar to a process outlined by Blau and Duncan (1967) in which preexisting differences directly and indirectly shape later attainment. According to this view, people are affected by events or experiences that happen when they are adults based on characteristics or experiences they had when they were children (DiPrete and Eirich 2006). Blacks, for example, had lower socioeconomic achievement and mobility than did whites, even after accounting for their lower average parental status and educational attainment (Blau and Duncan 1967). Less privileged people are more likely than more privileged people to have lower educational attainment (Sewell and Hauser 1975), lower average occupational status and earnings (Blau and Duncan 1967), and worse health (Willson, Shuey, and Elder 2007). Combat may therefore exacerbate existing health and socioeconomic disparities. This chain of reasoning leads to the following prediction:

Moderated cumulative disadvantage hypothesis: Among service members exposed to combat, those who have fewer pre-combat

advantages are more likely to be disabled and unemployed than are those who have greater pre-combat advantages.

Combat as a Negative Turning Point

Some previous research suggests the reverse: potentially negative experiences, such as combat, may positively, or at least less negatively, influence poor and minority people. Indeed, veterans may benefit from combat; for example, combat could increase their resilience or feelings of camaraderie (Aldwin, Levenson, and Spiro 1994; Elder and Clipp 1989). Less advantaged soldiers may experience effects of combat consistent with the popular expression, “that which does not kill me makes me stronger.” In this vein, research shows that poor teenagers are less negatively affected than wealthy teenagers by being arrested; less privileged delinquents may be protected by “disadvantage saturation” (Hannon 2003). According to this view, individuals who have previously dealt with adversity are not as distressed by new negative experiences. Indeed, research shows that young black men were more likely to be killed in Philadelphia than were U.S. troops in Iraq (Buzzell and Preston 2007). More privileged people, therefore, may be less prepared for the potentially negative effects of combat because they have less previous experience dealing with trauma.

No previous research explicitly tests whether combat serves as a negative turning point, leading to greater suffering among more privileged veterans than among less privileged veterans. Researchers have, however, evaluated whether military service in general provides a positive turning point, benefiting less privileged veterans more than more privileged veterans. If soldiers grew up in poor or minority families, they may benefit from leaving their families and friends behind when they enter the military (Brotz and Wilson 1946). Among men who

entered the military during World War II, for example, delinquents were less likely to reoffend and earned more in their later civilian lives if they were sent overseas than if they were not (Sampson and Laub 1996). Some research shows that less educated and minority veterans earn more and work at higher status jobs than do comparable non-veterans when they re-enter the civilian labor market (Teachman and Tedrow 2004). While in the military, disadvantaged men likely receive formal and informal military training that helps them find better jobs. After they leave the military, veterans can draw on government funds, such as the GI Bill, to help get more schooling than they would otherwise have obtained (Bound and Turner 2002). Veterans could, of course, benefit from such military training and educational funding whether or not they saw combat. Extrapolating from these findings, however, combat could affect people with fewer pre-combat resources less negatively than people with more resources. This chain of reasoning leads to the following hypothesis:

Turning point hypothesis: Among service members exposed to combat, those with more pre-combat advantages are more likely to be disabled and unemployed than are those with fewer pre-combat advantages.

SELECTION

While the preceding discussion assumes that combat changes those who experience it, an association between combat and later outcomes could also stem from soldiers' pre-war characteristics. Men who fight in wars may differ from those who do not in ways that lead them to experience dissimilar outcomes regardless of combat. Many researchers have tried to disentangle the effect of military service from that of selection (e.g., Angrist 1990). The armed forces have standards that determine which potential recruits are eligible to serve, rejecting recruits who

have lower cognitive ability, physical fitness, and educational attainment. Historically, military recruiters have shifted the application of these standards to respond to the changing needs of the military, the number and quality of potential recruits, and the state of the civilian economy (National Research Council 2006). Recruiters may, for example, relax eligibility standards when the armed forces need more troops, as during wartime. When the forces need fewer troops, as during the peacetime Cold War, recruiters may apply the standards more stringently (Flynn 1993). Once in the military, service members may be selected into particular positions and experiences on the basis of their pre-service characteristics. The military may be more likely to send healthier troops to war zones, which leads to concern about the "healthy warrior" effect (Armed Forces Health Surveillance Center 2007). Because of this effect, studies might not accurately assess whether returning troops suffer worse health after serving in combat. Previous research also suggests that soldiers may be more likely to fight in wartime if they have particular cognitive or family characteristics. The U.S. troops who fought and died in Korea and Vietnam, for example, were more likely than other soldiers to come from families and neighborhoods with fewer resources (Mayer and Hoult 1955; Zeitlin, Lutterman, and Russell 1973). These troops also had lower AFQT scores (Gimbel and Booth 1996). An association between combat exposure and later outcomes may simply reflect the pre-service differences between those who saw combat and those who did not.

DATA AND METHODS

Data

Analyses are based on data from the Panel Study of Income Dynamics (PSID), a longitudinal survey of families and individuals

that has been conducted since 1968 (Hill 1992). The original PSID sample consisted of a nationally representative sample of 3,000 families and an over-sample of 2,000 low-income families. The original sample has been supplemented by what the PSID refers to as “split-offs,” children of the original sample members and spouses who divorce and form new families. Between 1990 and 1995, the sample also included a supplementary sample of Latinos. The PSID is a unique resource for assessing how combat relates to the ability to work. It is the only nationally representative survey that includes respondents born in a wide range of years and contains measures of pre-service characteristics of combat and non-combat veterans, such as class and race, and post-service outcomes, such as work and health. Despite the fact that the PSID includes relatively detailed information regarding military service, no previous research appears to have used these data to examine questions about veterans.

Analyses focus on a subsample selected on the basis of gender and age but draw data from all waves of the survey between 1968 and 2003. (To address nonrandom selection into the military, I ran supplementary analyses only on data from respondents who served in the armed forces. The substantive results are similar [available from the author on request].) The analyses are limited to men because the survey did not ask women about combat. I focus on men who responded to the 1994 wave, which asked detailed questions about military service. I draw, however, on data provided by these men during all waves of the survey between 1968 and 2003. The sample includes men who were between 25 and 55 years old in any of the survey years. For example, if a man responded to the survey in 1994 when he was 80 years old, and also responded in 1968 when he was 54 years old, I include him in the analyses. If a 25-year-old man became part of the sample in 1975, because he was the son of a respondent to

the 1968 survey, and answered the questions asked in 1994, he is also included in the analyses. Among respondents who served in the military, I include men after they completed their military service. Respondents are excluded from the sample while they are in the armed forces because the data do not include information about the timing of combat exposure during service. I calculate the descriptive statistics with and without the survey weights used to correct for sample design and differential response rates. Statistical models are based on unweighted data.

Predictors

In every wave of the PSID, respondents reported whether they had served in the military. Only the 1994 wave, however, asked if they were exposed to combat. Analyses are therefore based on measures of veteran status and combat exposure reported in 1994. I focus on a measure of military status based on the question: “Were you ever on active duty in the military service?” I derive a measure of combat exposure from a question that asked respondents who reported serving in the military if they had ever “fired a weapon against the enemy or come under enemy fire.” If respondents who served in the military answered “yes” to this question, I classify them as combat veterans. If respondents answered “no,” they are classified as non-combat veterans.

