

(U.S. Air Force photo by Tech. Sgt. William Greer)

Spc. Rebecca Buck, a medic from 1st Battalion, 14th Infantry Regiment, 2nd Stryker Brigade Combat Team, 25th Infantry Division, provides perimeter security 30 March 2008 outside an Iraqi police station in Tarmiya Province, Iraq .

Women in the Infantry Understanding Issues of Physical Strength, Economics, and Small-Unit Cohesion

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n 24 January 2013, Secretary of Defense Leon Panetta rescinded the 1994 rule prohibiting women from assignment to combat units. Panetta cited the "great courage and sacrifice" by women on today's battlefield and the goal of finding the "best-qualified and most capable people, regardless of gender" to perform the mission as justification for this

change.¹ Under the previous rule, women were barred from assignment to units below brigade level that had a primary mission of direct ground combat.²

Today, only 7 percent of Americans have any direct military experience.³ Understandably, many civilians, including members of Congress, view this issue in the context of equal job opportunity rather than military

effectiveness, and they are unlikely to realize any negative military consequences.⁴ No military justification exists for this change. More important, this change will be detrimental to military readiness and combat effectiveness. Accordingly, the military community must distill the issues and explain, from its perspective, the ramifications of this policy change to the American public.

Panetta's Invalid Rationale

Secretary Panetta's first justification for rescinding the 1994 rule is the courage, sacrifice, and contribution of women on today's battlefield. In essence, he argues that women have earned the right to serve in combat arms. However, serving in harm's way is not the issue. Being on the receiving end of incoming fire does not qualify anyone to be an infantryman. Nobody questions the courage or patriotism of women who enlist and place themselves at risk. However, such qualities alone do not endow them with the abilities required to serve in the infantry. (For this discussion, "infantry" includes ground personnel such as medics and engineers who accompany the infantry into close combat with the enemy.)

Second, Panetta states the goal of rescinding the prohibition as ensuring "the mission is met with the best-qualified and most-capable people."⁵ 'This too is flawed reasoning. If "best-qualified and most capable" is the true test, then Panetta would have lifted the age restrictions as well. Indeed, men over and under the current enlistment age parameters have proven themselves capable in all types of combat, to include underage personnel being awarded the Medal of Honor.⁶ Arguably, there are more 40-year-old men and 15-year-old boys physically capable of performing the tasks of an infantryman than 20-year-old women.⁷

Allowing women to serve in infantry or other direct combat positions constitutes a change in policy with ramifications beyond today's current conflict. Any such change has implications for women's assignments in the next war as well as conscription and the involuntary assignment of women to ground combat duties. Therefore, any such policy change must be accomplished with a view toward future wars.

The Full-Spectrum Conflict Baseline

Supporters of the Panetta position assert that women are already serving in combat situations in

Afghanistan, as they did in Iraq.⁸ They argue that although women are prohibited from participating in offensive combat, the proximity of support units (in which women are allowed to serve) to combat arms units and today's nonlinear battlefield not only have placed women in harm's way but also have proven they are capable of successfully engaging in combat.⁹ However, this view only applies to today's counterinsurgency fight.

In Afghanistan, female soldiers accompany their male counterparts in order to interact with local civilians, leveraging their gender to calm the women and children residents during operations.¹⁰ Their presence fills a critical gap in a counterinsurgency strategy that emphasizes the protection and engagement of the civilian population. Likewise, women have served in military police, motor transport, and other supporting units that have participated in firefights although without generally engaging in "closing with the enemy."¹¹ While significant, these events do not directly correlate to the requirements of infantrymen, particularly in a full-spectrum war.

Full-spectrum conflict. The correct baseline for analyzing this question is the full-spectrum conflict, not the current counterinsurgency fight. The counterinsurgency combat of the last 12 years differs materially in scope and conduct from the land warfare against nation-states prosecuted in the twentieth century. This is not to suggest that firefights in Afghanistan are any less intense than other combat. Rather, full-spectrum conflict with an enemy nation-state presents a different type of war.

