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A Great Place to Start?

The Effect of Prior Military Service on Hiring

Meredith Kleykamp
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This article examines the effect of prior military service on hiring for entry-level jobs in a major metropolitan labor market. The research employs an audit method in which resumes differing only in the presentation of military experience versus civilian work experience are faxed in response to an advertised position. Results suggest that employers exhibit preferential treatment of black military veterans with transferable skills over black nonveterans. Veterans with traditional military experience in the combat arms do not experience preferential treatment by employers, regardless of racial/ethnic background. These findings suggest a possible mechanism generating the postmilitary employment benefit among blacks found in prior observational studies. A veteran premium in hiring may stem from the concentration of blacks in military occupational specialties with a high degree of civilian transferability, combined with employer preferences for military veterans with such work experience over their nonveteran peers.

Keywords: *military; veterans; Army; hiring; discrimination*

Although recruiters and advertisers claim the military is a great place to start, high unemployment among recent veterans casts doubt on the promise of military service as a path to economic success.¹ This is true especially among minorities, for whom military service is often touted as a path to socioeconomic advancement.² This study sheds light on the consequences of military service for civilian employment among recent military veterans by focusing on how employers respond to veteran status in making hiring decisions and whether this treatment differs by race and type of military work experience.

Prior research has primarily used observational and survey data to identify an association between military service and civilian employment status and wages.³ These observational studies are often poorly suited to separate the causal effect of military service per se from individual-level characteristics that jointly affect the

Author's Note: I gratefully acknowledge the helpful suggestions at various stages of this research from Bruce Western, Devah Pager, Jake Rosenfeld, LTC John A. Basso (U.S. Army), and staff members at the Army Career and Alumni Program offices at Ft. Drum, New York, and Ft. Leavenworth, Kansas.

likelihood of military service and later civilian employment.⁴ Furthermore, prior research generally fails to control for the intervening role of the type of military work experience gained during service. Several studies find positive returns to military service among minorities yet negative returns among whites.⁵ Because there are systematic differences across racial and ethnic groups in the kinds of military jobs performed, it may be that specific, transferable skills and experience gained through service, and not race/ethnicity or the credential of military service itself, determine postservice employment and wages.

This article asks three related questions. To what extent are recent military veterans treated differently in the hiring process than nonserving peers? To what extent does employer treatment of veterans in hiring vary among black, white, and Hispanic men? Finally, how does the type of military work performed influence employer treatment of military veterans in hiring? This research begins to develop insight into the economic reintegration of veterans who will be returning from Iraq and Afghanistan called for in a recent special issue of veterans in *Armed Forces & Society*.⁶ This research employs an experimental approach to evaluate how employers respond to the signal of prior military service in job applicants; the method reveals the extent of differential treatment between equally qualified veterans and nonveterans by civilian employers.

Background

Recent data from the Bureau of Labor Statistics revealing high unemployment among recent military veterans suggest that veterans may face a disadvantage securing civilian employment after leaving the military.⁷ The study found that young veterans aged twenty to twenty-four had unemployment rates double those of their nonveteran counterparts and nearly three times the national average unemployment rate. Several possible explanations for recent high veteran unemployment rates have been offered. Individuals leaving the military may be facing an extended period in which they are job seeking but have yet to find employment.⁸ Consequently, observed unemployment may simply reflect a time when many have just begun their employment search. Recent stop-loss policies that keep many enlistees in the military until they return from a deployment result in larger cohorts of individuals leaving the military at once. Furthermore, policies activating National Guard and reserve troops for deployment inflate the numbers of recent veterans seeking civilian employment on their deactivation.

Alternately, some fraction of recent veterans may face physical or mental disabilities as a result of their wartime service. At present, more than 22,000 U.S. military personnel have been wounded in the recent wars in the Middle East.⁹ Many of these wounded may have lifelong physical disabilities that hinder their employment prospects. As many as 20 percent of recent veterans may suffer from posttraumatic stress disorder and may have difficulties dealing with the emotional and mental fallout of war.¹⁰ These physical and emotional disabilities may present challenges in finding suitable employment.¹¹

Finally, recent veterans may suffer from employer bias in hiring. Employers may hold negative stereotypes about recent military veterans, their experiences, and their estimated "employability" based on political ideology, stereotypes of poor skills, or presumptions of mental or emotional dysfunction, as happened with Vietnam veterans.¹² Many recent veterans are individuals who were called to active duty from the National Guard and reserves who may face special challenges in finding civilian employment on return.¹³ Thus, there may be actual barriers to employment facing recent veterans, including deficiencies in human capital or employer discrimination, or high unemployment may be a statistical artifact of large cohorts of young, recent veterans who will face longer search times entering the labor market at one time.

Higher unemployment among recent veterans than among nonveterans runs contrary to much of the prior research on the consequences of military service. Much of the research on the consequences of military service comes from historical periods before the move to an all-volunteer force (AVF), yet even the studies of the AVF find in general that veterans have lower rates of unemployment, and in particular this research shows that black veterans fare better than their nonveteran peers on the labor market.¹⁴ This literature has proposed several possible mechanisms by which veteran and nonveteran employment outcomes would differ: (1) selectivity, (2) loss or gain in human capital, (3) bridging (or change in social and cultural capital), and (4) signaling.

Prior Research

Military service increases human capital endowments among those who serve. Veterans increase their human capital through training and acquisition of skills, which may be directly transferable to the civilian sector.¹⁵ Military service may also facilitate educational attainment that increases employment probabilities and earnings.¹⁶ Alternately, veteran status may signal the potential productivity of an individual by conveying additional information about veteran applicants to employers.¹⁷ The nature of signaled information partly derives from the process of self and institutional selection of those who serve and are honorably discharged from military service. It may also depend on employer perceptions of how military service transforms those who serve.

Though not the only important actors in the process of transitioning from military to civilian employment, employers ultimately use information about military service and military work experience when making hiring and pay decisions. Employers are central in each of the primary explanations for differing returns to service. Employers evaluate the human capital attributes of military veterans, using this information in hiring and wage setting. They interpret the value of cultural capital gained through military service when making employment decisions based on immediately observed or implicitly signaled information. They may use honorable military service as a

means of screening individuals. Therefore, it is important to focus on the role employers play in veterans' transition to civilian life.