Table 1 presents descriptive statistics regarding how men in the sample differ on key predictor variables, depending on whether they were non-veterans, non-combat veterans, or combat veterans (for more detail on how most of the other variables are coded, please see the online supplement [<http://asr.sagepub.com/supplemental>]). The table describes characteristics of respondents who participated in the 1994 wave of the survey and were between 25 and 55 years old in any year between 1968 and 2003. It shows historical differences between combat and non-combat veterans. The table is based on the

Table 1. Selected Characteristics of Non-veterans, Non-combat Veterans, and Combat Veterans

	Non-veteran	Non-combat Veteran	Combat Veteran
Birth Year	1955.01 (11.96)	1946.81 (13.48)	1940.72 (14.07)
Era Became Eligible for Military Service			
World War II	.04	.09	.27
Korea	.04	.14	.10
Post-Korea	.11	.18	.12
Vietnam	.23	.27	.38
Post-Vietnam	.59	.32	.13
Race (reference: white)			
Black	.25	.24	.20
Other	.23	.10	.08
Family Finances (reference: average/varied)			
Poor	.37	.39	.45
Well-off	.23	.20	.17
Missing	.03	.02	.02
Mother's Education (reference: HS graduate)			
<High School	.38	.39	.42
College Graduate	.31	.35	.33
Missing	.18	.14	.18
Father's Education (reference: HS graduate)			
<High School	.44	.49	.56
College Graduate	.22	.24	.20
Missing	.19	.14	.15
Number of Observations	5,124	1,297	546

Note: Statistics are derived from male household heads in the 1994 PSID who were between 25 and 55 years of age in any survey year between 1968 and 2003. Standard deviations in parentheses.

least restricted sample ($n = 6,967$), that is, all men who reported whether they were employed in any survey year; it looks similar to samples based on whether men were disabled ($n = 6,966$) or were looking for work ($n = 6,895$) (these other tables are available from the author on request). The table presents the unweighted statistics, which suggest dissimilar rates, but reveal similar patterns to the weighted ones (the weighted statistics are also available on request). According to Table 1, combat veterans were born, on average, six years earlier than non-combat veterans and 15 years earlier than non-veterans. These birth-year differences result from the historical context of service. Combat veterans were most likely to have become eligible to serve in the military during World War II or the Vietnam War. Non-combat veterans, by contrast, were most likely to have become

eligible to serve during the Vietnam or post-Vietnam eras. Non-veterans were most likely to have become eligible to serve during the post-Vietnam era.

Combat veterans systematically differed from other men in terms of their family characteristics. They were less likely than non-combat veterans and non-veterans to be black or in the “other” race/ethnic category. They were more likely than other men to have grown up poor and less likely to come from well-off families. Combat veterans were also more likely than the rest of the sample to have less educated parents; they were less likely than non-combat veterans to have more educated parents. These findings are partly consistent with previous research regarding the characteristics of men who fought and died in U.S. wars (Gimbel and Booth 1996; Mayer and Houlst 1955; Zeitlin et al. 1973).

Outcomes

The analyses evaluate effects of combat exposure on socioeconomic attainment by looking at disability and unemployment, outcomes that are logically prior to those used in previous research on socioeconomic attainment.² Previous research assesses the effects of people's characteristics or experiences on their socioeconomic attainment by looking at how much people earn or the status of their occupations, thereby excluding the unemployed. Blacks, for example, tend to earn less and have lower wages than do whites (Elman and O'Rand 2004). People who grew up with less privileged parents tend to have lower status as adults than do those who grew up with more privileged parents (Blau and Duncan 1967). Because scholars have focused on the characteristics of jobs, many analyses are limited to people who are working and do not assess whether people face obstacles to working or to entering the labor force. Yet the ability to work is inextricably linked to socioeconomic attainment. People who are unemployed at one point are less likely to get jobs later in their lives. When these individuals return to work, they earn less and work at lower quality jobs (Gangl 2006). People also report earning less and working fewer hours if they previously reported being disabled (Mok et al. 2008).

Disability. I assess whether combat veterans are more likely than other men to report a work-related disability. Prior research assessing whether combat veterans are more likely than non-combat veterans to become disabled comes from medical and psychiatric perspectives (e.g., Martz, Bodner, and Livneh 2009). Social science researchers have not assessed whether combat veterans suffer disabilities. They have, however, examined the effect of combat on other physical and mental health outcomes (e.g., Elder et al. 1994). I base the disability measure on a question that asked whether respondents had "a physical or nervous condition that

limits the type of work, or the amount of work you can do?" (This question was asked in each survey year between 1968 and 2003.) Respondents who answered "yes" are coded 1; if they answered "no," they are coded 0.

Unemployment. The analyses build on previous research by examining change over time in the odds of unemployment. Vietnam veterans who experienced combat had more difficulty finding and keeping work than did other veterans (Prigerson et al. 2002; Savoca and Rosenheck 2000). I examine the impact of combat on the ability to work according to two measures. Both measures are based on the question: "We would like to know about what you do—are you working now, looking for work, retired, a student, (a housewife), or what?" In both measures, respondents are coded 0 if they are employed. The first measure assesses whether men were unemployed according to the government's formal definition (Department of Labor 2008). In this measure, respondents are coded 1 only if they were looking for work. In the second measure, they are coded 1 if they were unemployed for any reason, including staying at home, attending school, being retired, or being disabled.

Methods

Using the longitudinal nature of the data, I estimate random-effects logistic regression models that include observations of each respondent at various ages. I chose these models over two likely alternatives, traditional logistic regression models and fixed effects logistic regression models, for several reasons. In contrast to traditional logistic models, random-effects logistic regression incorporates measures that reflect the fact that repeated observations of a person are not independent, explicitly accounting for the fact that the observations are dependent, or nested, within people (Rabe-Hesketh and Skrondal 2008; Singer and Willett 2003). If people tend to remain unemployed or disabled, the

multilevel models will fit better than traditional logistic models. If people do not tend to stay unemployed or disabled, traditional logistic models will fit better than random effects models. Random effects models, therefore, formally represent veterans' disability and unemployment trajectories. Alternatively, one could use fixed effects to model the longitudinal nature of the data. Fixed effects models are similar to random effects models except they require that respondents are observed both before and after the treatment or experience of interest; they explicitly exclude respondents' characteristics that do not change over time. Unfortunately, very few PSID respondents were observed before they entered the military, so fixed effects models cannot shed light on the effects of combat exposure in these data.

Models provide evidence regarding when and how people become disabled or unemployed. For example, if combat veterans have greater or lesser odds of disability or employment than other men early in the life course, then the effect of the combat estimate will differ from zero. This estimate describes the odds that combat veterans were disabled or unemployed when they were 25 years old. If combat veterans differ from other men in the rates at which they become disabled or unemployed, then the combat variable will interact with the measure of age. I derive the reported estimates from the reduced form equation:

$$\text{logit}\{\text{Pr}(y_{ij} = 1|x_{ij}, s_{1j}, s_{2j})\} = \beta_1 + \beta_2 x_{ij} + \beta_3 x_{ij}^2 + \Gamma z_j + s_{1j} + s_{2j} x_{ij} + \varepsilon_{ij}$$

where y_{ij} refers to the outcomes, unemployment and disability, for occasion i and respondent j ; x_{ij} is age; z_j is a vector of constant characteristics, including combat and cohort; and ε_{ij} is the residual. The coefficient β_1 is the intercept; β_2 is the slope of the linear term for age; β_3 is the slope of the quadratic term for age; and Γ is a matrix of coefficients associated with the constant

characteristics. The coefficient s_{1j} is the respondent-specific residual associated with the intercept. It allows men to have initial odds of disability or unemployment that vary on the basis of unobserved characteristics from the estimated intercept. The coefficient s_{2j} is the respondent-specific residual associated with the slope of age. It allows men to experience changes in the odds of disability or unemployment that differ from the estimated slope, also on the basis of unobserved differences.