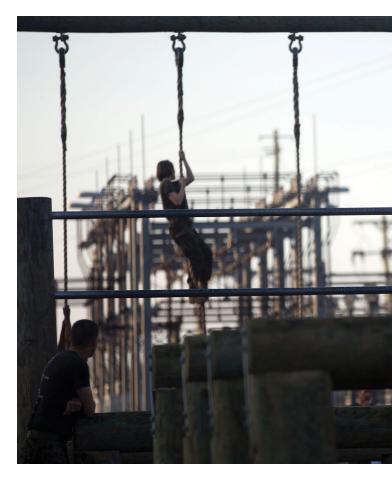
The objectives in a counterinsurgency campaign differ from those in a full-*s*pectrum conflict. The strategic objective in counterinsurgency operations is the development of effective governance by a legitimate government.¹² Counterinsurgency operations seek the stable and secure environment needed for effective governance, essential services, and economic development.¹³ Accordingly, tactics and operations are designed for developing a local government and infrastructure.¹⁴ As a result, American troops have operated primarily out of static infrastructure positions co-located with the objective (i.e., the population).¹⁵ By contrast, ground combat operations for an infantry division in World War II meant up to 400 days of offensive fighting from Italy to France to Germany.¹⁶ This difference in scope and conduct is further exemplified by the numbers of troops missing in action from each war. More than 19,000 ground troops remain missing from World War II, more than 7,500 remain missing from the Korean War, and 1,600 are still unaccounted for from Vietnam, while only one was listed as "missing-captured" in Afghanistan.¹⁷ Full-spectrum war against nation-states is more fluid and more austere than counterinsurgency.

Just as we remain prepared for an unlikely nuclear conflict, personnel policy assignments must be developed for the worst-case scenario of full-scale war against a nation-state, such as North Korea or Iran (or unforeseen crises such as Ukraine), rather than the limited war found in counterinsurgency operations. In war against a nation-state, we must prepare for the conscription of troops and offensive combat operations in a field environment for prolonged periods of time.

The optimal demographic. Sound public policy requires the wise and prudent use of money, time, and assets. Our policies for military personnel assignment must be suitable for present conflicts as well as when time is of the essence in full-spectrum conflict conscription. Unless we are prepared to incur the costs associated with inducting and evaluating every American for infantry service, regardless of condition, some selection parameters must be established. Accordingly, we must seek the demographic group most reasonably calculated to effect success on the full-scale conflict infantry battlefield. Thus far, the optimal demographic group for infantry service has proven to be young, healthy males. At issue here is the demographic of women. However, the rationale set forth below is not limited to women. It is equally applicable to other demographic groups, such as middle-aged men.

The physical requirements of infantry combat. The physical requirements of combat push men to the extreme. Grasping this fundamental aspect of combat is imperative, and we cannot begin to develop sound personnel policies until that is understood. Overall, there are two components of physical requirements for infantry service. The first is the component of strength, *s*peed, stamina, and agility.¹⁸ The second is the capacity to sustain those physical abilities through the catabolic stress of extended combat operations.¹⁹

The need for strength, *s*peed, stamina, and agility is evidenced through various infantry combat tasks, such as digging fighting trenches, handling heavy equipment,



enduring load-bearing marches, and transporting casualties under fire.²⁰ The ability to perform some of these tasks is calculated by the Marine Corps Combat Fitness Test (CFT), which measures lifting, running, maneuvering under fire, grenade throwing, and carrying equipment and casualties.²¹

The Naval Health Research Center studied 2,000 Marine Corps CFT participants. That study reports that gender had a significant effect on test performance.²² Even when wearing heavy and cumbersome personal protective equipment (e.g., flak jackets), males (mostly ages 17 to 26) scored significantly higher than the females (mostly ages 17 to 26) who did not wear such equipment.²³ Gender disparities in upper body strength were later shown when 55 percent of Marine female recruits could not perform three pull-ups by the end of boot camp, while the failure rate for male recruits was 1 percent.²⁴ These results are consistent with the fact that males have more muscle mass than females, with 50 percent more upper body strength and one-third greater lower body strength.²⁵



(U. S. Marine Corps photo by Chief Warrant Officer 2 Paul S. Mancuso) Marines from the Infantry Training Battalion, School of Infantry– East, navigate the obstacle course at Camp Geiger, N.C., 4 October 2013. This is the first company at the school with female students as part of collection of data on the performance of female Marines executing existing infantry tasks and training events.