If employers value education, skills, experience, stable work histories, communication skills, motivation, dependability, the ability to work in a team, and other less tangible, measurable characteristics, veteran status may provide employers with additional information about applicants.¹⁸ Veteran status signals to an employer information about an applicant's qualification for employment not available from non-veteran applicants. Veteran status indicates that a set of minimal human capital attributes required by the military for enlistment were met or exceeded. Currently, more than 90 percent of military enlistees have a high school diploma, and those who hold a GED must meet higher ability standards evaluated by the Armed Forces Qualification Test (AFQT).¹⁹ Enlistees must meet a stringent set of moral criteria excluding those with felony convictions, unless a waiver is granted.²⁰ Military entrance standards disqualify many young men from service; as many as 70 percent of young black and Hispanic men and 60 percent of white men are potentially disqualified from military service on the basis of AFQT, high school graduation, weight, and criminal convictions.²¹ Therefore, veteran status partly signals the positive selectivity of military enlistees because veterans have been prescreened by the military on characteristics positively related to labor market success but offers no insight into whether or not military service itself transforms the employability of an individual.²²

Among those who qualify, enlistees are highly self-selected. Previous research suggests that men who choose military service systematically differ from those who go to work or enroll in college.²³ Those who choose to enlist tend to have lower socioeconomic status, non-college-educated parents, lower grades, and no college plans.²⁴ Overall, enlistees are positively selected from the general population, and they may be negatively selected from the population of applicants for particular kinds of jobs (i.e., those requiring a college degree or with applicants from more advantaged family backgrounds).

Other explanations for veteran versus non-veteran differences in employment or earnings reflect attributes acquired through service itself. Evidence of an honorable discharge from the military provides certification that standards of behavior and performance were met during service. Those honorably discharged successfully adapted to the disciplined, hierarchical work environment in the military, implying that they were able to take and execute orders from superiors. An honorable discharge certifies that a veteran not only gained occupation-specific training but also developed and maintained a disciplined work ethic. Thus, veteran status may send a positive signal to employers that an individual is likely to be a productive, reliable employee.

The role of veteran status in signaling or screening likely varies by race or ethnicity. Blacks and Hispanics have lower high school graduation rates than do whites. Because non-diploma holders require a higher minimum AFQT and both groups are less likely to meet the minimum AFQT (enlistment standards for diploma holders range from an AFQT of 16 for the Army up to a 40 for the Air Force), black and Hispanic veterans

are more positively selected than are whites.²⁵ It has been argued that the quality of schooling may be lower for blacks and Hispanics, which may make education a less useful screening of productivity for these groups.²⁶ Because of the differences in the distribution of ability, educational attainment, and school quality among black, Hispanic, and white men, veteran status is expected to provide more useful information on the productivity of black and Hispanic veterans relative to their nonveteran peers.

Other research indicates that more productive blacks choose to enlist in the military because of discrimination in the civilian labor market that devalues their skills and ability.²⁷ The military is perceived by minorities to be a more egalitarian workplace.²⁸ Military communities are among the least racially segregated in the country.²⁹ The military has a higher percentage of its leadership than junior staff who are black—16 percent of the most junior enlisted soldiers compared to 36 percent to 40 percent of the most senior enlisted soldiers are black.³⁰ If the military is perceived to be more egalitarian, rewarding blacks and whites equally, more productive blacks may choose to serve in the military rather than enter the more discriminatory civilian labor market. Veteran status should therefore operate as a stronger signal of productivity among blacks in particular.

The bridging hypothesis suggests that military service functions as a way for those with less-advantaged backgrounds to acquire the attributes and attitudes that enable them to incorporate in mainstream society and to further their socioeconomic attainment.³¹ The hypothesis applies both to racial and ethnic minorities and to whites from economically disadvantaged backgrounds. By exposing these individuals to the disciplined, bureaucratic military environment, military service is expected to provide social and cultural training aiding disadvantaged individuals in successfully working in mainstream (majority) culture. This argument implies that military service provides occupational training and social and cultural training that may be transferable and valuable in the civilian sector.

Industrial restructuring and the increase in the service sector of the American economy have shifted the kinds of skills and attributes employers seek from job applicants. The service and information bases of the new economy lead employers to seek employees with a set of cognitive and social interactive skills that fit available entry-level jobs. Included are technical skills such as reading, writing, arithmetic, and the use of computers but also soft skills such as motivation, attitude, reliability, and ability to work with others. In fact, it is these soft skills that employers find most important: 74 percent of employers interviewed said they were the most important skills being sought in entry level job applicants.³²

Because employers view racial and ethnic minorities as lacking these soft skills, black men in particular have faced difficulty finding jobs in the new economy.³³ Moss and Tilly suggest that employers perceive blacks to have a particular lack of skills in communication and motivation.³⁴ Employers may use statistical discrimination and stereotyping to attribute poor interpersonal skills to all black males before even interacting with an individual. Given these findings, employers may use prior honorable

military service as a signal that such individuals have the soft skills to be successful employees. If employers feel that military service does not offer such remedial social training to whites because they already have these skills, then they are not likely to gain advantage in hiring from military experience.

While blacks and other minorities may gain cultural capital from military service, positive returns to service among minorities may partly derive from the training and skills acquired by blacks in the military that differ from those acquired by whites and Hispanics. There is a fair amount of racial "segregation" in military occupational specialties in the Army, with blacks being overrepresented in the health and clerical fields and underrepresented in the combat arms specialties. The Department of Defense reports that 30 percent of whites and 26 percent of Hispanics served in a combat military occupational specialty (MOS), but only 14 percent of blacks did. Furthermore, less than 10 percent of whites served in an administrative MOS, while 19 percent of Hispanics and 29 percent of blacks did so.³⁵ This segregation may stem from self-selection into jobs with a high degree of civilian transferability or may stem in some part from institutional racism that puts up barriers to success in some specialties such as elite combat units in special forces.³⁶ It is possible that observational studies that do not distinguish between the types of military work experience find that blacks gain an employment and earnings premium that whites do not, not because military service indicates "soft skills" of applicants but simply because blacks, on average, gained more transferable "hard skills" valued by civilian employers. Therefore, the positive signal of veteran status may be dependent on the transferability of the skills acquired in the military.