Respondents who leave the sample due to attrition may influence estimates from the models. In the current case, respondents provided information regarding combat exposure in 1994, 26 years after the first year of the survey. I exclude respondents who left the sample because they did not want to or were not able to continue. Combat veterans, in particular, may have higher rates of mortality than the general population and are thus less likely to be in the analytic sample. To address concerns about selection, I employ a strategy used in a recent article evaluating growth curves in the health of PSID respondents that consists of two steps (Willson et al. 2007). First, I calculate how likely members of the original sample were to stay in the sample until 1994. Then, I compare estimates calculated just on the subsample of original respondents who remained in the sample. The resulting analyses of attrition exclude two types of respondents: original respondents who left and additional respondents who were added to the survey after 1968 (for more details, see the online supplement).

FINDINGS

Figure 1 presents the observed proportions of respondents who were disabled across all survey years. In each survey year, I include men in the calculations if they were between 25 and 55 years old. According to the figure, a relatively stable share of non-veterans and non-combat veterans were disabled, with

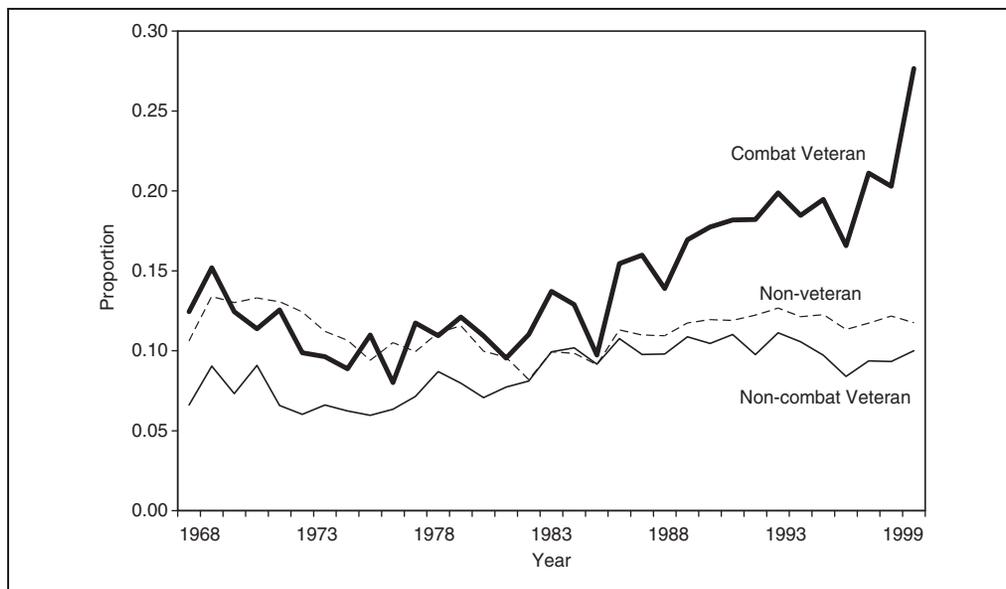


Figure 1. Observed Proportions Disabled by Year and Combat Status

rates fluctuating around 10 percent. Non-veterans were disabled slightly more often than were non-combat veterans. Compared with these two groups of men, combat veterans were disabled at relatively high rates. In most survey years, they were more likely than non-veterans to be disabled. In all survey years, they were more likely than non-combat veterans to be disabled. Combat veterans were increasingly likely to be disabled over time; in 1968, slightly over 10 percent were disabled, this increased to over 20 percent in 2003. In part, these findings stem from changes in the historical context of service. As shown in Table 1, combat veterans were more likely than non-veterans and non-combat veterans to have become eligible to serve in the earliest time period, during World War II. Combat veterans were also relatively more likely than other men to have become eligible to serve during the Vietnam War. Over time, the sample of combat veterans grew older, on average, than the two other samples, which received influxes of new, younger members as the survey added respondents (see the earlier description

of the PSID sample). Due to their older average age, combat veterans are more likely to be in poor health or disabled. The sample of non-combat veterans also grew older, on average, than the sample of non-veterans. Non-combat veterans, however, were still less likely than non-veterans to be disabled. Non-combat veterans may benefit from the fact that they were healthier, on average, than non-veterans because of the physical standards that recruits must meet to join the military. These findings suggest that combat veterans may be more likely than other men to be disabled because combat contributes to cumulative disadvantage.

Figure 2 presents the observed proportions of men who were unemployed for any reason. Over time, men grew more likely to be unemployed; approximately 5 percent of men in each of the groups were unemployed in the early years of the survey, and approximately 10 percent were unemployed in the later years. As with disability, men were more or less likely to be unemployed based on their combat and veteran status. In the early years of the survey, non-veterans were

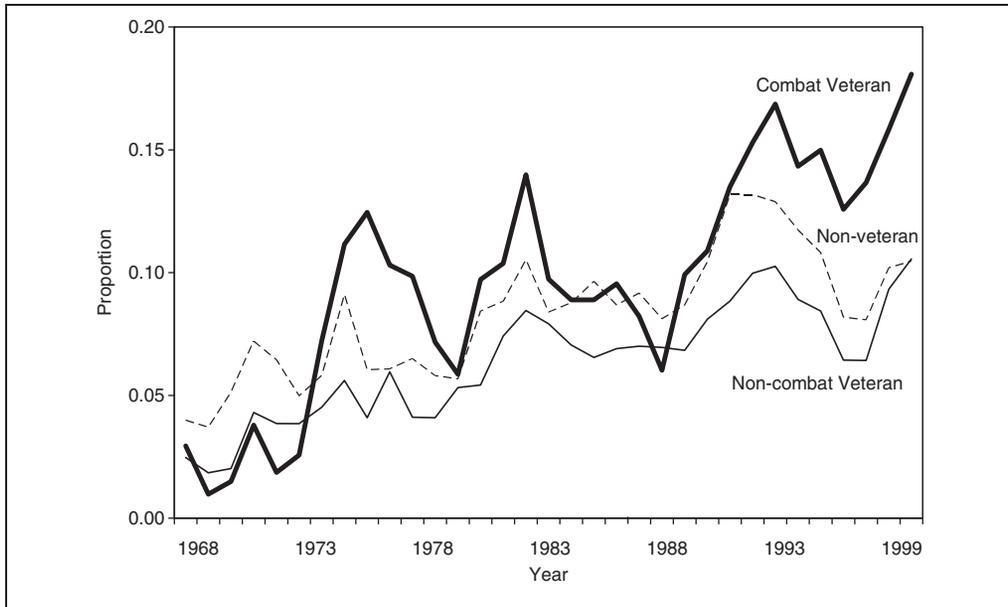


Figure 2. Observed Proportions Unemployed by Year and Combat Status

the most likely to be unemployed. In most survey years, non-combat veterans were the least likely to be unemployed. In most years after 1975, combat veterans were more likely than non-veterans and non-combat veterans to be unemployed. Figure 2 suggests that combat may scar veterans who experience it, leading them to be less able to find work between the ages of 25 and 55, the prime working years.

Combat, Disability, and Unemployment

Do these observed proportions stem from differences in combat veterans', non-combat veterans', or non-veterans' characteristics, such as race, class, age, and cohort? Table 2 presents coefficients from random-effects logistic regression models showing that, for all ages and cohorts, combat veterans and non-veterans were more likely to be disabled and unemployed than were non-combat veterans. Each respondent is viewed at multiple

survey years and, therefore, at multiple ages between 25 and 55 years. The first two columns contain estimates of characteristics associated with whether a man answered "yes" to the question about being disabled. The next two columns contain estimates of characteristics associated with whether a man was unemployed for any reason. The final two columns contain estimates of characteristics associated with whether a man was unemployed, according to the formal definition, and thus looking for a job.