Second, over a period of sustained combat operations, infantrymen endure fatigue, sleep deprivation, high caloric expenditures, and environmental extremes. These factors create the catabolic stress on bodies that results in muscle loss.²⁶ In addition to his combat-related functions, today's infantryman can expect to carry a combat load exceeding 90 pounds.²⁷ As noted combat historian Col. S.L.A. Marshall observed, "On the field of battle, man is not only a thinking animal, he is a beast of burden ... [whose] chief function in war does not begin until the time he delivers that burden to the appointed ground."²⁸ Over time, combat stressors take a toll on the body.

Some argue that the increased athletic performance of women indicates a physical capability for ground combat.²⁹ But, the purpose of physical training is to establish a basic fitness level and provide a reservoir of strength for combat.³⁰ The constant physical exertion and strain of combat deplete that reservoir and result in the loss of muscle mass and strength.³¹ This follows Capt. Katie Petronio's often cited experience as a Marine engineer officer in Afghanistan.

Although once a college athlete, the load-bearing work and continuous operating tempo Petronio experienced in Iraq and Afghanistan degraded her body to a detrimental level.³² Ultimately, she suffered from a compressed spine and muscle atrophy at a higher rate than her male Marine counterparts.³³ Capt. Petronio concluded: "I can say with 100 percent assurance that despite my accomplishments, there is no way I could endure the physical demands of the infantrymen whom I worked beside "³⁴ This is consistent with studies showing women at higher risk for stress fractures resulting from long-term physical exertion of carrying combat loads.³⁵ This also correlates with an Army study showing the injury rate for women in Army Basic Combat Training at 50 percent, while only 25 percent for men.³⁶ Likewise, since requiring female recruits to undergo combat training in 1983, the attrition rate for female recruits at Marine Corps boot camp increased to almost double that of their male counterparts.³⁷

The **Economics**

Military tests revealing the physical disparity between men and women, especially with regard to upper body strength, are not new.³⁸ Most supporters for allowing women to serve in the infantry recognize the discrepancies in physical strength between men and women, but they point out that not all men are physically suited for combat service either. They contend that if a woman is physically capable, she should be allowed to serve in an infantry unit.³⁹ However, to say that not all men are suited for ground combat service is not the issue. Not all men are medically suitable for even general military service. Moreover, the basic medical requirements for a male's induction into the Army do not distinguish between infantry and non-infantry assignments.⁴⁰ Historically, if a man passed the induction physical, he was presumed fit for infantry service.⁴¹ However, assuming some women are able to meet the physical tests for infantry service, the economics of this endeavor will make it cost-prohibitive.

The costs to test and evaluate every woman who wants to be in the infantry will not be inconsequential. In 2008, the Army reported the cost of training a combat arms soldier to be over \$50,000.⁴² Recently, only 7.5 percent of women soldiers surveyed expressed an interest in moving to a combat job.⁴³ While the percentage appears small, it represents approximately 12,750 personnel to process and evaluate at no small cost.

Since September 2013, the Marine Corps has accepted 17 women for the 13-week Infantry Officers Course. Thirteen women failed the first day's initial physical fitness test, while one woman who passed the test withdrew from the course the following week due to a stress fracture in her foot.⁴⁴ Since then, only three women have passed the initial physical test, but all were unable to complete the course. Undoubtedly, the Infantry Officers Course is physically demanding, and while not all men complete the course, over 75 percent of men do so successfully.⁴⁵

Computing the infantry training cost per female and the likely success rate for this demographic makes this process cost-prohibitive. This flaw in Panetta's plan becomes even more apparent when applied to the next full-spectrum war conscription.

