

Women Veterans' Challenges

Part I in a White Paper Series

Toward Closing the Gap: Re-entry for Women Veterans into Cybersecurity Careers

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Abstract - Closing the Gap: A DoD Conference on Re-entry for Women Veterans into Cybersecurity Careers addresses two crucial needs: To fill the exponentially growing cybersecurity talent gap in the U.S., and to harness the potential of female U.S. veterans, as well as military spouses, to fill that gap. In addressing these needs, the George Washington University organizers have assembled a diverse group of advisors from government, the military, academia, and industry to help frame the conversation and the initiative toward meaningful action, before, during, and beyond the May 25, 2021 Conference date. "Women Veterans' Challenges" is the first in a series of white papers designed to summarize the available knowledge on dis, best practices and potential solutions moving forward.

Index Terms – Cybersecurity, gender inequality, gender issue, mentoring programs, women veterans.

INTRODUCTION

What are the challenges for a female veteran or military spouse in moving from a military life to a civilian life, either as a student or a member in industry? What defines each culture, and how do different women view the change, identify a path forward, and avail themselves of resources and support structures? Finally, what role should be played by supportive organizations, the military, and the government to address the challenges?

Writing in a series in *The Atlantic*, Maples [22] noted “I happen to be a woman. This is often inconvenient. It was inconvenient for the military and, now that I’m out of the military, it’s still inconvenient. In [multiple surveys](#) and [anecdotes](#), both women who are serving and women who have served repeatedly list gender bias as an issue, though the way it manifests itself differs during and after their time in the military.

Women are the fastest-growing segment of the veteran population — about 10% of the nation’s 21.5 million veterans are women. Adding to that number are the military partners. Yet, the inequities in hiring, pay and advances continue. What advantages can women leverage as they pursue their paths forward to meaningful and rewarding employment? On the other hand, what are

the challenges and obstacles to be overcome? What are the current best practices to build on the advantages and negate the challenges?

GENDER INEQUALITY: WHEN MEN AND WOMEN ARE TREATED DIFFERENTLY BECAUSE OF GENDER

Are men from Mars and women from Venus? Differences between the genders grow from culturally reinforced social norms and expectations. Researchers [23] note that women are said to be empathetic, agreeable, conscientious, “open,” and orderly. The characteristics of military veterans — persistence, reliability, conscientiousness, and attention to detail — are linked to enhanced job performance and academic achievement.

Technical skills are not the only ones in demand in cybersecurity. Deidre Diamond, CEO of a cyber-staffing company, noted that communication, problem-solving and the ability to work in teams are crucial to cybersecurity careers. There are numerous soft skills non-technical people bring to cybersecurity — curiosity, analytical thinking, adapt-ability, etc. While technical skills are, of course, important, and cybersecurity pros need to know the tools of the trade and the latest threats, non-technical skills also play a role in stopping hackers and securing networks. In addition, no matter how technically capable employees are, it is also critical that they function well within a team environment since most security outcomes are accomplished by teams of experts, each contributing their expertise.

It is important that women highlight their strengths and draw linkages from these strengths to the goals and careers they are pursuing. Women’s problem-solving skills and attention to detail relate to the nature of jobs within cybersecurity [16]. Cybersecurity is, as most technology related jobs are, a male dominated environment (estimates range from 14 to 25% female in the work cohort), and while women faced gendered challenges in their military life (often called “gender balance experiences”), they also learned to operate in a male environment, a skill they can build upon in cybersecurity. [Olivia Rose](#), CISO at Mailchimp, made just that point when she noted “what women bring to the table are technical skills accompanied by some great

women traits such as partnering, communication, emotional IQ, understanding different perspectives and project organization. I'm not saying that men can't do that. I'm just saying that it's more innate for women to be successful with these traits" [22].

Leading teams and negotiation require EQ (emotional intelligence) [7] — the intelligence or ability to manage one's own emotions to engage with others to overcome challenges and diffuse conflicts. In their study, Dhani and Sharma [21] note that among Indian IT workers, women had a higher EQ and they performed better on their jobs. Additionally, research shows that women have a higher recognition of emotion (ERA) which is, itself, valuable in positive outcomes of negotiation.

Nancy Buckwalter, Director of Security and Privacy at Energae, believes that women leaders generally bring a more democratic approach and more easily build relationships. She argues, "If we can't build relationships with our business partners, we're never going to get anything done. Security is not supposed to be the cart leading the horse. We are a service for the business. We are not there to police them or to stop them from doing anything. We're just providing them the information that they need to move ahead in as risk-free a manner as possible" [22].