According to these estimates, combat veterans were more likely than other men to be disabled, even after accounting for differences in age, cohort, race, family poverty, and parents' education. Compared with non-combat veterans, respondents were also more likely to be disabled if they never served in the military. Combat veterans appear to be even more likely than non-veterans to be disabled. The differences in these estimates, however, are not statistically significant. Veterans likely differ from non-veterans in having unmeasured characteristics that make

Table 2. Random-Effects Logistic Models Predicting Disability and Unemployment

	Disabled		Unemployed for any Reason		Unemployed, Looking for Work	
	(1) Baseline	(2) Lag Employ	(3) Baseline	(4) Lag Disable	(5) Baseline	(6) Lag Disable
Fixed Part						
Combat/Veteran Status						
Combat veteran	.938*** (.228)	.865*** (.207)	.554** (.182)	.469** (.158)	.429** (.164)	.383* (.159)
Non-veteran	.632*** (.143)	.571*** (.131)	.211 (.109)	.149 (.097)	.228* (.099)	.196* (.096)
Age	.220*** (.016)	.217*** (.015)	.014* (.006)	.015** (.006)	-.028*** (.007)	-.028*** (.007)
Age-squared	-.004*** (.000)	-.005*** (.000)				
Era Eligible to Serve (ref: Vietnam War)						
World War II	-.574 (.295)	-.211 (.266)	-2.445*** (.307)	-2.069*** (.254)	-1.956*** (.274)	-1.886*** (.268)
Korean War	-.411 (.253)	-.204 (.226)	-1.176*** (.216)	-1.028*** (.185)	-.891*** (.197)	-.870*** (.191)
Post-Korean era	-.012 (.181)	.080 (.164)	-.372** (.145)	-.338* (.126)	-.286* (.130)	-.281* (.126)
Post-Vietnam era	.269* (.132)	.026 (.123)	.566*** (.101)	.534*** (.090)	.413*** (.090)	.409*** (.088)
Employed, Previous Year		-1.488*** (.051)				
Disabled, Previous Year				1.830*** (.052)		.880*** (.063)
Race/Ethnicity (ref: non-Hispanic white)						
Black	-.020 (.137)	-.151 (.126)	1.185*** (.102)	1.158*** (.090)	1.080*** (.090)	1.082*** (.087)
Other	-.136 (.164)	-.111 (.152)	.601*** (.125)	.636*** (.111)	.586*** (.112)	.606*** (.109)
Family Finances (ref: average/varied)						
Poor	.826*** (.135)	.759*** (.124)	.423*** (.103)	.290** (.092)	.278** (.092)	.242** (.090)
Well-off	.373* (.147)	.321* (.137)	.262* (.111)	.175 (.100)	.198* (.100)	.179 (.098)
Missing	.014 (.332)	.053 (.310)	.163 (.246)	.135 (.220)	.173 (.218)	.163 (.212)
Mother's education (ref: high school graduate)						
Less than high school	.363* (.150)	.321* (.138)	.345** (.114)	.316** (.101)	.284** (.101)	.270** (.098)
College graduate	.087 (.192)	.080 (.178)	.178 (.145)	.146 (.131)	.063 (.133)	.057 (.130)
Missing	.613** (.219)	.543** (.201)	.647*** (.167)	.562*** (.148)	.378* (.148)	.354* (.144)
Father's education (ref: high school graduate)						
Less than high school	.087 (.159)	.092 (.147)	.126 (.120)	.136 (.108)	.200 (.107)	.204 (.104)
College graduate	-.305 (.197)	-.278 (.183)	-.171 (.150)	-.114 (.136)	-.304* (.139)	-.281* (.136)
Missing	.240 (.229)	.202 (.211)	.301 (.173)	.303* (.154)	.361* (.152)	.362* (.149)

(continued)

Table 2. (continued)

	Disabled		Unemployed for any Reason		Unemployed, Looking for Work	
	(1) Baseline	(2) Lag Employ	(3) Baseline	(4) Lag Disable	(5) Baseline	(6) Lag Disable
Intercept	-7.923*** (.261)	-6.130*** (.247)	-5.640*** (.176)	-5.536*** (.158)	-5.179*** (.157)	-5.171*** (.153)
Random Part						
Variance of intercept	16.248*** (.980)	14.333*** (.876)	8.349*** (.483)	7.294*** (.419)	3.736*** (.293)	3.596*** (.283)
Variance of slope of age	.044*** (.003)	.037*** (.002)	.038*** (.002)	.028*** (.001)	.010*** (.001)	.010*** (.001)
Covariance intercept and age	-.557*** (.043)	-.484*** (.039)	-.345*** (.023)	-.304*** (.020)	-.067*** (.014)	-.071*** (.014)
-2 log likelihood	37,394	36,542	37,469	36,244	25,214	25,034
Number of Respondents	6,834	6,834	6,834	6,834	6,736	6,736
Number of Observations	85,398	85,398	85,487	85,487	81,353	81,353

Note: Standard errors in parentheses.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

it less likely, on average, that they would have a disability. Veterans likely suffer from combat, however, in ways that counteract the fact that they should have better average health than non-veterans. These findings are consistent with the theory that combat creates direct cumulative disadvantage, increasing the odds that servicemen will be disabled throughout their lives if they fight in wars.

The first two columns in Table 2 show that the odds of disability are affected by age, family background, previous employment, and, to a limited extent, cohort. As men grew older, they became more likely to report being disabled. Men were more likely to be disabled if they grew up in poor or well-off families than if they grew up in families with average finances. They were also more likely to be disabled if their mothers had less education, or if they did not report their mothers' education, than if their mothers completed just high school. According to estimates in the first column, men were more likely to be disabled if they became eligible to serve in the post-Vietnam era than if they became eligible to serve in the Vietnam era. The association

between cohort and disability appears to be mediated by the effect of previous employment, which also partially mediates the association between combat and disability. According to estimates in the second column, previously employed men were less likely than previously unemployed men to report being disabled.

Table 2 points to similar conclusions regarding how men came to be unemployed, although cohort has a stronger impact on unemployment than on disability. As with disability, combat veterans were more likely than non-combat veterans to be unemployed for any reason or to be looking for work. Non-veterans also had greater odds of unemployment than did non-combat veterans. The estimate of the association between being a non-veteran and unemployment is smaller than the estimate of the association between being a combat veteran and unemployment. In contrast to the case with disability, the cohort effect is larger and consistently significant. Holding age constant, men were more likely to be unemployed with each succeeding cohort. Men were less likely to be unemployed if they became eligible to serve in the

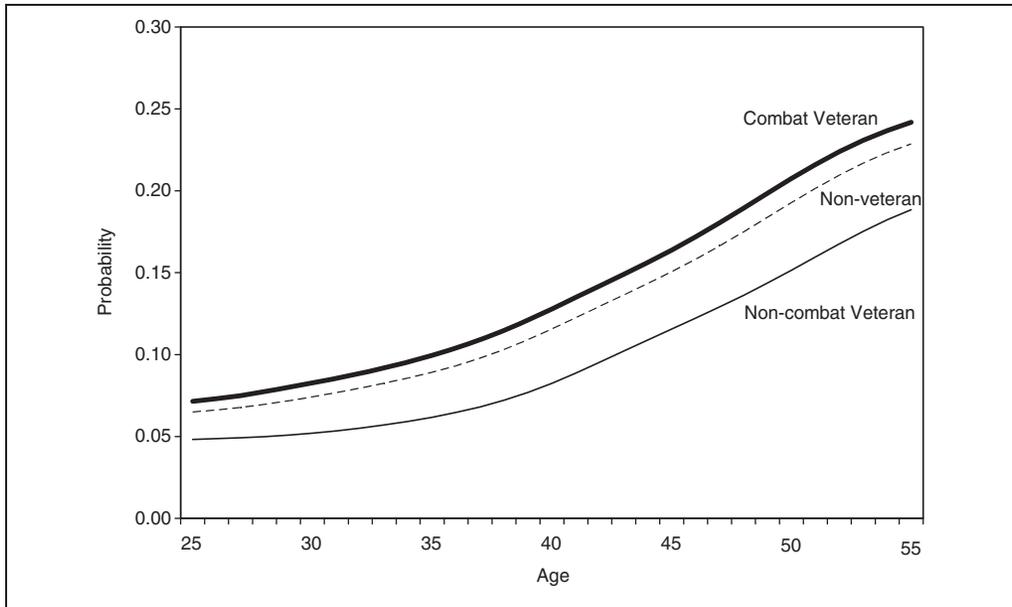


Figure 3. Predicted Probabilities of Disability by Age and Combat Status

military during the World War II, Korean, and post-Korean eras than if they came of age during the Vietnam and post-Vietnam eras. This finding suggests that at least some of the effect of era on unemployment may stem from cohort effects, specifically from the fact that, historically, men have become less likely to be employed.