Hypotheses

This study asks three primary questions. The first is whether and to what extent recent military veterans are treated differently in the hiring process than are nonserving peers. Based on the positive selectivity of military service members and the increase in human capital through military training, military veterans are expected to be advantaged over equally qualified nonveterans in hiring.

Hypothesis 1: Military veterans will be advantaged in the hiring process over equally qualified nonveterans.

A second, related question is whether and to what extent the effect of military service on hiring differs among white, black, and Hispanic men. Based on differential selectivity of military service by race, minority veterans are expected to have an advantage in hiring relative to their nonserving peers. For example, if employers understand that the military "creams" more capable blacks while "dredging" less-qualified whites for service, they may prefer black veterans over nonveterans but prefer white nonveterans over veterans.

Given findings on the association between race and a lack of soft skills among employers, employers may use prior honorable military service as a signal that such individuals have the soft skills of motivation, discipline, and communication to be successful employees and that they have the ability to operate in a hierarchy and be respectful of authority.³⁷ Again, if employers feel military service does not offer such remedial social training to whites (especially if they feel whites in general do not need such training), then they are not likely to gain advantage in hiring from military experience.

Hypothesis 2a: Black and Hispanic military veterans will be advantaged over their nonveteran peers in the hiring process.

Hypothesis 2b: White military veterans will experience little to no advantage over their nonveteran peers in hiring.

Do employers respond more favorably only to applicants who have military experience with a high degree of civilian transferability? Or do employers treat all veterans similarly, regardless of their actual work experience? While employers may care more about soft skills than hard skills, this presumes job applicants have the minimum hard skills needed to perform a given job. Given that much of the work performed in many military specialties has no direct correlation in the civilian labor market, the nature of military work experience is likely to condition the signaling of soft skills to employers. Without evidence of minimal “hard skills” required for a given job, employers are not likely to prefer veterans. But given military work experience employers understand as transferable, they are likely to prefer veterans on the basis of the signaling of desired soft skills imparted by service.³⁸

Hypothesis 3a: Veterans with highly transferable experience from military service will be advantaged in hiring, relative to similar nonveterans.

Hypothesis 3b: Veterans with the least transferable military experience will not be advantaged in hiring, relative to their nonveteran peers.

Design of the Experiment

To examine the effect of prior military service (or veteran status) on hiring, I used a correspondence test design. In response to advertised positions, I faxed pairs of resumes matched on key employment-related characteristics such as educational attainment, quality of high school, quality and quantity of post-high school education, work experience, and location of current residence (sample resumes are available from the author on request). The treatment condition of interest, veteran status, was indicated by a work history showing several job roles in the military, by indicators of military occupational training, and by an indication of an honorable discharge from service. All hypothetical job applicants in this project have earned a four-year

college degree from a local noncompetitive college while working or serving in the military.³⁹ Veterans' work experience is identified and described in ways similar to that of the nonveteran matched partner. Evidence of differential treatment of veterans and nonveterans comes from measuring whether employers call back recent military veterans for an interview more or less often than their nonveteran matched peer. Voicemail boxes and e-mail accounts were set up for each fictitious applicant to record and measure callbacks or additional communication with applicants.

Differences in callback rates between veterans and nonveterans indicate differential treatment at the initial stages of hiring only. This initial decision screens out the vast majority of applicants early on and operates as a gateway to employment. Prior research suggests that the interview stage is when the most discriminatory behavior in hiring occurs; in a study of age discrimination, 76 percent of the differential treatment overall occurred at the callback stage.⁴⁰ Results may understate the extent of differential treatment if differential treatment is cumulative over the application to offer process, as shown the Urban Institute employment audit studies.⁴¹

Military veterans have very different occupational experiences while serving, a point often ignored in the prior literature on the returns to service. To investigate the extent to which employers evaluate the specific nature of military work during service, the research design includes two different profiles of military experience: one in which recent military service was in a combat job function (on a tank crew) and one in an administrative job function (as a clerk).

The civilian work history profile with administrative experience was used because many of the entry-level jobs advertised as accepting faxed applications were low-level white-collar jobs in sales or administrative or clerical work. One military specialty with clear civilian transferability is administrative or clerical work, while combat arms experience is the least transferable.⁴² In addition, blacks are overrepresented among administrative and clerical specialties in the Army and underrepresented among the combat arms specialties in the Army. By using two military experience profiles, this research can reveal whether veteran status is enough of a credential to overcome a lack of "hard skills" among those who served in the combat arms or whether the positive signal of veteran status is dependent on having transferable military work experience.

Each of the military conditions is contrasted to the work experience of a civilian with administrative experience because there is no civilian equivalent for most combat specialties in the Army. Tests in which the veteran and nonveteran do not have equivalent work experience are not truly experimental, but the contrast allows for an evaluation of the differential returns to various kinds of military experience.

A blocked experimental design (shown in Table 1) with separate white, black, and Hispanic veteran versus nonveteran pairs allows for a test of racial and ethnic differences in hiring of veterans. The experiment involved a total of six matched pair teams, characterized by the race/ethnicity of the matched applicants (three groups) and the nature of the military work experience (two groups).