Issues of *gender bias* exist both within the military and in the civilian world, and the impact of gender bias underscores the inequities in issues of advancement known as the "glass ceiling," the issues of equal pay often called a "glass wall," and even a "glass cliff," where women are placed in jobs that are already failing or in crisis. Women, both former military and women who have never been in the military, face issues of inequity related to hiring, pay, raises, credit for their work, and leadership opportunities. Military sexual trauma (MST) and post-traumatic stress disorder (PTSD) are widespread [24] and there are significant gaps in transition services available to women veterans related to wellness, employment, housing, and childcare. Even today, most women in civilian careers still perform the bulk of domestic and parental tasks within the household.

The challenges that exist in the hiring and advancement process, both within industry and in academia, are multi-faceted. They range from unconscious bias on the part of hiring managers and leaders to artificial intelligence algorithms that have adapted to more highly rate and select typical white male names, language, and character attributes in resumes. The image below (Figure 1) represents the decisions of hiring agents based on a single resume submitted with different names. The female names, especially those typically stereotyped as associated with a minority community, drew the lowest interest.



Figure 1- Zety Poll on Hiring

A 2017 Frost and Sullivan study [12] on workforce capacity in cybersecurity found that at least 57% of respondents noted that delayed advancement was a challenge for women. Prior longevity within positions may also be a factor for dismissing potential candidates. Some women veterans, who also are military spouses, may face additional barriers to employment, including frequent relocation and increased family duties during a spouse's deployment.

Peacock and Irons [8] attribute the challenge for women seeking cybersecurity jobs to the fact that computer security is perceived by customers, clients, and society as a "man's job." Once hired, some women experience a hostile work environment and unconscious bias in the male-dominated field of cybersecurity.

In addition to the general contexts in which women experience bias or inequity, academia represents its own challenges. Women veterans report isolation and / or invisibility, even at veteran student events. In her doctoral thesis, Carvajal Barbosa [10] noted that "Because their experiences are so different from those of their classmates...female veterans often complain of isolation in college."

Starting salary negotiation can significantly affect an employee's wages. According to the U.S. Bureau of Labor Statistics (BLS), women earn 80.3% of what men earn, independent of women's choices to choose lower paying careers. Women employees' wages are generally lower than those of male employees because males are more likely to negotiate. A Lipman study [15] found that men are four times more likely to ask for a raise. The study also found that women who ask for raises do so 30% less than men. Artz et al. [2] reported that women who asked for raises received them 15% of the time. On the other hand, men who asked for raises received them 20% of the time.

BEST PRACTICES: IT'S EVERYONE'S RESPONSIBILITY TO ADDRESS THE GENDER ISSUE

The responsibility for equity for women in cyber rests heavily on the men in the industry. Best practices involve both tactical and strategic actions. Programs that address the need for skills development, adaptation, equal pay, advancement, and benefits are important. Whether pursuing a career or a degree, mentoring programs are a priority.

Mentoring is key — but it starts with awareness and mentoring training for men and women. Organizations that include women in key leadership positions are more effective, balanced, and successful. Men must actively work to recruit and develop talented women. Calling for effective mentorship within the military, Bembek [4] notes that the stress must be on MENToring. She further notes “Male leaders should approach mentoring women with the seriousness, preparation, and dedication with which they approach any other mission.” Mentoring programs that incorporate both attention to skill development and support for coping strategies are key for all veterans. Such coping strategies may include an exercise regimen, social interactions, and ways to build self-confidence. U.S. companies have built support for veterans moving into employment. For example, Walt Disney Company Heroes Work Here (HWH) provides tools to learn about networking, resume writing and interview skills. CACI International Inc. hosts a Veterans Support Institute (VSI), which provides similar support and adds to that a network of recent and established employees who moved from military service to industry.

For veterans moving into academia, activities such as improved translation of (and credit for) military experience to the academic course work, priority registration for veterans, and programs to support student veterans are recommended and may already be in place at some institutions.

Veterans come from a culture that builds teamwork, competence, resilience, mental agility, and organization. These traits are highly valued, and valuable, in industry and government. Business grants from the Veterans Business Outreach Centers and Small Business Development Centers are available to enable women veterans to harness and redirect these skills as entrepreneurs.

Organizations seeking to eliminate inequities faced by female veterans may conduct a salary audit and a review of the negotiation process. During the interview process, hiring managers can adapt from asking for salary history to asking applicants for expectations of salary.

SUMMARY

While all veterans come to their post-military lives with a variety of abilities garnered during their service and with a set of challenges to move into academia or a career, women face additional challenges. Layered over top of the known transition issues are inequities due to unconscious bias, pay discrepancies, and the struggles to advance through the “glass ceiling.”