Conscription

The purpose of the military draft is the rapid mobilization of large numbers of combat troops.⁴⁶ By design, conscription targets the population demographic best suited for its purpose. Currently, that demographic is men between the ages of 18 and 26.⁴⁷ Despite its name, "Selective" Service conscription encompasses the entire demographic from which members then may be excluded for good cause.⁴⁸ Until proven medically unfit, all members of the demographic are presumed fit for infantry combat service.⁴⁹

By allowing women to serve in the infantry, the legal rationale for all-male conscription dissolves, thereby subjecting women to the draft.⁵⁰ In 1981, the Supreme Court heard the case of Roster v. Goldberg. As now, the law only required males to register for the draft. Goldberg challenged the male-only draft registration law, arguing that the law was unconstitutional, gender-based discrimination. However, in upholding the law, the Court reasoned that because Congress's stated purpose in having a draft was to raise "combat troops" and because women were excluded by law from serving in combat, an all-male draft was within Congress's power to regulate the armed services.⁵¹ Should the combat arms field now be opened to women, Congress will be forced to address the issue of drafting women.

Placing women in the pool of conscripted military manpower creates legal and fiscal problems. If women are allowed to serve as combat troops, can Congress still draft only men? If not, must men and women be drafted in equal numbers? Can Congress give conscripted women the option to volunteer for infantry service, while not affording the same option to male conscripts? How can conscripted women be assessed for involuntary combat duty without inducting and evaluating all women in the demographic group?

If women are drafted in large numbers, is it a prudent use of time and money to register, induct, and process them for duty as combat troops if, as shown above, the vast majority will not be physically suitable for such service? During Vietnam, the 1968 draft inducted 296,000 men.⁵² It would not have been sound fiscal policy to have drafted half that number in women. Even peacetime drafts have exceeded 130,000 draftees.⁵³ In 1980, Congress estimated the cost alone of registering women at \$8.5 million (1980 dollars).⁵⁴ Whatever future circumstances may compel us to re-institute the draft, they are likely to also make time of the essence. We will not have the luxury to debate this matter in our legislature nor decide it in court. Now is the time to face this issue.

Small-Unit Cohesion: The Band of Brothers Factor

Perhaps the least understood and yet most significant component of tactical combat effectiveness is small-unit cohesion: the "Band of Brothers" factor. However, most Americans have never heard of it, much less understand it. The significance of combat cohesion must be understood as an issue in this discussion and cannot be lightly dismissed.

Several advocates for women in the infantry totally dismiss the value of the "Band of Brothers" factor. Instead, they contend that groups are bonded more by their commitment to the task rather than the relationship between unit members.⁵⁵ However, this view fails to consider the critical distinguishing question posed by infantry-unit cohesion: why do men fight?

As William Manchester described his experience on Okinawa in 1945, "Men ... do not fight for flag or country, for the Marine Corps or glory or any other abstraction. They fight for one another."⁵⁶ Noted



(U.S. Marine Corps photo by Sgt. Tyler L. Main)

Marine students with the Infantry Training Battalion practice marksmanship 26 September 2013 at Camp Geiger, N.C. The students are part of the first ITB company to include female Marines as part of research into opening combat-related jobs to women.

combat historian S.L.A. Marshall said, "Men who have been in battle know from first-hand experience that when the chips are down, a man fights to help the man next to him."⁵⁷ In his book *Cohesion: The Human Element in Combat*, William Henderson contends that small-unit cohesion is "the only force capable of causing soldiers to expose themselves insistently to enemy fire," and have "all members willing to risk death to achieve a common objective."⁵⁸ Fighting cohesion is a critical component of battlefield success. Before introducing the dynamic of young women into this relationship, the possible effects must be examined.