Table 1
Composition of Tester Pairs

Team	Race	Military Treatment	Civilian Comparison
1	White	Clerk	Clerk
2	White	Tank	Clerk
3	Black	Clerk	Clerk
4	Black	Tank	Clerk
5	Hispanic	Clerk	Clerk
6	Hispanic	Tank	Clerk

Because applications were submitted by fax, race/ethnicity—usually discerned by employers in person through physical appearance, accent, or other means—must be signaled by another mechanism. According to Pager, “In the case of gender or ethnicity, identifiable names can easily convey the necessary information using gender-specific or ethnically identifiable names.”⁴³ Following Bertrand and Mullainathan, distinctive names were used to convey race and ethnic background.⁴⁴ Prior studies have verified the names used for blacks and whites as “typical” black or white names frequently used by one group and not by the other.⁴⁵ Similar research has not been done to confirm the distinctiveness of Hispanic first names, though studies have used Hispanic surnames to identify Hispanic individuals from large data when ethnicity was not self-reported.⁴⁶ Using a combination of both “Hispanic-sounding” first names and surnames provides additional signals as to the ethnicity of the Hispanic applicants. Prior correspondence studies have used a similar approach to signal the ethnic identity of applicants.

New York City served as the site for the current experiment. It provided a large labor market with numerous entry-level job advertisements each week that accepted faxed resumes. During the study period, job openings for entry-level positions were identified twice each week. Ads were drawn from three major newspapers and a large online job bank. Only ads for positions indicating resumes would be accepted via fax were tested.

By using a fax-correspondence design, certain biases and/or limitations are imposed. Jobs accepting faxed resumes tend to be entry-level white-collar jobs requiring a college degree. To maximize callback rates, applicant profiles included a degree from a noncompetitive college. Both the military and civilian applicant would appear to have completed this education while working or serving full-time. Though this would indicate a high level of motivation, the presumed level of motivation should not differ across applicants. Furthermore, because several studies suggest that military service is most advantageous for those with low levels of educational attainment, any veteran preferences found using test profiles with a college degree should be conservative; larger veteran preferences would be expected in an experiment with lower educational attainment of both testers.

Table 2
Distribution of Occupations in Sampled Job Advertisements

Occupation	Frequency	%
Management	29	3.1
Business and finance	2	0.21
Computer	2	0.21
Engineering	1	0.11
Social services	11	1.18
Legal	7	0.75
Education and training	4	0.43
Entertainment and media	1	0.11
Health care support	7	0.75
Protective services	15	1.61
Food preparation and service	48	5.14
Building and grounds maintenance	14	1.5
Personal care and services	11	1.18
Sales	239	25.59
Office and administrative support	508	54.39
Construction	1	0.11
Installation and repair	6	0.64
Production	4	0.43
Transportation	17	1.82
Unknown	7	0.75
Total	934	100.0

There were 934 audits conducted during a six-month period. Typical jobs included entry-level administrative assistants, clerks, retail sales positions, restaurant positions, customer service positions, and private security positions. Due to the reliance on positions listed in classified advertisements, the sample is not representative of the overall local labor market. Table 2 presents the distribution of occupations represented in the sample.

Disadvantages of Audit Method

Though audit studies offer many advantages over typical observational ones, they are not without problems. Heckman and Siegelman point out some of the potential problems of the audit methodology, largely based on challenges of adequate matching when treatment conditions cannot be randomly assigned and experimenter effects.⁴⁷ Another criticism levied on employment audit studies relates to the sampling frames used and the generalizability of results. Most employment audits use the newspaper or online job banks as their sampling frame, yet research shows that most jobs are not obtained through these sources.⁴⁸ Finally, audit studies violate the ethical norms of having participants provide “informed consent”; deception is a key attribute of

audit studies. As a consequence, careful consideration of the ethical practices of research using audit studies is warranted.

Some of these concerns are mitigated by the current design, which uses faxed resumes rather than in-person application for employment. By faxing resumes, experimenter effects are eliminated, and fictitious applicants are matched only on observable characteristics on a resume. By using faxed resumes, the potential loss of employer time and resources is minimized, especially when many employers use electronic scanning in the initial review of resumes. The research design involving deception of participants without debriefing them was approved from a university institutional review panel, contingent on the minimization of harm to participants unaware of their participation in the study. Because debriefing potentially puts individuals in tested firms at risk if evidence of differential treatment were revealed and elicited punitive action toward hiring decision makers, audited firms were not informed of their participation in the study afterward. While these experimental results may not generalize to all veterans seeking employment (in fact, one benefit to military service may be in developing connections to semirestricted job networks in the defense industry), they do provide an initial example of how employers treat veterans on the open labor market.

Analysis

Identification of differential treatment comes from two statistical tests. The first test is a simple matched-pairs test of mean difference in number of callbacks. The second test uses only information when testers are treated differently to evaluate evidence of differential treatment. The second measure tests a null hypothesis of symmetrical or equivalent treatment against an alternative of asymmetrical or differential treatment. For example, if team A is called back twenty-five times and team B is called back thirty-five times, some of the callbacks may have been from the same employer, providing evidence of equal treatment. McNemar's test of symmetry based on the analysis of the off-diagonals in a two-by-two table discounts any callbacks in which both team members were called by the same employer and thus specifically tests for differential treatment within matched pairs and not differential treatment on average. Reported in the results section in Table 3 are *p* values associated with each of these tests.

It was not possible to use regression models incorporating fixed or random effects to assess the role of resume layout, tester ordering, and so forth. Most employers accepting faxed resumes do not reveal their identity in classified advertisements, making the explicit matching of callbacks to individual ads problematic. With most ads providing only a fax number and most callbacks not describing the job ad they posted, matching the two can take place only if employers tested were contacted to probe for additional information. Such additional contact might have aroused suspicion.

Table 3
Detailed Experimental Results by Testing Team

	Number of Applicants Called Back				Total Tests	Overall Callback Rate		Significance Test	
	V and NV	Neither	Only V	Only NV		% V	% NV	Paired	Symmetry
								Difference (<i>p</i> Value)	
Military: Administrative (clerk)									
White	6	110	5	5	126	8.73	8.73	1.000	1.000
Black	3	135	8	4	150	7.33	4.67	.250	.388
Hispanic	3	144	8	7	162	6.79	6.17	.797	1.000
Military: Combat arms (tank)									
White	6	176	5	11	198	5.56	8.59	.134	.210
Black	0	118	0	13	131	0.00	9.92	.001	.002
Hispanic	2	151	9	5	167	6.59	4.19	.286	.424

Note: V = veteran; NV = nonveteran. Test of paired difference uses a paired *t*-test of means; test of symmetry uses McNemar's test.