Columns 4 and 6 suggest that, because combat veterans were more likely to be disabled, they were more likely to become discouraged in the labor market. Similar to column 2, these columns incorporate a measure, disability, derived from the previous year. According to estimates of the effects of this measure, men who were disabled in the previous year were more likely to be unemployed than were non-disabled men. Previous disability increased the odds that a man would be unemployed for any reason by a large amount and that a man would be looking for work by a relatively smaller amount. In addition, disability did not mediate the effect of combat on the odds that a man would be looking for work, but it

did mediate that effect on the odds that a man would be unemployed for any reason. Combat indirectly increased unemployment, in part, by increasing disability. Combat veterans were more likely to be disabled and thus less likely to be working. These findings suggest that combat veterans were more likely than non-combat veterans to be disabled when they left the military. Because of their disabilities, combat veterans have trouble working, which leads them to stop looking for work and leave the labor force. This is further evidence that combat veterans experience direct cumulative disadvantage.

Figure 3 presents predicted probabilities of disability by age and combat status, demonstrating that combat veterans were somewhat more likely than non-veterans and much more likely than non-combat veterans to be disabled throughout the work life. The figure is based on a regression that includes combat, cohort, and age effects. (According to this regression, estimates of the effects of the variables of interest, combat veteran, non-veteran, cohort, and age do not

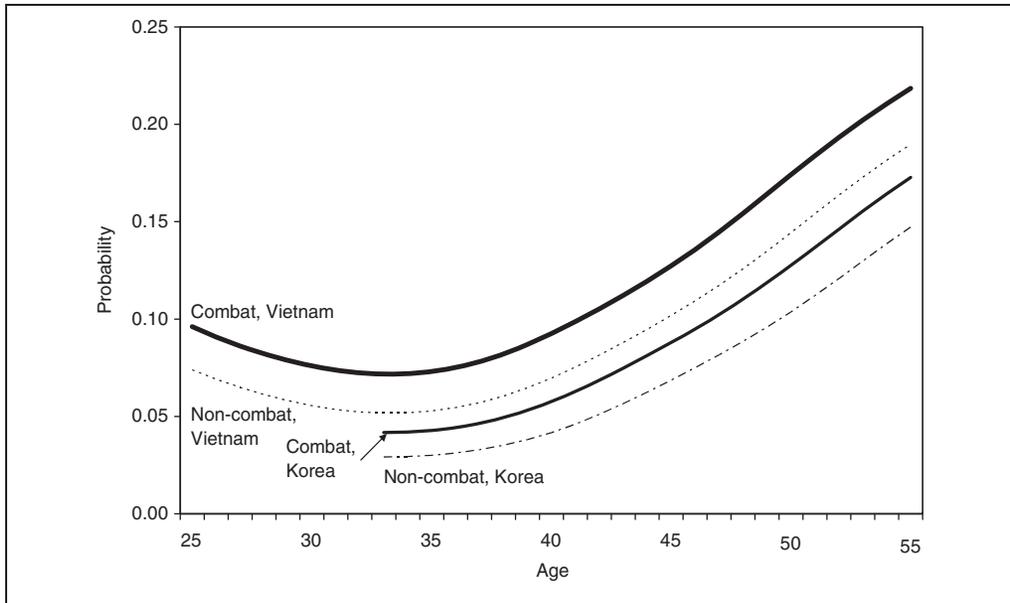


Figure 4. Predicted Probabilities among Veterans of Unemployment by Age, Combat Status, and Cohort

statistically differ from estimates of those effects presented in Table 2. Results are available from the author on request.) Because the differences in disability by cohort are so small, Figure 3 presents results for combined cohorts to provide a clearer presentation. The thick solid line represents the probability that combat veterans would be disabled if they became eligible to serve in the post-World War II to Vietnam eras. The thinner solid line represents the probability that comparable non-combat veterans would be disabled. The dashed line represents the probability that comparable non-veterans would be disabled. All men grew increasingly likely to be disabled, regardless of combat experience, as they grew older. Men were more likely to be disabled if they saw combat than if they did not, which is consistent with a view of combat as contributing to direct cumulative disadvantage.

Figure 4 presents the predicted probabilities that men would be unemployed for any reason, demonstrating how these probabilities vary with combat exposure, cohort,

and age. The figure is derived in the same manner as Figure 1 (described earlier). Although the measure of age relates to log odds of unemployment in a linear fashion, it relates to predicted probability in a curvilinear fashion. Men faced an initial decrease in the probability that they would be unemployed after their mid-20s, followed by an increase in that probability. Nevertheless, the figure shows that veterans of all eras had a higher probability of being unemployed if they saw combat than if they did not. Non-veterans experienced probabilities of unemployment between those experienced by combat and non-combat veterans. In the interest of clarity, I do not include the probabilities among non-veterans in the figure. Combat veterans did not close the gap as they aged, providing further evidence consistent with the direct cumulative disadvantage account.

Figure 4 also demonstrates differences between men according to cohort. Veterans were more likely to be unemployed throughout the work life if they served in more

recent eras than if they served during earlier eras. All men were less likely to be unemployed, for example, if they became eligible to serve during the Korean era than if they became eligible to serve in the Vietnam era. These findings suggest two possible conclusions. First, men who came of age earlier in the century may have average characteristics that contrast with those of men who came of age later in the century. Thus, selection may explain a portion of the effects of cohort. Second, the cohort effect on unemployment may stem from historical changes; indeed, men have become increasingly likely to be unemployed.

Testing Whether the Effects of Combat Differ

To evaluate whether combat exposure influences members of diverse groups differently, I conducted tests (available from the author on request) for interactions between combat and race and family background; results suggest that the effects of combat do not differ by these characteristics. If a model with an interaction fit better than one without, this finding could be consistent with the moderated cumulative disadvantage or the negative turning point hypotheses. Such a model would indicate that soldiers were affected by combat depending on characteristics they had before combat. If a model without interactions fits better than models with interactions, this finding suggests that combat contributes not to moderated cumulative disadvantage or a negative turning point, but to direct cumulative disadvantage. According to the direct cumulative disadvantage account, all soldiers were potentially influenced by combat in the same fashion, regardless of race or family background. A table containing these fit statistics is available from the author on request. The table shows that, regardless of outcome, a model without interactions fits better than models with interactions. These findings suggest that the

effects of combat are not consistent with the moderated cumulative disadvantage or negative turning point hypotheses. Combat did not affect veterans based on family or racial backgrounds but potentially affected all veterans regardless of such characteristics.

Testing the Impact of Attrition

As Table 3 shows, sample attrition has little impact on estimates of effects of the relationship between combat exposure and outcomes. Men were less likely to leave the sample between 1968 and 1994 if they had higher propensity scores (as described in the online supplement). Respondents who were more likely to remain in the sample were also less likely to be disabled, unemployed, or looking for work. Yet, after taking attrition into account, combat veterans were still more likely than non-combat veterans to experience difficulties in their later work lives. In the case of disability, estimates of the effects of being a combat veteran are smaller than in Table 2, while in the case of unemployment they are larger. These estimates have larger standard errors because they are estimated less precisely in this smaller sample, which is restricted to men who participated in both the 1968 and 1994 waves of the survey; this excludes men who became veterans after 1968, the latter years of the Vietnam War. Nevertheless, patterns in the table suggest that veterans continue to be negatively influenced by combat, which increases disability and unemployment even in models that include controls for nonrandom attrition.