Perhaps women can assimilate into infantry units without any disruption in cohesion. However, assessing the possible effects of this change must be done in light of our common understanding of the relationship between young men and women. In interpersonal relationships, young military personnel behave in large measure as their civilian counterparts.⁵⁹

Few members of Congress have military experience.⁶⁰ Before lawmakers and policymakers charge into the uncharted territory of this proposed change, they need an understanding of fighting cohesion, which should come from combat veterans. Otherwise, this critical component to battlefield success is likely to be dismissed out of hand.

Conclusion

Wise policymakers will look beyond today's conflicts and consider the future. No military reason exists for the Panetta policy, and reliance on the current counterinsurgency battle instead of the next full-spectrum conflict to analyze this issue is misplaced. Infantry combat, especially in a full-scale conflict, is a relentlessly physical ordeal. The optimal demographic for this endeavor is young, healthy males. Overall, women have not proven to be medically suitable for sustained ground combat. Thus, it is cost-prohibitive to recruit and train women for assignment in infantry-type occupations. Moreover, permitting women in the infantry opens the legal door to drafting women, with all the associated legal and economic issues. Whether introducing women into the infantry will adversely affect unit cohesion must be analyzed through our common human experience and as enlightened by those veterans, who can speak to the nature and necessity of unit cohesion for success in battle.

These are the military issues surrounding Secretary Panetta's directive. It is incumbent on those military members with knowledge and experience to now enter the debate to inform the American people. Col. Charles E. Rice, U.S. Marine Corps Reserve, retired, holds a B.A. in political science from the University of Texas-Arlington and a J.D. from St. Mary's University School of Law, San Antonio. His last active-duty assignment was as a liaison officer for 1st Marine Expeditionary Force G-3 in Iraq from 2004 to 2005. He is an attorney in Abilene, Texas.

Notes

1. Department of Defense (DOD) News Release 037-13, "Defense Department Rescinds Direct Combat Exclusion Rule; Services to Expand Integration of Women into Previously Restricted Occupations and Units," U.S. DOD website, 24 January 2013, <u>http://www. defense.gov/Releases/Release.aspx?ReleaseID=15784</u> (accessed 13 November 2014).

2. Les Aspin, *Direct Combat Definition and Assignment Rule*, Memorandum from the Secretary of Defense, 13 January 1994.

3. U.S. Department of Commerce, U.S. Census Bureau News, CB12-FF.21, 11 October 2012, <u>https://www.census.gov/newsroom/</u><u>releases/archives/facts_for_features_special_editions/cb12-ff21.html</u> (accessed 12 January 2015). Approximately, 21.5 million Americans are veterans; *War and Sacrifice in the Post-9/11 Era*, *The Military-Civilian Gap* (Washington, DC: Pew Research Center, 05 October 2011,)8, <u>http://www.pewsocialtrends.org/2011/10/05/war-and-sacrifice-in-the-</u><u>post-911-era/</u> (accessed 17 November 2014). During this decade of sustained warfare, only about 0.5 percent of the American public has been on active duty at any given time; Drew Desilver, "Most Members of Congress Have Little Direct Military Experience," Pew Research Center Fact Bank, 4 September 2013, <u>http://www.pewresearch.org/</u> fact-tank/2013/09/04/members-of-congress-have-little-direct-military-experience/ (accessed 17 November 2014). In 2010, veterans comprised only 7 percent of the U.S. population.

4. David Lerman, "U.S. Military Vows to Put Women in Combat Roles by 2016," *Bloomberg News*, 24 July 2013, <u>http://www.bloomberg.</u> <u>com/news/2013-07-24/u-s-military-vows-to-put-women-in-combatroles-by-2016.html</u> (accessed 13 November 2014). In discussing more combat positions opening to women, Representative Loretta Sanchez, a California Democrat, described it as providing equal opportunity for women. She said, "I'm real excited to get this done ... Combat performance is an important issue when people are looking at moving up in all of these organizations."