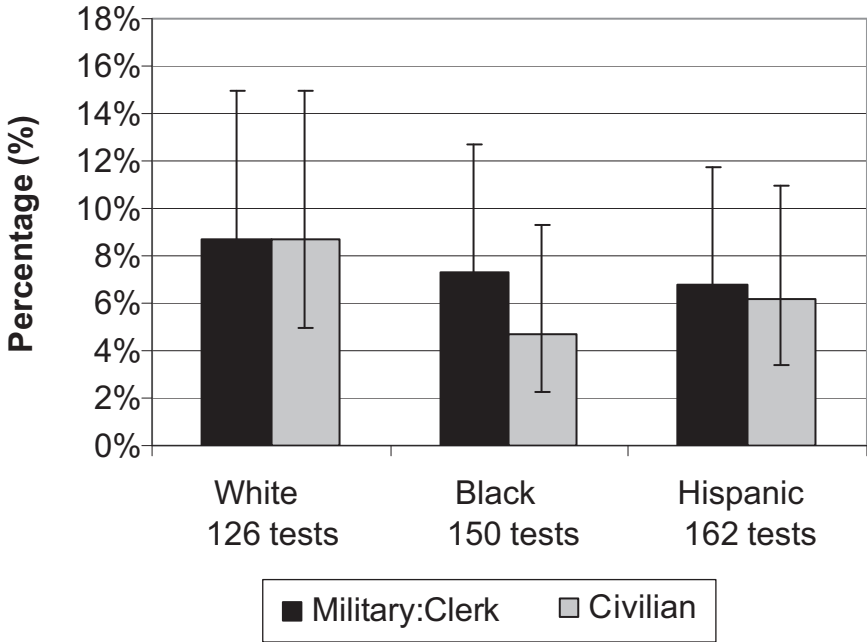
Nonintrusive attempts to match as many as possible still resulted in a large fraction of the relatively few callbacks failing to be linked to the original ad. Thus, only aggregate data analysis and statistical testing are performed.

Results

Table 3 reports the detailed experimental results for all tests including the number of callbacks to both team members, to neither team member, or to one of the two team members. Additional information on the percentage of tests resulting in a callback and two statistical tests for differential treatment are provided. Results from tests comparing callback rates of military veterans with administrative experience to civilians with administrative work experience find little difference between the treatment of white veteran and nonveteran job seekers. Figure 1 displays the results of the administrative audits graphically, including estimated confidence intervals using the score interval.⁴⁹ Roughly 8.7 percent of the 198 faxed resumes of white job applicants resulted in a callback, regardless of their military service history.

Evidence from minority testers suggests there may be some differential treatment of veteran applicants. In both the black and Hispanic teams, military veterans with administrative experience were called back at slightly higher rates. Among Hispanics, veterans with administrative experience were called back 11 of 144 times, compared to nonveterans, who were called back 10 of 144 times. This difference is not statistically

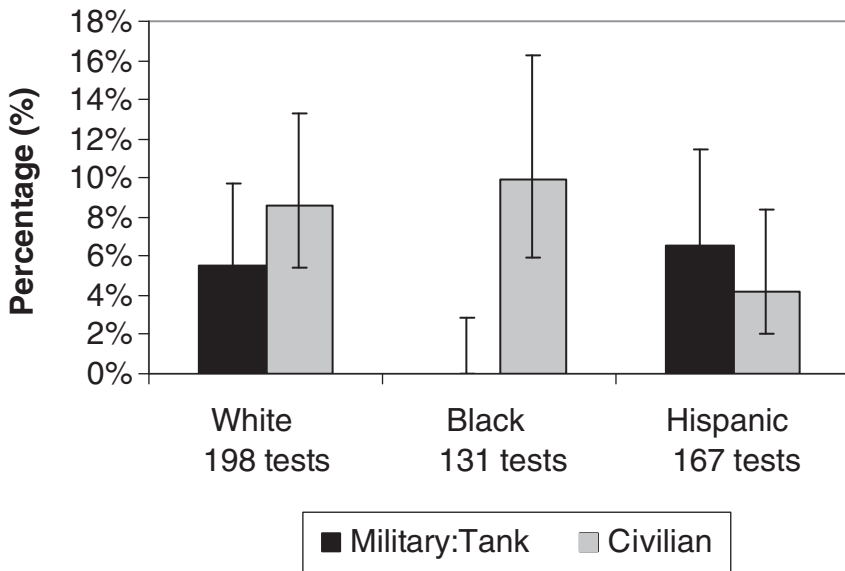
Figure 1
Callback Rates of Veterans and Nonveterans with Clerical
Experience (with Confidence Interval Estimates)



significantly different from zero. Among blacks, veterans with administrative experience were called back 11 of 135 times (7.3 percent callback rate), versus nonveterans, who were called back 7 of 135 times (for a callback rate of 4.7 percent). This difference is also not statistically different from zero because of the low power of the tests. The results are suggestive of a need for further study with greater power to detect effects with low callback rates. Though not significant, these results do suggest employers may treat black veterans with administrative work experience more favorably than their nonveteran peers.

Table 3 also presents the results of tests pairing military veterans of a combat arms specialty, here experience on tanks, with nonveterans having administrative experience. In these tests, employers appear to treat veterans without transferable civilian skills less favorably than nonveterans with administrative experience, as expected. Among white testers, 8.6 percent of the tests resulted in a callback, compared to 5.6 percent of the tank veteran's tests. Among black applicants, nonveterans were called back nearly 10 percent of the time, but the tank veteran was not called back a

Figure 2
Callback Rates of Veterans with Combat Arms Experience and Nonveterans with Clerical Experience (with Confidence Interval Estimates)



single time. This difference among black testers was found to be statistically significant at conventional levels (owing to a 0 percent callback rate).

The test results among Hispanic applicants differ notably from black and white testers. The Hispanic tank veteran was called back at a higher rate than the nonveteran with administrative work experience, unlike the findings among black testers. This result may reflect chance errors due to small sample sizes (the difference between veterans and nonveterans is not statistically significant), or it may reflect a substantive difference in how employers use the signal of military service to evaluate Hispanic job applicants. Figure 2 presents overall callback rates graphically, including confidence interval estimates.