CONCLUSIONS

I found that combat exposure increased rates of disability and unemployment among veterans, consistent with the view that combat exposure is a scarring experience. Veterans who saw combat started their work lives at a relative disadvantage that they were unable to overcome. Soldiers exposed to combat

Table 3. Random Effects Logistic Models of Disability and Unemployment among Men Present in both 1968 and 1994 Waves

	Disabled		Unemployed, any Reason		Unemployed, Looking for Work	
	Without score	With score	Without score	With score	Without score	With score
Fixed Part						
Combat	.596 (.426)	.609 (.420)	.945* (.396)	.979** (.379)	.564 (.311)	.580 (.304)
Non-veteran	1.238*** (.306)	.818** (.312)	.875** (.279)	.413 (.274)	.438* (.219)	.178 (.219)
Age	.273*** (.036)	.284*** (.036)	.107*** (.018)	.120*** (.018)	-.010 (.016)	.003 (.016)
Age squared	-.005*** (.001)	-.005*** (.001)				
Cohort (ref: Vietnam War)						
World War II	-.338 (.583)	-2.303*** (.683)	-2.527*** (.511)	-4.671*** (.586)	-1.602*** (.391)	-2.787*** (.453)
Korean War	-.314 (.568)	-1.418* (.607)	-1.157* (.458)	-2.340*** (.475)	-.883** (.342)	-1.557*** (.362)
Post-Korean era	-.161 (.555)	-.621 (.569)	-.689 (.433)	-1.172** (.426)	-.527 (.308)	-.787* (.311)
Propensity score		-1.295*** (.230)		-1.477*** (.202)		-.842*** (.156)
Intercept	-8.585*** (.741)	-7.305*** (.769)	-7.279*** (.596)	-5.888*** (.603)	-4.836*** (.423)	-4.088*** (.437)
Random Part						
Variance of intercept	29.767*** (3.706)	31.563*** (3.892)	21.252*** (3.027)	22.978*** (3.225)	3.639*** (.895)	4.098*** (.961)
Variance of slope of age	.062*** (.006)	.062*** (.006)	.057*** (.006)	.057*** (.006)	.010*** (.002)	.009*** (.002)
Covariance of intercept and age	-.134 (.134)	-1.099*** (.139)	-.853*** (.116)	-.926*** (.123)	-.070* (.033)	-.092** (.035)
Number of Individuals	1,259	1,259	1,260	1,260	1,254	1,254
Number of Observations	22,355	22,355	22,391	22,391	21,313	21,313

Note: Standard errors in parentheses.
* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

were more likely than non-combat veterans to be disabled and unemployed in their mid-20s and to remain so throughout their work life. Policymakers and citizens should note these long-term consequences of war as U.S. soldiers continue to fight in Iraq and Afghanistan.

As these wars continue, future combat veterans who sustain mental and physical injuries in battle will likely suffer, as did past combat veterans, in their socioeconomic attainment. As the preceding analyses show, combat veterans are more likely than non-combat veterans to report work-related disabilities, which may or may not stem from the mental or physical wounds of war. Indeed, previous research shows that combat veterans suffer not just from PTSD, but from other mental disorders such as anxiety and depression (Hoge et al. 2004). These veterans are more likely to commit suicide and to behave criminally or violently (Fontana and Rosenheck 1995). When they return from combat, these soldiers are more likely than when they left to describe themselves as physically unhealthy (Armed Forces Health Surveillance Center 2009). Researchers have recently begun to evaluate how combat alters the physical and mental health of service members returning from Iraq and Afghanistan (Hoge et al. 2004; Tanielian and Jaycox 2008). Future research should examine the extent to which soldiers who fought in recent wars experience difficulties working and the extent to which these effects persist throughout their lives.

Throughout history, some veterans have experienced combat while others have not, which may have led particular groups of veterans to have higher or lower socioeconomic attainment than non-veterans (Teachman and Tedrow 2004). Some veterans were negatively affected by serving in the armed forces, some were positively affected. These divergent findings could stem from the fact that particular types of veterans had different experiences or responded differently to the same experiences. Present

findings suggest that combat effects were potentially negative regardless of pre-service status and that less privileged veterans were as negatively influenced by combat as were more privileged veterans. The findings are consistent with some previous research regarding race and military service. Such research shows that blacks were more likely to benefit from military service than were whites (Teachman and Tedrow 2004). Blacks were excluded from combat during World War II and integrated into combat units and the military more broadly only in the decades after that war (Moskos and Butler 1996). Among the men in the sample, blacks were less likely than whites to have experienced combat. Today, blacks may benefit less from service than they did in the past because they are more likely to serve and to fight.

As mentioned earlier, the armed forces screen potential recruits and service members for good health, which poses two potential problems. First, enlisted troops may be healthier, on average, in some eras than in others. Veterans of various eras could therefore differ from each other in terms of their health regardless of their experiences. To address this problem, the present analyses allow veterans' average health to vary over historical time by including a measure of cohort. Second, veterans may have enlisted in the military with better average health than comparable non-veterans, while combat veterans may have enlisted with better health than non-combat veterans. Unfortunately, the PSID survey respondents did not provide information about their health prior to serving in the military, which would allow one to assess whether combat veterans, non-combat veterans, and non-veterans differ independently of military service and combat exposure. Combat veterans are probably more similar to non-combat veterans than both of these groups are to non-veterans. The current analyses, therefore, primarily compare combat veterans with non-combat veterans but retain details about the experiences of non-veterans.

The findings may thus understate the negative effect of combat if there is a “healthy warrior” effect.

Previous research also shows that people who serve in the military and in combat roles differ not just on the basis of health but also on the basis of other personal and family characteristics. The present analyses incorporate measures of respondents’ race and class. However, some research shows that combat and non-combat veterans differed from each other in terms of personal characteristics such as cognitive scores and testosterone levels (Gimbel and Booth 1996). Lower cognitive test scores and higher testosterone levels may make it more likely that men will be disabled or unemployed. Results may therefore overstate the negative effect of combat.

The present analyses use a measure of combat derived from self-reports, which are possibly limited but still useful. Veterans may be more likely to report combat exposure if they are unhealthy or currently disabled. Previous research shows, for example, that some veterans inaccurately reported they had seen combat in Vietnam when they later requested assistance from the Department of Veterans Affairs (VA) (Frueh et al. 2005). A recent study, however, compares results from a national survey of Vietnam veterans with archival data and suggests that self-reports accurately reflect combat exposure in a survey setting (Dohrenwend et al. 2006). Researchers also debate how frequently soldiers actually fire their weapons on the battlefield. Marshall (1978) argues, for example, that fewer than 25 percent of soldiers at the front during World War II fired their weapons. The current analyses use a measure of combat based on a question that asked veterans to report how they behaved, specifically whether they had “fired a weapon against the enemy or come under enemy fire.” This relatively strong measure reflects not just whether veterans served as combat troops or in war zones, but whether they exchanged fire. It seems unlikely that veterans would recall

this experience inaccurately. Nevertheless, future research should compare self-reports with administrative data.

Any analysis of the impact of wars must also deal with the possibility of changes in mortality or attrition. Scholars must consider the possibility that the most distressed soldiers did not remain in the population because they died in combat. Service members may be disproportionately likely to drop out of longitudinal surveys because of poor health, early mortality, or low status. If these individuals are more negatively affected by their combat exposure than those who remain, the present analyses may underestimate combat’s impact. I address this possibility, in part, by estimating models using data from members of the original sample who were still in the survey by 1994.