5. DOD News Release 037-13.

6. Valerie J. Nelson, "Youngest Marine to Get Medal of Honor," *Los Angeles Times*, 06 June 2008, <u>http://articles.latimes.com/2008/jun/06/local/me-lucas6</u> (accessed 17 November 2014). Marine Jack Lucas enlisted at age 14 to fight in World War II and received a Medal of Honor for actions on Iwo Jima six days after turning 17; Veterans of Underage Military Service, "Were You a 'Kid' in the Military?" <u>http://www.oldvums.org/</u> (accessed 17 November 2014). Sailor Calvin Graham was awarded the Bronze Star and Purple Heart at age 12 during World War II. Veterans of Underage Military Service has published 5 volumes of stories from underage veterans who served during World War II, Korea, and Vietnam.

7. U.S. Department of the Navy, "Marine Corps Physical Fitness Program," Marine Corps Order 1600.13, 1 August 2008, <u>http://www.ma-</u> rines.mil/Portals/59/Publications/MCO%206100.13%20W_CH%201. pdf (accessed 12 January 2015), 3-8. Test criteria for men over age 46 is more difficult than for women ages 17-26. "CFT passing criteria has been derived from extensive testing of a wide sample population representing all demographics that comprise the Marine Corps Total Force."

8. Chris and Jeannette Haynie, "Marines or Marines*?" *Proceedings* 138, no. 11(November 2012):47; Amy McGrath, "Women in Combat," *Marine Corps Gazette* 96, no. 11 (November 2012):47; Megan H. MacKenzie, "Let Women Fight," *Foreign Affairs* 91, no. 6 (November/ December 2012): 34.

9. Haynie and Haynie, 47.

10. McGrath, 47; MacKenzie, 34.

11. Margaret C. Harrell, et al., *Assessing the Assignment Policy* for *Army Women* (Santa Monica, CA: RAND Corporation, National Defense Research Institute, 2007), 34.

12. Field Manual (FM) 3-24, *Insurgencies and Countering Insurgencies*, (Washington, DC: U.S. Government Printing Office [GPO], 2006), 21.

15. Donovan Campbell, *Joker One* (New York: Random House, 2010), 92.

16. U.S. Army Center of Military History, "Combat Chronicles of U.S. Army Divisions in WWII," <u>http://www.history.army.mil/html/</u> <u>forcestruc/cbtchron/cc/036id.htm</u> (accessed 15 November 2014). During WWII, the U.S. 36th Division fought 400 days of combat in five campaigns from April 1943 to April 1945.

17. Defense Prisoner of War and Missing Personnel Office, <u>www.</u> <u>dtic.mil/dpmo</u>, (accessed 15 November 2014). World War II numbers reflect U.S. Army ground troops and U.S. Marine Corps personnel and do not include missing Army Air Forces or Navy personnel; Cheryl Pellerin, "Obama, Parents Give Thanks for Bergdahl's Freedom," Department of Defense News, 31 May 2014 <u>http://www.defense.gov/</u> <u>news/newsarticle.aspx?id=122377</u> (accessed 17 November 2014). Sgt. Bowe Bergdahl was the only U.S. service member known to be held captive in Afghanistan.

18. U.S. Marine Corps, MARADMIN no. 579/06, Announcement of the USMC Concept for Functional Fitness, 12 December 2006, <u>http://</u> www.marines.mil/News/Messages/MessagesDisplay/tabid/13286/ <u>Article/117858/announcement-of-the-usmc-concept-for-functionalfitness.aspx</u> (accessed 12 January 2015).

19. Henning, Park and, Kim, "Physiological Decrements During Sustained Military Operational Stress," *Military Medicine* 176(9)(September 2011): 991-992.

20. Ross. R. Vickers, Jr., *Physical Abilities and Military Task Performance: A Replication and Extension*, Document No. 09-30, (San Diego, CA: Naval Health Research Center, 9 June 2009), 4-5; North Atlantic

^{13.} Ibid., 23.

^{14.} lbid., 18.

Treaty Organization, *Optimizing Operational Physical Fitness*, (Research and Technology Organisation [sic], January, 2009), 2-5.