While tests using matched pairs are statistically more efficient, it is also possible to test for differences across tester pairs to evaluate whether there is evidence of differential treatment by race/ethnicity among military veterans or if there are differences in how military work experience is evaluated within racial/ethnic groups. Unpaired *t*-tests reported in Table 4 suggest that there is statistical evidence that white and Hispanic tank veterans are called back at higher rates than their black peers (black tank veterans). The results for administrative veterans suggest that whites are called

Table 4
Unpaired Test of Racial or Ethnic Difference in
Employer Treatment of Military Veterans

	Unpaired Test of Difference (<i>p</i> Value)
Military: administrative (clerk)	
White versus black	.6731
White versus Hispanic	.5462
Hispanic versus black	.8522
Military: combat arms (tank)	
White versus black	.0401
White versus Hispanic	.6831
Hispanic versus black	.0226

Table 5
Unpaired Test of Difference in Employer Treatment by Type
of Military Experience, by Race/ethnicity

	Unpaired Test of Difference (<i>p</i> Value)
Combat arms versus administrative military experience	
White	.2921
Black	.0160
Hispanic	.9414

back at slightly higher rates than are blacks, who themselves are called back at slightly higher rates than are Hispanics, but these results are not statistically significant.

A final unpaired comparison tests whether administrative veterans are more likely to be called back than veterans in combat specialties without civilian transferability. Results presented in Table 5 show evidence that black combat veterans are not called back at similar rates to those veterans serving in administrative jobs, whereas white and Hispanic veterans do not show statistically different callback rates dependent on military occupational experience. These findings may simply reflect low power to detect differences, owing to relatively low sample sizes, or they may reflect a substantive difference in how veteran status and type of military work experience affect hiring among blacks but not among whites or Hispanics.

Discussion

Results from the current field experiment provide suggestive, but not conclusive, evidence that employers treat military veterans differently than their nonveteran peers. Treatment of veterans in hiring differed by race/ethnicity and type of military

work experience. Overall, veterans with highly transferable work experience were treated very similarly to nonveterans with equivalent civilian experience, except among blacks. Black veterans with administrative experience were treated more favorably than their civilian peers (though the difference was not statistically significant). Veterans without transferable work experience (those serving in combat arms jobs) generally experienced less favorable hiring treatment. For blacks, such veterans faced substantial disadvantages in hiring: none of the black tank veterans in this study were called back for an interview, compared to nearly 10 percent of the matched nonveterans with administrative experience. Unlike blacks, Hispanics veterans without transferable experience did not appear to have lower employer callback rates.

Employers evaluating military veteran job applicants may combine information about job-specific human capital gained while in the military with other information signaled by the combination of race/ethnicity and prior military service. Among blacks, employers appear to first evaluate whether applicants have “hard skills” valued on the civilian labor market (in this case, administrative work experience) before considering the extent to which military service might confer “soft skills” to those who served. Only among those African Americans with transferable skills was prior military service preferred. Among Hispanics, differences were slight but perhaps suggested a veteran preference regardless of the type of military experience gained. In this case, military service may signal information about English language fluency and/or legal or citizenship status, but further research is need to understand these unexpected findings among Hispanics. Among whites, veterans appeared disadvantaged in hiring when they have nontransferable skills. White veterans with equivalent clerical work experience were treated exactly the same as nonveterans with comparable experience. Results from this audit study suggest prior observational studies finding a veteran premium among minorities but a veteran penalty among whites may have missed a key confounding variable: type of training and work experience gained in the military.

Prior research claims that minorities—blacks in particular—are overrepresented in the military because it represents an employment opportunity with less discrimination and greater possibilities for advancement than the civilian labor market. If enlistment is a rational employment strategy, then it is sensible that more blacks would elect to serve in jobs that have higher degrees of civilian transferability in greater proportion than their white peers. Though this may negatively affect the military career trajectories of blacks while serving, it may prove more advantageous once they leave the military and enter the civilian labor market.

Direction for Future Work

Several key points for future work emerge from this research. Several important contrasts were not statistically significant at traditional levels due to a lack of statistical power from the small numbers of audits conducted. Small differences in employer

treatment between veterans and nonveterans (much smaller than the differences by race (20 percentage points) or by criminal record (9 to 17 percentage points) reported in Pager's audit study resulted in low power to detect effects with statistical precision. Researchers interested in replication or extension of this research are advised that one would need 1,325 tests at the reported callback rates and veteran versus nonveteran differential for administrative test and 94 tests at the reported callback rates for black combat veterans to find differences with 80 percent power at a conventional 5 percent significance level in a two-sided test. Such extensions might include women, different racial and ethnic groups, notably Asians, additional military specialties, other military branches (Air Force, Navy, Marines), and/or National Guard and reserve soldiers. National Guard and reserve service members are explicitly protected from hiring discrimination based on their military service, yet they may still face hiring discrimination based on employer fears of future deployments. Understanding how the military service among women is evaluated by employers would substantially add to the small literature on the returns to military service among women, which consistently finds negative consequences of military service among women.

Notes

1. Bureau of Labor Statistics, *Employment Situation of Veterans* (Washington, DC: U.S. Department of Labor, 2006).

2. Harley L. Browning, Sally C. Lopreato, and Dudley L. Poston, "Income and Veteran Status—Variations among Mexican Americans, Blacks and Anglos," *American Sociological Review* 38, 1 (1973); Richard R. Bryant, V. A. Samaranayake, and Allen Wilhite, "The Effect of Military Service on the Subsequent Civilian Wage of the Post-Vietnam Veteran," *Quarterly Review of Economics and Finance* 33, 1 (1993); Sally C. Lopreato and Dudley L. Poston, "Differences in Earnings and Earnings Ability between Black Veterans and Non-Veterans in United-States," *Social Science Quarterly* 57, 4 (1977); Sally C. Lopreato and Dudley L. Poston, Jr., "Differences in Earnings and Earnings Ability between Black Veterans and Nonveterans in the United States," *Social Science Quarterly* 57, 4 (1977); Charles C. Moskos and John S. Butler, *All That We Can Be: Black Leadership and Racial Integration the Army Way* (New York: Basic Books, 1996); David R. Segal, Jerald G. Bachman, and Faye Dowdell, "Military Service for Female and Black Youth—Perceived Mobility Opportunity," *Youth & Society* 10, 2 (1978); and Yu Xie, "The Socioeconomic-Status of Young Male Veterans, 1964–1984," *Social Science Quarterly* 73, 2 (1992).