As women determine next steps post-service, they are encouraged to focus on and leverage their unique competitive advantages, such as the ability to manage diverse teams, to listen carefully to others’ concerns, or to articulate winnable positions.

Best practice programs offer support for the veteran via mentoring programs and calls for policy and practice changes in academia and industry.

REFERENCES

- [1] A. Solaz and F. Wolff, “Intergenerational Correlation of Domestic Work: Does Gender Matter?” *Annals of Economics and Statistics*, No. 117/118, SPECIAL ISSUE ON THE ECONOMICS OF GENDER, pp. 159-184, June 2015.
- [2] B. Artz, A. Goodall, and A. Oswald, “Research: Women Ask for Raises as Often as Men, but Are Less Likely to Get Them,” *Harvard Business Review*, June 25, 2018
- [3] B. Turczynski, “Resume Bias: Gender, Names, Ethnicity [2021 Study],” 2021.
- [4] Bembek, LTC C. “MENTors: Men Must Continue to Step Up and Mentor the Women in Their Ranks,” *Center for a New American Security*, March 8, 2018.
- [5] Computer Fraud & Security, Vol. 2018, Issue 1, pp. 5-8, 2018.
- [6] D. Dabbagh, M. Khajepour, “Gender Differences in Factors Affecting Academic Performance of High School Students,” *Procedia – Social and Behavioral Science*, Vol. 15, pp. 1040-1045, 2011.
- [7] D. Goleman, “Working with Emotional Intelligence,” New York: Bantam, 1998.
- [8] D. Peacock and A. Irons, “Cybersecurity: Exploring the Gender Gap in Opportunities and Progression,” *International Journal of Gender, Science and Technology*, Vol. 9 (1), 2017.
- [9] E. Courtney, “Women Veterans: The Challenges They Face & a Way Forward,” *Women in the Housing & Real Estate Ecosystem*, May 10, 2018.
- [10] E. M. Carvajal Barboza, “A DoS attack mitigation strategy for Software Defined Networks using Frenetic,” *Doctoral Thesis*, 2017.
- [11] FedCap, “Women Veterans Transitioning to Civilian Life,” *FedCap Solution Series*, 2018.
- [12] Frost and Sullivan, “2017 Global Information Security Workforce Study Benchmarking Workforce Capacity and Response to Cyber Risk,” *Center for Cyber Security and Education*, 2017.
- [13] (ISC)², “Response to NIST RFI – Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure: Workforce Development,” 2017.
- [14] J. Gray, “Men Are from Mars, Women Are from Venus,” Harper Collins, 1992.

- [15] J. Lipman, “*That's What She Said: What Men and Women Need to Know About Working Together*. Harper Collins,” 2019.
- [16] K. Buckley, “Women in Computing Careers: Discovering the Factors That Attract and Retain Them: A Qualitative Research Study,” *ProQuest Dissertations & Theses Global* (2284530777), 2019.
- [17] K. Schlegel, M. Mehu, Van Peer, J. M., and K. Scherer, “Sense and Sensibility: The Role of Cognitive and Emotional Intelligence in Negotiation,” *Journal of Research in Personality*, Vol. 74, 2018.
- [18] L. Alfrey and F.W. Twine, “Gender-Fluid Geek Girls: Negotiating Inequality Regimes in the Tech Industry,” *Gender & Society*, 31(1):28-50, 2017.
- [19] M. J. Cobb, “Plugging the Skills Gap: the Vital Role that Women Should Play in Cyber-Security,” 2018.
- [20] O. Thévenon and A. Salvi Del Pero, “Gender Equality (F)or Economic Growth? Effects of Reducing the Gender Gap in Education on Economic Growth in OECD Countries,” *Annals of Economics and Statistics*, No. 117/118, SPECIAL ISSUE ON THE ECONOMICS OF GENDER (June 2015), pp. 353-377, 2015.
- [21] P. Dhani and T. Sharma, “Effect of Emotional Intelligence on Job Performance of IT Employees: a Gender Study,” *Procedia Computer Science*, Vol. 122, pp. 180-185, 2017.
- [22] R. Mishra, “Against the Odds: Becoming a Female Cybersecurity Leader,” 2020.
- [23] S. Maples, “The Inconvenience of Being a Woman Veteran,” *The Atlantic*, November 22, 2017
- [24] Service Women’s Action Network (SWAN), “First Annual Planning Summit: Historic Changes, Significant Challenges,” 2017.
- [25] Y. Weisberg, C. DeYoung, J. Hirsh, “Gender Differences in Personality Across the Ten Aspects of the Big Five,” *Frontiers in Psychology*, Vol 2, 2011.