Despite these caveats, the present analyses contribute to previous research and theory regarding the relationship between health and socioeconomic attainment. According to this prior work, people with lower socioeconomic status have worse health and die at a younger age than do individuals with higher socioeconomic status (Kitagawa and Hauser 1973). Subsequent research finds reciprocal paths between health and socioeconomic attainment (Smith 1999). Consistent with this view, the current analyses show that combat negatively shapes veterans’ health and their ability to work.

The current analyses may also shed light on health care’s role in health inequality. Some previous research suggests that this inequality stems at least partly from the fact that rich people can afford better health care than can poor people (Williams and Collins 1995). According to the analysis, poor and minority veterans were no more negatively affected by combat than were rich and white veterans in terms of their rates of disability. Compared with civilians, veterans traditionally have better access to health care, receiving it through the VA. The VA provides health care that is of better quality, on average, than that available through

civilian providers (Asch et al. 2004). Better health care may ensure that combat has a direct effect rather than a moderated one. Disadvantaged veterans may be as well equipped as advantaged veterans to recover from combat's negative effects because of their relatively equal access to health care. If this is the case, the military may provide a counter-factual environment, as it has in other contexts (see Lundquist 2008), to examine the importance of access to and quality of health care. Future research could evaluate how health shocks, such as accidents and illnesses, alter the health of veterans and non-veterans in contrasting ways. In so doing, researchers could evaluate the consequences of the government providing more equal and higher quality health care not to all citizens, but just to those who risked injury and death in wartime. This research could assess whether health disparities are created or maintained by inequality in the civilian health care system.

The current analyses also contribute to research and theory regarding the impact on people's lives of potentially traumatic events such as wars, natural disasters, and economic crises. Previous research has found that effects of such events differ by race, class, and age. Low-income black workers, for example, were more likely than white workers to lose their jobs after surviving Hurricane Katrina (Elliott and Pais 2006). Among Germans, teenagers who were finishing their education were more negatively influenced by living through World War II than were the soldiers who served in the armed forces during the war (Mayer 1988). By contrast, men from families that suffered economically during the Great Depression were not negatively influenced by their childhood experiences in their adult socioeconomic attainment (Elder 1974). These varied findings suggest that historical events affect people according to a number of dimensions, including age, pre-event characteristics, and time since the event. However, such events may have more persistent and

randomly distributed negative effects if they directly affect health. As the findings show, traumatic events can leave those who suffer them at an initial disadvantage that continues throughout their work lives.

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Notes

1. This title alludes to Tim O'Brien's (1990) short story collection about the Vietnam War, *The Things They Carried*.
2. See the online supplement for a discussion of how these outcomes overlap.

References

- Aldwin, Carolyn M., Michael R. Levenson, and Avron Spiro. 1994. "Vulnerability and Resilience to Combat Exposure: Can Stress Have Lifelong Effects?" *Psychology and Aging* 9:34–44.
- Angrist, Joshua D. 1990. "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social-Security Administrative Records." *American Economic Review* 80:313–36.
- Armed Forces Health Surveillance Center. 2007. "Healthy Deployers": Nature and Trends of Health Care Utilization During the Year Prior to Deployment to OEF/OIF, Active Components, U.S. Armed Forces, January 2002–December 2006." *Medical Surveillance Monthly Report* 14:2–5.
- . 2009. "Update: Deployment Health Assessments, US Armed Forces, December 2008." *Medical Surveillance Monthly Report* 15:13–18.
- Asch, Steven M., Elizabeth A. McGlynn, Mary M. Hogan, Rodney A. Hayward, Paul Shekelle, Lisa Rubenstein, Joan Keesey, John Adams, and Eve A. Kerr. 2004. "Comparison of Quality of Care for

- Patients in the Veterans Health Administration and Patients in a National Sample." *Annals of Internal Medicine* 141:938–45.
- Blau, Peter Michael and Otis Dudley Duncan. 1967. *The American Occupational Structure*. New York: Wiley.
- Bound, John and Sarah E. Turner. 2002. "Going to War and Going to College: Did World War II and the G.I. Bill Increase Educational Attainment for Returning Veterans?" *Journal of Labor Economics* 20:784–815.
- Brotz, Howard and Everett Wilson. 1946. "Characteristics of Military Society." *American Journal of Sociology* 51:371–75.
- Buzzell, Emily and Samuel H. Preston. 2007. "Mortality of American Troops in the Iraq War." *Population and Development Review* 33:555–66.
- Choi, Yoonsun, Tracy W. Harachi, Mary R. Gillmore, and Richard F. Catalano. 2005. "Applicability of the Social Development Model to Urban Ethnic Minority Youth: Examining the Relationship between External Constraints, Family Socialization, and Problem Behaviors." *Journal of Research on Adolescence* 15:505–534.
- Collins, Randall. 1989. "Sociological Theory, Disaster Research, and War." Pp. 365–85 in *Social Structure and Disaster*, edited by G. A. Kreps. Newark, DE: University of Delaware Press.
- Dean, Eric T. 1997. *Shook over Hell: Post-Traumatic Stress, Vietnam, and the Civil War*. Cambridge, MA: Harvard University Press.
- Department of Defense. 2003. "Principal Wars in Which the United States Participated: U.S. Military Personnel Serving and Casualties." Washington, DC: Department of Defense. Retrieved May 27, 2008 (<http://siadapp.dmdc.osd.mil/personnel/CASUALTY/castop.htm>).
- Department of Labor. 2008. "Employment Status of the Civilian Noninstitutional Population, 1942 to Date." Washington, DC: Department of Labor. Retrieved April 10, 2008 (<http://www.bls.gov/cps/#annual>).
- DiPrete, Thomas A. 1981. "Unemployment over the Life Cycle: Racial Differences and the Effect of Changing Economic Conditions." *American Journal of Sociology* 87:286–307.
- DiPrete, Thomas A. and Gregory M. Eirich. 2006. "Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments." *Annual Review of Sociology* 32:271–97.
- Dohrenwend, Bruce P., J. Blake Turner, Nicholas A. Turse, Ben G. Adams, Karestan C. Koenen, and Randall Marshall. 2006. "The Psychological Risks of Vietnam for US Veterans: A Revisit with New Data and Methods." *Science* 313:979–82.
- Elder, Glen H., Jr. 1974. *Children of the Great Depression: Social Change in Life Experience*. Chicago, IL: University of Chicago Press.
- Elder, Glen H., Jr. and Elizabeth Colerick Clipp. 1989. "Combat Experience and Emotional Health: Impairment and Resilience in Later Life." *Journal of Personality* 57:311–41.
- Elder, Glen H., Jr. and Monica Kirkpatrick Johnson. 2002. "The Life Course and Aging: Challenges, Lessons, and New Directions." Pp. 49–81 in *Invitation to the Life Course: Toward New Understandings of Later Life*, edited by R. A. Settersten, Jr. Amityville, NY: Baywood.
- Elder, Glen H., Jr., Michael J. Shanahan, and Elizabeth Colerick Clipp. 1994. "When War Comes to Men's Lives: Life-Course Patterns in Family, Work, and Health." *Psychology and Aging* 9:5–16.
- Elliott, James R. and Jeremy Pais. 2006. "Race, Class, and Hurricane Katrina: Social Differences in Human Responses to Disaster." *Social Science Research* 35:295–321.
- Elman, Cheryl and Angela M. O'Rand. 2004. "The Race Is to the Swift: Socioeconomic Origins, Adult Education, and Wage Attainment." *American Journal of Sociology* 110:123–60.
- Flynn, George Q. 1993. *The Draft, 1940–1973*. Lawrence, KS: University Press of Kansas.
- Fontana, Alan and Robert Rosenheck. 1995. "Attempted Suicide among Vietnam Veterans: A Model of Etiology in a Community Sample." *American Journal of Psychiatry* 152:102–109.
- Frueh, B. Christopher, Jon D. Elhai, Anouk L. Grubaugh, Jeannine Monnier, Todd B. Kashdan, Julie A. Sauvageot, Mark B. Hamner, B. G. Burkett, and George W. Arana. 2005. "Documented Combat Exposure of US Veterans Seeking Treatment for Combat-Related Post-Traumatic Stress Disorder." *British Journal of Psychiatry* 186:467–72.
- Gangl, Markus. 2006. "Scar Effects of Unemployment: An Assessment of Institutional Complementarities." *American Sociological Review* 71:986–1013.
- Gawande, Atul. 2004. "Casualties of War: Military Care for the Wounded from Iraq and Afghanistan." *New England Journal of Medicine* 351:2471–75.
- Gimbel, Cynthia and Alan Booth. 1994. "Why Does Military Combat Experience Adversely Affect Marital Relations?" *Journal of Marriage and the Family* 56:691–703.
- . 1996. "Who Fought in Vietnam?" *Social Forces* 74:1137–57.
- Hannon, Lance. 2003. "Poverty, Delinquency, and Educational Attainment: Cumulative Disadvantage or Disadvantage Saturation?" *Sociological Inquiry* 73:575–94.