3. J. Eric Fredland and Roger D. Little, "Socioeconomic Status of World War II Veterans by Race—An Empirical Test of the Bridging Hypothesis," *Social Science Quarterly* 66, 3 (1985); Roger D. Little and J. Eric Fredland, "Veteran Status, Earnings, and Race—Some Long-Term Results," *Armed Forces & Society* 5, 2 (1979); Jay Teachman and Lucky M. Tedrow, "Wages, Earnings, and Occupational Status: Did World War II Veterans Receive a Premium?" *Social Science Research* 33, 4 (2004); Teachman, "Military Service in the Vietnam Era and Educational Attainment," *Sociology of Education* 78, 1 (2005); and Teachman and Vaughn R. A. Call, "The Effect of Military Service on Educational, Occupational, and Income Attainment," *Social Science Research* 25, 1 (1996).

4. Joshua D. Angrist, "Lifetime Earnings and the Vietnam Era Draft Lottery—Evidence from Social-Security Administrative Records," *American Economic Review* 80, 3 (1990); Angrist and Alan B. Krueger, "Why Do World War II Veterans Earn More Than Nonveterans," *Journal of Labor Economics* 12, 1 (1994); and Angrist, "Estimating the Labor Market Impact of Voluntary Military Service Using Social Security Data on Military Applicants," *Econometrica* 66, 2 (1998).

5. Angrist, "Estimating the Labor"; Browning, Lopreato, and Poston, "Income and Veteran Status"; Bryant, Samaranayake, and Wilhite, "Effect of Military Service"; Lopreato and Poston, "Differences in Earnings"; and Xie, "Socioeconomic-Status."

6. See the special issue of *Armed Forces & Society* (2007, volume 33, number 3) on veterans and veterans issues for an excellent review of the literature on veterans published during that journal's history.

7. Bureau of Labor Statistics, "Employment Situation."

8. Dan Black and Julia Lane, *Report on Task 1: The Labor Market Trajectories of 20-24 Year Old Veterans* (Chicago: National Opinion Research Center, 2007).

9. Department of Defense, *Population Representation in the Military Services, Fiscal Year 2004* (Washington, DC: Office of the Assistant Secretary of Defense ([Force Management and Personnel]), 2006).

10. Charles W. Hoge, Carl A. Castro, Stephen C. Messer, Dennis McGurk, Dave I. Cotting, and Robert L. Koffman, "Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care," *New England Journal of Medicine* 351, 1 (2004) and Ann Scott Tyson, "Repeat Iraq Tours Raise Risk of PTSD, Army Finds," *Washington Post*, December 20, 2006.

11. Elizabeth Savoca and Robert Rosenheck, "The Civilian Labor Market Experiences of Vietnam-Era Veterans: The Influence of Psychiatric Disorders," *Journal of Mental Health Policy and Economics* 3, 4 (2000).

12. James E. Bordieri and David E. Drehmer, "Vietnam Veterans: Fighting the Employment War," *Journal of Applied Social Psychology* 14, 4 (1984).

13. Employers may be reluctant to hire any National Guard or reserve soldier for fear of a future extended deployment, regardless of whether he or she had previously been deployed or not.

14. Angrist, "Estimating the Labor Market Impact"; Little and Fredland, "Veteran Status, Earnings, and Race"; Lopreato and Poston, "Differences in Earnings"; Melanie Martindale and Dudley L. Poston, Jr., "Variations in Veteran/Nonveteran Earnings Patterns among World War II, Korea, and Vietnam War Cohorts," *Armed Forces & Society* 5, 2 (1979); Teachman and Call, "Effect of Military Service"; and Wayne J. Villemez and John D. Kasarda, "Veteran Status and Socioeconomic Attainment," *Armed Forces & Society* 2, 3 (1976).

15. Stephen R. Barley, "Military Downsizing and the Career Prospects of Youths," *Annals of the American Academy of Political and Social Science* 559, 1 (1998); Matthew S. Goldberg and John T. Warner, "Military Experience, Civilian Experience, and the Earnings of Veterans," *Journal of Human Resources* 22, 1 (1987); Stephen L. Mangum and David E. Ball, "Military Skill Training—Some Evidence of Transferability," *Armed Forces & Society* 13, 3 (1987); and Mangum and Ball, "The Transferability of Military-provided Occupational Training in the Post-draft Era," *Industrial and Labor Relations Review* 42, 2 (1989).

16. John Bound and Sarah Turner, "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, 4 (2002); Neil Fligstein, "The G.I. Bill: Its Effects on the Educational and Occupational Attainments of U.S. Males 1940–1973" (working paper, Center for Demography and Ecology Working Paper, 1976); and Little and Fredland, "Veteran Status, Earnings, and Race."

17. Mark C. Berger and Barry T. Hirsch, "Veteran Status as a Screening Device During the Vietnam Era," *Social Science Quarterly* 66, 1 (1985); Dennis DeTray, "Veteran Status as a Screening Device," *American Economic Review* 72, 1 (1982); Fredland and Little, "Socioeconomic Status of World War II Veterans"; Teachman, "Military Service During the Vietnam Era: Were There Consequences for Subsequent Civilian Earnings?" *Social Forces* 83, 2 (2004); Teachman and Call, "Effect of Military Service."

18. Harry J. Holzer, *What Employers Want: Job Prospects for Less-Educated Workers* (New York: Russell Sage, 1996); and Michael E. Benedict, Connie J. Schroyer, Linda A. Hansen, and Pasquale A. Lerro, *Analysis of the 1990 ARI Survey of Employers* (Alexandria, VA: Humrro International, 1990).