21. Marine Corps Order 1600.13.

22. Vickers, Reynolds, and McGuire, *Body Mass Bias in a Combat Fitness Test*, Document No. 11-20 (San Diego, CA: Naval Health Research Center, 7 February 2011): 6.

23. Ibid., 34-35.

24. Tom Bowman, "Marines: Most Female Recruits Don't Meet New Pull-up Standard," *National Public Radio*, 27 December 2013, <u>http://www.npr.org/2013/12/27/257363943/marines-most-female-recruits-dont-meet-new-pullup-standard</u> (accessed 16 November 2014).

25. North Atlantic Treaty Organization, *Optimizing Operational Physical Fitness*, January 2009, 7-9, <u>http://www.google.com/</u> <u>url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0C-</u> <u>B4QFjAA&url=http%3A%2F%2Fwww.dtic.mil%2Fcgi-bin%2F-</u> <u>GetTRDoc%3FAD%3DADA502544&ei=cyy0VMaNOoml-</u> <u>gwSX9oOgDA&usg=AFQjCNGsJEBRftF2ccqX2zyGspdoIZ8LuQ</u> (accessed 12 January 2015); Miller et al., "Gender Differences in Strength and Muscle Fiber Characteristics," *European Journal of Applied Physiology and Applied Occupational Physiology* 66, (1993): 254, <u>http://link.springer.com/article/10.1007%2FB-</u> <u>F00235103#page-1</u> (accessed 16 November 2014). The women were approximately 52 percent and 66 percent as strong as the men in the upper and lower body respectively. The men were also stronger relative to lean body mass.

26. Henning, Park, and Kim, 991-992.

27. Kimberly Johnson, "Downside of Full Combat Load Examined," Marine Corps Times, 22 January 2008, <u>http://www.marinecorpstimes.</u> com/article/20080122/NEWS/801220310/Downside-full-combat-load-examined (accessed 16 November 2014).

28. S.L.A. Marshall, *The Soldier's Load and the Mobility of a Nation* (Quantico, VA: Marine Corps Association, 1980), 7.

29. Haynie and Haynie, 49.

30. Marine Corps Order 1600.13, 1.

31. Henning, Park and Kim, 991-992.

32. Katie Petronio, "Get Over It! We Are Not All Created Equal," Marine Corps Gazette 96(7)(July 2012): 30-31.

33. Ibid.

34. lbid.

35. Springer and Ross, *Musculoskeletal Injuries in Military Women* (Ft. Detrick, MD: Office of the Surgeon General, Borden Institute, 2011), 6-7.

36. Ibid. 3.

37. Aline O. Quester, *Marine Corps Recruits: A Historical Look at Accessions and Boot Camp Performance* (CNA Analysis and Solutions, September 2010): 6, <u>http://www.cna.org/sites/default/files/research/</u>D0023537.A1.pdf (accessed 12 January 2015).

38. Anne W. Chapman, *Mixed-Gender Basic Training—The U.S. Army Experience, 1973-2004* (Fort Monroe, VA: US Army Training and Doctrine Command, 2008), 17-18.

39. Haynie and Haynie, 49; McGrath, 48; MacKenzie, 36-37.

40. Army Regulation 40-501, *Standards of Medical Fitness* (Washington, DC: U.S. GPO, 14 December 2007): 2-3.

41. Bernard D. Karpinos, Ph.D., *Qualification of American Youth for Military Service* (Medical Statistics Division, Office of the Surgeon General, Department of the Army, 1962), 7-8, <u>http://www.</u> google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=4&ved=0CCwQFjAD&url=http%3A%2F%2Fwww.dtic.mil%2Fcgi-bin%2FGetTRDoc%3FLocation%3DU2%26doc%3DGetTRDoc. pdf%26AD%3DAD0665459&ei=5TK0VKi-HIqYNqelhKAH&usg=AFQjCNFE7MIh4nZRqG2JmyL8PQHI2UT3qw (accessed 12 January 2015).