- Hill, Martha S. 1992. *The Panel Study of Income Dynamics: A User's Guide*. Newbury Park, CA: Sage Publications.
- Hoge, Charles W., Carl A. Castro, Stephen C. Messer, Dennis McGurk, Dave I. Cotting, and Robert L. Koffman. 2004. "Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care." *New England Journal of Medicine* 351:13–22.
- Kitagawa, Evelyn M. and Philip Morris Hauser. 1973. *Differential Mortality in the United States: A Study in Socioeconomic Epidemiology*. Cambridge, MA: Harvard University Press.
- Lundquist, Jennifer Hieckes. 2008. "Ethnic and Gender Satisfaction in the Military: The Effect of a Meritocratic Institution." *American Sociological Review* 73:477–96.
- Lyons, Michael J., William S. Kremen, Carol Franz, Michael D. Grant, Heather Thompson Brenner, Corwin Boake, and Seth Eisen. 2006. "Vietnam Service, Combat, and Lifetime Educational Attainment: Preliminary Results from the Vietnam Era Twin Study of Aging." *Research on Aging* 28:37–55.
- MacLean, Alair. 2008. "The Privileges of Rank: The Peacetime Draft and Later Life Attainment." *Armed Forces & Society* 34:682–713.
- MacLean, Alair and Glen H. Elder Jr. 2007. "Military Service in the Life Course." *Annual Review of Sociology* 33:175–96.
- Marshall, S. L. A. 1978. *Men against Fire: The Problem of Battle Command in Future War*. Gloucester, MA: Peter Smith.
- Martz, Erin, Todd Bodner, and Hanoch Livneh. 2009. "Coping as a Moderator of Disability and Psychosocial Adaptation among Vietnam Theater Veterans." *Journal of Clinical Psychology* 65: 94–112.
- Mayer, Albert J. and Thomas Ford Hoult. 1955. "Social Stratification and Combat Survival." *Social Forces* 34:155–59.
- Mayer, Karl Ulrich. 1988. "German Survivors of World War II: The Impact on the Life Course of the Collective Experience of Birth Cohorts." Pp. 229–46 in *Social Structures and Human Lives*, Vol. 1, edited by M. W. Riley. Newbury Park, CA: Sage Publications.
- Merton, Robert King. 1968. "The Matthew Effect in Science." *Science* 159(3810):56–63.
- Mills, C. Wright. 1961. *The Sociological Imagination*. New York: Grove Press.
- Mok, Wallace K. C., Bruce D. Meyer, Kerwin Kofi Charles, and Alexandra C. Achen. 2008. "A Note On 'The Longitudinal Structure of Earnings Losses among Work-Limited Disabled Workers.'" *Journal of Human Resources* 43:721–28.
- Moskos, Charles C. and John S. Butler. 1996. *All That We Can Be: Black Leadership and Racial Integration the Army Way*. New York: Basic Books.
- National Research Council. 2006. *Assessing Fitness for Military Enlistment: Physical, Medical, and Mental Health Standards*. Washington, DC: National Academy Press.
- Nayback, Ann Marie. 2008. "Health Disparities in Military Veterans with PTSD: Influential Sociocultural Factors." *Journal of Psychosocial Nursing and Mental Health Services* 46:41–51.
- O'Brien, Tim. 1990. *The Things They Carried*. New York: Penguin Books.
- Prigerson, Holly G., Paul K. Maciejewski, and Robert A. Rosenheck. 2002. "Population Attributable Fractions of Psychiatric Disorders and Behavioral Outcomes Associated with Combat Exposure among US Men." *American Journal of Public Health* 92:59–63.
- Rabe-Hesketh, Sophia and Anders Skrondal. 2008. *Multilevel and Longitudinal Modeling Using Stata*. College Station, TX: Stata Press.
- Sampson, Robert J. and John H. Laub. 1996. "Socioeconomic Achievement in the Life Course of Disadvantaged Men: Military Service as a Turning Point, Circa 1940–1965." *American Sociological Review* 61:347–67.
- Savoca, Elizabeth and Robert Rosenheck. 2000. "The Civilian Labor Market Experiences of Vietnam-Era Veterans: The Influence of Psychiatric Disorders." *Journal of Mental Health Policy & Economics* 3:199–207.
- Segal, David R., Barbara Ann Lynch, and John D. Blair. 1979. "The Changing American Soldier: Work-Related Attitudes of U.S. Army Personnel in WWII and the 1970s." *American Journal of Sociology* 85:95–108.
- Sewell, William H. and Robert M. Hauser. 1975. *Education, Occupation, and Earnings: Achievement in the Early Career*. New York: Academic Press.
- Shay, Jonathan. 1995. *Achilles in Vietnam: Combat Trauma and the Undoing of Character*. New York: Scribner.
- . 2002. *Odysseus in America: Combat Trauma and the Trials of Homecoming*. New York: Scribner.
- Singer, Judith D. and John B. Willett. 2003. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. New York: Oxford University Press.
- Smith, James P. 1999. "Healthy Bodies and Thick Wallets: The Dual Relation between Health and Economic Status." *Journal of Economic Perspectives* 13:145–67.
- Tanielian, Terri L. and Lisa Jaycox. 2008. *Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery*. Santa Monica, CA: RAND.

- Teachman, Jay D. and Lucky M. Tedrow. 2004. "Wages, Earnings, and Occupational Status: Did World War II Veterans Receive a Premium?" *Social Science Research* 33:581–605.
- Vogt, Dawn S., Daniel W. King, Lynda A. King, Vincent W. Savarese, and Michael K. Suvak. 2004. "War-Zone Exposure and Long-Term General Life Adjustment among Vietnam Veterans: Findings from Two Perspectives." *Journal of Applied Social Psychology* 34:1797–1824.
- Williams, David R. and Chiquita Collins. 1995. "US Socioeconomic and Racial Differences in Health: Patterns and Explanations." *Annual Review of Sociology* 21:349–86.
- Willson, Andrea E., Kim M. Shuey, and Glen H. Elder Jr. 2007. "Cumulative Advantage Processes as Mechanisms of Inequality in Life Course Health." *American Journal of Sociology* 112:1886–1924.
- Yager, Thomas, Robert Laufer, and Mark Gallops. 1984. "Some Problems Associated with War Experience in Men of the Vietnam Generation." *Archives of General Psychiatry* 41:327–33.
- Zeitlin, M., K. G. Lutterman, and J. W. Russell. 1973. "Death in Vietnam: Class, Poverty, and the Risks of War." *Politics and Society* 3:313–28.

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