19. Department of Defense, "Population Representation."

20. Beth J. Asch, Christopher Buck, Jacob Alex Klerman, Meredith Kleykamp, and David S. Loughran, *What Factors Affect the Military Enlistment of Hispanic Youth? A Look at Enlistment Qualifications* (Santa Monica, CA: RAND Corporation, 2005).

21. Ibid.

22. Recruiting difficulties have recently resulted in the relaxing of some of these enlistment standards by accepting more non-diploma holders, more recruits with lower Armed Forces Qualification Test scores, and more recruits requiring moral waivers for criminal convictions. The relaxation of standards should not affect this study as it was conducted before standards were dramatically reduced.

23. Robert D. Mare and Christopher Winship, "The Paradox of Lessening Racial Inequality and Joblessness among Black Youth: Enrollment, Enlistment, and Employment, 1964–1981," *American Sociological Review* 49, 1 (1984).

24. Jerald G. Bachman, Peter Freedman-Doan, Segal, and Patrick M. O'Malley, "Distinctive Military Attitudes among US Enlistees, 1976–1997: Self-Selection Versus Socialization," *Armed Forces & Society* 26, 4 (2000); M. Rebecca Kilburn and Asch, *Recruiting Youth in the College Market: Current Practices and Future Policy Options* (Santa Monica, CA: RAND, 2003); Kilburn and Klerman, *Enlistment Decisions in the 1990s: Evidence from Individual-level Data* (Santa Monica, CA: Rand, 1999); Teachman, Call, and Mady W. Segal, "Family, Work, and School Influences on the Decision to Enter the Military," *Journal of Family Issues* 14, 2 (1993); and Teachman, Call, and Segal, "The Selectivity of Military Enlistment," *Journal of Political & Military Sociology* 21, 2 (1993).

25. Asch et al., "Military Enlistment of Hispanic Youth"; David C. Trybula, "Three Essays on the Economics of Military Manpower" (PhD diss., University of Texas at Austin, 1999).

26. Berger and Hirsch, "Veteran Status as a Screening Device."

27. Mare and Winship, "Paradox of Lessening"; Moskos and Butler, *All That We Can Be*; Segal, Bachman, and Dowdell, "Military Service for Female and Black Youth"; Teachman, Call, and Segal, "Family, Work, and School Influences" and Teachman, Call, and Segal, "Selectivity of Military Enlistment."

28. Segal, Bachman, and Dowdell, "Military Service for Female and Black Youth."

29. Reynolds Farley and William Frey, "Changes in the Segregation of Whites from Blacks During the 1980s: Small Steps toward a More Integrated Society," *American Sociological Review* 59 (1994).

30. Department of Defense, "Population Representation."

31. Browning, Lopreato, and Poston, "Income and Veteran Status" and Lopreato and Poston, "Differences in Earnings."

32. Phillip Moss and Chris Tilly, "'Soft' Skills and Race: An Investigation of Black Men's Employment Problems," *Work and Occupations* 23, 3 (1996).

33. Devah Pager, "The Mark of a Criminal Record," *American Journal of Sociology* 108, 5 (2003); Pager, "Measuring Racial Discrimination," *Social Forces* 83, 4 (2005); and Pager and Lincoln Quillian, "Walking the Talk? What Employers Say Versus What They Do," *American Sociological Review* 70, 3 (2005).

34. Moss and Tilly, "'Soft' Skills and Race."

35. Department of Defense, "Population Representation."

36. Margaret C. Harrell, *Barriers to Minority Participation in Special Operations Forces* (Santa Monica, CA: RAND, 1999).

37. Moss and Tilly, "'Soft' Skills and Race."

38. An important question not addressed by the current study is evaluating how individuals who are in the military reserves or the National Guard are treated in hiring. Though they are equally protected by law from discrimination, anecdotal evidence suggests that employers are wary of hiring an individual who may be activated and sent abroad for a year or more. Even less well understood is how military service among female veterans affects civilian employment and earnings. These two major areas of research will be undertaken in future research projects.

39. Applicants showed a college degree to meet minimum applicant requirements for most advertised positions accepting faxed applications.

40. Marc Bendick, Jr., Lauren Brown, and Kennington Wall, "No Foot in the Door: An Experimental Study of Employment Discrimination," *Journal of Aging and Social Policy* 10, 4 (1999) and Ronald B. Mincy, "The Urban Institute Audit Studies: Their Research and Policy Context," in *Clear and Convincing Evidence: Measurement of Discrimination in America*, ed. Michael Fix and Raymond J. Struyk (Washington, DC: Urban Institute Press, 1993), 165–86.

41. Mincy, "Urban Institute Audit Studies."
42. Mangum and Ball, "Military Skill Training."
43. Pager, "The Use of Field Experiments for Studies of Employment Discrimination: Contributions, Critiques, and Directions for the Future," *Annals of the American Academy of Political and Social Science* 609 (2007), 110.
44. Marianne Bertrand and Sendhil Mullainathan, "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination," *American Economic Review* 94, 4 (2004).
45. Ibid.; Roland G. Fryer and Steven D. Levitt, "The Causes and Consequences of Distinctively Black Names," *Quarterly Journal of Economics* 119, 3 (2004).
46. Allan F. Abrahamse, Peter A. Morrison, and Nancy Minter Bolton, "Surname Analysis for Estimating Local Concentration of Hispanics and Asians," *Population Research and Policy Review* 13, 4 (1994).
47. James J. Heckman and Peter Siegelman, "The Urban Institute Audit Studies: Their Methods and Findings," in *Clear and Convincing Evidence: Measurement of Discrimination in America*, ed. Michael Fix and Raymond J. Struyk (Washington, DC: Urban Institute Press, 1993), 271–75.
48. Holzer, *What Employers Want*.
49. Alan Agresti and Brent A. Coull, "Approximate Is Better than 'Exact' for Interval Estimation of Binomial Proportions," *American Statistician* 52, 2 (1998).

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