42. Bob McIlvane, "Warrior Adventure Quest Helps Soldiers Return to Normalcy," American Forces Press Service, *DOD News Online*, 1 October 2008, <u>http://www.defense.gov/news/newsarticle.aspx-</u>?id=51348 (accessed 16 November 2014). Cost to train combat arms soldier is \$54,000; *Benchmarking Attrition—What Can We Learn from Other Industries*? (Washington, DC: American Institutes for Research, September, 2012), 1, <u>http://www.deltacostproject.org/sites/default/files/</u> products/Delta-Cost-Benchmarking-Attrition.pdf (accessed 12 January 2015). Cost of recruitment is approximately \$11,000 per recruit, with basic training adding another \$35,000.

43. Lolita C. Baldor, "Few Army Women Want Combat Jobs," Associated Press, 25 February 2014, <u>http://bigstory.ap.org/article/ap-exclusive-</u> few-army-women-want-combat-jobs (accessed 16 November 2014).

44. Dan Lamothe, "Grunt School Test," Marine Times, 15 July 2013.

45. Hope Hodge Seck, "Four More Women Drop Out of Marine Infantry Officer Course," *Marine Times*, 10 January 2014, <u>http://www.marinecorpstimes.com/article/20140110/NEWS/301100023/</u> (accessed 17 November 2014); Hope Hodge Seck, "Three Women Dropped from Marines' Infantry Officer Course Will Not Reattempt," *Marine Times*, 29 October 20 14, <u>http://www.marinecorpstimes.com/story/military/2014/10/28/three-women-dropped-from-marines-infantry-officercourse-will-not-reattempt/18073157/ (accessed 17 November 2014).</u>

46. *Rostker v. Goldberg*, 453 U.S. 57 (1981). Supreme Court held all-male draft constitutional because purpose of draft is to raise combat troops, and Congress excluded women from combat.

47. Title 50 U.S. Code § 453.

48. Gertrude E. Johnson, "Manpower Selection and the Preventative Medicine Program," *Preventive Medicine in WWII*, *III* (Washington DC: Office of the Surgeon General, Department of the Army, 1955), 9, http://history.amedd.army.mil/booksdocs/wwii/PrsnlHlthMsrs/chapter1. htm (accessed 16 November 2014).

49. Karpinos, 7.

50. Rostker v. Goldberg.

51. lbid.

52. "History and Records," U.S. Selective Service System, <u>www.sss.</u> gov/induct.htm (accessed 17 November 2014).

53. Ibid. Peacetime draft of 1957 inducted 138,000.

54. Rostker v. Goldberg.

55. MacKenzie, 39.

56. William Manchester, *Goodbye, Darkness* (Boston, MA: Little, Brown & Co., 2002), 391.

57. S.L.A. Marshall, *Men Against Fire* (Gloucester, MA: Peter Smith, 1978), 161.

58. William Darryl Henderson, Cohesion: The Human Element in Combat (Washington, DC: National Defense University Press, 1985), 4.

59. Christina Silva, "Navy Seeks to Combat High Rate of Unplanned Pregnancies," *Stars and Stripes*, 7 January 2013, <u>http://www.stripes.</u> <u>com/news/navy-seeks-to-combat-high-rate-of-unplanned-pregnancies-1.203122?localLinksEnabled=false</u> (accessed 17 November 2014). The Navy is attempting to cope with a 74 percent unintended pregnancy rate (25 percent higher than the national average); Belmont, Goodman, and Waterman, "Disease and Non-battle Injuries Sustained by a U.S. Army Brigade Combat Team During Operation Iraqi Freedom," *Military Medicine* 175, no. 7 (July 2010): 474. During its operations in the Iraq surge, an Army brigade combat team medically evacuated 10.8 percent of its women out of theater due to reproductive-related conditions, 74 percent of which were pregnancies.

60. Desilver. Only 20 percent of Congress members are veterans versus high of 77 percent in 1978.